

CAENTI

Coordination Action of the European Network of the Territorial Intelligence

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CITIZENS AND GOVERNANCE IN A KNOWLEDGE-BASED SOCIETY



Jean-Jacques GIRARDOT
Blanca MIEDES
Editors



**INTERNATIONAL CONFERENCE OF
TERRITORIAL INTELLIGENCE**
Huelva (Spain) October, 24th - 27th 2007

Papers on
Territorial Intelligence and Governance
Participatory Action-Research and Territorial Development

Jean-Jacques GIRARDOT
Blanca MIEDES UGARTE
Editors

International Conference of Territorial Intelligence HUELVA 2007

Papers on
Territorial Intelligence and Governance
Participative Action-Research and Territorial
Development

Observatorio Local de Empleo



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INTERNATIONAL CONFERENCE OF TERRITORIAL INTELLIGENCE (Huelva, 2007)

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I. INTERNATIONAL CONFERENCE OF TERRITORIAL INTELLIGENCE. HUELVA 2007.

PRESENTATION OF THE ACTS

Blanca MIEDES UGARTE

Scientific coordinator of the Conference
University of Huelva

These acts gather the communications of the Annual International Conference of Territorial Intelligence entitled **TERRITORIAL INTELLIGENCE AND GOVERNANCE. PARTICIPATIVE ACTION-RESEARCH AND GOVERNANCE APPLIED TO TERRITORIAL DEVELOPMENT.**

This conference was held in Huelva from 24th to 27th October 2007. It mainly focused on the discussion on the topics of CAENTI WP5 for year 2007 and especially on the participation potentialities and limits and on the difficulties of the implementation of the principles of Multidimensionality, Partnership, Participation, Transformation, Sustainability, Transparency, Co-responsibility and Co-learning in the framework of the Territorial Action -Research activity.

Therefore the conference mainly dealt with three themes:

- A. The Participative Action-Research applied to the Sustainable Territorial Development.
- B. Application of the Methods and Tools of Participative Action-Research to the Territorial Sustainable Development.
- C. Analysis of the Participative Action-Research Experiences Applied to the Territorial Projects Diagnosis, Programming, Management and Evaluation.

The Conference was divided into two main parts. One focused on internal work of CAENTI members and the other devoted to discuss on Action Research and Governance applied to Territorial Projects.

October, 24th day started with a meeting of the Steering Committee that decided the major orientations of the CAENTI works until the end of the project, in February 2009. Meetings devoted to the CAENTI work packages allowed finalizing the programming of the research activities.

October, 25th day started with two invited conferences. The first one, “Challenges of World-Wide Governance” by Prof. Dr. Carlos BERZOSA (Rector of the Complutense University of Madrid) and the second one, “Action-Research Applied to Territorial Development” by Dr. Tomás RODRÍGUEZ VILLASANTE (Complutense University of Madrid). The afternoon was dedicated to the CAENTI scientific results, and it ended with the presentation of the Letter of Quality of the Territorial Action-Research that was elaborated by the Work package 5.

In October 26th, the morning was devoted to the communications submitted by the participants, ending with two debates about actors and researchers participation.

These communications were developed in six workshops with the following topics:

- Workshop 1: Territorial Intelligence Approaches, with seven discussed papers.
- Workshop 2: Territorial Analysis Tools, with ten discussed papers (two presented orally by their authors and the rest by the moderator)
- Workshop 3: Sustainable Territorial Development Studies, with 16 discussed papers (two presented orally by their authors and the rest by the moderator)
- Workshop 4: Reflections on Action - Research, with four discussed papers (two oral presentations)
- Workshop 5: Participation and Governance (general issues), with nine discusses papers (two oral communications)
- Workshop 6: Participation and Governance (Experiences), with nine discussed papers (all presented by moderator).

26th afternoon two plenary debates were also celebrated. First called "Universities - Territorial Actors Relationship within the Framework of Action-Research: Potentialities and Limits", moderated by Prof. Dr. Manuela A. De Paz Bañez and second about "New Technologies and Information Treatment within the Framework of Action-Research: Ethical and Organizational Problems" moderated by Dr. C. Masselot.

During the whole conference, participants could visit posters of different authors and entities, which were exposed in the entry of the Faculty of Business Administration, where the Conference was being held.

A continuous reporting of the Conference was available on real time on the Territorial Intelligence Web Site: <http://www.territorial-intelligence.eu>. It remains open until the proceedings publication. Scientific presentations, minutes and photos of the events could be found there. Visitors of the Blog have the possibility to make comments after each presentation.

Final attendance was 132 participants from 11 countries. 55 communications were submitted and 104 authors took part in the event. A peer review system has been organized in order to select the communications to be included in the paper version of the proceedings. Most valuable contributions will be selected to be considered as publishable in the future Journal of Territorial Intelligence.

II. PROGRAMME

Day 24: VALDOCCO. Social and Labour Inclusion Centre

- 09:00-10:30: Welcome and registration.
09:00-10:30: Steering Committee.
10:30-11:00: Coffee break.
11:00-12:00: Scientific and Editorial Committee. WP2 Issues Debate.
12:00-13:00: WP3 Issues Debate (Plenary Session)
13:00-15:00: Lunch at Valdocco Atrium. Networking.
15:00-15:30: CAENTI Global Programming (Plenary Session)
15:30-16:30:
 WP4 Internal Workshop: Final Programming.
 WP5 Internal Workshop: Final Programming.
 WP6 Internal Workshop: Final Programming.
16:30-17:00: Coffee break.
17:00-18:00:
 WP4 internal workshop: Final Programming.
 WP5 internal workshop: Final Programming.
 WP6 internal workshop: Final Programming.
18:00-19:00: Conclusions on CAENTI Global Programming (Plenary Session)
19:00-19:30: Transport to the hotel.
21:00: Dinner in “Patron” Restaurant.

Day 25: Assembly Hall of the Faculty of Business Administration in La Merced Campus

- 09:00-09:30: Welcome and registration.
09:30-10:00: Opening Ceremony.
 Prof. Dr. Francisco MARTÍNEZ. Rector of the University of Huelva.
 Mr. Jacinto CAÑETE. Regional Government, General Director of Innovation, Science and Enterprise Department
 Ms. M^a José RODRIGUEZ. Regional Government representative in Huelva province of Innovation, Science and Enterprise Department
 Dr. Jean-Jacques GIRARDOT. CAENTI Coordinator.
 Dr. Blanca MIEDES. Conference Coordinator.
10:00-11:15: First Conference: Prof. Dr. Carlos BERZOSA (Rector of the Complutense University of Madrid) "Challenges of World-Wide Governance" Debate.
11:15-11:45: Coffee break.

- 11:45-13:00: Second Conference: Dr. Tomás RODRÍGUEZ VILLASANTE (Complutense University of Madrid) " Action-Research Applied to Territorial Development" Debate.
- 13:00-13:30: Posters.
- 13:30-15:00: Lunch at La Merced Atrium. Networking.
- 15:00-15:45: WP4 Scientific Presentation: Territory Concept and Territorial Analysis Tools. Chair: Csilla Filo (University of Pécs, WP4 Leader)
- 15:45-16:30: WP6 Scientific Presentation: Methods and Technological Tools Applied to Action-Research. Chair: Dr. Jean-Jacques GIRARDOT (University of Franche-Comté, WP6 Leader)
- 16:30-17:00: Coffee break.
- 17:00-18:30: WP5 Scientific Presentation: Debate on the "Letter of Quality of Action-Research" proposal. Chair: Dr. Blanca MIEDES (University of Huelva, WP5 Leader)
- 21:00: Official Dinner in "Peña Flamenca" of Huelva.

Day 26: Seminar Rooms and Assembly Hall of the Faculty of Business Administration in La Merced Campus

09:00-11:00: Workshops.

Workshop 1. Territorial Intelligence Approaches (Moderated by: Dr. P. DUMAS)

- Technology Transfer between Research Units and Enterprises. An approach to centred model in the Impact on Territorial Strategic Targets. Juan Ignacio DALMAU PORTA, Bernardo Javier PÉREZ CASTAÑO, Joan Josep BAIXAULI I BAIXAULI.
- Application of Territorial Intelligence Focused on the Cultural Heritage and of the Reaffirmation of Territorial Entities: "pays" in France. The case of Couserans (Ariège - Pyrenees) Christian BOURRET, Sophie LACOUR.
- Contribution of Socio-technical Systems Theory Concepts to a Framework of Territorial Intelligence. Philippe DUMAS, Jean-Philippe GARDERE, Yann BERTACCHINI.
- From Territorial Intelligence to Competitive & Sustainable System. Case studies in Mexico & in Gafsa University. Yann BERTACCHINI, Marisela RODRÍGUEZ-SALVADOR, Wahida SOUARI.
- RET: Network for the Understanding of the Territory. The case of Buenos Aires, Argentina. Horacio BOZZANO, Sergio RESA.
- Composite Picture to Help to Study and to Define a Regional Economic Intelligence Device. Stéphane GORIA, Audrey KNAUF.
- Research, Sense Co-building and Action. Julien ANGELINI.

Workshop 3. Sustainable Territorial Development Studies (Moderated by: Dra. M. J. ASENSIO)

- Demographic Characters and Their impacts in a Hungarian Region. Zoltán WILHELM.
- Cultural Development Dimension. Natale AMMATURO.
- Territorial competitiveness and the Human Factors. Csilla FILÓ.

- The Dynamics of a Territory: the Main Actors of Sustainable Development in the Irno Valley. Giovanna TRUDA.
- Local Development Model applied to a Chocolate Industry in Pozoblanco (Córdoba, Spain) Carlos INFANTE REJANO, M^a José DUEÑAS CABRERA.
- Observation of Saharan Territorial Structures and Dynamics Yaël KOUZMINE, Hélène AVOCAT, Marie-Hélène DE SEDE-MARCEAU.
- The Analysis of the Managerial Fabric Like Methodological Strategy for the Economic Promotion of the Territories. Rosario RODRÍGUEZ RUCIERO, Antonio Jesús GONZÁLEZ REYES.
- Migrations and Territorial Governance in Europe. Amélie BICHET-MIÑARO.
- The Area Units for Employment, Local and Technological Development: a Model for Participative Research about Key Productive Sectors in Andalusia. Alberto PASCUAL NUÑO, Aurora CASADO SEDA.
- The Centres of Tourist Intelligence as a Tool for the Competitive Improvement of the Tourist Destinations: the Case of Andalusia. María de la O BARROSO GONZÁLEZ y David FLORES RUIZ.
- Territorial Governance and Residential Welfare: Experiences from Taiwan. Jing SHIANG, Rueyming TSAY.
- Territorial Identity and Geographical Mobility Projects Among the Pupils of the French Rural Environments. Jean-Louis POIREY, Catherine CAILLE-CATIN.
- Sustainability of Territorial Projects. A Proposal. Olga MÍNGUEZ MORENO and María José ASENSIO COTO.

Workshop 5. Participation and Governance (general issues) (Moderated by: Dra. D. REDONDO)

- Territorial Development and Governance: Third Sector Organizations. Emiliana MANGONE
- Territorial Intelligence and Equity in Health. Tullia SACCHERI.
- Territorial Intelligence and Governance. Philippe HERBAUX, Cyril MASSELOT.
- The Effect of Participation in the Development of Local Agenda 21 in the European Union. José-Manuel PRADO-LORENZO, Isabel-María GARCÍA-SÁNCHEZ.
- Social Participation of Rural Youth in Development in Two Villages in Kena Governorate in Egypt. Saker EL NOUR.
- Organizing Capacity of Territorial Actors in Medium-sized Cities. Jaume FELIU.
- Participación Social. Incidencia en la gobernanza local. Maribel FRANCO LIGENFERT.
- Natural Desastres and Intelligence in Latinamerica. María Eugenia PETIT-BREUILH SEPÚLVEDA.
- The Social Capital as a Tool for Territorial Development. Guiomar MORALES NAVARRO.

11:00-11:30: Coffee break.

11:30-13:30: Workshops.

Workshop 2. Territorial Analysis Tools (Moderated by: Dr. A. MOINE)

- Urban HyperScape: a Community Game for Territorial Knowledge. Philippe WOLOSZYN, Gaëtan BOURDIN.
- How the Local Governance System is Influenced by the Creation of an Observatory: the OSER 70 Experiment. Alexandre MOINE, Philippe SIGNORET.
- The Air-Ténéré National Natural Reserve (RNNAT) Observatory: Territorial Intelligence for Sustainable Development. Yann FLETY, Franck GIAZZI.
- Theoretical Approach of Network Communication and Collaboration in Research. Peter ACS.
- Inter-visibility, a Concept at the Service of Territorial Intelligence, a tool at the Service of Governance. Serge ORMAUX.
- Analyzing Survey Data Concerning the Construction of Central Taiwan Science Park using Association Rules and Geographical Information Systems. Fang-Yie LEU.
- Information System: Transport Dynamic Cartography in Alsace. Olivier QUOY, Cyril MASSELOT.
- Collaborative Planning Support Systems: Exploiting Geographic Information and Communication Technology in Sustainable Spatial Planning. Michele CAMPAGNA.
- E-PRAGMA: Software Tool for the Territorial Intelligence Distributed Systems. Jean Jacques GIRARDOT, Cyril MASSELOT et al.
- Modeling Urbanization to Simulate Prospective Scenarios: a Comparative Approach. Jean Phillipe ANTONI, Cécile TANNIER, Pierre FRANKHAUSER, VUIDEL, Samy YOUSOUFI.

Workshop 4. Reflections on Research Action (Moderated by: T. SACCHERI)

- Systemic Approach and Modelling of the Socio-Spatial Segregation Phenomenon of Cities in the East of France. Kawtar NAJIB, Karima ASKASSAY.
- The Restoring of Inquiry Results in Action Research and the Community Development Founding. Mihai PASCARU.
- Methodologies for Generalising from the Unique: Knowledge Transfer in Territorial Governance Investigations and Evaluations. Philip POTTER.
- Landscape and Participation: Construction of a PhD Research Problem and an Analysis Method. Towards the Comparative Analysis of Participatory Processes of Landscape Management Projects Design on a Local Scale in the Walloon Region (Belgium). Emilie DROEVEN.

Workshop 6. Participation and Governance (Experiences) (Moderated by: J. FERNÁNDEZ)

- Influence of the Contexts and Associative Organisation on the Implementation of a Follow-up System of Users' Itineraries. Jean-Pierre MULLER, Anne PERETZ.
- A Self-critical Analysis of a Running Research Project to Improve the Sustainability of Public Place Management. Serge SCHMITZ, Sarai DE GRAEF.

- To a TI Community System: Shared Diagnostic and Territorial Animation of a Seraing's area (Belgium). Julien CHARLIER, Guénaél DEVILLET, Emmanuelle BRUNETTI, Concetta CUSUMANO, Jean-Marie DELVOYE, Pierre DOYEN, Aurore URBANO.
- Educational Compensation Joint Plan: a Real Application Inside District V of Huelva. Manuela Coronada GARCÍA FERNÁNDEZ.
- Strategic Observation and Partnership. The case of ACCEM's Observatories. Julia FERNÁNDEZ QUINTANILLA, Javier MAHIA, Blanca MIEDES.
- Analysis of a Research-Action Participative Land Planning Process. The SCOT de Thau (France) Pierre MAUREL., P. BOTS, D. CROCHET, M. FELTER, H. REY-VALETTE, JP. ROUSSILLON, JJ. TAILLADE, H. VAN DUIJN, Y. VON KORFF.
- Territorial Participation. Analyzing the Results of a Participative Research-Action Project: the Design of a Territorial Employment Strategy Celia SÁNCHEZ, Blanca MIEDES.

13:30-15:00: Lunch at La Merced Atrium. Networking.

15:00-16:30: Plenary debate: "Universities - Territorial Actors Relationship within the Framework of Action-Research: Potentialities and Limits" Moderated by: Prof. Dr. M. A. DE PAZ BÁÑEZ.

16:30-17:00: Coffee break.

17:00-18:30: Plenary Debate: "New Technologies and Information Treatment within the Framework of Action-Research: Ethical and Organizational Problems" Moderated by: Dr. C. MASSELOT.

18:30-19:00: Break.

19:00-20:00: Synthesis and Closure.

October, 27th: Optional Trip to "Minas de Río Tinto" in Huelva province

09:00-10:30: Networking: meetings of the Steering Committee, Scientific Committee, Organizational Committee, CAENTI thematic meetings, meetings among participants.

10:30-19:00: Trip to Minas de Río Tinto.

III. CONFERENCE ABSTRACTS

DAY 26: SEMINAR ROOMS AND ASSEMBLY HALL OF THE FACULTY OF BUSINESS ADMINISTRATION IN LA MERCED CAMPUS

WORKSHOP 1. TERRITORIAL INTELLIGENCE APPROACHES (MODERATED BY: DR. P. DUMAS)

Technology Transfer between Research Units and Enterprises. An approach to centred model in the impact on territorial strategic targets. Juan Ignacio DALMAU PORTA, Bernardo Javier PÉREZ CASTAÑO, Joan Josep BAIXAULI I BAIXAULI

The purpose of this paper is to present significant advances on a research project under development by the authors. The project, analyses the bases for a model that evaluates technology transfer between research units and companies; it does it, by trimming the impact on strategic targets, investigation units, companies and the region itself in which they are immersed by analyzing the impact in terms of their development and consequential benefits for the society.

It is tried to diffuse the preliminary design of a model, the research method and tools that facilitate the multidimensional approaches that are able to involve actors who are of very different nature (partnerships) and that allow generating and managing knowledge in a participative way. This would encourage an improvement in the dialogue between science and society, defining specific research activities and as a final step, taking actions without losing in mind, the goal of favouring and encouraging the ownership of this knowledge by the territorial actors and the people who eventually will contribute to the improvement of the territorial governance.

This model underlines the scientific world and territorial complementary action, the participative research-action activity could be defined as a kind of research behaviour in which researchers and territorial actors are involved in pursue of a double objective: first of all, a scientific one which would be represented by improving the knowledge on a concrete aspect of the territorial structure and/or dynamics; and a second one, that would embrace the acting and resolution of concrete problems of a definite region or territory.

Application of territorial intelligence focused on the cultural heritage and of the reaffirmation of territorial entities: "pays" in France. The case of Couserans (Ariège - Pyrenees) Christian BOURRET, Sophie LACOUR

Within the framework of a total Territorial Intelligence approach focused on the territorial identity called "pays", we studied the limits and the ambiguities of this notion. The belonging feeling to a specific area ("pays") has stirring effects for regional institutions, that's why it is necessary to develop a identity feeling around this notion, feeling which is deeply linked to the heritage and the culture. We found, through an investigation realised on the «pays de Couserans», that if a very strong local identity linked to a common history and heritage does exist, the notion of "pays" is quite unknown and its action field and

attributions are not really understood. The entity "pays", a concept all in nuances that is necessary to handle with precaution, because it also can carry exclusion. But because it is also anchored since unmemorable times in our collective memory, the "pays" can carry a lot of meanings. Territorial unity "pays" seems to be a relevant vector in the installation of projects of sustainable development within the framework of concerted and participative processes of Territorial Intelligence.

Contribution of socio-technical systems theory concepts to a framework of Territorial Intelligence. Philippe DUMAS, Jean-Philippe GARDERE, Yann BERTACCHINI

Territorial intelligence approach to sustainable development is largely relying on two major paradigms of modern social sciences: social constructivism and systems theory as keys to manage complexity. But, whether in current definitions or practical applications, that is implicitly assessed by authors. The aim of this communication is to re-visit some of the key concepts and principles of socio-technical systems theory to build up a consistent, explicit and practical framework of territorial intelligence achievements in order to contribute to a general theory of that new field of knowledge.

From territorial intelligence to competitive & sustainable system. Case studies in Mexico & in Gafsa university. Yann BERTACCHINI, Marisela RODRÍGUEZ-SALVADOR, Wahida SOUARI

Can we consider, for two separate situations, territorial intelligence approach in common, as a model, at the beginning of a National (Mexico) and internal (Gafsa) System of territorial sustainable Intelligence, to be built? We shall discuss it, after a brief analysis of the state of development of this area in Mexico and in Gafsa University (Tunisia). This paper presents theoretical basis to define, based on system concept, a National System of Competitive & Technological Intelligence and, more practical, on implementing an internal system of I.T into a Tunisian University, based on constructivism approach.

RET: Network for the understanding of the territory. The case of Buenos Aires, Argentina. Horacio BOZZANO, Sergio RESA

The RET "Red para el Entendimiento Territorial" is the Network for the Understanding of the Territory of the Province of Buenos Aires, in the Republic of Argentina. At present the RET is in the instance of formation of a Partnership in which participate: the UTN (National University of Technology), the Zanetta Foundation, the Government of the Province of Buenos Aires, which is now working to contribute to the UJFK (University John F. Kennedy), the UNLP (National University of La Plata), the CONICET, (National Board of Scientific and Technological Investigation) and different Municipalities. The methodology is organized around three key questions: 1- why a network?, 2-why territorial understanding? and 3 -why real, legal and thought territories? The project is developed from a sense of the communication related to theories that put emphasis in the intersubjective processes and the cultural processes. Among other activities, at present the RET: a) publishes georeferenced territorial information per rural allotment and blocks referred to theoretical use (urban codes) and real use of the ground for 134 Municipalities

of the Province; y b) it does research about legal, real and thought territories. The publication is organized as follows: 1-methodological criteria; 2-antecedents and beginning; 3-conception of the RET; 4-theoretical concept of territory, place and management; 5-territorial concepts and axis analysis; 6-Real territories: applied to RET; 7-legal territories: applied to RET; 8-thought territories: applied to RET; 9-development of programs and instruments, and 10-institutionalization of the Network. Conclusions are referred to theoretical and epistemologic bases in territorial understanding.

Composite picture to help to study and to define a Regional Economic Intelligence Device. Stéphane GORIA, Audrey KNAUF

Economic Intelligence is a French conception of organisational sustenance by an improvement of information management. At the end of 1990, this consideration emerged from the concepts of Competitive Intelligence, Business Intelligence and Knowledge Management, notably, being supported by French government. One of these applications is the Regional Economic Intelligence initiatives. The most prominent of these projects is the cluster of competitiveness call. But, it is not the only proposition, many other enterprise clusters initiatives or the Regional Economic Intelligence Devices (REID). Then, in front of this panel of different Territorial Economic Intelligence initiatives, we decided to propose a tool to help any decision-maker develop a Territorial Economic Intelligence Device. This might help shape the overview of some particular REID and other similar devices and it is associated with a tool to define a composite picture of the project of REID. These composite pictures are realized on the basis of information visualization technique of Chernoff faces. In this sense we have developed a methodology to identify the characteristics of a typical REID in terms of Economic Intelligence actions and other actions connected. We have associated these characteristics with quantification by parameters and these parameters were linked with a particular feature of Chernoff face.

Research, Sense Co-building and Action. Julien ANGELINI

From now on, we stay in this 21^o incipient century, with the fact of the phenomenon devoted 'globalization'. The relations scheme, Space-Time-Society, is irremediably widespread by the TICs - Communication and Information Technologies, dematerialization of exchanges, relocalization of the operations and, more faraway, 'footloose' activities. It is necessary to re-mark the *information, individual - collective space couple*, in which one the social bond can appear and constitute the basis materials of the dynamics of project. Solidarity has to be reshaped.

In this way, we should specify that our interest is focused within the framework of the Corsica area, its development and its inscription on transnational exchanges. It will be advisable to this end, to study the concept of polynomic language which can transcend the diglossic fence.

Territorial informational resource because of multilinguism practiced throughout this area. Production and the use of this resource are the condition of the definition of rebuilt solidarity.

This research in progress does not allow yet us production of results. However we wish to present a specific context, that of Corsica and a renewed approach of territorial identity co-building that makes sense for all.

WORKSHOP 2. TERRITORIAL ANALYSIS TOOLS (MODERATED BY: DR. A. MOINE)

Urban HyperScape: a community game for territorial knowledge. Philippe WOLOSZYN, Gaëtan BOURDIN

With considering cooperative and sustainable development of urban and social territories, and dealing with modelling tools and dynamical practices of land (and sound) scape observation, our goal is to experiment a collaborative way in order to observe, fabricate and animate the urban landscape elements, through a cooperative media creation process. From observation phase should emerge mechanisms which will allow prediction of the territorial intelligence processing, through territory global complex behaviour modelling. Territorialized collective representations should be readed within the complex interaction scaling dimensions, which virtual components should interact in order to produce an emergent structure, through a participative hyperstructural game playing.

In that way, Hyperscape should reveal the territorial emergent perceptive hyperstructures related to the concerned populations and their respective teleological assumptions, in order to constitute a support to the “negotiated ideal district” produced through the concerned territory projected vision.

How the local governance system is influenced by the creation of an observatory: the OSER 70 experiment. Alexandre MOINE, Philippe SIGNORET

The new tools now available to territorial intelligence cannot but take into account the various time and space scales. Setting up a socio-economic observatory -operating as a regional network- allowed us to state again and outline more accurately the issues pertaining to the notions of territory and observation. Our study remained constantly focused on a major preoccupation: the actor should always be at the heart of a local project and governance system.

The Air-Ténéré National Natural Reserve (RNNAT) observatory: Territorial intelligence for sustainable development. Yann FLETY, Franck GIAZZI

The Air-Ténéré National Natural Reserve is a protected area in which conservation and development principles tempt to be combined (co-management). To follow-up environmental changes which determine people’s life, and to support decisions to manage the Reserve, the first steps of a territorial observatory are introduced. Beyond the technical build up of the Geographical Information System (GIS), the prototype proposed here is a concrete expression of a part of a territorial intelligent tool. It embraces all territorial dimensions from spatial to actors ones, and try in the context of the reserve, to revisit the definition of local governance. This work is based on a master thesis (FLETY 2006).

Theoretical approach of network communication and collaboration in research. Peter ACS

Collaboration and cooperation in the virtual surround is one of the key elements in international cooperation research. This paper is about understanding functions of the

virtual tools with the help of the Participation Theory of Communication (PTC). Various forms of the phenomena described as communication can all be characterized as being rooted in the need of the agents to recognize and/or to solve problems. Communication is a way of understanding the agent's behavior as a potential ability to recognize and/or solve problems with the help of symbols (or signs). The basic theory is discussed and applied to the field of network-communication. The CooSpace as a real application - used in the CAENTI project - was built on the basis of theoretical conclusions. The web based applications can be described as a set of communication devices. Different communication devices have different characteristics. One of the most important factors of effective use of these devices is a knowledge, what helps the users (agents) to choose an appropriate tools, and solve their problems. CooSpace supposes self-motivated agents aiming to solve their problems. Usage is not important in itself. Usage is important only as a way of helping to increase the problem-solving capacity of the participants. The developers are working on improving the tools in the CooSpace system using a valuable experience of CAENTI project and scientific approaches as well.

Inter-visibility, a concept at the service of territorial intelligence, a tool at the service of governance. Serge ORMAUX

At the limit, the proposition «this point of space is visible or non-visible from this other point of space» is a strictly geometrical assertion; nevertheless, we will be able to continue the gathering, by integrating information on the sight distance, the proportion that is visible from a given object (for example a pylon) or the visual contrast with respect to a background, etc. such information layers are not trivial at all, even in a research that is directed to the peoples' true-life. It is not indifferent to notice the notions of exposition to the glance and of inter-visibility were firstly developed by the architects, in the approach of the relations between a space function and its insertion in the visual beams, and more generally in the approach of the inhabitant's well-being.

From these introductive purposes, in this papers successively examine the technical outlines of inter-visibility, then its potentialities and its limits in the framework of an inter-visibility taking into account in the territorial decision.

Analyzing Survey Data Concerning the Construction of Central Taiwan Science Park using Association Rules and Geographical Information Systems. Fang-Yie LEU

Recently, many data mining techniques have been developed for and deployed by scientific and industrial use to automatically mine, analyze and extract hidden knowledge from raw data given. Among them, association rule, one of the most commonly used ones, is often used to discover relationship between two set of items. Also, commercial Geographical Information Systems (GISs) and their functions have been quickly developed and significantly improved respectively in recent years. Researchers and policymakers can input environmental data to a GIS system to gain spatial analytical results which often show up how data is geographically dispersed. In this paper, we discuss how to apply association rules to analyze surveyed data collected from people living in the Situn district and Dayia village which are two areas surround Central Taiwan Science Park so that

researchers can accordingly realize some facts that can not be superficially obtained from raw data concerning the construction of the science park (before and after). The results can be referred to by local and central governments as a reference when making public policies. Besides, if we can input the analytical results to GIS, the hidden meanings or rules embedded in the survey data can be then uncovered more deeply and precisely.

Information System: transport dynamic cartography in Alsace. Olivier QUOY, Cyril MASSELOT

The issue of the presented work is to publish on line a dynamic cartography system of the transport traffic evaluation, based upon the Alsace (France) regional level experiment. After a large design work of a transport database, arose questions about accessibility, data updating, choice of information processing systems, and development of Internet tools. Three points of view will be approached: the system design from the user point of view, the raised questions of communication and the data-processing. The synthesis allows analyzing the experiment of the installation of a Catalyse tool at a public State level service, at a French "région" level.

Modeling Urbanization to Simulate Prospective Scenarios: a Comparative Approach. Jean Phillippe ANTONI, Cécile TANNIER, Pierre FRANKHAUSER, VUIDEL, Samy YOUSOUFI

In France, managing urban growth and sprawl depends on the housing policies made by municipalities (or groups of municipalities), by the Department, the Region or the State (i.e. by public actors) through specific statutory documents like PLU (Plan local d'urbanisme) or SCOT (Schémas de cohérence territoriaux). Currently, the policies leading to such documents appear very crucial. Indeed, sustainability in urban development has become a crucial issue. To manage it, urban planners use a variety of prescriptive tools such as Geographic information systems (SIG) or Computer aided drafting (CAD) softwares. Nevertheless, these "traditional" tools have a reduced predictive capability and since about 20 years, researchers try to develop modeling approaches allowing to improve describing and forecasting urban growth and its consequences. The aim of this paper is to present and compare three of these modeling tools, relaying on different theories. The heterogeneity of the produced results is discussed in the conclusion and envisaged as a interesting contribution to feed debates about urban growth management in the current framework of territorial intelligence.

The contribution of the computer science as well as the information and communication science approaches for the editorial function of the territorial information systems. Sylvie DAMY, Bénédicte HERMANN, Isabelle JACQUES, Jean-Jacques GIRARDOT, Cyril MASSELOT

This collaboration focuses on the data-processing software evolution which implements an editorial function in territorial information systems in various using contexts. It results from collaboration between humanities, social sciences, computer science and information and communication science researchers, and which has been established since 2000 within the ISTI and the MSH LEDOUX framework.

In a previous paper, we summed up the research activities about territorial intelligence since the seventies'. Essentially, it was a friendly data processing solutions development: PRAGMA for quantitative data analysis; ANACONDA and NUAGE for qualitative data analysis.

Thanks to computer science researchers collaboration, the SITRA research action allowed the completing of statistical analysis data by spatial analysis and cartography tools. Then the ICASIT started updating and making the statistical data and spatial analysis software, previously developed to evolve within the networks and Internet framework.

WORKSHOP 3. SUSTAINABLE TERRITORIAL DEVELOPMENT STUDIES (MODERATED BY: DR. M. J. ASENSIO)

Demographic characters and their impacts in a Hungarian region. Zoltán WILHELM

The major issues of Hungarian demography are the decreasing population and the increasing average age. The number and proportion of (potentially) active employees have been continuously decreasing. The number of school and higher education attendees is decreasing, while the number of retired people is increasing. Thus the education system, the retirement- fund system, as well as the elderly health care system needs to be reformed.

Cultural development dimension. Natale AMMATURO

What is the role played by territorial intelligence in sustainable development? What are the indicators that should be selected as main drivers of territorial sustainable development? Who will enhance what resources? Shall we focus on endogenous or exogenous factors in order to foster sustainable development?

These questions are just a sample of those we try to address.

In line with well-established sociological theories of sustainable territorial development, we wish to validate those hypotheses that, although centered on the economy as the system in which concrete growth opportunities can be observed, focus mainly on the cultural system and citizenship rights awareness as the essential correlates for a type of development that promotes socio-economic cohesion in a given territory.

Many times, especially in the South of Italy, policies mainly designed to give priority to economic resources have failed: economic interventions alone, if not supported by clever investment planning aimed at overall development, arouse conflicts and unrest, often fostering deviant interest groups.

Territorial competitiveness and the human factors. Csilla FILÓ

To approach the notion of competitiveness from a regional perspective has become productive in many ways recently. On the one hand, as a consequence of developing in a globalized environment, it has become necessary for theories relating to the region to introduce an umbrella term, and on the other hand, the previous use of the term on the macro- and micro-level lacked the intermediary level that, as a localised level, could refer to an economic field for developments and investments.

The dynamics of a territory: the main actors of sustainable development in the Irno Valley. Giovanna TRUDA

The Territorial Intelligence must involvement of local actors by means of guidelines for territorial development is crucial. The territorial planning must take on board the civil society in this process. The territory constitutes the space where action can be taken to implement development projects and to strike a balance among economic, social, cultural and scientific objectives. The transformation of a local system and its future prospects have

to consider local specificities and local system identity, that permits to perceive community problems and find helpful solution possibilities. Identity anyway, have to look at and consider the external world if it doesn't want to fall down in parochialism. All these factors are crucial to detect a development pattern rooted in territory, so that they are not only the result of external decisional processes in which the community has a purely passive role.

Local Development Model applied to a chocolate industry in Pozoblanco (Córdoba, Spain). Carlos INFANTE REJANO, M^a José DUEÑAS CABRERA

In this paper we propose to bring up the implications of a theoretical framework about local development model in relation to a chocolate industry located in Pozoblanco (Córdoba, Spain). Specifically we try to recover the activity of one of the oldest chocolate industry in Europe (dates back to 1815) designing a development model at different levels. First we will briefly describe the social, economical, labour and cultural context of Pozoblanco. Then we give details of our intervention that tries (1) To recover the principal activity of the industry and to promote its diversification as the only way to keep the business on the labour market; (2) To design a development model orientated to facilitate people under-represented in the local workforce or actually facing barriers to get into work; and (3) To place the industry in the economical, labour, social and cultural context of Pozoblanco. Finally we specify the key elements to achieve these aims.

Observation of Saharan territorial structures and dynamics. Yaël KOUZMINE, Hélène AVOCAT, Marie-Hélène DE SEDE-MARCEAU

The authors deal with the best way to tackle the problem of mutations that affect Saharan spaces (environmental, economics) and their consequences on different scales. The final objective of this paper is to propose theoretical and more operational elements about the observation of those mutations (modeling, indicators) regarding heterogeneity and specificities of these territories. An observation structure of those territories (by territory we consider geographical space and actors) could permit to increase knowledge and support dialogue between Land settlement actors and researchers. Those reflections become integrated in Algerian government's will to develop "the best synergies for the development", by increasing "good governance" and participation (National Scheme of Land Planning).

Territorial Governance and Residential Welfare: Experiences from Taiwan. Jing SHIANG, Rueyming TSAY

With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficient public services, local governments have faced new challenges in their territorial governance and in sustaining residential welfare. This paper discusses impacts of industrial changes on local territorial governance. Specifically, this paper reports the establishment of a newly-established science park in Taiwan, and its effects on the environment and residents' perception towards their welfare and actors influencing their welfare. The findings show that, although literature suggests modern governance is networked by various stakeholders of the territory, in Taiwan residents' mind, the most

influential actor that affect their welfare during a time of change is still the public authority – local governments. The other actors have various influences and contributions.

Territorial identity and geographical mobility projects among the pupils of the French rural environments. Jean-Louis POIREY, Catherine CAILLE-CATIN

Presently, geographical mobility strongly influences professional insertion. Although, when we ask pupils from rural environments about their future life and work environments, they appear to prefer countryside in their present life region and to be strongly reluctant to live in a big city, and even more in a foreign country. It makes wondering about the possibilities: precocious entry in the local labour market or migration towards more qualified jobs.

Many factors can affect these future choices: what is the part of the origin family socio-professional environment, the personal history of these young people who are or not from the region where they presently live, the regular or occasional frequency of their family travels, the representations they have of anchorage and territorial identity.

The follow-up, from the so-called “CM2”(which corresponds to 5th grade) to the so-called “Seconde” (which corresponds to the second year at the Senior school) of a cohort of more than 2000 pupils who belong to various types of rural environments and who are interrogated five times, allows giving some answers to the question of territorial identity and geographical mobility projects among the pupils from rural environments.

Sustainability of Territorial Projects. A proposal Olga MÍNGUEZ MORENO and María José ASENSIO COTO

This paper review efforts devoted to sustainability over the last years from different points of view. First of all, a conceptualisation and modelling of the concept is presented from a “macro” perspective. Next, some ideas of how sustainability could be implemented in a territory are given. This could be considered the “meso” vision. Finally, the “micro” perspective from the project level is tackled. In this sense, we propose a *check list* to select projects contributing to sustainability. This proposal is only one aspect for the beginning of a long way.

WORKSHOP 4. REFLECTIONS ON RESEARCH ACTION (MODERATED BY: T. SACCHIERI)

Systemic Approach and Modelling of the Socio-Spatial Segregation Phenomenon of Cities in the East of France. Kawtar NAJIB, Karima ASKASSAY

Territorial sustainable development must be regarded as a mutual enrichment of participatory research-action activity, which improves the utility and the accessibility of territorial knowledge and conventional research, which guarantees quality in the long-term. Territorial intelligence, which integrates the concepts of territory, knowledge based society and sustainable development is strongly orientated towards action: its ambition is to respect the ethical principles of territorial sustainable development which are participation, global and balanced approach to territories and partnership. The idea is to improve a territory by increasing the connection between research and action and between scientific rigour and the participation of actors and citizens. The complementarity of the participatory approach and individualized approach, the added value of the contribution of communities to the quality of scientific research and the interdisciplinary character of territorial sciences will emerge from this paper. Our research looks into the functioning of cities in the east of France, which have always experienced territorial, social, economic and demographic inequalities and disparities in terms of housing and residential migration, and whether this functioning has led socio-spatial segregation. Indeed, this phenomenon is reinforced by the departure of wealthy families to more pleasant districts, the fact that certain families remain by choice or obligation, and the arrival of new families in difficulty. This dynamic explains an urban dysfunction of French cities and a heterogeneous spatial pattern.

The restoring of inquiry results in action research and the community development founding. Mihai PASCARU

The study presents the restoring of the survey's results both as a moment and as an instrument of the action research. After retaining one definition of restoring proposed by Bergier (2000), some aspects of the action research are presented: definition (Juan, 1999; Small, 1995), characterization (Baskerville, 1999; Paillé, 2002; Somekh, 1995), and typology (Fox, 2003; Tripp, 1990). Some research in which the restoring is involved as a moment or as an instrument of the action research is described briefly (Lundy & McGovern, 2006; Parrado, McQuiston, & Flippen, 2005). The study goes on by presenting some recent research in Romania, connected to the problem of sustaining the territorial development through research. The aim of this presentation is to reveal that, beyond its heuristic valances, the restoring of the results may be successfully used in the action research, which is useful for the community development. In the end, the restoring can be used not only in stakeholders' identification, but also in their actions' founding destined for the community development.

Methodologies for generalising from the unique: knowledge transfer in territorial governance investigations and evaluations. Philip POTTER

Investigations and evaluations of territorial practices and programmes are case-based. But investigations conducted in case-based spatial settings generate knowledge that often has only very specific applicability. Practice-oriented investigations and evaluations aspire to derive policy and/or action lessons beyond the boundaries of the case with which it is concerned. They strive for generalisability, in order to make it possible for lessons to be transferred to different settings. Mechanisms are therefore needed to mediate between different loci and levels of applicability for the results of investigations and evaluations. The mediation between the local knowledge and transferable knowledge in territorial programmes can be managed as a communicative and interactive process. This involves creating network contexts in which key actors have a transaction forum in which transferable knowledge can be generated in a dialogical procedures. This paper gives two examples illustrating investigation/evaluation strategies appropriate for programmes in case-based spatial settings: 1) a national 'EXWOST' programme of the German Federal Office for Building and Regional Planning on 'Potentials of Housing Cooperatives' in which the author was a member of the evaluation team, responsible for inter-project transfer and synthesis evaluation and 2) a transnational project entitled 'ENTRUST' on neighbourhood regeneration in the Framework RTD Program in which the author was a member of the coordination team with responsibility for promoting transnational learning.

Landscape and Participation: Construction of a PhD Research Problem and an Analysis Method. Towards the Comparative Analysis of Participatory Processes of Landscape Management Projects Design on a Local Scale in the Walloon Region (Belgium). Emilie DROEVEN

A preliminary reflection to the definition of a PhD research problem on the concepts of participation, landscape and project, led the student to be interested in the participatory processes of landscape management projects design, and in the inhabitants landscapes representations. The method includes the comparative analysis of local processes of projects design, and the direct observation of two Walloon landscape management projects design (investigation conducted with stakeholders implied in the project design and among inhabitants, direct observation, organisation of participative meeting-debates. Fitting her research approach within the field of the territorial participative research-action, the PhD student assumes that the participation of the territorial actors and the population can “feed” the scientific research as well as territorial action. She reconsiders moreover some difficulties encountered in her research.

WORKSHOP 5. PARTICIPATION AND GOVERNANCE (GENERAL ISSUES) (MODERATED BY: DR. D. REDONDO)

Territorial development and governance: Third Sector Organizations. Emiliana MANGONE

The object of this paper is to go deeper into some aspects related to the relationships between the Third Sector and the Public sector, to underline the open problems related to the implementation of the Governance process and the effective participation of Third Sector organizations in this process, in planning and implementing actions for a territorial sustainable development. The problem about the Third Sector's development as a form of social capital of a specific territory is understanding if these Third Sector organizations are looking for a "role" or a "responsibility", or if they are rather looking for an integration between these two aspects. The interaction between Public and Third Sector, which is an expression of participation, can't be considered an "arena of dispute", serving to represent things to "say" and not to "do", because of the gap between politics and the civil society; therefore, regardless of the representative level of different subjects, participation, as it is viewed today, should close with actions of external relevance supported by transparent procedures and visible positions, in which roles and responsibilities and the behaviour of all the actors involved are clear, in such a way that their behaviour will be considered "reliable" by the community.

Territorial Intelligence and equity in health. Tullia SACCHERI

What do we mean by effectiveness in health care planning? What and whom does it affect? What methodology should it apply? Such questions refer to methodological (and political) issues that do matter for the purpose of ensuring equal rights to health to everybody. In fact, not only do they "raise the methodological issue", but also they turn the "methodological discourse" into something that has an impact on reality both in terms of governance and in terms of sustainable action.

All along the last century we have witnessed:

- a) a continuous devaluation of territorial knowledge,
- b) a planning process predominantly targeted to emergency situations,
- c) a series of processes based upon the dual problem-solution methodology.

The immediate involvement of stakeholders in the planning process becomes an ethical principle of planning and governance for health: such method requires the enhancement of knowledge and the continuous exchange of "handson" experience among the different groups involved in the planning-acting process, that look at reality from different angles and possess different types of know-how.

Only where these two modes and levels of knowledge overlap can we implement health governance as a product of territorial expertise and as a tool for promoting equality.

Territorial intelligence and governance. Philippe HERBAUX, Cyril MASSELOT

As with European experiments, in various regions in France, territorial intelligence projects have been initiated since 2003. (see the regions of Lower Normandy, Lorraine, Réunion Island, the Aquitaine region, etc.). The objective of these is to gather and exploit information which is not confined to particular sectors and the collective processing of which can contribute to durable development. Apart from institutions, civil society and the inhabitants of the territory, it is observed that companies and in particular small and medium sized enterprises are natural partners who show interest in such initiatives. Both the different economic chains and the participating organizations thus derive considerable benefit in terms of the anticipation of threats and in the reaffirmation of the territory as a common resource worth defending. Above and beyond the information processing systems operating within these organizations or economic chains, the articulation of internal actions to generate informational capital in terms of local territorial intelligence, produces a leverage effect with visibility of European or even worldwide visibility (Herbaux, 2007)¹. Nonetheless these experiments lead to widely differing results, of which the progressive abandonment of the project by the companies involved is one of the most commonly observed.

To support a theoretical contribution as a thread for this communication, we report on the results of a Delphi type survey completed in 2006 and covering 53 companies in the Nord-Pas de Calais region involved in a process of territorial intelligence since 2003. This revealed that 43 companies out of the 53 concerned had not followed through on their internal information sharing project and contented themselves, by default, with the results by economic sector derived from public regional surveillance.

Beyond this apparent disengagement from the process initiated, we may be curious about this apparent discretion of a group of actors concerning local government. This work nonetheless did generate a consensus around certain observations among the actors questioned, particularly as regards an initiative for which they did not deny the final utility but for which the requirements necessitated a significant modification to their internal culture. After the initial conventional responses: «*security of patrimonial data, new choices in investment of time, lack of means, different priorities, etc.*», repeated and differentiated questioning of those concerned revealed that the progressive abandonment of these practices and commitments bore a relationship with a number of human factors of relational and cognitive nature, thus depriving the project of its founding principles. This observation echoed that of the implication suggested by Girardot in 2005² on the theme of multi-level governance. Although the financial aspect is a factor in the long term survival of regular investments of man-hours, this criterion appeared progressively more marginal to the general project among the actors surveyed, as against several positions cited as pre-requisites. Based on a synthesis of the results of the study, we propose five key success factors to promote within organizations to promote the logic of information sharing. To

¹ Herbaux Ph., *Intelligence territoriale, repères théoriques*. Editions Lharmattan 2007.

² Girardot J. J., «intelligence territoriale et participation» 5^o Colloque TIC et territoire, Besançon 2006.

this effect, our proposal for a model named in French «CADIE» (Communication, Appui, Durée, Implication, Ecoute – or, in English, Communication, Support, Duration, Attentiveness) suggests several attitudes to which organizations must adhere to develop long-term integration in a territorial intelligence network..

The limitations of our proposal arise from the small size of the sample at our disposal and the regional limits of our data gathering. This experimentation, duplicated in various European regions would benefit from a multi-cultural gloss and thus would provide the template for a preliminary European approach to the logic of territorial intelligence.

The effect of participation in the development of Local Agenda 21 in the European Union. José-Manuel PRADO-LORENZO, Isabel-María GARCÍA-SÁNCHEZ

The different forms of participation or communication within and between public agencies represent one of the five major features of policy implementation which explain why programs do not turn out the way they are expected to. This paper evaluates the advancements and the effect of the participation of several bodies – citizens, the private sector, other local government departments and other public entities - in the implementation of Local Agenda 21 in European municipalities.

Results show that participation by citizens and the involvement of different departments within the municipal government in implementing Local Agenda 21 significantly promote its implementation. However, the promotion of sustainable development through policies or activities by the European Union, the State or other national or supra-administrations are of little relevance.

Social Participation of Rural Youth in Development in Two Villages in Kena Governorate in Egypt. Saker EL NOUR

Youth social participation is the process that developing partnerships between young people and adults in all areas of life so youth can take valued position in society and the community as a whole can benefit from their contribution, ideas and energies, This study analyze the kinds and the levels of social participation of rural youth in development in kena governorate in Egypt, Sample social survey approach was used in this study population was sampled from among rural youth of the age category (18-30) years, and the sample was selected by zone random sampling methods, from two study villages, in Keft the sample size was 150 youth, whereas in Aboutcht was 204 youth, data analyzed by SPSS (statistical package for social science), a major result of the study is the lowest youth participation in two village and this can be explain by centralization and adulate control, in addition to loss the trust in the governmental programs, finally, the study confirmed that local initiative is important for their participation.

Organizing capacity of territorial actors in medium-sized cities. Jaume FELIU

We are interested in the capacity of organisation and the difficulties to create networks of actors in medium-sized cities that receives a station of High Speed Train (HST). HST is constructed mainly to serve big cities, but it is also an opportunity to create interesting processes local development in those territories between big cities. Local actors can play

an important role in it. We study three cities through the application of a new metrology to evaluate the degree of local development that HST supposes.

Natural Desastres and Intelligence in Latinamerica. María Eugenia PETIT-BREUILH SEPÚLVEDA

In this communication it is analysed the state of the question of the territorial intelligence in Latin America specially related to the natural disasters clarifying that though the high frequency of catastrophic events would suppose a major determination of the different governments of the region for knowing these natural processes to mitigate the effects in the population and the infrastructures, still prevail there the economic interests that take politician and possible investors to keeping one nebulous with regard to the application of the multiple studies of technical personnel and scientist who exist on this topic. Still it gives the impression that for a wide sector of the population of Latin America. The simple mention of studies related to the catastrophes is considered to be an attempt on the development, and what is obtained finally, is that there are realized investments that can manage to get lost in the short term for lack of forecast. To settle this problem there appears the need to obtain a real communication among scientists, politicians and the citizenship in order that the future actions on the territory are consistent with the dynamic American nature.

WORKSHOP 6. PARTICIPATION AND GOVERNANCE (EXPERIENCES) (MODERATED BY: J. FERNÁNDEZ)

Influence of the contexts and associative organisation on the implementation of a follow-up system of users' itineraries. Jean-Pierre MULLER, Anne PERETZ

Define and mutualise the conclusions linked to the place and influence of the contexts (external) and organisation choices (internal) on the development and implementation of an observatory of handicapped people, online system of administrative information, and of the individual process of their socio-professional integration itinerary.

A self-critical analysis of a running research project to improve the sustainability of public place management. Serge SCHMITZ, Sarai DE GRAEF

The paper presents the way a framework for (self-)assessment to improve the sustainability of practices in public places and spaces was created during the first months of the Topozym action research. It underlines obstacles encountered and solutions found by a multidisciplinary team in creating this tool. Based on this critical self-analysis, the difficulties of putting the theoretical ideas on action research in practice are discussed.

To a TI community system: shared diagnostic and territorial animation of a Seraing's area (Belgium). Julien CHARLIER, Guénaél DEVILLET, Emmanuelle BRUNETTI, Concetta CUSUMANO, Jean-Marie DELVOYE, Pierre DOYEN, Aurore URBANO

Optim@ develops several projects aiming at the improvement of the wellbeing of the population living on the territory of Seraing (Belgium), an industrial town of 60 000 inhabitants. One of these projects consists in carrying out a process of observation and animation on a more restricted territory, namely the area of Ougrée-Bas. This process first of all seeks to build a diagnosis shared by all the actors and to reach a common knowledge of the area. The realization of this diagnosis requires a territorial process of animation and supposes a complete knowledge of the territory. On the basis of resources and needs identified, projects are defined and set up by the actors with Optim@. The method and the tools used could constitute a contribution for the theory on the territorial intelligence community systems (TICS).

Strategic observation and partnership. The case of ACCEM's Observatories. Julia FERNÁNDEZ QUINTANILLA, Javier MAHIA, Blanca MIEDES.

The present paper analyses the starting out of local partnerships focused on the mutualisation of the information and the territorial diagnosis. It discusses the potentialities and the limits of these partnerships as the basis for the development of shared actions by the entities involved. It's specifically questioned the role of this type of observatories for the development of the intelligence and the territorial governance. The work rises from the comparative analysis of the processes of starting out and development of three main territorial observatories of ACCEM in the last decade. As these observatories are organizations in permanent evolution it will be stress the analysis of these kind of processes in such a changing diverse institutional and socioeconomic contexts.

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V. SPEAKERS

First Conference: “Challenges of World-Wide Governance” (Debate)

Dr. Carlos BERZOSA Rector of the Complutense University of Madrid, Spain

Second Conference: “Research-Action Applied to Territorial Development” (Debate)

Dr. Tomás RODRÍGUEZ VILLASANTE Complutense University of Madrid, Spain

WP4 Scientific Presentation: Territory Concept and Territorial Analysis Tools

Chair: Csilla FILÓ University of Pécs, WP4 Leader

WP5 Scientific Presentation: Debate on the “Letter of Quality of Research-Action” proposal

Chair: Dra. Blanca MIEDES University of Huelva, WP5 Leader

WP6 Scientific Presentation: Methods and Technological Tools Applied to Research-Action

Chair: Dr. Jean Jacques GIRARDOT University of Franche-Comté, WP6 Leader

Plenary debate: “Universities-Territorial Actors Relationship within the Framework of Research-Action: Potentialities and Limits”

Moderated by Dra. M. A. PAZ BÁÑEZ University of Huelva, Spain

Plenary debate: “New Technologies and Information Treatment within the Framework of Research-Action: Ethical and Organizational Problems”

Moderated by Dr. Cyril MASSELOT Université de Franche Comté MSH, France

WORKSHOPS

Workshop 1. Territorial Intelligence Approaches

Moderated by Dr. Philippe DUMAS Université du Sud, France

- Juan Ignacio DALMAU PORTA
- Bernardo Javier PÉREZ CASTAÑO
- Joan Josep BAIXAULI I BAIXAULI
- Christian BOURRET
- Sophie LACOUR
- Phillipe DUMAS
- Jean-Philippe GARDERE
- Yann BERTACCHINI
- Marisela RODRÍGUEZ-SALVADOR
- Wahida SOAURI

Workshop 2. Territorial Analysis Tools

Moderated by Dr. Alexandre MOINE ThéMA Laboratory, France

- Philippe WOLOSZYN
- Gaëtan BOURDIN
- Alexandre MOINE
- Philippe SIGNORET
- Yann FLETY
- Franck GIAZZI
- Peter ACS
- Serge ORMAUX
- Fang-Yie LEU
- Olivier QUOY
- Cyril MASSELOT
- Michael CAMPAGNA
- Jean Jacques GIRARDOT
- Jean Phillipe ANTONI
- Cécile TANNIER
- Pierre FRANKHAUSER
- VUIDEL
- Samy YOUSOUFI

Workshop 3. Sustainable Territorial Development Studies

Moderated by Dra. María José ASENSIO University of Huelva, Spain

- Zoltán WILHEIM
- Natale AMMATURO
- Csilla FILÓ
- Giovanna TRUDA
- Carlos INFANTE REJANO
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- Amélie BICHET-MIÑARO
- Alberto PASCUAL NUÑO
- Aurora CASADO SEDA
- María de la O BARROSO GONZÁLEZ
- David FLORES RUÍZ
- Jing SHIANG
- Rueyming TSAY
- Jean-Louis POIREY
- Catherine CAILLE-CATIN
- Olga MÍNGUEZ MORENO

Workshop 4. Reflections on Research Action

Moderated by Tullia SACCHERI Salerno University, Italy

- Kawtar NAJIB
- Karima ASKASSAY
- Mihai PASCARU
- Philip POTTER
- Emilie DROEVEN

Workshop 5. Participation and Governance (general issues)

Moderated by Dra. Dolores REDONDO University of Huelva, Spain

- Emiliana MANGONE
- Tullia SACCHERI
- Philippe HERBAUX
- Cyril MASSELOT
- José Manuel PRADO LORENZO
- Isabel María GARCÍA SÁNCHEZ
- Saker EL NOUR
- Jaume FELIU
- Maribel FRANCO LIGENFERT
- María Eugenia PETIT BREUILH
- Guiomar MORALES NAVARRO

Workshop 6. Participation and Governance (experiences)

Moderated by Julia FERNÁNDEZ ACCEM, Spain

- Jean-Pierre MULLER
- Anne PERETZ
- Serge SCHMITZ
- Sarai DE GRAEF
- Julien CHARLIER
- Guénaél DEVILLET
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- P. BOTS
- D. CROCHET
- M. FELTER
- H. REY-VALETTE
- J. P. ROUSSILLON
- J. J. TAILLADE
- H. VAN DUJN
- Y. VON KORFF
- Celia SÁNCHEZ

VI. CAENTI DEVELOPMENTS

Activities and Prospects of CAENTI

Jean-Jacques Girardot

Jean-Jacques GIRARDOT

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GIRARDOT J.-J., 2008: "CAENTI. Activities and prospects". in: Acts of International Conference of Territorial Intelligence, HUELVA (Spain), 24-27 October 2007. URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Girardot1>

Abstract: This communication constitutes the introduction of the International Conference of Territorial Intelligence which was held in HUELVA, in Spain, in October 2006. It quickly sets out the CAENTI Coordination Action of the European Network of Territorial Intelligence. It introduces a reflexion about the definition of territorial intelligence within the CAENTI. It details CAENTI research and dissemination activities as well as its recent results and its prospects.

Keywords: territorial intelligence, information and communication technologies, sustainable development.

Welcome to the fifth conference of territorial intelligence, after those of BESANÇON (France) in 2003, of PECS (Hungary) in 2004, of LIEGE (Belgium) in 2005 and of ALBA IULIA in 2006. In the name of CAENTI, I thank the Universidad de HUELVA that is involved in this manifestation, its partners, other Spanish participants of CAENTI, ACCEM and VALDOCCO, and all the people who will participate in the conference.

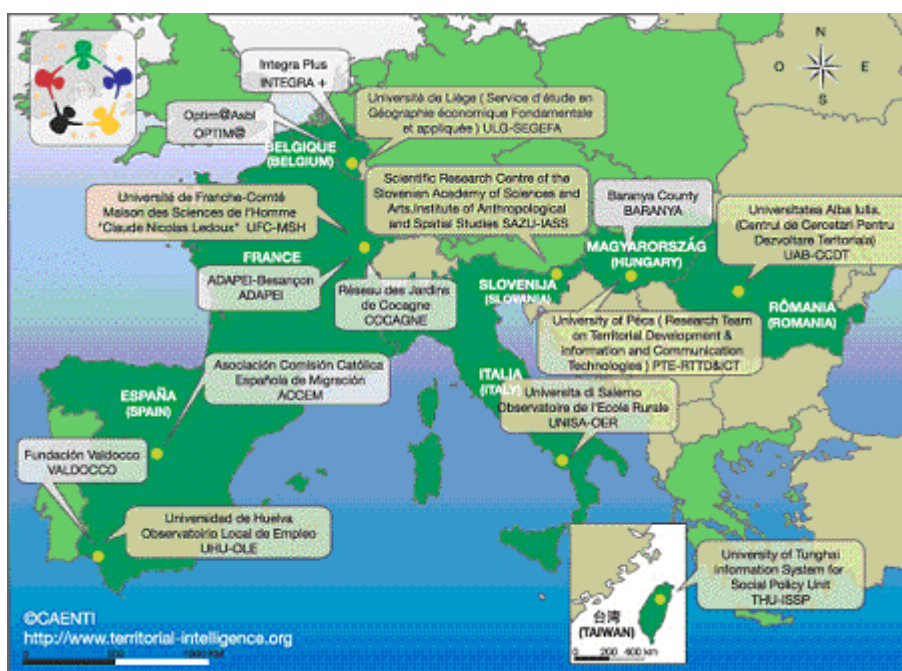
The conference of HUELVA is the second one that took place within the CAENTI (Coordination Action of the European Network of Territorial Intelligence) framework. Consequently, it has a particular organization that the international conferences of territorial intelligence will keep the three years of the project. A part is devoted to the presentation of the research activities of the CAENTI and of their prospects. The other part will be constituted of communications submitted according to the specific thematic of this conference. It is an opportunity to open the public discussion and to open our topics to other researchers.

The CAENTI is a research Coordination Action funded by the 6th framework program (FP6) “Integrating and Strengthening for the European Research Area” of the European Union, in the thematic priority 7 “Citizens and governance in a Knowledge-based Society”. FP6 is the financial instrument that allows building the European Research Area. The “coordination actions” underline the coordination of the research activities and their European dimension that constitutes their added value.

The CAENTI has started on March, 1st 2006 and it will end at the end of February 2009.

The CAENTI consortium gathers a mixed consortium of 15 participants, 8 universities and 7 territorial actors as well as public communities and private associations. The Université de Franche-Comté (UFC, France) is the coordinator. Other universities are: the Universidad de HUELVA (UHU, Spain), the Université de LIEGE (ULG, Belgium), the PECS University (PTE, Hungary), the Universitatea “1er Decembrie 1918” ALBA IULIA (UAB, Romania), the Università di SALERNO (UNISA, Italy), the Scientific Research Centre of the Slovenian Academy of Sciences and Arts (ZRCSAZU, Slovenia) and the TUNGHAI University (THU, Taiwan). The territorial observatories ACCEM (Spain), OPTIMA (Belgium), INTEGRA Plus (Belgium), ADAPEI Association (France), the Jardins de COCAGNE Network (France), the VALDOCCO Foundation (Spain) and the province of BARANYA (Hungary) also take part in the project.

Diagram 1: the CAENTI consortium.



The CAENTI project precisely belongs to the 7th thematic priority “Citizens and governance in a knowledge-based society” which aims at supporting and promoting social sciences in order to realize quality research activities in fields that are linked to public policies. More precisely, the project comes over the theme “Actions to promote the European Research Area in Humanities and Social Sciences and their contribution to the knowledge-based society in Europe.”

This presentation will introduce:

- The CAENTI objective as well as its research and dissemination activities;
- CAENTI progress and results;
- CAENTI prospects.

2. CAENTI OBJECTIVE AND ACTIVITIES

CAENTI activities, like those of all the 6th FP actions, fall under the prospect of the ambitious objectives the Summit of LISBON of 2000 gave to the European Union: becoming the most competitive knowledge-based economy, having a sustainable growth and improving the social cohesion.

CAENTI, as a general objective, aims at integrating present research projects on territorial intelligence tools, so as to give them a European dimension.

To do so, it works out three activities of comparative research coordination and two activities of dissemination.

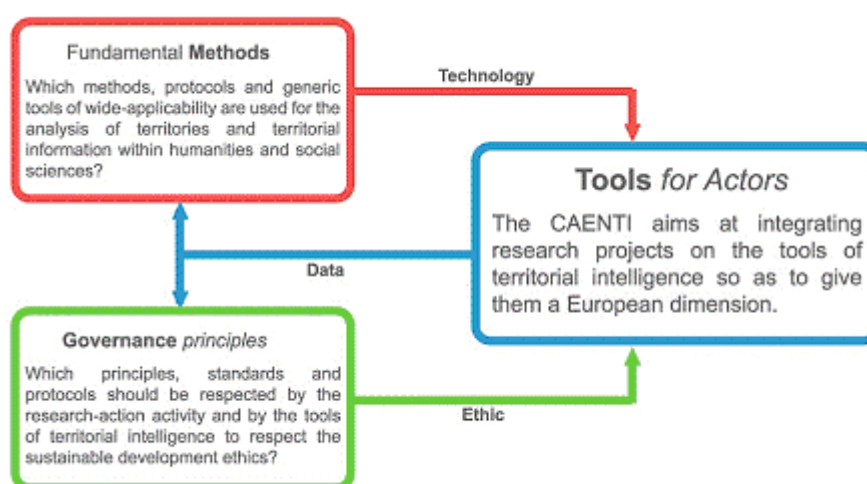
2.1. Research coordination activities

The research coordination activities correspond to three “work packages” (WP), according to the denomination of the European programs:

- Tools for actors;
- Fundamental methods;
- Governance principles;

They are articulated according to the following diagram:

Diagram 2: Research coordination in the CAENTI.



The WP6 “Tools for actors” carries out the CAENTI objective. Upstream, on the one hand, it is fed by the WP4 “Fundamental methods” that gives it technological solutions that come from research generic tools and, on the other hand, by the WP5 “Governance principles” that values these solutions acceptability by referring to sustainable development.

The CAENTI also aims at making data sets that are applicable for the multi-disciplinary research and for territorial development.

2.1.1. Tools for actors research activities: WP6 TOOLS

This activity, led by the Université de Franche-Comté (France), designs, makes and disseminates methods and tools of territorial intelligence that are accessible to territorial actors and respect the ethics of sustainable development.

For several years, the European Union has introduced the demand of project management and assessment. Since GOTHENBURG, in 2001, sustainable development has established the principles of good governance: participation, well-balanced approach and partnership. Scientific approaches adapted to these principles are available for experts, but the territorial actors more rarely benefit from simple and cheap tools to draft, manage, observe

and value their projects. Such instruments mobilise research, which provides a quality guarantee, and territorial actors that experiment and value them. Consequently, the CAENTI associates research teams and actors to create tools of territorial intelligence.

This coordination activity aims at giving a European dimension to the CATALYSE tools that have been using by the CAENTI participants since 1994 in various territorial contexts and on different publics. The WP6 TOOLS on the one hand makes a synthesis of the indicators and tools that are used, as well as the uses the actors make of them. On the other hand, it brings the indicators closer to the European standards.

Diagram 3: Use of CATALYSE tools in Europe.

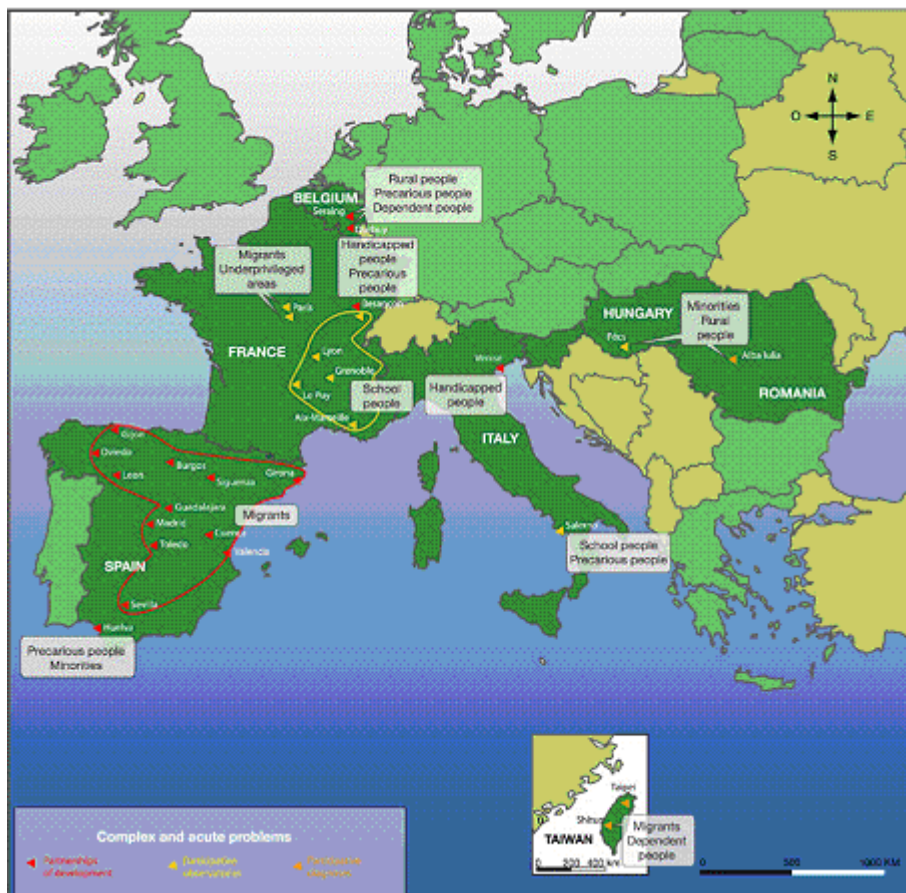
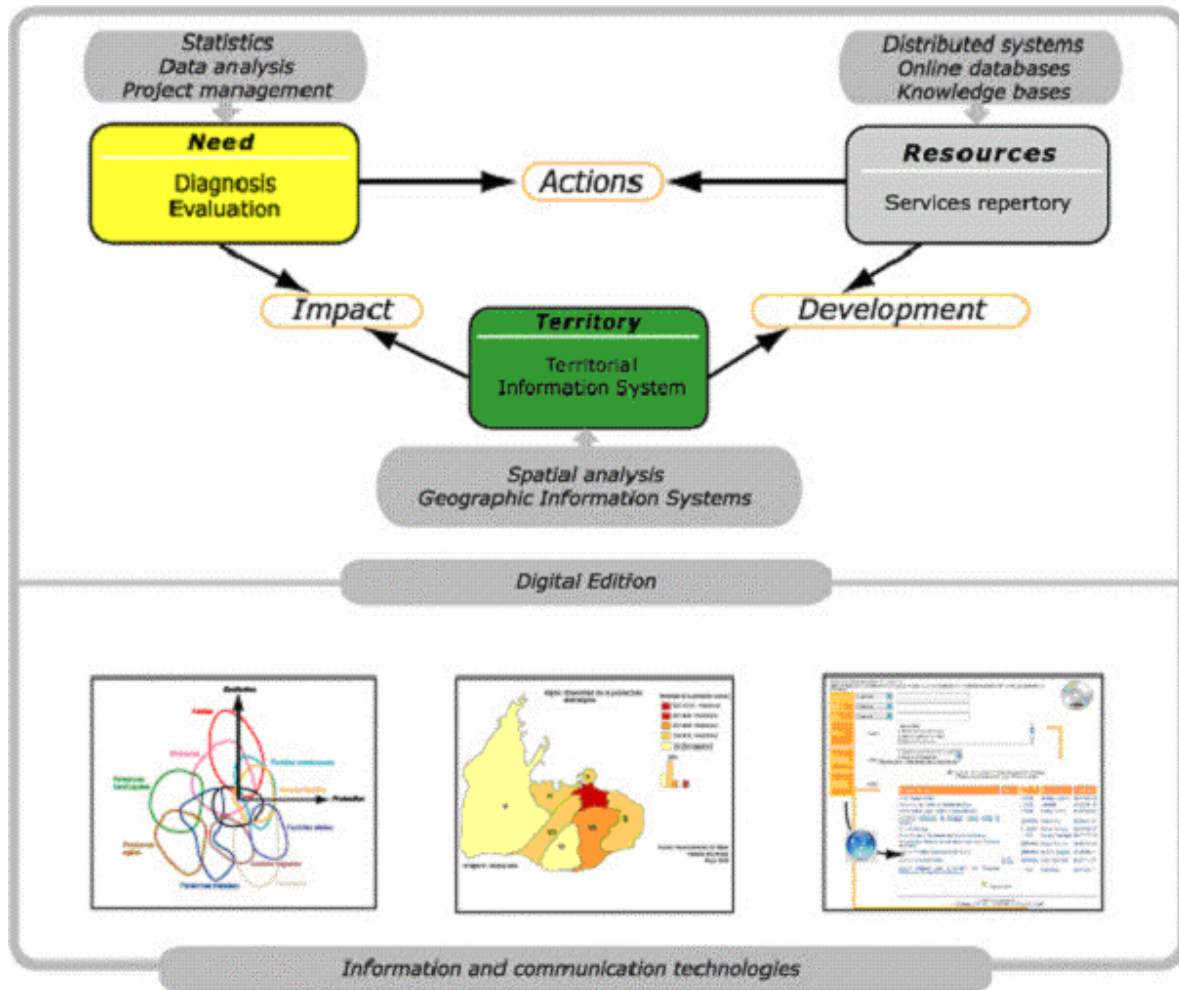


Diagram 4: CATALYSE method and tools.



The WP6 also aims at identifying and valuating complementary tools (or new tools) of territorial intelligence.

The design of a European Observatory of Elementary School is another activity of the WP6.

In 2006, the WP6 defined the specifications of a CATALYSE Toolkit, on the basis of the CATALYSE method. From the experience of the CATALYSE projects and according to European standards (if they exist), WP6 harmonized the guide for diagnosis and assessment, the services repertory, the territorial information system and the tools.

In 2007, the WP6 worked on the planned research activities, the drafting of:

- The specifications of an online “Inclusion Itinerary Accompaniment File” (IIAF).
- This file is a broader document than the guide. As digital documents, it will permit a better individual follow-up, the individual project elaboration and the user's

inclusion itinerary assessment, by a multi-sector and multi-professional team of stakeholders;

- The specifications for the processing and editorial chain from territorial data to results in order to integrate tools and set them on line.

It also enlarged its research activities towards:

- The coordination of the CATALYSE Toolkit execution;
- A more global survey and experimentations about the uses of territorial tools in development partnerships.

These research activities prepared for 2008 the draft of the specifications of:

- A European portal of territorial indicators available on line;
- A territorial information system adapted to the development partnership uses, the Territorial Intelligence Community System.

We will suggest in this conference a new research activity on uses and projects of territorial intelligence.

2.1.2. Fundamental methods research activities: WP4 METHODS.

This activity, led by the University of PECS (Hungary) studies the spreading of fundamental methods and research procedures in territorial information analysis within Humanities and Social Sciences. These fundamental methods and the generic tools can provide technologies and tools that are accessible for a professional use. Nevertheless, their use remains limited and unequal according to the disciplines and universities within HSS.

As a consequence, the WP4 METHODS aims at answering two questions:

- What are the methods, protocols and generic tools of wide applicability that are used to analyse the territories and the territorial information within Humanities and Social Sciences?
- How to improve their diffusion within Humanities and Social Sciences?

During the first two years, 2006 and 2007, the WP4 worked on five themes that prepare a final synthesis in 2008.

1. The fundamental methods and generic tools of territorial information analysis (led by the Université de Franche-Comté, France) in Wp6m “Methods”.
2. European territorial information (led by the Université de LIEGE, Belgium) in Wp6i “Information”.
3. The assessment of territorial intelligence projects that are supported by the European Commission (led by the Université de Franche-Comté, France) in Wp6p “Projects”.
4. The concept of territory (led by the Università di SALERNO, Italy) in Wp6t “Territory”.

5. The indicators of territories competitiveness (led by the University of PECS, Hungary) in Wp6c “Competitiveness”.

2.1.3. Governance principles research activities: WP5 GOVERNANCE.

This activity led by the Universidad de HUELVA (Spain) analyses the application of the governance principles of sustainable development to the territorial research-action.

The WP5 GOVERNANCE wonders about two questions:

- What are the best practices in the scientific production that inspire territorial governance whilst respecting sustainable development?
- What ethic principles, standards and protocols should the territorial research-action and the tools of territorial intelligence fulfil?

Six universities firstly made “experiences catalogues” on their practices in the field of research-action and on the impacts, potentials, risks and constraints of the governance principles of sustainable development. Then, a European “letter of quality” was drafted in 2007. Next year, in 2008, it will be a dissemination period with:

- The identification of the technical constraints that result from the respect of ethical principles;
- The definition of the technological developments that encourage these principles application.

2.2. Dissemination activities

The dissemination activities also constitute two work packages:

- Portal of territorial intelligence: <http://territorial-intelligence.eu>
- International annual Conference of territorial intelligence.

The Université de Franche-Comté (France) animated the portal. In addition to its Internet part, it includes an Intra-consortium website that only concerns the CAENTI participants and a cooperative workspace (made by the University of PECS, Hungary).

This annual activity coordinated the scientific committee, the organisational committee and the acts publication. The next international conferences will take place in BESANÇON (France), on October, 15th-18th 2008.

2.3. Results and Progress

The CAENTI reached appreciable results. Since the beginning of the second period, the objectives were organized by WP with a global aim of convergence.

During the first middle duration of the CAENTI, we worked to specify with which meaning we used the concept of territorial intelligence within the European Network of Territorial Intelligence.

Territorial intelligence is an emerging concept. Its definition remains imprecise because it is polysemous and it is not always easy to dissociate it from other close concepts, such as economic intelligence, competitive intelligence, collective intelligence, community development, community health, co-development, decentralised cooperation, etc.

Since 1999, the partners of the CAENTI have referred to *territorial intelligence* to indicate an approach of the territorial development that is characterised by a multi-disciplinary approach, with the introduction of the spatial dimension in the human phenomena study and by the use of the information and communication technologies (ICT).

Nowadays, territorial intelligence could be defined as a community cognitive process that joints data, thoughts and skills related to a territory, to generate relevant and useful information in order to develop the territorial community in a harmonious equitable and sustainable way.

Our synthesis insists on the articulation of the basic research (knowledge), technologic (methods) and applied (tools and governance) levels:

“Territorial intelligence is the cognitive process that communities work out to guarantee the equitable and sustainable development of their territories.

*It compares and integrates the multi-disciplinary and intercultural **knowledge** on territorial structures and dynamics.*

*It adapts the fundamental **methods** and generic tools of wide applicability to analyse territories and the territorial information.*

*It values the **governance** principles that guarantee a well-balanced taking into account of all the needs, as well as the equitable distribution and lifespan of resources, thanks to partnership and participation.*

*It designs and makes **tools** with the territorial actors who would like to develop their territories, whilst respecting these ethical principles.”*

Territorial intelligence is frequently defined as a kind of economic intelligence. Territorial intelligence uses ICT as economic intelligence. But it is also different:

- Territorial intelligence does not only regard the territory as a geographical space, but also as a system implying a geographical space and one or more human communities;
- It does not only consider information like a tool but also like a vector of development;
- It does not reduce the territorial development to the growth of the economic activity, but recommends a comprehensive approach like the concept of sustainable development;
- It rather bases the development on the partnership than on competition, and also on participation.

One can bring it closer of the concept of community development that “refers to voluntary changes in, by and for community” [SANDU, 2005]. But community development does not refer to ICT which are a condition of development in territorial intelligence.

The WP2 CONFERENCE organizes the International Conference of Territorial Intelligence that will take place in HUELVA on October 2007 and which will be a major event for the CAENTI consortium in terms of integration and joint action visibility. It published the acts of the previous conference of Territorial Intelligence of ALBA IULIA (2006).

The WP3 PORTAL essentially aimed at contributing to the visibility and dissemination of all the CAENTI activities and results towards the greatest number. From March to August 2007, it designed a more global portal of territorial intelligence with an editorial vocation you can appreciate now during the conference.

After it began defining the concept of territory in the multi-field context of the integrated approach, the WP4 was devoted to deepen the study of the relevant methods and information which promote the research protocols and tools of spatial analysis and of territorial information processing within humanities and social sciences. During this period, its global objective was also to begin the convergence of its five coordination groups:

- Territory that studies the concepts of territory and site specification process;
- Methods that establish an inventory of the fundamental methods of territorial information;
- Information that makes a comparative inventory of the European territorial information;
- Competitiveness that focuses on the territories competitiveness indicators;
- Projects that are funded by the European Commission and the information of the Directorate General in the field of territorial intelligence.

The main objective of the WP5 was to deliberate on ethic and methodological principles that should be respected by the research protocols of humanities and social sciences, so as the research results favour the territorial governance and the territories sustainable development. It will suggest you and discuss with you its Letter of Quality in this conference.

The WP6 had to enlarge its research activities from the specifications of the Catalyse Toolkit towards:

- The coordination of the CATALYSE Toolkit execution: to draft the documents and to code the data processing tools;
- The definition of the specifications of an online “Inclusion Itinerary Accompaniment File” (IIAF) to put the CATALYSE tools on line;
- A survey concerning the uses of CATALYSE and the territorial intelligence tools.

The WPs should globally contemplate the convergence of the WP4 and the WP5 towards the WP6 that corresponds to the CAENTI main objective, and started leading transversal activities in this direction.

2.4. Prospects of CAENTI after HUELVA conference

The presentation of the first results in the part devoted to the CAENTI coordination groups at the occasion of the plenary conferences and the debates that followed can question the orientations that were defined at the beginning of the project. During these sessions, the work organisation and the calendar are specified.

The prospects for the end of CAENTI are to prepare and execute the convergence of the CAENTI activities in relation with its main objective by reinforcing the collaborations within the work packages and between them. The CAENTI, which experience mainly concerns the socio-economic sector, also wishes to develop the environmental and energetic dimension.

The WP1 MANAGEMENT will finalise the coordination activities planning until the end of the project in February 2009. It will particularly work on diffusion projects:

- European Master's degree of Territorial Intelligence;
- The edition means development with a new international Journal of Territorial Intelligence.

It will plan a project to continue and amplify the CAENTI after February 2009.

The WP2 CONFERENCE will constitute an external scientific committee from proposals of the CAENTI participants. This Committee will be in charge of the assessment of the CAENTI results quality, then to prepare the projects allowing making the European Network of Territorial Intelligence perennial to go on and amplify the CAENTI. It will publish the Acts of this conference.

It will prepare the next conference in BESANÇON, which will pay a special attention to these tools, to the generic scientific methods that inspire them, and to the links between scientific research activity and territorial action.

The communications will be divided according to three themes:

- The territorial intelligence tools for and by the sustainable development actors.
- The analysis scientific methods and generic tools of the spatial and territorial information.
- The evolution of the territorial intelligence concept.

The WP3 PORTAL will draft a global communication strategy in relation with the new portal of territorial intelligence. It will integrate all the communication means that are useful to the CAENTI results diffusion, including the annual conference. Besides, it will develop the editorial abilities.

Within the WP4 METHODS, the WP4i “Information” and the WP4C “Competitiveness” get closer on the theme of Territorial Information and Sustainable Development Indicators, in order to contribute to the definition of the Territorial Information contents the WP6 should constitute in 2008. They will pay a special attention to the integration of the environmental indicators.

The WP4t “Territory” and WP4m “Methods” will get closer on the theme of the Territorial Information analysis, so as to contribute to the definition of the specifications of the Territorial Information Community System the WP6 will be in charge in 2008.

The Wp4p “Projects” coordination group that is reduced to the assessment of the projects funded by the European Commission will get closer to a coordination group « uses » on the Territorial Information Tools Uses, which will be constituted within the WP6, with the CATALYSE projects that were studied in the WP6 and other projects of the CAENTI participants identified by the WP5 in the framework of the experience of research-action catalogues.

The WP5 GOVERNANCE will now ensure the diffusion of the Letter of Quality. It will also assess the participation of the research-action methodologies as well as of the technological tools to the territorial intelligence development, thanks to the Letter of Quality.

The WP6 TOOLS will be restructured in relation with three coordination groups, respectively contents, tools and uses.

As we previously announced, a new group called WP6u “Uses” will follow-up the task started by the WP6g in 2006 through a description of the CATALYSE observatories of the CAENTI actors, the modelling of their observation mechanisms and the drafting of recommendations regarding the implementation and the use of the territorial intelligence tools (CATALYSE and other ones) in the framework of Development Partnerships. It will integrate the experiences and the projects that are respectively identified by the WP 5 and 4 so as to execute a Map of European Projects of Territorial Intelligence. The cooperation with the WP5 will allow valuating these projects by the means of a Letter of Quality.

The coordination group Wp6f about contents, which coordinated the updating of the Catalyse Toolkit contents and the definition of online File specifications, will be in charge to update and deepen indicators by defining their meaning and their analysis protocols. Its activity will lead to the definition of the specifications of the European Portal of Territorial Information, jointly with the Wp4i+c group.

In a complementary way, the WP6d group coordinated the tools execution and integration, within the CATALYSE Toolkit and within an online editorial chain. It will continue to adapt them to the contents and to the protocols and draft their guidance notes. Its activity converges with the Wp4t+m group, towards the deepening of the Territorial Information Community System specifications.

CONCLUSION

As a conclusion, I would thank the Universidad of HUELVA, the “Observatorio Local de Empleo” and particularly Blanca MIEDES who organized this Conference. I would wish all the participants an interesting work and a good stay in HUELVA.

I hope I provided you useful information about the definition of territorial intelligence, as well as the CAENTI activities and prospects.

I invite you to the next annual conference of territorial intelligence, from October, 16th to 18th 2007, in BESANÇON in France. Your proposals of communication and your participation will be welcomed.

Before the conference, we will be pleased to welcome you on the territorial intelligence website: <http://www.territorial-intelligence.eu>.

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The Spreading of Fundamental Methods and Research Design in Territorial Information Analysis within the Humanities and Social Sciences.

CAENTI Work Package 4

Csilla Filo

FILO C., 2008: "Work Package 4: The Spreading of Fundamental Methods and Research Design in Territorial Information Analysis within the Humanities and Social Sciences". in: Acts of International Conference of Territorial Intelligence, HUELVA (Spain), 24-27 October 2007. URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Filo1>

Objectives of the WP

Our aim in this term: after define the concept of territory in the multi-field context of the integrated approach finds the relevant methods, which promotes the research protocols and tools of spatial analysis and of processing of territorial information within the social sciences and humanities.

Work starting point

In 2006, it was created the state of the arts within WP4 by groups of WP4. After evaluation of these studies evolved the starting point. Proceeding from a wide territory concept we concluded the necessary fundamental methods, shared informations and the hierarchia of activities levels to territorial evolution in sustainable development.

Organisation of the coordination activities in the WP

Within WP4 there are five group who makes independently. This separate work does not detain the relations of teams. Then the leaders of each task plan the actual assignments they makes the report the works and coordinations actions. Publishing the document everybody can get this in the CooSpace. In this term the important coordination activity was the determine the relations of work tasks in WP4 and territorial intelligence.

Scientific coordination actions

WP4 Method:

Which generic methods employed by research can they be used to work out tools usable by the territorial actors?

A draft of inventory of fixtures was presented at Alba Iulia.

A more complete inventory is in hand. It is organized around the following elements:

- processing of data;
- geographical information systems;
- the geographical imagery;
- space modeling;
- observation of the territories.

The principal requested contributions will come from the teams of Besancon and Slovenia, but all the proposals, even specific, are the welcomes. An investigation will in addition be carried out in the whole of the network in order to evaluate the degree of penetration of these methods, and the opinion of its members into their adaptability with the needs for the territorial actors.

WP4 Information:

1. Objectives:

Comparative inventory of territorial information available on Internet and sources in Europe.

2. Activities

- Research of indicators available on websites:
 - Overview of other territorial projects:
 - Espon
 - Diact - Observatoire des Territoires
 - ETD – Projet de Territoire
 - International statistical websites
 - Eurostat, The World Bank, United Nations Statistic Division,...
 - National statistical websites of 27 countries
 - European Union and Caenti countries
- Propositions of themes and indicators based on:
 - Availability of data on websites
 - European questionnaire of WP6
 - Walloon GRD, Context data of Optima and Observatory 2004 of Integra

3. Results

- All the results are presented in the paper: “Territorial information, themes, indicators and sources (WP4I), G. Devillet and D. Chen”
- Some important points:
 - Eurostat is the only International website that has data at regional level:
 - until NUTS 3 (Nomenclature of Territorial Units for Statistics)
 - Espon has 4 interesting scientific tools on line
 - The research on national websites points out many difficulties
- Many social indicators are difficult to find
 - Level of data varies from one country to another (NUTS 0 to NUTS 5)

- Different definitions of indicators: household, family nuclei,...
- Different categories for an indicator: equipments of household, incomes of household,...

WP4 Territory:

Territory and process of site specification.

The word of territory means two things: either it refers to a legal and administrative reality, as in «national and regional development», or it refers to the concept of «territoriality», which is very used in the social sciences for twenty years. As much natural reality as social reality, the territory is not easy to break up. Environment, experiences, representations and social-politico-organization composes a system of which the parts are interdependent.

Disciplinary approaches the territory:

- Territory: a human and social construction
- Two origins: legal and ethologic
- Three dimensions: existencial (life), physical (fram) and organizational (society)
- Two metrics: space and network

At least, territory is for geography a complex system, composed of several under-systems (space, representations, actors), which are interdependent.

Education science:

- Territorialization of knowledge small legitimate
- Territorialization of professionnal training more legitimate
- School territorialization = territorialization of school organization
- School policies often based on territories (decentralization, french law “Mountain” of 1985...)
- School results and pupils career choices influenced by “effects of territory”

Sociology:

- Territory is a social constructed and appropriated space.
- Territory is structured by social networks.
- Territory is the first place of practices of local actors.
- Territory is at once spatial and symbolic.
- Territory is producing identity.

Sociologists speak today about territories of membership and territories of reference.

WP4 Project:

This first identification of the research projects used the following sources:

- European Union-supported research in social sciences and humanities 1998-2005, briefing papers, European Commission, Community research
- Social sciences and humanities in FP6, Projects' synopses all calls, Citizens and governance in a knowledge-based society, Community research
- European Research, A guide to successful communications, General information, European Commission, Community research
- Assessing the Social and Environmental impacts of European research, report, European Commission, Community research
- Broadsheet 2005-2006 ICCR IFS CIR
- CLORA, FP internet web sites

The projects that started before 1998 were rejected.

This identification of relevant projects was made by using a first series of key-words:

- Territorial development
- Sustainable development
- Governance
- Knowledge-based society

It proved itself to be too selective, insofar as it only isolated three projects, mainly within two important groups of projects that are linked on the one hand to governance and on the other hand to social inclusion.

WP4 Competitiveness:

Objectives:

The analysing of regional competitiveness, the interrelated development opportunities of cognitive society and economy shall be considered, and the multidimensional survey of society and economy should be its starting point.

Necessity of analyzing of territorial competitiveness:

- When we analyse the regional competitiveness, the interrelated development opportunities of cognitive society and economy shall be considered, and the multidimensional survey of society and economy should be its starting point.
- Therefore, in research and analysis we need indicators of training and qualification, and of social, health, mental hygienic and demographic status as well as microeconomic figures.

- In addition, the role of civil organisations should be assessed; cultural indicators and figures related to telecommunication coverage, infrastructure and other indirect local indicators are also required.
- It is need so that social activity or inactivity could be examined from different perspectives thus obtaining information on the causes and development opportunities.
- The socioeconomic factors influencing economic competitiveness include significant human factors.

Competition – Productivity – Competitiveness:

Competition has been defined by many in many ways. According to one of the most comprehensive approaches, competition is an activity where two or more players strive to gain advantage over one another within set rules.

Productivity means efficient use of all the available resources.

Competitiveness means acquiring and retaining position in the market, increasing market share and profitability and being commercially successful.

Consideration of territorial competitiveness:

1. Comparable of territorial segments.
2. Resource of territorial: functions, institutions, investments, infrastructural developments, social, cultural, sport and other events factors..
3. Supply and demand sides of regional competition.
4. Extend a micro-level approach to a macro and global level.

Factors in regional competitiveness for an human - economic perspective:

1. Based on the total sum of adaptive skills of companies operating in the region ("practical" approach).
2. Based on the economic basis and economic environment (capital and labour market, quality of inputs, infrastructure) provided by the region for its dominant companies. ("environmental/system" approach)
3. And based on the capacity of the region to attract investments, its accumulation of human and physical resources (the approach of "capital development")

Determinants of territorial competitiveness in spatial development documents in EU:

Determinants of territorial competitiveness in spatial development documents in EU:

1. Research and technological development.
2. Enterprises.
3. Direct foreign capital investments.
4. Infrastructure and human capital.

5. Institutions and social capital.

Factors of territorial competitiveness in spatial development documents in EU:

- the capacity for economic structural change, especially the emergence of value-adding industries with multiplicative effect
- high proportion of value-generating service sector (business services, research and development, higher education, culture)
- typically knowledge-based production
- strong innovative skills
- the decision-making takes place in the successful region
- a strong and thriving middle class
- valuable settlement environment, an urban policy of high standards, and the availability of good quality public utilities and municipal services
- successful conflict management
- significant external (international) relations, integration into the system of towns and relations of an international region
- increasing income and employment

Pyramid model and measuring regional competitiveness:

1. Quantitative measurement

- Work productivity: GDP per one working hour
- Choice between work/leisure: completed hours of work per employee
- Rate of employment: the rate of people in employment within the working-age population.
- Demographic factor: the rate of working-age people within the whole population.

2. Qualitative measurement

- the education level of the areas' population
- the supply and quality of institutions for human resource development in the area
- research activity
- access to cultural services and the nature of consumer habits
- quality of social care and services
- level of healthcare and its infrastructure
- quality of recreational facilities

In the light of the views presented in the study above, we establish the following indicators of competitiveness for the “competitiveness” programme component of “Fundamental methods”

Workpackage 4 (workpackage4 [WP4]) of the CAENTI programme:

- 1. Education & the Workforce
 - level of qualification of the region’s population
 - supply and quality of institutions for human resource development in the region
 - activity of labour market policy
 - rate of employment
- 2. Quality of Life & Social Capital
 - access to cultural services and the nature of consumer habits
 - quality of social care and services
 - level of healthcare and its infrastructure
 - quality of recreational facilities
 - quality of settlement environment
- 3. Research & Development
 - regional research activity
- 4. Technology & Innovation
- 5. Transportation & Infrastructure
- 6. Enterprise & Investment
- 7. Business Climate

Synthesys:

Every teams within WP4 made *the state of the arts* to 31 December 2006. In this studies it appears the cooperations of coordination works. These studies siut to CAENTI conceptions. In coordination works we searched the relations between subtasks method, information, project, territory and competition and within the CAENTI. Fortunately, in Salerno the leader of WP5 (Blanca MIEDES) represented the workpackage governance. So, we could evaluate the deliverables aspect of relations and cooperations. In this meeting we tried enhance the using of Coospace. We will down up every documents to Coospace about Caenti and we will use the chat and forums. We was glad to present the WP4 within CAENTI at University of Salerno.

Perspect:

- Making the deliverables to 12/31/2007
- Coordination meeting and international conference in PECS 30-31 MAY 2008

Proposal of an European Letter of Quality on Action-Research Favoring Territorial Governance of Sustainable Development

CAENTI Work Package 5

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URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Amiotte-Suchet>

1. Introduction.

The present document is the result of the deliberations by CAENTI WP5 "Analysis of the application of the governance principles of sustainable development to territorial action-research". Like all CAENTI WPs, WP5 is made up of a multidisciplinary and multi-sectorial work group with participating representatives from six universities (Alba Iulia University, Franche-Comté University, Huelva University, Liège University, Pécs University, Salerno University) and CAENTI's seven territorial actors (VALDOCCO, ACCEM, OPTIMA, INTEGRA+, APAPEI, COCAGNE, BARANYA COUNTY).

Both the research groups and the actors involved have extensive experience in the field of action-research applied to the solving of socio-economic problems (the fight against forms of exclusion, social integration, local and community development, etc.) in very different contexts. Their common link consists, on the one hand, of the confidence the researchers and actors have in research as the driving force for social change, and on the other hand, of their defence of the multidimensional and territorial approach due to their conviction that socio-economic problems are due to multiple, entwined factors and dynamics and that the arena where they are to be tackled is the territory where these factors and dynamics take shape (where they fall).

Another important common link among CAENTI partners is considering the territory as a space with actors in which production and appropriation of resources occur (these issues are being discussing in CAENTI WP4). If, as stated by M. (Lévy, 1994), "knowledge is now infrastructure", in the present knowledge society the first resource which must be necessarily the target of that production and appropriation is the existing knowledge across the whole territory, as well as the processes that take part in its creation. In particular, knowledge "of the territory" and of the "actions developed in the territory" is converted into knowledge of paramount importance for directing the action in favour of territorial development.

On the other hand, CAENTI concept of *territorial intelligence* refers to all knowledge relating to the understanding of territorial structures and dynamics, as well as the tools used by public and private actors to produce, use and share this knowledge in favour of sustainable territorial development. In this way, territorial intelligence, strongly

strengthened by the resources offered by the information society (new information and communication technologies), involves the production of theories and tools to understand the territory, but also the way in which the members of a society as a whole produce and take in the knowledge available and apply it to solving their problems. It is here where the link with the concept of *territorial governance* occurs, which refers to the vertical and horizontal coordination of decision making processes in the territory by public and private actors in relation to the needs of its population.

From this perspective, territorial intelligence is a tool for territorial governance; however both concepts have a complex relationship according to E. Morin (1992), since, in their turn, the evolution of territorial governance promotes the development of territorial intelligence. The driving force behind this feedback process is the participation of the actors. The intensity and quality of the *participation* is what determines the way in which both processes feed off each other.

The proposal of a quality charter presented here starts from a critical reflection by all CAENTI WP5 members during 2006 about their own research experience. From this analysis, the kind of research which can best contribute to strengthen this link between territorial intelligence and governance in favour of sustainable development in current knowledge society was jointly discussed. The study was completed with the debate of the ethical and methodological principles that should inspire research practices in order to achieve the already mentioned coordination between territorial intelligence and governance. The results of the present work are gathered in the document *Application of the governance principles of sustainable development to territorial action-research* (deliverable 40 of CAENTI, available on the Project Website www.territorial-intelligence.eu).

The result of this analysis and the formulation of principles showed the strengths in this context of the participatory action-research approach, defined as the type of research where researchers and territorial actors are involved, and performed with a double purpose: a scientific one, to improve knowledge on a specific aspect of the territorial structure and/or dynamic; and a practical one, to act on a specific problem of that territory. However, for the mentioned feedback between research and action to occur, with the subsequent positive impact on territorial governance, participation of actors and researchers must take place in a really effective way and be a real process of long-term collaboration.

As a result, the design and construction of tools that contribute to the development of these participatory processes is necessary. For this purpose (as the work of CAENTI WP6 shows), the new information and communication technologies have a huge potential. On the other hand, it is also necessary that universities and research centres work to provide territorial actors with greater accessibility to the available knowledge and tools for territory analysis, so making the most of the nowadays underused systems for data treatment and analysis. Finally, from the institutional point of view, new game rules must be set up in order to establish specific protocols and regulations for the development of this systematic, really collaborative, and long-term participated work creating confidence networks, guaranteeing the transparency, critical distance and veracity of the results, and laying down basic rules for joint appropriation and exploitation of the results.

The work aimed by the CAENTI WP5 partners is precisely to start drawing up the regulatory framework as regards the action-research applied to economically, socially and environmentally sustainable territorial development.

The objective for the first year was to reach a consensus on the formulation of a series of *basic principles that the members think must be observed by the protocols of action-research applied to territorial development, in such a way that the processes and results of the research allow the promotion of good governance*. In this second year, the question of specific protocols has been tackled by drawing up the proposal of a *quality charter for action-research applied to territorial governance of sustainable development*.

The reference to quality shows the emphasis in the process, understanding that it will be the quality of the participatory (collaborative and lasting) dynamic what will allow better results of the action-research both from the scientific approach (better adaptation of theories and models to the evidence, and development of research methodologies better adapted to the studied problems), and from the action approach (appropriateness of the actions relating to the needs stated by the population, optimization of resources and sustainability).

The contents of this chart have been discussed by a reduced work group within WP5 and are presented at this Conference for consideration and discussion by all the participants of this meeting between researchers and territorial development actors.

2. Context of a reflection: social transformations and balance of the CAENTI experience.

As stated in the introduction, two elements have inspired the work group's reflections on the action-research quality.

On the one hand, the experience of the CAENTI members; on the other, the confirmation that the socioeconomic and political changes in the past decades are also demanding a different kind of research, better adapted to the characteristics of the knowledge society, that takes more advantage of the potentials of ICT and that can give an answer to the needs of territorial governance.

2.1. Political decentralisation and territorial governance.

As regards political changes, the decentralizing processes of the State, both in its territorial aspect (granting greater autonomy to regional and local authorities for the management or definition of public policies) and in its institutional aspect (providing a bigger political space to private actors, both in decision-making processes and in their participation in the provision of goods and services), have translated into greater consciousness of mutual dependence and of the need for cooperation among multiple actors and multiple levels to face territorial grave social and economic problems. From the concept of government, understood simultaneously as an exclusive agent and as the principal result of a *top-down* decision-making process, we pass to the idea of "**governance**" which makes *reference to the need for governments to make room for other agents in the decision-making processes and to the need for all levels and areas of governments to be involved in these processes*.

All this results in horizontal cooperation (among different agents and areas of government) and vertical cooperation (among different levels), which is much more vague (and even confusing) than the one produced in the traditional scheme. The result of this greater complexity is a reduction in the regulatory role of the state, with the network of *projects by various territorial actors* acquiring greater importance.

Territorial governance presents the challenge of seeing that “territorial engineering” (coordination of plans, programmes and projects in the territory) takes advantage of and effectively stimulates the “organisational capacity of the whole of the social organisation” in order to manage to provide appropriate answers to the democratically expressed needs of the citizens. But the fact that decentralization translates into more suitable solutions for the needs of sustainable territorial development, while at the same time strengthening democracy, depends on the actual form adopted by the processes involved in territorial governance in each case. These processes are affected by a number of factors, among which can be mentioned the territory’s position and form of involvement in the global economic and political context; the institutional fabric made up by the formal and informal networks in which the actors from different levels and sectors whose action affects the territory interact; the individual responsibilities, abilities and preferences of these actors, as well as the characteristics of the forums where these actors meet and the methods they use to debate and cooperate, especially as regards the processes of production and exchange of information relating to the territory.

From the above it can be deduced that the success of the territorial governance will depend on the capacity of the territory to produce a comprehensive, forward-looking vision of the territory’s dynamic in the global context (with new paradigms, theories and models relating to territorial dynamics), but also on the territory’s capacity to create institutional agencies and networks for territorial management such as “territorial partnerships” and new coordination and communication tools which will allow the coherence of strategies and projects to be maintained throughout time.

2.2. Knowledge Society as a Learning Society: the role of Action-Research.

On the other hand, this knowledge society is the breeding ground in which all these transformations are produced. A society in which, paraphrasing P. Lévy, “knowledge is everywhere” (despite the “knowledge gap”) and where intelligence is universally distributed (no one has all the knowledge and everyone has some): the knowledge society is conceived as a society which is nourished by diversity and ability. One aspect of capital importance here is that people’s abilities are not static, but dynamic, and that the development of knowledge is a matter of favouring strategies in which people are protagonists in the changes in knowledge (bringing into play their capacities for diversity, participating in the building of collective intelligence) and not mere adapters of a state of global knowledge, which in any case is vast and permanently evolving. It is precisely with regard to this last point, the need to promote the ability of individuals to be protagonists in the creation and evolution of knowledge, what points towards the concept of territorial intelligence.

As regards research, these changes show the need for new knowledge and a new way of producing and sharing it. However, the understanding of territorial dynamics is presented as an extraordinarily complex issue, and their analysis requires the cross-sectional intervention of a number of disciplines. In these cases, the uncertainty associated with causal chains established by models, often due to a lack of information, causes the scientific results to be open to multiple interpretations. For this reason, today's society makes two clear demands with regard to the way in which the research is carried out:

- In the first place, the demand is for participatory research, both from the point of view of intervention from different disciplines, and from the point of view of forming teams comprising other professionals and actors from the public sector or civil society. The presence of the latter is indispensable, because although they are not specialised in research their experience can contribute by supplying or producing information and different points of view to help establish working hypotheses and procedures for assessing the veracity of the results.
- Secondly, society is also demanding greater transparency as regards the dissemination of the results, especially in aspects which substantially affect human life and which have ethical implications, so that the best informed public debate possible can be produced.

Obviously, this cooperative way of tackling research may not make any sense in the field of basic or fundamental research, where results are not immediately applicable, or in topics intended for critical reflection regarding nature and humanity, which try to produce theories with a high level of abstraction. However, this type of collaboration between research and actors directly involved in the subjects under investigation proves very advantageous for both parties in most applied fields in the following ways:

- In one way, the researchers will have more sources of information available to them and a greater variety of points of view to focus the problems; this affects the quality of the results in terms of relevance, rigour and veracity (as they say “a science that examines all arguments is always more and not less rigorous”).
- On the other hand, for non-scientific actors involved, participation in the research will have the advantage of training in scientific methods and values and the ability to establish greater critical distance in relation to the problems posed, enriching their knowledge of the topics which concern them most and improving their action and evaluation capabilities in the global context.

But the principal value of participation is not only that the territorial actors produce in the course of carrying out their actions, very valuable information for producing theories and models relating to territorial dynamics, nor even that their knowledge is paramount for the interpretation of the results. The fundamental contribution of participatory dynamics is that, when it achieves the complete involvement of territorial actors in the process of converting information into knowledge, and even manages to incorporate research activity into its courses of action, there is a direct impact on the actors' capacity for learning from their own experience, and their possibility of adapting to change, stimulating their individual intelligence and improving their capacity for action on the territory.

Additionally, insofar as the territorial knowledge required is comprehensive knowledge, the research must not only involve researchers from different disciplines, but actors from different sectors should also take part (Girardot, 2005). However, this is a much more complex matter, as it requires the research to be developed within the framework of partnerships of territorial actors who should act on the same problems.

The difficulty lies in the fact that there are many obstacles to the correct functioning of partnership actions on territory. These are both institutional in nature, including a lack of confidence, and technical, for example limitations in the abilities of actors to work together³ (OECD, 2005). Hence the results in terms of territorial governance are not as efficient and democratic as would be hoped.

It is here that participatory research dynamics can produce a greater impact, since the fact of compiling, producing, analysing information and interpreting the results collectively, on the one hand increases the individual capacities of the actors, mobilising the potential ability to produce and process knowledge about the field of action, and on the other hand, can contribute to favouring consensus as to diagnoses of the principal problems, or at least a common base of information and knowledge on which to discuss the discrepancies. All this makes possible the proposal for joint comprehensive solutions, which is the first step towards coherence and coordination of action on territory. On this point, it is important to clarify that for this connection between research and action to be effective, *the dynamic has to involve actors who really have more direct contact with the field*, as it is their contribution of systems of knowledge of the effects and determinants of their actions that can have a greater effect on territorial action in the long term (learning), regardless of whether the involvement of those in charge at an institutional level is indispensable for reaching agreements to establish the appropriate synergies.

In this way, participatory research proves to be a basic premise of territorial intelligence and hence of territorial governance. However, perhaps the main reason that these projects are not extended further is due to the fact that the dynamic of carrying out research and action together (researchers and actors working multidisciplinary and multisectorially) is really very complicated, due essentially to the lack of tools to promote and facilitate cooperative learning in the long term.

3. Action-Research principles for the development of territorial governance.

Starting from the previous premises, the CAENTI WP5 members drew up in 2006 a list of principles which have to be observed by the action-research processes as applied to sustainable development for the promotion of good territorial governance:

- *Transformation*: this is a principle which serves as a premise for all the others proposed below and which consists of explicit recognition of the transforming effect research can have on reality, especially when carried out in relation to social problems.

³ For a reasonably detailed analysis of these obstacles see OECD (2005).

- *Multidimensionality*: the objectives of action-research are to focus multidimensionally and multisectorially, trying to ensure in any case that the participation of the disciplines and sectors involved is balanced, corresponds to the characteristics of the problem in hand and helps to achieve a global vision.
- *Partnership*: the action-research processes must include among their objectives the involvement of territorial partnerships which may be concerned with the question under analysis, or else promote the creation and development of them whenever these partnerships do not exist.
- *Participation*: the process must also be designed in such a way that the participation of local actors is produced effectively at all levels, from institutional decision-makers to those actors most directly facing the needs of the field, and of course, the population affected.
- *Sustainability*: the *action-research* processes must be long-term propositions, so that evolutionary knowledge of the problems that affect the territories can be produced. The theories, models and databanks produced in this way will allow the long-term dynamics, and therefore the determining factors of sustainability of the development model to be understood and monitored.
- *Transparency*: the action-research processes must also have as their objective an increase in the transparency of the results, both of the research and the action, facilitating decision-making and contributing to this becoming more democratic.
- *Co-responsibility*: in the action-research process, the “actor-investigators” and the “investigator-actors” are equally responsible for the progress of the project and the results reached and this must be reflected in the distribution of the work.
- *Co-evaluation*: the objectives of the action-research are to include systematic assessment of the process to allow feedback and the redirection of the objectives in line with transformation of the initial context.
- *Co-learning*: the action-research processes must facilitate the cooperative learning of all the participants, improving the capacity of the whole system of territorial actors to find solutions to their problems by making best use of their past experience. In other words, action-research must promote and strengthen the development of territorial intelligence.

The analysis of the results of the experience compiled in the catalogues put together by the universities participating in CAENTI allows us to outline some positive aspects of the application of an approach that follows these principles.

First of all, in general terms, this type of research, by encouraging actors to share their information and knowledge of the territory, would make possible better adaptation of actions to the needs of the territory, greater coordination and coherence of actions and policies and improved allocation of resources. In turn, to the extent that it can be translated into an improvement in transparency and an increase in the mutual confidence among

actors, it could greatly strengthen social capital and promote its distribution in society as a whole.

Another meaningful expected effect of this kind of action-research processes is actors' appropriation of scientific methods and tools for analysing, managing, and evaluating territorial projects. This is the case because an essential part of these processes consists of adapting these methods and tools to the specific needs of the field. All this can contribute to extending a culture of evaluation of territory allowing actors more systematic learning from their experiences. The consequence of all the effects mentioned, on the whole, is empowerment of actors, which, in turn, can contribute in large measure to improving their capacity to undertake action.

The benefits for research, as the CAENTI researchers have emphasised, are obvious as well. Processes of this kind provide much more pertinent information and allow the research results to be compared more directly.

Unfortunately, however, the formulation of these principles does not mean their automatic application. In fact, as the members' practical experience shows, reflected in their experience catalogues, their application is quite complex and places certain limits on carrying out action-research processes which have been developed from this standpoint. The principal obstacles in this sense relate to the institutional context in which these experiences are produced. Some of these are raised in the following paragraphs.

As regards research, although the need for development of multidisciplinary approaches to be carried out in partnerships is widely recognised, neither research funding systems nor means of scientific dissemination, nor the structure of academic merits promote this type of project, especially in the field of the social sciences.

In terms of action, there are also several factors limiting the applicability and extension of action-research practices: the urgency of territorial needs which do not allow for the use of time and resources in research, the imposed "management by projects" system which has the effect of fragmenting public policies and actions, on many occasions territorial actors lack the necessary expertise to appropriate and internalize research methods and tools properly, incorporating them into their daily management and, of course, the willingness of actors to take part in genuine, long-term participatory processes does not always materialise and does not normally occur automatically.

Therefore, generation of positive results is by no means automatic. In addition, the development of a culture of participation which favours the development of territorial intelligence is not a linear process. There are so many variables involved that advances can often be followed by significant setbacks with strong adverse effects (institutional confidence failures, for example). This is the reason why it is so important to determine the possible methodological and ethical rules which might lead to better results.

The advances performed by the group regarding this matter are presented in the next section.

4. Durable collaborative participation of researchers and territorial actors as quality key factor.

4.1. Process-centred quality.

Taking into account the link that the work group has established between action-research, territorial intelligence and territorial governance, the reflection on the criteria which should be used to measure quality has taken as its starting point the objectives of a quality sustainable development territorial governance, namely: to make sure that the solutions adopted mobilise the resources effectively, by providing relevant answers to territorial needs, both in the short and long terms, that is, sustainably; and to ensure that the processes by means of which the solutions are proposed, debated and finally accepted contribute to the development of democracy, in a more complex context in which the traditional systems of representative democracy prove insufficient.

From this perspective, the quality of a action-research project could be considered according to two other basic criteria:

On the one hand, from the point of view of the results, the project quality would rest on two complementary aspects:

- First, the action-research project ability to generate knowledge of territorial dynamics (theories, models, indicators) better adapted to the actual conditions, and its ability to develop research methods that are more suitable for the characteristics and dynamics of the studied object.
- Second, on the same level of importance, quality would be related to the action-research project ability to generate a more suitable territorial action facing the real needs of the population.

On the other hand, from the point of view of the process, the project quality would be found in:

- its ability to generate a permanent learning and co-learning environment to guarantee mobilisation and mutualisation of competences among the territorial actors involved in the territorial development processes (included the research teams and, of course, the population itself) on the long term, which could be translated into territorial intelligence development. This exchange refers to the researchers making their knowledge (included analysis tools) more accessible to territorial actors and the latter sharing with the former their proximity knowledge, but also, it mainly implies the joint production of both theoretical and applied new knowledge.

As a last resort, the process quality could be synthesized in its ability to generate empowerment of the territory's population regarding the decisions relative to the definition and solving of the problems that concern them most directly. On the one hand, by providing them more useful knowledge that allows them to better understand territorial challenges; and on the other, by developing the capacities of the actors involved in sustainable territorial development.

It is a feedback process. The improvement of the territorial actors' capacities (for example in the use of territorial intelligence tools) will generate, through exchange among the actors, a better knowledge of territorial dynamics and this better understanding may lead to better quality action in the territory, which would favour a better understanding of the processes that affect it and, again, an improvement in the territorial actors' capacities.

But for this feedback process to work, it is essential that participation processes in action-research projects produce a really effective collaboration (otherwise it would be a demagogic exercise), and that they turn into a long-term dynamic. It is important to stress that the action-research project durability in time is a necessary condition, since the dynamics of sustainable territorial development occur in the long term, as well as the translation of learning into actions, and actions into evaluations that allow the redirection of plans.

As a result, the work group has suggested the quality of the participatory process of a action-research project as the starting point from which the project quality can be evaluated. Therefore, the quality of a action-research would depend on its ability to implement and promote participatory processes involving a community of actors (and not only those in charge of institutions): for this purpose, it must be solidly interwoven with a specific territorial reality and be able to mobilise effectively the available resources, especially communication and information technologies (ICT), to promote participation of the actors and the project dynamic.

4.2. The four pillars of the quality of participation in Action-Research processes.

Starting from the nine ethical and methodological principles of action-research, formulated after the analysis of the partners' experience, and taking into account that the quality of the action-research processes depends on their ability to build a participatory process, in which a long-term effective collaboration takes place, the WP5 work group has defined what they think are the four pillars supporting the quality of the action-research aimed at promoting sustainable territorial governance and development. These pillars take the previous principles as their basis, and can be summarized as follows:

1. Mobilisation of a territory's resources.
2. Mutualisation of knowledge and competences.
3. Responsibility of all the participants.
4. Common property of the results.

They are complementary and interdependent. Indeed, it is very useful to mobilise all the human resources of a territory in a action-research project, provided this mobilisation is not articulated with the definition of formalised responsibilities, assigning each of the involved entities a specific role (with goals to be achieved). On the other hand, it is useless to mutualise multiple competences, favouring co-learning processes among researchers and actors, if all the efforts invested in the drawing up of collective work protocols are not accompanied by an overview of the actual and measurable impact of the project on the target territory. It is in the dialectics inherent to these four pillars where success of the

action-research is based, as inferred from the analysis of the CAENTI catalogue of experiences.

To clarify the proposal, a couple of objectives to be achieved and a number of activities (or means) to help achieve them have been defined for each of these four pillars.

1. Mobilisation of the territory's resources:

- 1a. Investigation of the target territory's resources.
- 1b. Organization of actors/researchers partnerships.

2. Mutualisation of the whole of competences and knowledge:

- 2a. Mutidimensionality of the researchaction.
- 2b. Co-learning.

3. Responsibility of all the participants and institutions involved.

- 3a. Organisation of a collaborative management of the Project.
- 3b. Deontology and autonomy of participants.

4. Common property of the results.

- 4a. Evaluation of the action-research impact on the territory.
- 4b. Durability of the performed actions.

The notion of added value should be emphasized in this section, since it justifies the choice of all the defined objectives and the means to be implemented. The action-research partnerships built on these pillars modify lastingly the relationships between university students and territorial actors in a given territory. There are very different ways in which these projects can take shape, but within CAENTI they are generally called territorial observatories. This mutation of the borders between the research universe and that of territorial action is fundamental. On the one hand, it allows territorial actors to mobilise in a useful way scientific knowledge and analysis tools in their decision making processes. Also, a shared project dynamics is generated within the territorial observatories, allowing researchers and actors to know that they can participate jointly and efficiently in the sustainable development of their territory, and by means of this partnership, gain a predominant role in decision making processes, both in the fields of research and action.

The second element to be emphasized is the determining role that Information and Communication Technologies play in this model of participatory territorial observatories. It is not only a question of stating the analytical and pedagogical advantages of territorial intelligence tools that will enable processing and drawing up the information out of the data collected from territorial diagnoses. The new technologies open new possibilities which are still underdeveloped in terms of collaborative project drawing, especially due to the relationship process they imply. First, because they favour frequency and quality of communication among a project's partners, allowing accessibility systems for consultation and updating of changing data, differentiated according to the kind of partnership established. Second, because they enhance the quality of personal involvement regardless

of institutional membership. This allows a more pragmatic management of the project, which is thus based on a more real and lasting involvement of each of the participants, and on a more efficient communication among work sub-groups during the project implementation.

4.3. Objectives of the quality of participation and means to achieve them, their added value and the role of ICT.

The following tables gather together the 4 pillars with their respective objectives, means to be performed, added value and ICT specific role. In this way we hope to justify the choice taken in the drawing up of this “quality charter” proposal, being aware that its content focuses on promoting the participation quality of action-research projects. These are instructions to turn participation into real effective and lasting cooperation processes. Therefore, the focus is on the process quality, taking into account that the added values associated to the achievement of each objective can also generate a better quality of the results, especially if they are measured regarding their ability to generate knowledge that is better adapted to the territorial needs, and to favour learning and empowerment of the territorial actors and the population regarding issues that affect their life quality.

Pillar 1. Mobilisation of the territory's resources.

	Objectives	Means	Added Value	ICT Role
1.a.	Investigation of the target territory's resources.	Compilation and analysis of existing documents and data (scientific and technical, political, legal, etc.) on the studied issues.	Possibility of settling the project issues on an exhaustive state of the art. Availability of all knowledge to all participants from the beginning. The action-research objectives should be defined out of this knowledge.	Ease of investigation. Immediate accessibility to collected data. Possibility of structuring the collected data in virtual work spaces.
		Account of existing bodies and actions linked to the general subject of the project. Drawing up of a map of territorial actors involved and of the logics of existing networks.	Possibility of knowing the representativity of the action-research in the target territory. Sharing of project with all actors and partners interested in the target issue.	Ease of investigation. Possibility of providing wider information to all networks in the territory and of calling for participation.
1.b.	Organization of actors/researchers partnerships.	Organisation of work meetings with researchers and actors which can be potentially involved in the action-research at the beginning of the project.	Confidence relationship. Feeling of involvement. Regard of the involved institutions' expectations from the very beginning of the project.	Ease of communication. Immediate accessibility to meeting agendas and minutes. Possibility of encouraging and follow discussions for dissemination.
		Preparation of work subjects with all the participants. Organisation of work sub-groups, gathering researchers, representatives of the involved institutions, and actors in the territory according to the defined subjects.	Confidence relationship. Feeling of involvement. Possibility of including expectations of territorial actors in the project objectives.	Ease of communication. Immediate accessibility to meeting agendas and minutes. Possibility of encouraging and follow discussions for dissemination.

Pillar 2. Mutualisation of the whole of competences and knowledge.

	Objectives	Means	Added Value	ICT Role
2.a.	Multidimensionality of the action-research.	Involvement of research teams of different fields or multidisciplinary research teams and actors of different sectors.	Improved knowledge of territorial dynamics complexity. Improved knowledge of existing actor networks.	Multidimensional analysis tools. Improved accessibility and visibility of the results due the information structure in virtual work spaces.
		Drawing up of multidisciplinary diagnoses articulating quantitative and qualitative methods which deal with a holistic notion of territory (historical, geographical, economical, sociological aspects, etc.)	Improved knowledge of the complexity of social facts in the concerned territory.	Ease of communication. Possibility of virtual work spaces.
		Drawing up of a synthesis of documents and data (state of the art) accessible to all participants.	Possibility for all participants to access a summary of available knowledge.	Possibility of structuring the collected data in virtual work spaces.
2.b.	Co-learning.	Training and awareness-raising by researchers of territorial actors in research methods and tools.	Better understanding of the basic principles of university research. Developing greater capability of critical distance regarding the studied issues.	Pedagogical communication medium.
		Training and awareness-raising by territorial actors of researchers on specific features of the project target territory and population.	Improved knowledge of historical-political aspects and of legal and institutional realities in which the territorial actors perform their action.	Pedagogical communication medium.
		Collaborative participation of researchers and territorial actors in the implementation and development of the investigation.	Improved data accessibility due to territorial actor networks. Improved data collection and research analysis procedures due to researchers' competences. Development of a common language capable of favouring exchanges in the work groups.	Possibility of using collaborative work spaces allowing all participants to exchange solutions taken into account and achieved objectives throughout the implementation of surveys on the target issue.

Pillar 3. Responsibleness of participants and involved institutions.

	Objectives	Means	Added Value	ICT Role
3.a.	Organization of a collaborative management of the project.	Creation of a steering committee gathering the different active participants (researchers and actors) and of a work programme that defines interim objectives and impacts on the territory.	Institutionalization of an equal relationship between the research interests and the action interests. Assessing the actual involvement and work of participants at the expense of their institutional position.	Enhancement of collaborative work spaces, of work dynamic for each participant, in a way that institutional position can be improved, showing more clearly the most directly involved actors in the processes.
		Creation of an autonomous consultancy ethical council that guarantees a proper implementation of the project.	Guarantee of observance of the research and action objectives. Representativity of the different institutions involved in the project.	Ease of communication. Possibility of virtual work spaces.
		Evolving hierarchy of data access according to the degree of responsibility of each participant.	Formalization of the respective responsibilities of each participant, the different levels of data access according to the degree of involvement in the project, and rules of statistical secrecy.	Evolving levels of data accessibility (logins, passwords, etc.).
3.b.	Deontology and autonomy of participants.	Observation of deontological principles of research in Human and Social Sciences (anonymity of surveyed individuals, observation of rules on statistical secrecy, transparency of the investigation objectives, and autonomy of territorial actors from the funding bodies).	Possibility of establishing a confidence relationship with the surveyed population.	Possibility of virtual interaction spaces
		Setting up of a chart, accepted by all participants, that lays down the deontological principles, the collaborative organization of the work to be performed, the degree of autonomy of researchers and actors within the project framework with respect to the institutions for which they work, and transparent use of the results.	Confidence relationship by means of the guarantees set up in the Chart. Regulation of possible disagreements due to legitimization of collaborative organization of work modalities. Autonomy of the actors with respect to institutional supervision.	Possibility of virtual interaction spaces

Pillar 4. Common property of the results of the Action-Research.

	Objectives	Means	Added Value	ICT Role
4.a.	Regular evaluation of the impact on the territory.	Implementation of a "Quality Plan", with interim visible objectives to be achieved, allowing the regular measurement of the evolution and impact of the action-research.	Possibility of verifying at different stages of the project lifetime the conditions of its development and, if necessary, possibility of redefining the implemented work methods.	Opening of permanent constructive dialogue on the project action-research evolution within the framework of virtual work spaces.
		Communication at different stages of the action-research of interim reports to all participants and the concerned population.	Legitimation of the activities performed within the project framework in a given territory. Assessment of the beneficial impact of this approach for appropriate governance and sustainable development.	Possibility of virtual interaction spaces. Pedagogical communication medium.
		Observation of the impact of the developed decision making toolkit on the decisions taken in the whole territory. Observation of the dynamics followed by the population to take ownership of the results.	Legitimation of appropriateness of the tools developed in a given territory. Assessment of the beneficial impact of this approach for appropriate governance and sustainable development.	Use of measuring tools (mainly cartographic), that enable explaining the achieved impact.
4.b.	Durability of the implemented actions.	Implementation of a specific work group in charge of preparing the continuation of the action-research, both in terms of monitoring the developed actions and in terms of developing new action-research projects, on the basis of the work dynamic established within the work sub-groups.	Progressive implementation of a work dynamic within the community of participants.	Ease of communication. Collaborative work dynamic.

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Progress and Prospects of the WP6 "Tools for Actors"

CAENTI Work Package 6

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Summary: This paper presents the progress and the results of the main research activity of CAENTI, the so call work package 6, that aim at designind and disseminate of methods and tools of territorial intelligence accessible for the territorial actors and respectful of a sustainable development ethics. WP6 works on the contents, tools ans use of the territorial intelligence observatories. In 2006, it drafted the specifications of a CATALYSE Toolkit, a ready-to-use set of documents and tools. It 2007, it started the specifications of an individual accompaniment file and those of a territorial information system accessible to actors. A chain of standalone and online tools of data statistic ans spatial analysis were integrated.

Keywords: territorial intelligence, territorial planning, information systems, accompaniment file, territorial diagnosis, evaluation.

INTRODUCTION

The work package 6 "Tools for actors" -WP6 TOOLS- essentially aims at giving a European dimension to research actions on technical tools for the actors and on territorial data sets that are widely started at a local level or even at a national scale.

It strongly contributes to the CAENTI global objective: integrating present research actions on the tools of territorial intelligence to give them a European dimension.

According to the EU policies, the WP6 aims at designing and coordinating the implementation and the documentation of friendly tools, so as to help the actors of territorial sustainable development to elaborate, manage, observe, value and transfer participative projects in multi-sector partnerships.

In 2006, it started at modelling the CATALYSE method that has been used for several years by most of the CAENTI participants in multi-sector observatories. The latter ones use similar tools but collect and process different information contents, that were harmonized according to European standards, thanks to three coordination groups:

- **Wp6c** drafted the contents specification of European multi-sector diagnosis and evaluation guide, service repertory and territorial indicators.
- **Wp6p** defined the specifications of the tools.
- **Wp6g** drafted the meanings of the questions of the guide and the global processing protocols of these questions. It described five development partnerships and three observatories among CAENTI actors. It began at elaborating recommendation for the use of CATALYSE tools in the framework of development partnerships.

The three coordination groups joint efforts in order to harmonize contents and tools then in a "CATALYSE toolkit. Since April 2006, it was tested in the context of the red of local migrants observatories animated by ACCEM.

Part 1 will present the main results in 2006 as starting point.

In 2007, the WP6 started at integrating the CATALYSE tools and facilitating their access on Internet. It began at:

- Defining the specifications of an online "file", an individualised Inclusion Itinerary Accompaniment File, in **Wp6f**.
- Drafting the specifications of the tools in the framework of the processing and editorial chain from data collecting to results publishing, in **Wp6p**.
- Organizing a survey of the projects of territorial intelligence in Europe, in **Wp6u**.
- Studying the feasibility of a European Observatory of the Elementary School (EOES), in **Wp6e**.

Part 2 will show these progresses.

These two objectives prepared the specifications:

- of a portal of territorial indicators by **Wp6i**.
- of an Territorial Intelligence Community by **Wp6s**.

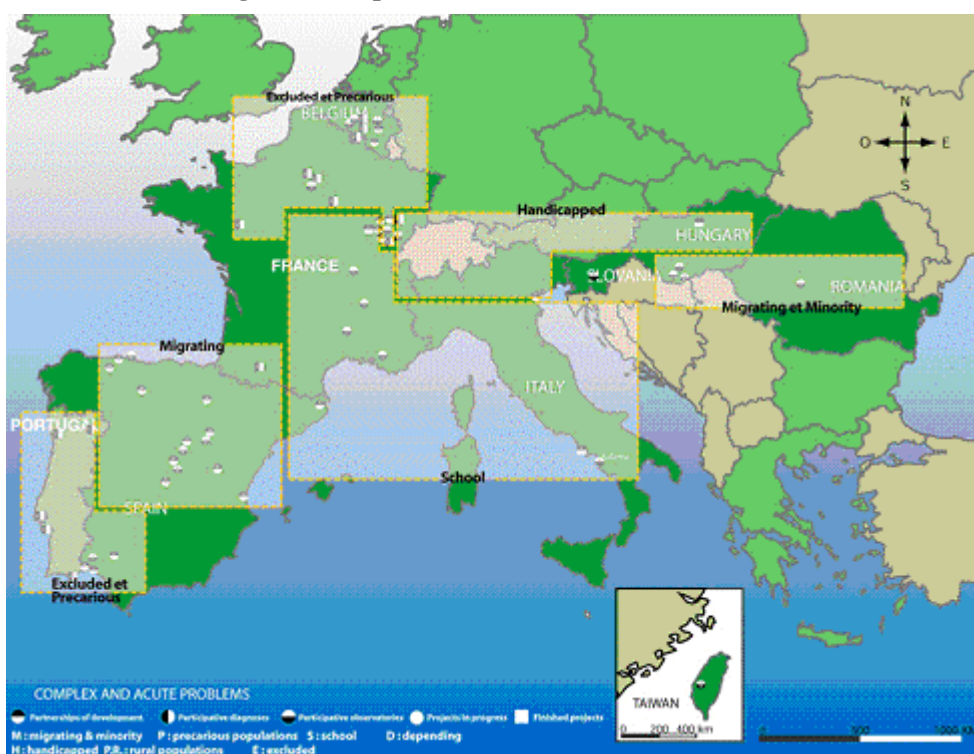
Part 3 will quickly summarized the prospects of these groups et of the new Wp6u group as they were discussed in the HUELVA conference.

1. RESULTS OF 2006 AS STARTING POINT FOR 2007

In 2006, WP6 firstly, it modelled the CATALYSE method, tools and governance. CATALYSE is a method of territorial intelligence that puts the information technologies, mainly the spatial analysis ones, at the service of the territorial development actors, whilst respecting the sustainable development principles.

The so called CATALYSE observatoriess, are generally initiated by an actors' multi-sector partnership, to better know the individual and collective needs and to act together more efficiently.

Diagram 5: Map of the CATALYSE observatories.



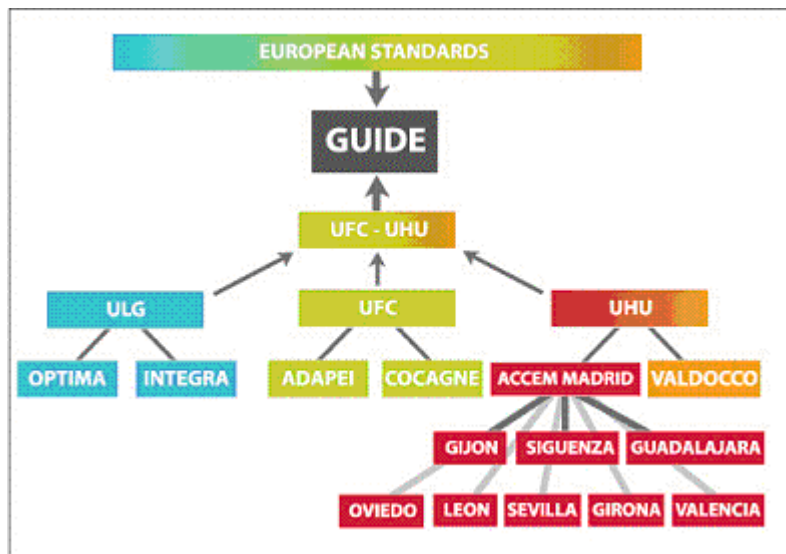
The CATALYSE contents, tools and uses were drafted from experiences, thanks to regional coordination steps:

- The University of HUELVA, ACCEM and VALDOCCO to harmonize the Spanish guides. For the guide, a first Spanish digest, called “migrants” guide, was suggested by ACCEM.

- OPTIMA and INTEGRA harmonize the “Walloon” guides with the University of LIEGE.
- ADAPEI and COCAGNE in France, with the University of Franche-Comté and the contribution of the EQUAL “MEDIATION” project.

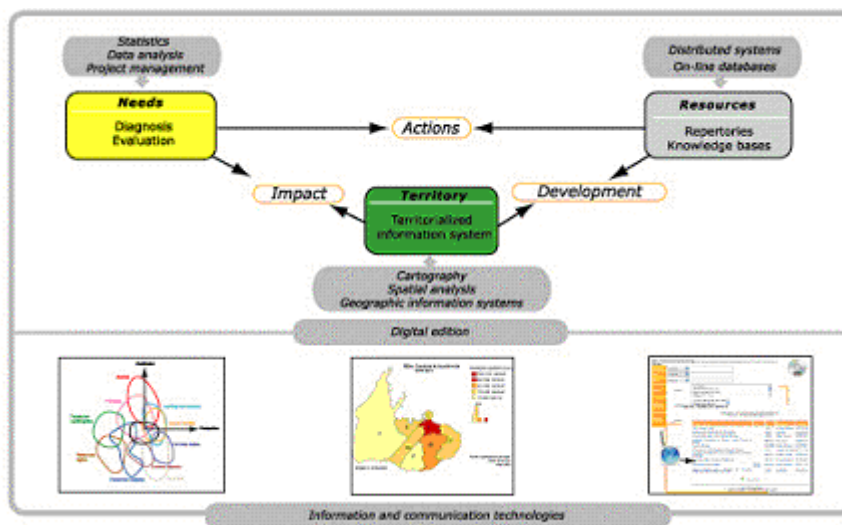
When it was possible, this harmonization was also made with the standards of the official European servers.

Diagram 6: Harmonization of the CATALYSE method.



The CATALYSE **method** suggests three tools that allow confronting three information kinds:

Diagram 7: the CATALYSE method.



An operational actors group draft a multi-sector guide for diagnosis and evaluation, at selecting relevant questions to identify individual needs. It coherently defines a services repertory to compare with the needs, and territorial indicators.

A technical and communication team processes and animates the data analysis. CATALYSE observatories use the free and friendly software PRAGMA, ANACONDA, NUAGE and SITRA for quantitative, qualitative and spatial data analysis to measure and compare the importance and localization of needs and services and their main profiles in the territorial community.

As tool of a development partnership CATALYSE present a specific governance.

Diagram 8: CATALYSE governance.



An **operational group** gathers the actors of a development partnership. It defines all the useful data, supervises the analyses and interprets the results. The partners gather the data and share them for the analysis. A qualitative diagnosis identifies the main needs profiles whereas the quantitative sorting estimates the importance of the corresponding persons groups. The operational group ranks the needs profiles. Ad hoc workshops deepen the needs analysis and evaluate services. They confront the needs that were underlined by the diagnosis with the services repertory to identify the deficiencies and non-adaptations of the offered services with respect to the needs. They also compare the needs territorial distribution to the services one. They confront the results to the territorial indicators to exploit the territory potentialities and to take into account its constraints. This observation step generates projects that are drafted within the **project groups**. Then, it allows regularly evaluating the led actions.

On these bases, WP6 firstly drafted the **contents** specifications:

- European guide of diagnosis and evaluation (deliverables 51 and 56)
- Services repertory (deliverable 53)
- Selection of territorial indicators (deliverable 52)

Then, for the data analysis **tools**:

- Pragma for quantitative analysis (deliverable 54)

- Anaconda and Nuage for qualitative analysis (deliverable 55)
- Territorial indicators system for spatial analysis (deliverable 56)

It also started studying the uses of the territorial intelligence tools within the development partnerships (deliverable 56):

- Meanings of the questions of the guide
- Data processing protocols of the guide
- Comparative description of five CAENTI observatories
- Comparative description of their observation process.
- First draft of joint recommendations for use (Optima and Integra).

It started an experimentation of the new documents and tools within the network of migrants observatories coordinated by ACCEM.

Diagram 9: ACCEM Experimentation.



This experimentation concerns nine migration local observatories. Four are former ones: MADRID, GIJON, SIGUENZA and GUADALAJARA. Five are new ones: OVIEDO, LEON, SEVILLA, GIRONA and VALENCIA. These observatories are developed in the framework of local development partnerships and they are integrated in a national network animated by ACCEM.

More than planned too, the concept of Territorial Intelligence Community System offers a global framework to integrate data analysis modules and territorial information in an editorial working flow, according to the actors' uses.

2. PROGRESS OF WP6 TOOLS

In 2007, the WP6 worked on the planned research activities, the drafting of:

- The specifications of an online "Inclusion Itinerary Accompaniment File" (IIAF), the file (**Wp6f**).
- The specifications for the processing and editorial chain from territorial data to results (**Wp6s**).

It also enlarged its research activities towards:

- The coordination of the CATALYSE Toolkit execution
- A more global survey and experimentations about the uses of territorial tools in development partnerships

2.1. Specifications for the file (IIAF, fWp6f)

In 2007, Wp6f pursued the content guide definition and started the file specifications design. The two research activities are linked because the group decided in the MADRID coordination meeting on April 2007 that the guide was the "Core" of the guide.

On the basis of the first guide version published in the deliverable 56, the group edited three operational versions in English, Spanish and French. The definitions and the protocols of the guide were debated in reference to the ACCEM experimentation with CAENTI actors and regularly updated comparing to the experiments of ACCEM SIRIA file, ADAPEI OSUA file, OPTIMA and INTEGRA harmonisation of files, COCAGNE work on quality service evaluation and VALDOCCO GEYSA file and Plan District V.

As a multidimensional tool for accompaniment the file has acquired an important extension in comparison with our initial project. We will discuss here the main specifications of the file, and its structure to manage the individual follow-up, on the one hand, and global diagnosis and evaluation with structured indicators, on the other hand.

The file is an important support for human services adapted to the new context of the territorial governance and powered by ICT. It is a traditional support in sanitary and social institutions, inclusion or insertion institutions, reception and migrants integration services, etc.. It has a new importance for actors in the fight against the complexity of the situations of poverty, exclusion, precarity and vulnerability, due to the socio-economic crisis running since the 70's. It interests the public administration, as associative or private local public actors, who both work more and more often in multi-sector territorial networks. It is also stimulated by new ICT possibilities.

Global specifications suggest three spaces in the file to adapt this traditional tool according to ICT: file, guide and "observation" form. Four types of considerations surround the file:

- The improvement of the human service quality, which implies a symmetric relationship between the accompaniment team and the person.
- The respect for the human right and the private life; the law generally asserts the user's right to access to all information and documents concerning him.
- The information sharing between accompanying agents that is subjected to professional secret.
- The using of the file for the evaluation by the development partnerships and for territorial diagnostics, which can be done only in an anonymous form and respecting the law about digital data base.

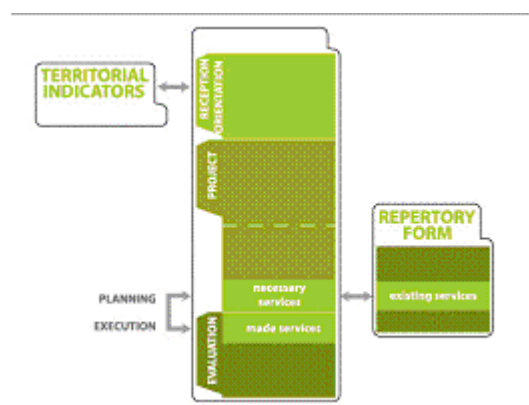
In the file, the guide is always useful. It gathers the individual multi-sector indicators needed for territorial observation. So, we distinguished permanent specifications inherited from the guide from its particular specifications linked to its digital form.

Due to ICT, the online file suggests more ambitious objectives than the guide, as for individual use as for global one. It is a *digital document* that is liberated from the constraints imposed by a paper support. Its *arborescent structure* will *optimize the time of gathering* in comparison with the linear structure of the guide. It also resolves the data repetition by *the management of iterations*. It feeds a *unique shared database* that allows *real-time control and processing*. It is a cooperative tool, which can be simultaneously fed by distant users. It allows a regular and collective user's *paths follow-up*.

As so as the guide, the file that is originally a tool for individual diagnosis and evaluation can be used for global diagnosis and evaluation. Files can be grouped for global diagnosis and evaluation at various nivels. As all the individual information can not be extracted for a global use, it is necessary to implement in the file a form at gathering useful individual indicators for the achievement of global diagnostics and evaluations. This form is braoader then the guide, which gathers a minimal set of multi sector indicators necessary for the diagnosis and evaluation at territorial level. It deepens beyond the guide indicators specific to a service, a theme or a public.

The file includes common specifications of the guide that are updated from the deliverable 56. The contents articulation of the guide were carefully checked according to its territorial interest.

Diagram 10: Guide contents articulation.



Within the guide, it is possible to compare:

- The necessary services to improve the person's situation;
- Later, with the services actually made, before asking the user' effective situation.
- The necessary services can be confronted to the repertory of available services.

- A selection of the guide individual indicators can be confronted to the territorial indicators, in collaboration with the WP4I group that deepened their availability at the local scale.

The group is working now on file particular specifications, wich result from, on one hand, the fact that the file concentrates personal information protected by the professional secret and, on the other hand, new possibilities offered by the digital characteristic of the file.

2.2. Progress on data processing tools (Wp6d)

The data-processing and technical specifications established in 2006 in deliverables 51 to 56 allowed quickly initiating the execution of the tools that were useful for the experimentation led with the ACCEM migrations observatories:

- PRAGMA collect version,
- complete PRAGMA version for data analysis,
- ANACONDA and NUAGE.

Diagram 11: Pragma classic, page of a question.

E	1	Ag15	Less than 15	0
E	2	Ag17	From 15 to 17	0
E	3	Ag24	From 18 to 24	0
E	4	Ag34	From 25 to 34	0
E	5	Ag44	From 35 to 44	0
E	6	Ag54	From 45 to 54	0
E	7	Ag64	From 55 to 64	0
E	8	Ag74	From 65 to 74	0
E	9	Ag75	75 and more	0

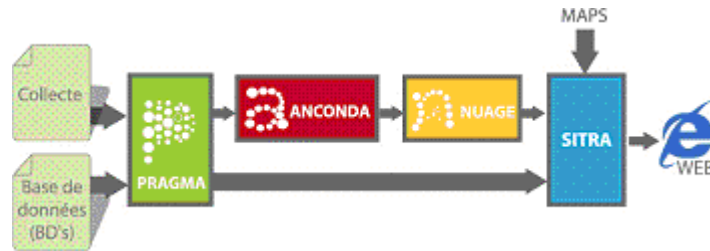
Wp6d also began to develop the specifications for more friendly, free, multi-platform and multi-language versions, for the CATALYSE Toolkit:

Then, the Wp6d focused its activity on conceptual specifications of the TICS, the online versions in the prospects of the TICS:

2.2.1. Integration of the Catalyse tools in the Catalyse Toolkit

The coordination of the execution of the **Catalyse Toolkit** following the intergration design showed in ALBAC conference (GIRARDOT, 2005)

Diagram 12: the CATALYSE tools.



Thus, at the end of 2006 and at the beginning of 2007 were executed:

- The execution of a PRAGMA version limited to the key-in.
- The development of jPRAGMA a standalone, cross platform et multi-language version of PRAGMA in Java. It is presently developed in a “key-in” version and in a complete “treatment” version.

Diagram 13: jPRAGMA prototype.



- The integration of the ANACONDA and NUAGE software, in a new ANACONDA 2.0 version.

tools, the Database Management Systems (DMS) and problems about concurrent access to data.

The TIS onlining requires the conception of web pages. The TIS main part concerned by its onlining is the PRAGMA software. Two main versions of the TIS coexist, an online version usable from a distance and a version locally usable. A modelling work is in progress in order to plan a TIS unique model allowing in the future the conjoint development of these both versions. Eventually, the objective is to offer to users a TIS accessible from a distance without any local installation.

The TIS use causes the production of an important number of documents for which a description by a metadata set of the Dublin Core kind was suggested.

ICS specification

Social actors involved in the territorial observatories adhere to the necessity to produce quantified and qualified information in order to guide their actions according to populations needs. In reference to the communication cycle of MUCCHIELLI (2003), the CATALYSE method is firstly interested in two times very specific to notions brought up by the SIC:

- The sense production, which occurs during the data processing into information
- The communication elaboration strictly speaking, according to initial data and produced information.

It is advisable to structure these steps in a communicational aim without neglecting the scope of uses.

The first step, so-called **sense production**, is thought according to the different required communications: internal communications in the team leading the project and in the operational group; external communications (public publication). We have to go beyond the mission of traditional observatories, which organize their intervention as an external expertise to the project. CATALYSE method completed by the TICS scheme modifies this approach to incorporate it in an informational process that makes a vital governance factor.

The conceptual analysis of every communication product involves some number of considerations that it is advisable to lead to produce the link between the information made and the actors of the reception. The identification of target publics and the consideration of the issues diversity should give a clear frame of the communication act complexity as of the communication objectives and purposes. The specificity of the TICS communicational approach is mainly about the fundamental function of transfer and training, related to the innovation of the territorial systemic approach and its constituents.

The whole issue of the communication comes true in the practices they are made with, in the consumption of both dimensions about the product sense (information) and the created link (communication). Practices of the produced information include many stacked processes, each one adding by definition a new value to the modified object, from facts to data, from data to information and from information processing to knowledge.

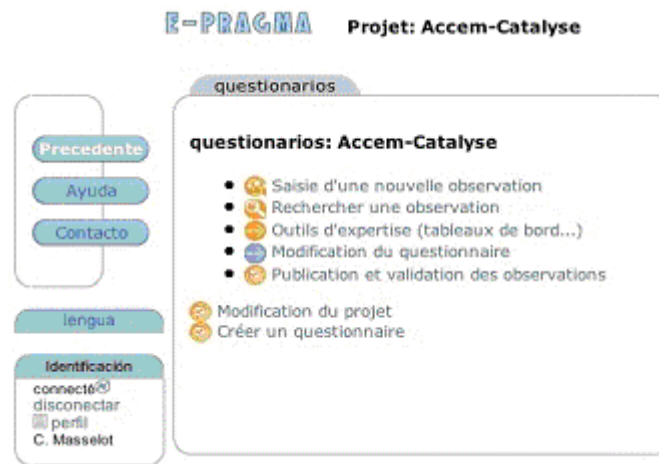
The last part of the communication cycle aims at rebuilding the sense of observed facts, data, created information and developed links, after the diffused results and so the consumed results. According to durability of observation this scheme does not have sense if it is thought according to a bad temporality, that is to say from a linear view and not from a cyclic view.

2.4.2.2. Online tools

The prototype online tools are epragma, mapping online solutions, and the CMS CATALYSE;

A first version of epragma, online PRAGMA, is developed in a «key-in» version.

Diagram 16: Screen of epragma (prototype).

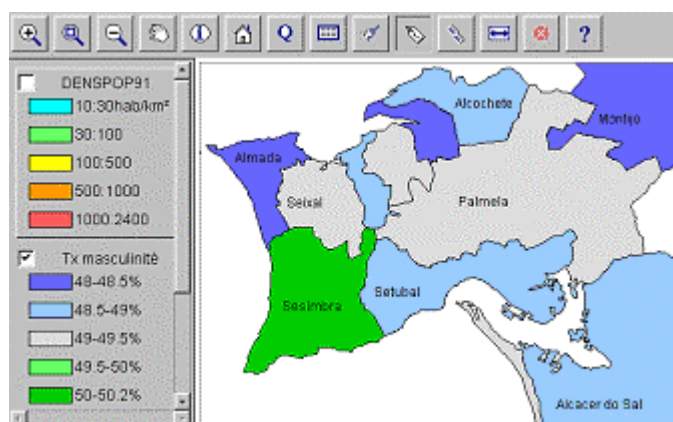


ePragma is useful:

- To create and manage partnerships (who lead many projects)
- To create and manage projects in a partnership
- To organize in a project several questionnaires for data gathering and quantitative treatment
- To digitalize the diagnosis and evaluation guide in a questionnaire
- To organize the collective work in a questionnaire (manage users)
- To organize the data key-in, by users, in a questionnaire (add, modify, delete)
- To manage the quantitative treatments (to calculate, to publish)
- To structure the data table in a standard format for the qualitative treatments in ANACONDA.

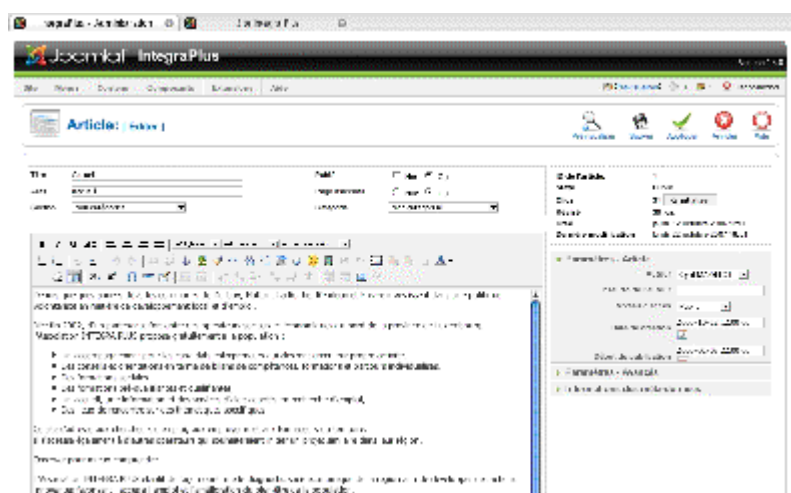
The Wp6p group also works to adapt free and friendly cartography software that manages territorial indicators.

Diagram 17: Territorial Indicators Cartography.



A Content Manager System CATALYSE is also in progress with INTEGRA plus. It is a website which contents can be directly managed. It integrates the services repertory and a document Base.

Diagram 18: CMS CATALYSE integrates the Services Repertory.



As a consequence, the CATALYSE Toolkit will offer a complete set of data and of spatial analysis tools. They can be integrated at a upper level in the TICS.

2.3. Catalyse toolkit specifications

This activity is involved much in the coordination of the CATALYSE toolkit execution, than in this execution that is also done with particular funds. It was done in the coordination groups Wp6f and Wp6p, respectively for contents or tools.

The coordination meeting of MADRID on April allowed establishing the outlines of the CATALYSE toolkit.

- European Guide of Diagnosis and Evaluation- Definitions of the questions and modalities
- Protocols of data analysis
- Ket-in software PRAGMA
- Quantitative treatment software PRAGMA
- Qualitative analysis software ANACONDA
- Content management system CATALYSE
- Mapping software
- Handbooks of the PRAGMA, ANACONDA, repertory and map software (English,French, Spanish)
- Recommendations of uses

Three operational versions with page setting were established in English, Spanish and French were elaborated. They are progressively integrated in the different versions of PRAGMA.

The guide meanings and protocols are regularly updated. As the specifications of file, showed the utility of to conserve the guide as core of the file, we need to reorganize the contents of the guide.

A good articulation between the guide and the file is a general demand of the local actors, which are firstly afraid of the diversity of documents.

Partnerships are interested by the possibility of use the file that is perceived as a professional heavy document and the guide. Some observatories, which use the guide, think it is not possible that all the partners evolve together from the guide to the file. The standalone tools and the online tolls will be very linked in the CATALYSE CMS.

At end, the WP6 can be the good place to coordinate the TICS and the CATALYSE toolkit.

2.4. From guidansce notes (WP6g) to uses (Wp6u)

The lack of coordination about the uses of territorial intelligence appears progressively during the second period. Firstly to coordinate ACCEM experimentation, then to harmonize the approach of ground territorial intelligence projects.

The study of the CATALYSE method implementation and use in the development partnerships allowed modelling the governance of the CATALYSE observatories, what allowed integrating then the uses in the TICS. Wp6g also describe the CATALYSE observatories and their observation devices. Now the ADAPEI experience is important as regards the online uses, theme on which COCAGNE will also work from now on.

The experimentation within the ACCEM observatories gives a new lighting on the uses. It is followed up by the Wp6f for the contents and by the Wp6d for the tools. It worked hard

on these two points during the first semester. After it needs more discussion that internal evaluation about uses.

At the end of the first period, OPTIMA and INTEGRA have began a joint draft of recommendation for the use of CATALYSE method and tools in development partnership. These recommendations were listed as a piece of the CATALYSE Toolkit in the MADRID coordination meeting, on April 2007. In HUELVA conference, on October 2007, the concerned actors asked for an evaluation of the use of CATALYSE Method before rewriting the recommendations they wanted to summarize for discussion.

Recently, OPTIMA evocated the possibility to make another experimentation in the rural commune of CHAPELLE-LEZ-HERLAIMONT in Belgium.

We also need to harmonize the approaches of territorial intelligence projects. During the coordination meeting of MADRID, we decided to complete the descriptions of the CAENTI development partnerships, as well as the descriptions of their observation device. The objective is not to fill in forms, but rather to establish an editorial canvas that allows making a homogeneous presentation.

We suggest unifying and widening this step because CAENTI worked out many approaches about territorial intelligence projects, in different but complementary ways: in the Wp4p (territorial intelligence project funded by EU), in the WP5, (research-actions) and in the Wp6g (CATALYSE observatories). More the descriptions of actors involved in the CAENTI and articles suggested for the focus of the territorial intelligence portal.

Because they were not considered from the same point of view, these projects were, of course, neither described nor analyzed from the same grid in these different approaches. Each approach used its grid, complementary but different from the other ones.

The suggest to create Wp6u coordination group in order to make a large survey on territorial intelligence projects in Europe starting from CAENTI and from CATALYSE projects.

A first task to perform will be to analyse and to evaluate the uses of CATALYSE method and tools within CAENTI observatories for the LIEGE coordination group, on February 2008. On this basis OPTIMA and INTEGRA Plus will redraft their recommendations for the use of CATALYSE. Wp6u will establish a grid to describe, analyse and evaluate territorial intelligence projects in order, then it will make the survey of projects.

2.5. The European Observatory of the Elementary school (Wp6e)

The European Observatory of School uses again the general principles that have guided the work of the Observatory of Rural School for more than ten years: multi-discipline research team (geography, sociology, education sciences, psychology..) and multi-category one (researchers and ground actors) and network functioning on remote sites, under the scientific responsibility of the Laboratory Théma.

The Wp6e works examine the feasibility of the extension of such an observatory to several European countries in a network framework. The research problematic concerns the

identification of the main parameters that influence the school success and the pupils' orientation of the first and second grade, in perspective with the different types of life territories and the action of the different types of actors of the school life.

The methodology is based on the analysis and interpretation of the school follow-up of significant samples of pupils from different types of geographical environments. The information come from surveys made with the pupils, their parents and their teachers their entire curriculum long. Other information with a contextual nature are gathered, especially on the opening strategies that are implemented by the schools, on the pupils' life territory, on the cultural practices...

All these information feed a data basis that is made and exploited according to the CATALYSE methodology and with its tools.

This methodology implies a permanent link between the ground actors who help to gather information and the researchers who transform them into data and exploit them. The actors are solicited to participate to the interpretation of the data treatments result and at the end of the chain they are information of the results that can influence their practical practice.

During the second period, the Wp6e organized a conference and a cordination meeting in Salerno on May, the 11th and the 12th 2007

This conference firstly concerned a critical examination of the Observatory of Rural School experience :

- The Observatory interests and limits
- The contributions of the Catalyse tools

Then, the reflexion work concerned a European Observatory of School and the necessary information to develop.

Lastly, the organisational modalities were defined the actors: teams and responsables, the data basis, the users and the the information sources: students, families, staff, schools

An internatonal conference on education and territories (contexts, gouvernance and educational paths) is organized on 29 et 30 novembre 2007 in DIGNE (France) to compare the results of OER to other european studies.

Another French national meeting on educational governance and rural territories will take place in VESOUL, on December 11st et 12th 2007.

3. PROSPECTS OF WP6

Many projects and technical developments are initiated. They should lead to products by the end of the year.

In 2008, it should design a specialized portal on European Institutional Indicators that are useful for the end actors and to integrate them with analysis tools in the TICS.

The TICS modeling is made according to four axes. It allows jointly designing:

- the integration of the analysis functions of the territorial information: Wp6d in relation with the Wp4m and Wp4t)
- The modeling of the treatment protocol of territorial information (Wp6f and Wp6d),
- The specifications of the editorial and documentary chain (Wp6d et Wp4i)
- The modeling of the uses of the territorial community (Wp6u from Wp6d, Wp4p and WP5).

TICS modelling will be the convergence place of the CAENTI activities.

The new coordination group “Wp6u” suggests:

- Enlarging the study of the CAENTI projects (from Wp6g)
- Joining to this study the survey of the projects funded by EU and relevant in the territorial intelligence field (from Wp4p)
- Also joining the research actions experiences the Wp5 studied in the framework of the catalogues of experience.

This new coordination group will draw a panorama of the uses of territorial intelligence in the development partnerships and organize the seminary on this topic. The seminary will gather the CAENTI participants' actions and other projects funded by the EU in the territorial Intelligence field.

The Wp6u will draw a European map of the territorial intelligence actions. I will establish a specific description for the diagnosis actions, the maps, the observatories and the development partnerships, from the technical and the governance points of view.

In 2008, Wp6i will follow Wp6i and Wp6c.

Wp6s will take results from Wp6m and Wp6t.

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VII. INVITED CONFERENCES

The International Conference was opened with two framework papers. The first one, *The Challenges of World Governance*, was given by Prof. Ph.D. Carlos Berzosa, Chancellor of the Complutense University of Madrid, Professor of Applied Economics and President of the World Economic Society. The second paper, named *Research-Action Applied to Territorial Development*, was given by Lecturer Ph.D. Tomás Rodríguez Villasante, Sociologist-Methodologist, University Lecturer at the Complutense University of Madrid, author of an extensive work on research-action applied to the development of participatory democracy in territorial communities both in Spain and Latin America.

These interventions provided the backbone of the two fundamental levels in which the current scientific, academic and political debates on governance of sustainable development took place. Thus, the first focused on the consequences for world economic and social sustainable development of the way in which the articulation of power within and between Nation-States occurs in the absence of a world government. It also emphasized the negative results of poor or bad governance in terms of poverty and inequality. The second, with a methodological approach and more focused on local communities, defended the need for fixing the concepts of governance or sustainable development, in order to establishing operational differences that allow a practical application for the development of participatory democracy and the real transformation of these communities. Prof. Villasante presented the main elements of the participatory research-action methodology which he has been recently experimenting with his team in various contexts.

The following sections summarize the main aspects approached by each of the framework papers.

The Challenges of World Governance

Prof. Carlos BERZOSA ALONSO-MARTÍNEZ, Ph. D.

In an inspired speech, Prof. Berzosa went from general to specific, starting from the existence of governance on a global scale and finishing with a reflection on the contribution that universities can do to the present world.

Based on what he considers an up-to-date and appropriate definition of governance by the Spanish Dictionary, “art or manner of governing, whose objective is the achievement of lasting economic, social and institutional development, promoting a healthy balance between State, civil society and economy market”, the Professor considered that, according to this definition, it cannot be stated that there is governance on a world scale, since this would imply a healthy balance between State, society and economy market, and there is not such a thing as a global “State”.

The speaker contrasted this linguistic definition with the more frequently used in political and economical terms by James Rosenau of Princeton University, which refers to the regulation of interdependent nations in the absence of a global political authority, considering it more suitable to what is meant by ‘governance’ on a global scale. This last concept, he stated, refers to the idea that there are relationships between states, international organizations –the United Nations, the International Monetary Bank- World Bank, and the World Trade Organization mainly, which exert some power of global regulation. The articulation of both concepts allowed Mr Berzosa to state, citing the Nobel Prize in Economics Joseph Stiglitz, that there is currently a faulty system of global governance and that this is the reason for the many problems that still remain in world economy after many years. Indeed, combining the concept of “healthy balance” between market, state and civil society stated in the Spanish Dictionary with the notion of governance that refers to the already mentioned international organizations, the speaker considered that the inefficient way in which these organizations operate, dominated by the market and favouring mainly their own growth, hinders that “healthy balance”.

Based on the theoretical contributions by K. Polanyi (*The Great Transformation*, 1945) and T.H. Marshall (*Citizenship and social class and other essays*, 1950), and on the practical experience of the development of the Keynesian policies of the “30 glorious years”, Berzosa stressed the relative historical novelty of the market prevalence on the political and social sphere, which according to Polanyi prevails only since the industrial revolution (although one way or the other the market had always been present along history). He also emphasized the prompt obvious evidence that, although this social organization proved efficient for the assignment of resources, it didn’t guarantee socially desirable models; hence the need for the State intervention on the economy and the development of more social forms of capitalism. At this point the speaker stressed Marshall’s idea on the improvement in income distribution as social rights are introduced in the 20th century (after civil and political rights which had had their origin in the 18th and 19th centuries, respectively). The development of these rights in an attempt to cover social needs, he claimed, made it necessary to develop public intervention policies from the State,

from regional governments or from local councils. Very often, he emphasized, they appeared as the response to the demands of society, as a sanction by public authorities. The speaker went on arguing that, however, nowadays and since the 80s, with the development of neo-liberal thought and policies, what is being experienced on a global scale is the prevalence of the market over the possibility to be governed. Consequently (without rejecting the evidence of certain improvements in some countries such as China or South Korea), this leads to many of the evils that exist globally in terms of social inequality, prevalence of poverty and wars. Berzosa invited the audience to think about “the global scandal which is that in 2007, in the 21st century, with the capacity of income and wealth generation that has been achieved, with the research ability, and the technological progress and innovation, there are so many people dying of hunger, surviving malnourished, with a short life expectancy, illiterate, without access to health, without access to education”. He questioned the role of international organizations with regard to these facts. He then stated that not only do they fail to solve these problems, but he also claimed –and here was the main focus of his intervention– that current problems are getting worse and generated by the policies required by the International Monetary Fund and the World Bank. “It’s not only that governance is faulty and does not avoid evil –the big evils we endure in world economy, which I just mentioned, as well as ecological criteria, climate change, gender...–, it is also that these organizations are contributing precisely to reproduce a situation which generates those evils”. Then, it’s not that the International Monetary Fund and the World Bank don’t have the ability to act because they are not States; they can have plenty of influence, even more in vulnerable countries, in the less powerful, in the less rich, in short, in those which are more dependent on economic policies carried out by the International Monetary Fund and the World Bank. But both are great promoters of globalisation, of the market, with no compensatory mechanisms that try to respond to those social needs already mentioned by Polanyi and Marshall, which are important and key to our daily work.

“This, I think, is the big problem of the present situation. We have no global government, we have organizations that are not governments but have the power of influence, and these organizations are drifting the economy precisely towards a target which, in my opinion, is against human rights, against citizens’ fundamental rights, and the laws of the market are prevailing over citizens’ rights”.

According to the President of the World Economy Society, this is the main problem: to be trapped by the market domains, a process which has not been natural but forced by countries such as the USA, supported by the IMF and the World Bank. “So the problems we face nowadays, which we are unable to face with a minimum of efficiency, are the result of some actions which are governed by this market law, and not so much by public organizations unable to carry out the governance that the world needs more than ever if we don’t want to head for the disaster entailed by so much poverty, so much hunger and so much destruction of the Earth”.

Regarding the role played by the Nation-State in this context, Berzosa pointed out that globalisation is limiting its manoeuvre ability considerably. As an example of this, he mentioned the power that central banks –organizations outside the democratic control of parliaments- have in the development of economic policy guidelines, with great impacts on

people's lives. Governments, he stated, "are prisoners" of globalisation, their policies are conditioned by the penalties they may receive from the market. Nevertheless, he cited Jeffrey Sachs, director of The Earth Institute at Columbia University, and said that there is still leeway, as show the different models of capitalism especially in the Nordic countries, with more balance between market and state, resulting in more advanced social models not only at economical level, but also regarding the development of rights and equal opportunities. Hence the need to keep a critical and demanding attitude that involves all citizens in order to have society express its opinion on these serious problems and not simply accept the prevailing viewpoint which is the lack of alternatives.

The speaker also mentioned that not only is it necessary to improve governance on a global scale, but also "healthy balance" is necessary for governance to take place within Nation-States. "Good governance is not the same as bad governance", hence the responsibility that developing countries have. At this point, however, he clarified that it is not easy to distinguish to what extent internal structures are conditioned by external structures. Good governances, he said, give rise to better social results.

In relation to this point, and citing again Sitglizt's *Freedom to Choose?*, Berzosa pointed out another of the key ideas in his speech, i.e., the importance of freedom for the development of good governance, the right to know and the public discourse, the role of transparency in public life, since the lack of it creates growing distrust of politicians by those governed, which results in an ever increasing gap between public life and citizen non-participation in decision making.

To end up his speech, the Chancellor of the Complutense University reflected on the role of the University in this context, not just on its own governance –he joked on the ungovernability of this institution-, but on its ability to contribute to the development of global governance. He stressed the importance of linking research to action, the needs to question the social relevance of research, focusing on big issues, and trying to involve the business world and the civil society in the University's own development. He emphasized the important role that social sciences must play here: "we of the Social Sciences have a lot to say, because we make progress in research, innovation, etc. in a world with appalling hardship, and we shouldn't think just in terms of economic growth, just in terms of research and innovation, but in a fairer, more equal, more sustainable growth where equal opportunity will be a reality [...]. So let's think about researching, but let's also think about the benefit for society and for everybody. I particularly like researching, but we shouldn't only research in our offices, not only to gain academic prestige, to be acknowledged by our colleagues, but also to get engaged with society. There are enough serious problems for researchers/scientists –who have important information and knowledge– to have their say in the current world, so that, as the famous statue at Valladolid University allegorizes, wisdom overwhelms ignorance.

Research-Action Applied to Territorial Development

Lecturer *Tomás RODRÍGUEZ VILLASANTE, Ph. D.*

University lecturer Mr Rodríguez Villasante started his illustrative intervention citing another colleague, lecturer and economist José Luis Corallo, when he referred to the need for regulation or self-regulation of the “market of the public” (public or private organizations with public aim) to achieve “life accumulation” rather than “capital accumulation”. This is the framework of the speaker’s work at the Complutense University. From this institution he has been making agreements for over ten years with several Spanish municipalities. These have been low-cost agreements, beneficial both for the councils and the University, where collective learning for civil servants, associations and other actors in the municipality is provided. Also the University benefits from this learning because the participatory research-action developed within the framework of these projects allows experiences and knowledge to be exchanged.

Based on this, he suggested the audience discuss the efficiency and efficacy of public initiatives when they are generated on the basis of social participation and control, not by the political class, but rather by citizens themselves, by the civil society, as could be the case of a neighbourhood. Referring to the previous speech, general concepts in this debate such as ‘governance’, ‘sustainable development’, ‘social capital’, among others, he stated, “are rather beautiful and form part of what is politically correct, and therefore, may be equally used by the International Monetary Fund, the World Bank, the universities, or you and me, Brazil’s Landless Movement, the Anti-globalisation Movement...”. However, for these concepts to be useful, they need be specified (“landed”) in order to establish operational differences, both from the scientific point of view and from their practical application in the transformation of communities, cities or countries.

To exemplify this issue he made reference to Portoalegre in Brazil, a city with one and a half million inhabitants which has become worldwide reference both for its local and global nature, or rather, for its ‘anti-globalisation’ nature. On the local scale, it is outstanding for its supportive thriving economy and the presence of ecological economy, but mainly for the development of its participatory budgets (which have set an example for other Latin American and even Spanish cities, such as Córdoba and Sevilla), where key issues such as whether General Motors and Ford should be settled in the territory and the conditions thereof were discussed publicly. (Finally, he pointed out, General Motors accepted the conditions and settled down, but Ford didn’t). Rodríguez Villasante stated that the example of this city, and other cases such as those in some communities in India, prove that, in some cases, and whenever they are properly raised, participatory democracy methodologies enable public debate.

Following with the example he explained that in Portoalegre the theoretical debate on governance, participatory democracy, social capital, and sustainable development is being developed not on the basis of theoretical academic concepts but in relation with its link with practical, specific indicators that measure the levels of redistribution between rich and poor districts (these indicators are not only measured by a scientific committee, but also by

the citizens). The same happens in the city of Sevilla, in Spain, where the preparation of participatory budgets involves the discussion of life quality indicators in the various districts: equal opportunities, participation, immigrants' integration, etc. These indicators are used to assess whether a sustainable city is being constructed. They start from "a citizenship participatory system and then we can add the theory that we want, and then the Universities, with their technical-scientific capacity, can measure the criteria suggested by the citizens themselves".

With the help of some charts available on a DVD showed during the conference, with copies available for the participants who requested them, Mr Rodríguez Villasante presented the four steps into which social sciences merge when it comes to using the term 'participatory methodologies'.

First, the lecturer emphasized the importance of the initial question of the process, stating that not every question is valid. The starting point must be the demands made from the territory (local councils, various organizations, associated citizens...) but, he specified, it is necessary to check whether it is a real demand or just a symptom from which to start. In the speaker's own words, "a first self-critical process must be done, from which double meanings (underlying real meaning) in those processes can be uncovered. It is not a question of acting as judges, but of working more deeply on the demands proposed. It is as if you go to the doctor and tell him that you have a pain in your liver, but the doctor says some tests must be done in order to find the causes related to the malaise. The focus of the research must be raised when the problem is detected to see the implicit and explicit interests, to see the latent reasons underlying the reasons given by public authorities, citizens... In a different position, also the (public and private) experts involved have double meanings which must be considered, too".

As a result, he continued, "at first we distrust two traditional methodologies of the natural and social sciences, the deductive and inductive methodologies, and we bet on the **transductive methodology**⁴, which comes from the natural sciences [...]and was transferred into the social sciences. We can see that in the transductive method what appears is not the deduction of pure theory, nor the induction based on those first symptoms that we observe in social leaders, experts, local councils, etc, but rather, we have to move onto that second level of hidden meanings, where certain guidelines of what is really posed in the initial negotiation will appear".

The techniques with which his team works, he explained, go from Social Psychology techniques such as role playing, socio-drama, transepts in Participatory Rural Diagnosis, which are a number of methodologies pointing to what the Chaos Theory and the Complexity Theory have identified as the researcher's self-reflectiveness, especially in cybernetics.

⁴ Transducer would be an agent that transmits or carries (ductor-oris) an object which, because it is transmitted, it is also transformed as a result of the involvement or interaction with the medium in which it appears. As a Latin cultism, the use of the term first appears in the natural sciences, and not in the human sciences. Note of the editor

Thus, in a first phase which –according to the speaker– usually lasts one month, they work with public authorities, promoters, specialists and experts, social organizations and citizens’ informal networks, and try to go deep into political (not party) commitments to reach agreement on a programme.

The second graph he showed was the representation of an X-ray of a community drawn on a three-axis chart, “one for social class, one for social proposals made by the people, and a third internally related axis which are the emotions of trust and fear within the communities and which also play a role in social processes (for example, rivalries between leaders of different organizations)”. He explained that, sometimes, even with the same objective needs, programmes do not carry on due to internal rivalries, etc. He pointed out that “one of the key issues is to be able to perform strategies that have to do with class needs, with explicit proposals and with the negotiation of confidence and distrust historically caused by daily culture. These X-rays are done not only by experts, but together with the community. With groups of 20-30 people and in one and a half or up to two hours a small self-diagnosis is generated on where are the difficulties to help the process succeed. People give us their perceptions, also ours are taken into account (statistical analyses, etc.), but we are in this transductive process of knowledge exchange”.

The drawing up of these maps, he summarized, provides the clues to work with that part of the community which does not attend the meetings: “what is important is how the people attending (they make up the action groups) enter the circuits from which they don’t come. What we must do is a group dynamic (motor groups and technical support) as is done, for example, in Sevilla, multiplying the participation of children aged 12-14, women and men who do not belong to any association but who have specific motivations, to which, they understand, we are going to give response. These people are never going to become members of an association but they are going to get involved with their initiatives in these processes of community budgets or plans (the “Tres Mil Viviendas” district in Sevilla, or the 5th District in Huelva)”.

At this point the speaker warned about the importance of not focusing on what is “noisiest” in majority responses, because there we find well organized discourses as a response to the politically correct, removing important creativity. He set the example of Medellín, where he personally carried out a kind of survey on the problem of violence. The initial proposal here was “we want more police”, but when speaking to the people later, he was told that when the police arrived, it was all a mess. “The qualitative tells me they want more police, the quantitative tells me they don’t want it, so some days later I consulted with them and they reached the conclusion of the need for a preventive police”.

He concluded this section stating that participatory processes need time, they need to go beyond the traditional ways of research, providing specific ad hoc solutions, making suggestions adjusted to the various realities. “Community plans are the only real restraint to avoid what happened in Paris some years ago. It’s useless just to provide more experts (social workers, pedagogues, etc.). Rather, it is a question of proposing participatory methodologies that teach these experts, politicians and social leaders –who are often demanding but not co-responsible of the programme– to develop what that community really proposes.

The third moment of the method, he claimed, is to move from “emerging ideas” to “strength ideas”, i.e., from self-diagnosis to planning. Here he suggested a technique called NEXA, a prioritizing system (votes for and against) in planning with no need for one option to win over the other, but which makes it possible to add the two or three aspects voted. It is a weighted voting system that implies a binding commitment for local councils. He said that this is also related with another technique by a Chilean economist, Carlos Matus, who developed a way to explaining public decisions, the Flow diagram, a technique within Situational Strategic Planning that tries to solve the following questions regarding economic, cultural, organizational and spatial aspects: what can we solve?, what can we do with alliances and supports?, what is offside? “Playing with these charts, in an hour and a half people is able to design an action programme prioritizing the three or four critical knots where key causes and effects meet. This technique is better than WTSO-SWAT and allows progressing in public commitments to make the process more effective and efficient”.

For this plan to be developed, he emphasized, it is important that it is the strength idea that coordinates the plan. “This idea must overcome the specificities of each working table or we won’t be able to develop the plan. The question is how involvement can be encouraged among citizens to solve the problem beyond what is proposed by one sectoral table and another”. He illustrated this question with the example of what happened in Spain in 1992 with the World Exhibition in Sevilla and the Olympic Games in Barcelona. The former needed greater investment and had less transformation capacity than the latter, since for the World Exhibition the population did not assume the strength idea. The key, always according to the speaker, lies in “the commitment of the citizens to support and be proud of what is being done. The achievement of this participatory scheme has creativity effects and *a posteriori* effects because this remains in the international memory”.

The fourth aspect remarked by Rodríguez Villasante is the one concerning community organization for decision making. “It is not just an assembly problem; assemblies are not the most democratic thing; well, they are when, for example, a group of 200 people is divided into smaller groups of, let’s say, ten people, so that everyone can speak, since in a big group not everybody speaks, but rather just a few do, and as a result we miss the creativity and initiatives of community sectors. As some theorists state, the main issue of the new democracies is to be able to recover those little daily initiatives which can, if they are given the opportunity, go beyond those common places manipulated by the television, the correct thought, etc. The question is: how are these processes raised? How are these new elements of decision making introduced? In Spain it has been achieved, for example, that some mayors listen for hours to the citizens of a certain district presenting their proposals of action”.

In this line, he stated, it is possible to advance in bottom-up decision making, although it is true that the highest level that has been reached is that of small states.

In the last chart, he presented a summary of the process: taking symptoms as the starting point, an analysis of social networks is performed; then, proposals are verified by action, and action itself leads to a symptom, and so in some years different generations are educated in new democratic and political forms. The speaker set some examples, like the

case of Santa Lucía in Gran Canaria, where they have been working in this way for four terms, or like the case of Villa Salvador in Peru, where this methodology is also in operation.

To finish his speech, lecturer Rodríguez Villasante presented the audience his last reflection: “in natural systems, based on what I’ve read (I come from the field of Physics, then moved to city planning, and now I’m on Social Sciences), the generalization evolutionary system, not that of linear evolution of some Darwinisms but that of punctual evolution, saltation evolution, in Lamarckian systems, which can be checked is that nature has a certain creativity which allows it to learn from small systems that can jump and extend to the whole ecosystem. This would mean that the social sciences can do something similar, that is, if we are able to experience goodness, efficacy and efficiency, from a social or public point of view, of some of these politic-economical, social or cultural mechanisms in small but increasingly relative bigger communities. Will it be possible to generalize this to the state system and the global system? This is our bid, emerging self-regulatory systems. I think that the market has many failures, but it also has some advantages from which we should learn. At a given moment and for some specific cases, it is useful for self-regulating the interests of capital accumulation, but this is self-regulation. In progressive alternative systems there are not such efficient self-regulatory systems. And the key scientific challenge, the university challenge that we want to build is: which are the self-regulatory systems emerging from the citizens that do not imply buying a product but proposing initiatives which can be taken into account and end up being public decision making which show the efficient benefits for the whole community, country and, hopefully, the whole world?

VIII. WORKSHOPS

WORKSHOP 1. TERRITORIAL INTELLIGENCE APPROACHES

“Technology Transfer between Research Units and Enterprises. An approach to a model in the impact on territorial strategic targets”

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Abstract: The purpose of this paper is to present significant advances on a research project under development by the authors. The project, analyses the bases for a model that evaluates technology transfer between research units and companies; it does it, by trimming the impact on strategic targets, investigation units, companies and the region itself in which they are immersed by analyzing the impact in terms of their development and consequential benefits for the society.

It is tried to diffuse the preliminary design of a model, the research method and tools that facilitate the multidimensional approaches that are able to involve actors who are of very different nature (partnerships) and that allow generating and managing knowledge in a participative way. This would encourage an improvement in the dialogue between science and society, defining specific research activities and as a final step, taking actions without losing in mind, the goal of favouring and encouraging the ownership of this knowledge by the territorial actors and the people who eventually will contribute to the improvement of the territorial governance.

This model underlines the scientific world and territorial complementary action, the participative research-action activity could be defined as a kind of research behaviour in which researchers and territorial actors are involved in pursue of a double objective: first of all, a scientific one which would be represented by improving the knowledge on a concrete aspect of the territorial structure and/or dynamics; and a second one, that would embrace the acting and resolution of concrete problems of a definite region or territory.

1. INTRODUCTION

This paper contains an insight into the development of a model whose objective is managing technology transfer within a region. In order to do so, it trims out the impact over territorial strategic targets, like those from scientific systems (organizations and technological units), productive systems (enterprises) and the territory in which they are immersed while it analyzing its impact in terms of the development and benefit caused in society.

First of all, as a departure point, there are three conclusions and reflections to have in mind (Dalmau, Perez and Baixauli, 2005) that come from previous researches on regional intellectual capital:

- Competitiveness continues to be considered as a vital factor in the development model.
- In the actual competitive context scope; creating value, obtaining and maintaining competitive advantages is due to a combination of the following: significant productivity increments (lowering the costs but maintaining high quality standards), innovative production (including the creation of new processes, new products and new businesses) and flexibility (adjusting production needs to satisfy changes in the market consistent with user's demand).
- The last aim of the management of intangibles and intellectual capitals of a territorial, company or organization, ought to be a significant development represented by the growth and improvement of enterprises and an overall life quality increment reflected in its employees and society in general.

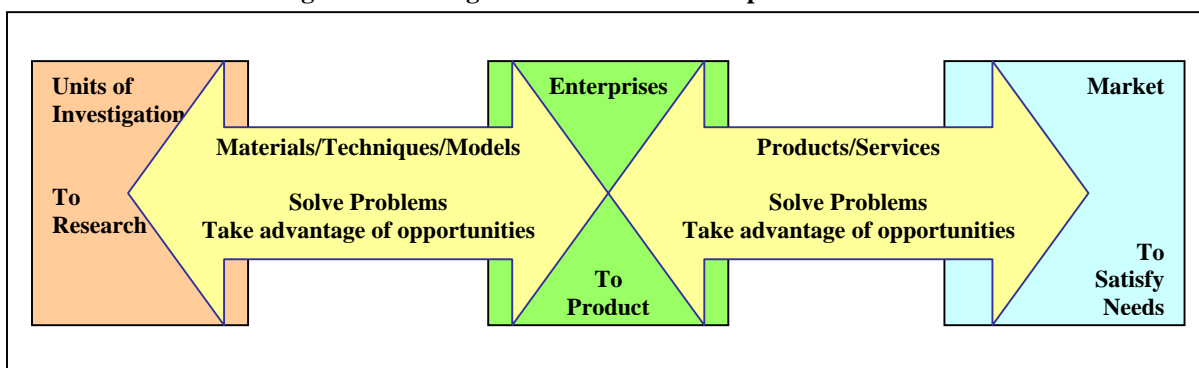
2. TECHNOLOGY TRANSFER AND RELATIONS BETWEEN RESEARCH UNITS AND ENTERPRISES

- Technology Transfer exemplifies an intentional interaction that is oriented towards specific objectives between two or more social organizations; it establishes a process in which know how, remains stable or increases as a result of technology transfer of one or more components (Autio & Laamanen, 1995).
- Technology Transfer is one of the main routes to unveil the key ingredients for innovation (Love & Roper, 2001).
- Organizations carry out all kind of innovations as an answer to changes in their external and internal surroundings or with the objective of modifying these surroundings. This is done in such way that, organizational context performs and influence in a different manner an equally diverse number of organizations (Damanpour, 1991). This happens also with Technology Transfer describing an analogous behaviour.
- Technology transfer calls for special context and condition requirements.
- Technology transfer taking place between investigation units and enterprises is little inasmuch as the relations are not happening with the necessary frequency and the

intensity and; provided they do happen, for the most part, they are developed by means of a linear interaction in their struggle for finding a better way to satisfy necessities within the market.

For instance, Figure 1 show us the schematic relations that highlight research as the essence of knowledge among all investigation and production related units; afterwards as the essence of doing in the enterprises; these, in their intention for featuring their products and services over the more competitive markets, often interact with investigation units to obtain materials and/or techniques; therefore, solving problems and improving productivity, and lastly, to obtain materials and/or novel techniques in order to take advantage of opportunities.

Figure 1: Investigation's Units and Enterprises relations.



Source: Authors.

3. THE GUIES SYSTEM: GOVERNMENT - UNITS OF INVESTIGATION - ENTERPRISES - SOCIETY

Government's I+D investment is compared to the increase in productivity. Not only Spanish's economy productivity, but the average of the European Union has been descending throughout the last three decades. The Forum "The problem of the low productivity of Spain's economy, its Causes and remedies", gathered experts in Barcelona to analyze the stagnation of productivity and pointed out as a result; the lack of effectiveness compared to the high cost of investigation and development (I+D), and the aid system as one of the explanations to the problem (www.elperiodico.com, December 12 of 2006).

Those results were ratified by Rostrup-Nielsen (2005) in the European Commission Report by stating that, although well consolidated industrial sectors may show a healthy correlation between the investment in I+D and the growth (Bassanini et al., 2000; DTI, 2002) it is difficult however to demonstrate a similar correlation at a regional or national scale (COM, 2002). There is an arguable scenario to be discussed if the growth is the dependent variable (Solow, 2000). It is possible that this idea, is too much subsidiary of a linear model of innovation in which, knowledge is created and spread independently of its application to commercial products (Rostrup-Nielsen, 2005).

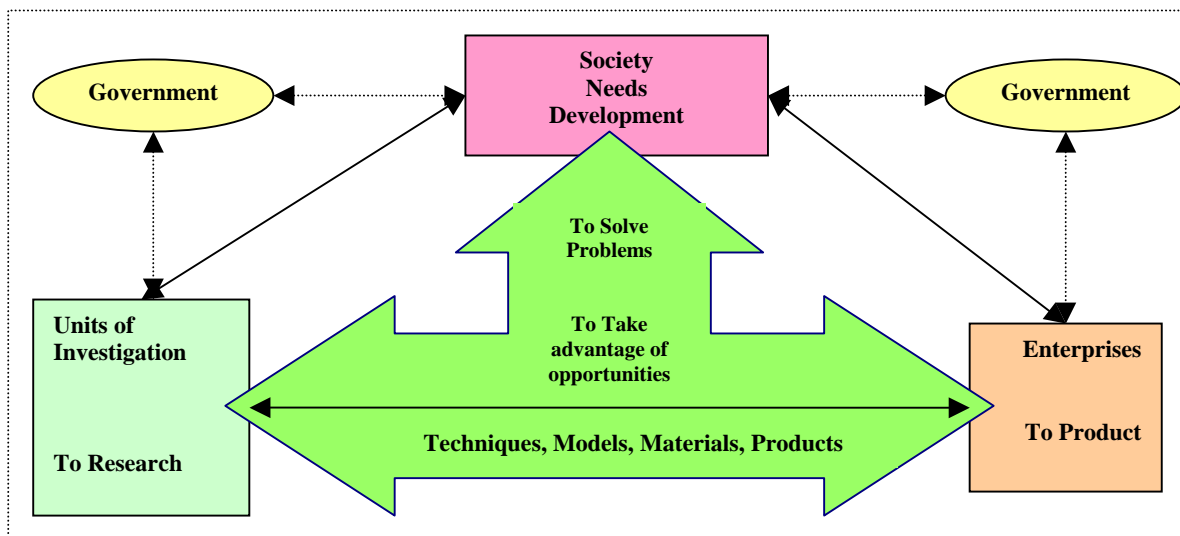
3.1. Elements that make up the GUIES System

To guarantee an improvement in the efficiency and effectiveness of I+D investments, frequency and intensity of relationships among units of investigation and enterprises would need to be permanent, dynamic and systematic. This behaviour can be achieved by conforming a system that besides satisfying marketing needs; contributes as well to the wellbeing and development of society.

Figure 2 shows a scheme of this system that underlines that, although it is well known that the research taking place at the various units of investigation and the production in the enterprises is responsible for satisfying the marketing needs, however, by all means, they must above all consider their impact in the development of society; as consequence, society is responsible for bringing up to these investigation units and enterprises its concrete needs for a healthier development.

A systemic type interaction should exist between society, enterprises and units of investigation, and consequently, in conjunction with development, production and investigation.

Figure 2: GUIES System: elements and relations.



Source: Authors.

Therefore, investigation (knowledge) must be oriented towards supporting goods production (by the making of) products and services that strike society's development in a positive manner. In this system, several functions would emerge as incumbent to the government, among them: cause (make happen), foment, and finance effective relationships involving society, enterprises and investigation's units.

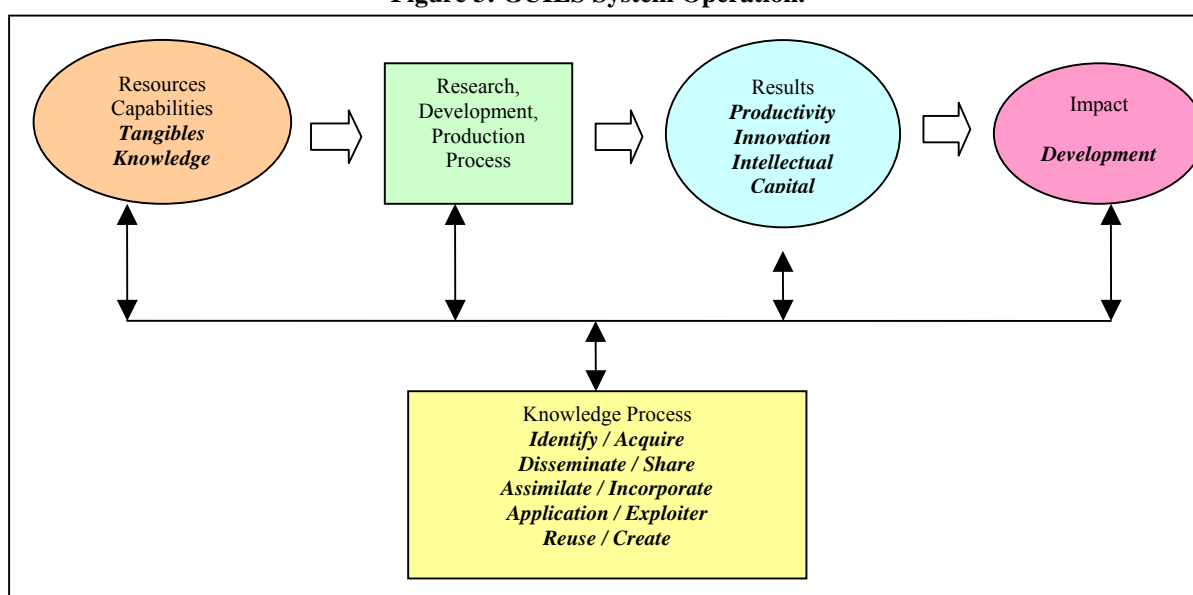
Finally, interaction flanked by units and enterprises must look for a way to solve problems that consequently may lead to an increase of existing processes and products productivity. What's more, they should incorporate new and different processes and products as a result of the planning and cooperative execution of projects, contributing to the design and

development of techniques, models, materials and products that may provide up to date answers to necessities in the market or that otherwise, will allow for potential opportunities delivering a crystal-clear growth in society.

3.2. The GUIES System Operation

In Figure 3, GUIES System is explained in the form of a traditional production system scheme that embodies access entrances, processes, exits and their respective feedback. In this particular case, a significant fraction of the entries corresponds to the system competence displayed at any given moment. For this, knowledge, skills, personal (singular) faculties (from people involved in research units); enterprises, government and society related abilities in general are taken into account. At this point, any predictions and anticipated knowledge that ones may have regarding the results and impact of the GUIES system occupy a crucial role. Based on prior mentioned faculties, resources are processed with integrity through different investigation, development and production stages in an effort to achieve pre estimated results; with the ultimate purpose of adding value represented in productivity profits, innovation and intellectual capital; results whose last goal is to convey a positive influence on institutions, regions and an the overall development of society. System's feedback is essentially conformed by pointing knowledge management in line with the purpose of increasing system's value all the way through; furthermore, processes related with the identification and acquisition of specific knowledge, spreading and sharing knowledge are carried out; all this addressed to apply all strategies properly, and lastly, the most important, taking a step headed for the creation of new knowledge. Summarizing, we are talking about a system (System I) which embraces the following components: I (Investigation) + D (Development) + i (Innovation) + I (Impact), having as the ultimate objective the representation of the impact caused by innovation.

Figure 3: GUIES System Operation.

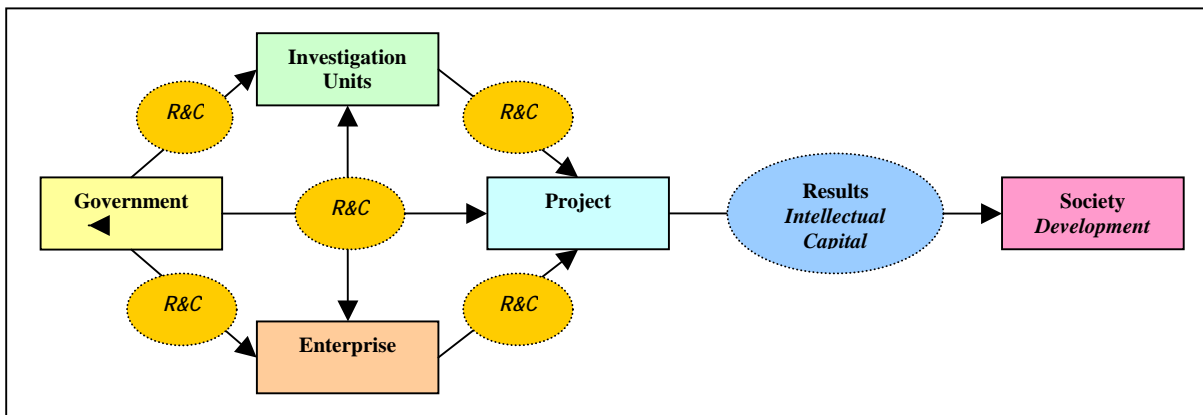


Source: Adapted from (Perez, 2001; Bueno, 2003; Dalmau, Perez and Baixauli, 2005).

3.3. GUIES System Intellectual Capital

In Figure 4, we are looking at the intellectual capital balanced as represented by the GUIES System. Thru the system; government, technological scientific systems, and the productive system contribute to each one of the projects with resources and capacities (R&C); as a result, obtaining significant increments over the intellectual capital of each one of the contributors and the region itself, causing a development in society, in addition to a parallel development for each one of the subsystems that integrate the GUIES System.

Figure 4: GUIES System Intellectual Capital.



Source: Authors.

3.4. GUIES System Management

In Table 1, all elements necessary in order to make up the integral control panel that makes possible the planning and management of the GUIES System are related. The vision and strategic targets related with a particular region along with each one of its subsystems constitute the actual departure point. Generally speaking, this foundation stone is represented by means of productivity measurements, innovation in addition to the creation of new organizations. Based on this, expected results should be identified, moreover in conformity with all source of related components to the intellectual capital, like: (human, organizational, relational and technological) aspects; and at last, all key activities that should be developed in conjunction with the identification of the required resources and faculties that would make a project possible and, after all, the actual assembly of projects, planning and programs to be done.

Table 1: Integral control panel for the Planning and Management GUIES System.

VISION STRATEGIC AIMS	INTELLECTUAL CAPITAL	TARGET RESULTS	ACTIVITIES TO DEVELOP	NEED (R&D) RESOURCES CAPABILITIES	PLANS PROGRAMS PROJECTS
Productivity Innovation New Enterprises	<i>Human Capital</i>				
Productivity Innovation New Enterprises	<i>Organizational Capital</i>				
Productivity Innovation New Enterprises	<i>Relational Capital</i>				
Productivity Innovation New Enterprises	<i>Technological Capital</i>				

CONCLUSIONS

In conclusion, we have attempt to show in brief, the principles for a model based on the conformation of the GUIES System Government - Units of Investigation - Enterprises - Society, together with certain management tools that smooth the process of analysis, policies formulation and its consequential implementation by private and public actors with the final purpose of facilitating a social transformation. As a result, the GUIES System makes possible the management of R+D+i+I (Specific Research and Development with the goal of seeking innovation that as a result, causes an Impact in the society as well as in its social and economic development). This paper constitutes a brief theory that looks forward to be discussed and enriched through academic and expert pairs insight, priceless feedback that will allow us to develop better and more appropriate models for Iberoamerica. The corresponding results of this investigation will serve to put together other projects with a better fit, whose results will contribute designing a strategy for the acquisition and improvement of enterprise's competitive capacities, scientific and technological capacities, and the social and economic development of a region. Projects will be held specifically in the Comunidad Valenciana, Spain and in the Pacific Region of Colombia.

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“Application of Territorial Intelligence focused on the Cultural Heritage and of the reaffirmation of Territorial Entities:”pays” in France. The case of Couserans (Ariège-Pyrenees)”

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Abstract: Within the framework of a total Territorial Intelligence approach focused on the territorial identity called "pays", we studied the limits and the ambiguities of this notion. The belonging feeling to a specific area ("pays") has stirring effects for regional institutions, that's why it is necessary to develop a identity feeling around this notion, feeling which is deeply linked to the heritage and the culture. We found, through an investigation realised on the «pays de Couserans», that if a very strong local identity linked to a common history and heritage does exist, the notion of "pays" is quite unknown and its action field and attributions are not really understood. The entity "pays", a concept all in nuances that is necessary to handle with precaution, because it also can carry exclusion. But because it is also anchored since unmemorable times in our collective memory, the "pays" can carry a lot of meanings. Territorial unity "pays" seems to be a relevant vector in the installation of projects of sustainable development within the framework of concerted and participative processes of Territorial Intelligence.

INTRODUCTION

Within the framework of the new team research S3IS (Sciences and Engineering of Strategic Information and Intelligence), from University of Paris-Est (Marne-la-Vallée), and of a cooperation in the course of formalization with the "syndicat de pays", we are setting up a total Territorial Intelligence approach focused on territorial entity called "pays". These quite new territorial entity is born with the two laws of planning territory (called Loi Pasqua and Loi Voynet) in 1995 and 1999.

We plan to study the "pays" in a "global" and constructivist approach (Mucchielli, 2005) of Territorial Intelligence and analysis of the complexity (Morin and Le Moigne, 2007) in an interdisciplinary prospect centred on the sciences of the information and the communication. This study is based on the contextualisation, the interactions and the representations of the actors through a participative research. It is also developed according to the rules recommended for the development of a Catalyse's observatory, which means "associating the actors and the community of a territory with the mutualisation of information and their cooperative exploitation"(Girardot 2005). The local level appears as the scale of effective action to approach the problems connected to the sustainable development. It is at this level that it is possible to implement global, intersector-based and participative solutions (IRFA, on 2006). It is through a research participative action which we intend to study the "pays de Couserans". To do it we decided setting up a study of diagnosis and evaluation with the local population: inhabitants, representative actors of the culture and the heritage, the politics, the economic and industrial actors.

This communication is the first stage in the construction of a complete study of the "pays de Couserans". As we suggest acting on the scale of the "pays", we shall present first of all in this communication the specific context of the assertion or rather the reaffirmation of "countries". Indeed, much more than a new creation, it is about the reaffirmation of often very ancient identical areas. We can speak about revenge of the history, about the local identity and about the collective memory on the egalitarian administrative apportionments of 1790 (Communes and departments). More than 10 years after the law of February 4th, 1995 of orientation for the arrangement and the development of the territory, how is perceived this "country" which can be understood as a frame geographically and historically confined, when at the same moment economic, social, cultural, political and symbolic relations are gathered?

These studies will be made through one meadow investigates where we shall estimate the anchoring of the notion of "pays". Prelude to a more deepened inquiry this stage will allow us to prepare questionnaires, interview forms, and the specific methods of work for the time of our study in the observed territory.

THE TERRITORIAL SCALE "PAYS"

A process of Territorial Intelligence

We will present in this communication the specific context of the assertion of the "pays".

This study is based on the contextualisation, the interactions and the representations of the actors through a participative research. It is also developed according to the rules

recommended for the development of a Catalyse's observatory, which is means "associating the actors and the community of a territory with the mutualisation of information and their cooperative exploitation"(Girardot 2005).

"Pays": new territorial scale, a space of proximity

Within the framework of a territorial action development, the local level seems the effective scale of action to tackle the problems related to the sustainable development. It is on this level that it is possible to set up intersector and participative total solutions [IRFA, 2006]. However, the local level covers several territorial scales: the "region", the "department", the "canton", the "commune", the "community of communes"...

In the current recombining of the territorial organizations, the "pays" is making its come back. (Fénié, 2000). Its success is coming from several factors. At first, the "pays" is an opened structure, which gathers true actors. Then it is based mostly on a spatial entity that is not artificial; product of the history and the geography, it presents a space to human scale. Indeed it is about the reaffirmation of often very ancient identical areas. Much more than a new creation we can speak about revenge of the history, about the local identity and about the collective memory on the egalitarian administrative apportionments of 1790 (Communes and departments). The term "pays", coming from the Latin *pagus* "rural countries", is originally a small territorial unit which we can easily cross by foot in one day, we live there, we know there, we make business, it is most of the time the same landscape corresponding to a relatively homogeneous natural environment. Those small countries that split the territory in the time of harnesses were so much reduced unities born from the relief, the relations and the common customs. (Fénié, 2000).

The laws relative to the creation of "pays"

The law of February 4th, 1995 of orientation for the arrangement and the development of the territory, called "loi Pasqua" put the first milestones for the creation and the re-creation of the notion of "pays". The law of June 25th, 1999 of orientation for the arrangement and the sustainable development of the territory (Loi d'Orientation pour l'Aménagement et le Développement Durable duT: LOADDT), called "loi Voynet", constituted a second determining stage in the organization of the territories of projects.

This law makes of the country a real territory of projects, based on a local will. It also aims at establishing solidarity between rural spaces and urban spaces. Finally the law of July 2nd, 2003 "town planning and environment" (*urbanisme et habitat*) operates a sort of synthesis between the "loi Pasqua" and the "loi Voynet". The "pays" is defining as a presenting territory "a geographical, cultural, economic or social cohesion, in a basin of life or work", double reference that gives big latitude to the local elected representatives. The notion of charter introduced by the "loi Voynet" is kept, as well as the obligation to create a council of development.

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More than 10 years after the LOADT, France is now widely organized in countries ("pays"): on January 1st, 2007, 41% of the French people live in one of 334 recognized countries and 73% of the metropolitan surface is concerned. The regional distribution of countries is rather heterogeneous: three regions are totally covered with country ("pays") or almost (Bretagne, Basse-Normandie and Limousin), in seven other regions the part of the population living in a country ("pays") exceeds 70% of the regional total; on the contrary, the Ile-de-France counts no country ("pays") and Corsica only one⁵.

According to the DIACT⁶ the "pays" possesses four main characteristics:

- The "pays" has to result from the base, has to appear from a feeling of membership. He answers this way, in the ascending logic.
- He has to, if necessary, express a solidarity between city and rural space, it is thus here the idea of a coherent and opened up territory which is proposed.
- The territory must be structuring on projects in the future and not on its capacity to get subventions. In the elaboration of these projects the elected representatives are invited but also the civil society, the "pays" is a space of projects. It really improves the local development, an endogenous logic and implies a refusal of the state assistance, a pooling of resources as material as immaterial.
- Finally, the "pays" has to be a reference space for the organization of public utilities, by realizing local aspiration. It is thus the logic of services that prevails.

The "pays" is thus indeed a territorial entity completely suited to the development of local actions. Based on the feeling of membership of nearness and solidarity, the "pays" seems to be a coherent, accessible and legible entity at every level. Nevertheless, more than 10 years after the law of February 4th, 1995 how is this entity perceived? It is one of the questions that we trying to answer in this publication.

Ambiguity of the notion

The term of "pays", if it is not new, indicates very heterogeneous entities. It is collectively used to name a small territory, on the scale of a canton or inter-communality, by referring mostly in the name of the main commune: the "pays" in that case is synonymic of geographical nearness.

It can also indicate vaster and more identical territories, marked by a common history and a culture (le pays Basque, le pays Bigouden, le pays d'Auge...). The "pays" can be thus

⁵ At January 1, 2007. "L'état des lieux des pays", published on line by "Entreprises Territoires et Développement".

⁶ "Délégation Interministérielle à l'Aménagement et à la Compétitivité des Territoires" ex DATAR.

collected as a frame geographically and historically confined, where at the same moment economic, social, cultural, political and symbolic relations are combined

However we saw that the "pays" is originally a small territorial unit and it's from this relatively reduced initial dimension corresponding to the lived space of the exchanges and the usual relations, which is born the second meaning of the word "pays". It's the ground to which one is attached, by the feelings, the one of the ancestors, the fathers (German vaterland, English fatherland). (Fénié, 2000). It's "la patrie"(Fatherland), "le pays" where each one have its "payse"("the women how come from the same "pays""). From "la patrie" to the nation, there is only one-step that was crossed at the end of the XVIIIth century⁷, the "pays" merging at this moment with the "Etat"(state) term.

In the plural countries substituted themselves at this moment there the nation corresponding to the power of a State, the current national countries. The terms of "country", "nation" and "State" become then almost synonymic.

The concept of the "pays" consequently becomes something more wide but also vaguer. Since we speak about "European countries " which gather several countries or States, but also of " Basque countries " who joins together several territorial units: there is a Basque nation living on both sides of Bidassoa, united by a common culture and for about 60% of the population, by the same language. There is a French Basque country ("pays"), and a Spanish Basque country ("pays") (Euskadi), become autonomous community in 1978, the militant Basque dream about one " big Euskadi " reunited going to Adour.

Moreover the "pays" term can have a general direction even vaguer with names like "*les pays du soleil*", "*le pays of the rugby*" or also "*du cassoulet*". The "pays" term; became more confused, used by professionals of the communication, in the great distribution in particular, it became support of promotion for products "authentic" "*terroir*" evoking a fuzzy and malleable reality used according to needs.

THE POWER OF "PAYS"

Gathered around the "pays"

We thus propose to analyze the territorial unity "pays" in a process of Territorial Intelligence. However, to be able to act on this local level, the populations should be gathered around an unifying concept, and this concept would seem to be territorial identity. Indeed, "the feeling of proximity", "to be proud" of its area, has a positive influence on the assets that people recognize with its region". (Dupoirier, 1998). Mobilizing effects in favour of the regional institutions and their policies are produced by the fact of feeling be a part of this area. Correlatively, this feeling of membership is today in the heart of the process of territorial development and developing the feeling of membership becomes a leitmotiv for the territorial communities ". (Gwiazdzinski, 1997). The majority of research on local identity show "to be defined compared to a place is especially to refer [...] to a

⁷ The battle of Valmy (September 1792) where were federated the participants resulting from various provinces around a new concept: the fatherland (*la patrie*) in the broad sense. The volunteers came from all over France to be fought cry of "*vive la Nation!*".

cultural heritage" (Chevallier, Morel, 2007) In the concept of "pays", the concept of culture is essential "it is not the economy or the policy which is more important but the feeling of cultural belonging". (Dupoirier, 1998).

The culture and the heritage take part in the development of local identity (Lacour, 2007), their roles, founded on values belonging to the territorial community, are used to consolidate the collective identity and are in coherence with the economic, human and environmental development of the territory. It is thus necessary to determine indicators for the "pays", to refer above all to a concept of cultural identity.

A strong identity, but an unknown "pays"

This ambiguity which lies in the term, led us to wonder if, in spite of a territorial identity strong and anchored well in the population, the concept of "pays" as understood by the LOADT, was known? That's the reason why we kept two main assumptions for this pre-investigation: 1. there is an identity feeling extremely strong, and 2. the concept of "pays" is little known.

FIELD OF THE STUDY: WHY THE COUSERANS?

The scope of study

Geography

This approach centred on the countries is particularly well adapted to the "pays of Couserans", the current district of Saint-Girons (Ariège). Couserans corresponds to the basin of Salat (affluent of the Garonne) i.e. to the convergence of 18 valleys out of two poles close, distant of 2 km: Saint-Lizier (capital of the Gallo-Roman city) and Saint-Girons (economic center). This country of 27 980 inhabitants gathers 95 communes for a surface of 1 639 km².⁸

We chose Couserans for several reasons:

- here more than anywhere else the "pays" is not founded on a recent and artificial entity but was founded on the limits d'un "pays ancien", a Gallo-Roman ancient "pagus" become Carolingian county then ecclesiastical diocese until 1790.
- its history and its geographical characteristic allow to explore the specific problems for the concept of "pays" in a specific environment. (A rural environment but converging on an urban pole: Saint-laps/Saint-Lizier.)
- with its 18 valleys which are as much of "micro pays", it seemed to us interesting to wonder on the daily living reality of the "pays of Couserans".
- it is the region of origin of one of both authors, who has already worked on the formation of the border in central Pyrenees and has contacts with the main actors of this territory.

⁸ Density: 17 habitants/km² - City the most populated: Saint-Girons (6 254 inhabitants)

History

At the end of XIXth century, Couserans was an overpopulated country on which the small agricultural plots of land did not allow the families to live, that is why the inhabitants had to show a lot of imagination to find activities to survive. And so some became bear leader, peddlers of vanilla, stone scythe, mirror, others were made itinerant "home distillers".

Having lost the major part of his inhabitants⁹, notably with the drift from the land, Couserans benefits now for some years of a slightly positive migratory balance. Major opportunities of development of the "pays" live on one hand in the wealth of its natural and cultural heritages and on the other hand in the potential of job creation of the local economy. However, the peculiarities of the relief infer a subdivision of the territory. These natural difficulties handicap and slow down the exchanges, and create strong heterogeneousness in the possibilities of access to the services and to the activities.

The "pays de couserans"

Territorial entity "Pays de Couserans" was recognized in 2002, the contract of "pays" signed in 2004 indicated a council of development, the "Syndicat mixte du Pays de Couserans". Its characteristic is to be structured as an association 1901 (there are only nine of this type) with a committee of development (CDPC). It includes 77 members distributed in six thematic schools: socio cultural dynamics, tourist economy, natural resources and spaces, sport dynamics, services and solidarity, and general economy. Benefiting from a consequent budget, it benefits of a big freedom. In 2006, the CDPC participated in more than 100 meetings; it is present in the committees of piloting of the "pays", in the steering committee of the Fair Exhibition, within the PNR and in departmental and regional economic and social "councils".

To present completely Couserans it is necessary to note the existence of "microcountries" in the perimeter of the "pays de Couserans" it is about 8 associations of local authorities. Finally, we can also notice that four communes do not belong to any association of local authorities: Aigues-Juntes, Montardit, Montesquieu-Avantes, Lacourt.

Couserans is thus a "pays" which includes strong senses of identity and very localized identical developments. An essentially rural space, which is going to allow us to develop a reflection on the notion of "pays". Finally the third axis of the charter of development of the PNR¹⁰ insists on the fact that is necessary to: "Improve the cohesion of the territory around an affirmed identity by developing the factors of identity of the "pays". If the stakes of the "pays" are so outlined around the assertion and the federation of a strong cultural identity, our thought about the notions of identity and the knowledge of the "pays" seems

⁹ The population of the Ariège was almost divided by two in century, certain communes of Couserans lost, over the same period (on approximately 1870-1970), until 80% to a 90% of their inhabitants. The process continued in the 70s. In spite of an important mortality due to an old population, the departmental demography stabilizes, to see increase slightly, since about twenty years, due to "neo-countrymen's" arrival and return of retired people (Chandivert, 2005).

¹⁰ Project of regional Natural reserve Ariège the Pyrenees Central - Schedule of conditions "Agenda 21 of the project of Regional Natural reserve d'Ariège the Central Pyrenees". March 2005.

essential and must be handled at first. So we are going to become attached in this second part to the way to study the "pays de Couserans". How is it perceived by its inhabitants, whom represents the notion of "pays", which are its real or supposed powers? Is it perceived as a real and well-defined appropriate entity? Is it perceived well? Is the notion of "pays" a reality? Thus, our reflection on the identity notions and the knowledge of the "pays" seems essential and must be treated in very first place.

METHODOLOGY OF THE INVESTIGATION

We thus decided to proceed to a pre-investigation, which will allow us:

- to prepare questions for a vaster investigation bearing into the "pays of Couserans".
- to determine indicators which return to objective or subjective memberships to the "pays".
- to observe the knowledge of the entity "pays".

FRAMES

Geographical frame

Regarding the geographical space of the "pays" we shall become attached to the limits defined in 2002 during the creation of the "pays de Couserans".

Contractual frame

The interview took place according to a pre-established plan:

- Presentation of the inquiry (directs, clear but brief)
- Interview proposed at once
- Negotiation of the conditions of the interview if it is not possible at the time of the call (the hour, the place)

Context of the interview

- The interview took place by telephone, in the workplace or at the person.
- The interview was around 10 minutes long.

PREPARATION AND DATA PROCESSING

As a pre-inquiry we used a preparation and simplified data processing. First of all, we identified the variables: qualitative, quantitative, nominal.... Once identified, each variable of the investigation has been subject to codification. Then we postponed the information on the investigation in a summary document (data table), which was seized on an Excel spreadsheet. Concerning the processing of data we conducted essentially a flat sorting however some of our analysis are sort of crossover.

RESULTS ANALYSIS

This pre-inquiry is an introduction in the constitution of a more detailed inquiry. We wanted to release the main subjects connected to the identity of Couserans, the knowledge or the misunderstanding of the notion of "pays" and its various attributions, and the axes in which the persons think that it has an impact. This pre-inquiry also allows us to determine closed questions with pre established questions. We carried out this pre-investigation between September and October 2007. The results allowed us to check our assumption and to bring them nuances.

PERCEPTION AND KNOWLEDGE OF THE COUSERANS

Question: what means for you the word "pays"?:

50% of people asked answered us that it was "there where we had been born". 30% answered us France. These answers indicate us that it will be necessary to present differently this question to be really able to determine if there is indeed confusion of the terms. Indeed, the only answer there where we were born is not enough to clarify this confusion of the terms that we anticipated. Even if happened several times (30% of time) that the persons feel the need to clarify "Couserans". This question will thus have to be accompanied with a sub-question which will ask to clarify what the persons really understand by the word "pays" when they answer "there where we were born".

Question: of which territorial structure feel the closest (the one who determines your identity):

30% answered the Ariège, 20% Couserans and 20% the commune. It thus seems that people asked feel a rather strong identity towards the region, on the other hand the answers "Couserans" and "my commune" arrives equally with 20% what would tend to indicate that these two territorial unities represent a real support of identity. Nobody quoted the "pays de Couserans".

For our future inquiry, those answers are going to allow us to refine these questions by asking questions closed by the type "do you feel closer to the region, to the Commune, to the "pays de Couserans?"

Question: what evokes for you the term "Couserans"?:

This question allowed us to notice that the answers while being rather diverse finish anyway to make appear main lines. For 20% of people asked it is "my pays", for 20% it is "there where I live", for 20% it is the "mountain" and for 20% it is "my roots". It seems that the term "Couserans" evokes an identical strong feeling concerning essentially roots and territory of origin. On the other hand, it is to note that for 20% of people asked, Couserans gets closer to a natural space: the mountain.

It will thus be necessary to propose closed questions for a more precise meaning of the word Couserans: the place where we were born for example, but we also need an opened question, because there also we can note that the notion of Couserans is not inevitably likened to a territory of birth or life but to an environment.

Question: what mean for you the terms "pays de Couserans"?:

When we arrive at this question, we realize that if there was no difficulty answering the previous question, this one raises problem. More than 20% of people asked answered us that they did not know what that meant. We had then, representing approximately 20%, answers like "a little known structure", "very difficult to realize" or "no major realizations". Those persons likened at once the term "pays de Couserans" to this recent territorial entity. What is interesting, it is that it is at once negative or depreciating qualifiers that were associated with it.

In this question, we see although, on one hand there is misunderstanding of the term which generates no opinion, and on the other hand when the term is known it is associated at once with reducing or negative terms.

THE IDENTITY

Question: According to you, what constitutes the identity of Couserans?: A geographical frame, a common history, traditions, a cultural identity, an economic identity, the ground of my ancestors, an opposition to the other structures, a zone of refusal

Among the answers to these six propositions, we found very strong tendencies for the most part of them.

Regarding to the identity feeling, nearly 90% of the questioned people answered us that according to them, Couserans was a geographical space of tradition and cultural identity. Only 40% of them assimilated it to an economic identity. That seems due to the reduction of the basins of work and the fact that nearly 40% of the questioned people had to leave the area to find a work. We heard often the comment: "I fortunately find a work in the region".

We had also asked if Couserans "is an opposition to other structures" (suggested by C Bourret born in Couserans, who always believed to feel this concept like a strong element of this territory). Indeed, it comes out from this pre-investigation that 80% of the questioned people identify without hesitating Couserans as a zone of refusal.

All made a point of specifying what this feeling represented for them, and to 80% they quoted an opposition to Foix (The prefecture and the siege of the General Council), sometimes with many arguments related on the subsidies, the services and the economic policies. A person clarified us "an opposition to Foix it is certain but not in Paris nor even in the Ariège which is anyway an artificial creation" Others quoted the Ariège. Moreover a person who sells local products clarified us that if he was sometimes obliged to clarify Couserans in the Ariège it was only to replace Couserans geographically, because for him he is "selling products of Couserans" before anything else, in opposition with products of the region Midi-Pyrénées or of the department. Nobody quoted Paris or France. Among the persons who answered "no", a person clarified us that it was "a distinction instead of an opposition".

This notion of refusal seems very important for *Couserannais* and it will be necessary to create it under the same shape in the wider questionnaire by asking to clarify to what it opposes according to them. Also, it will be interesting to verify if this notion exists in the

other territorial unities "Pays" in France and if we find this particular notion at the other territorial levels.

THE "PAYS DE COUSERANS"

Question: There is since April, 2002 a "pays de Couserans" steered by a council of Development of the "pays de Couserans" which is a non-profit organization. Did you know it? Do you know its action?

This question allowed us to verify one of the hypotheses that we had formulated in introduction.

Concept of "pays" is known by 60% of the questioned people. What seems less clear, it is the attributions and the action fields of this "pays". Indeed the very large majority of the people which knew the structure, told us that they didn't not know its actions (70%).

Question: its action is according to you first: a dynamics socio cultural? A tourist economy? A management of natural resources and spaces? A sports dynamics? A management of the services and the solidarities? A management of general economy?

Comment: to elaborate this series of questions we took back the thematic questions of the council of Development of the "pays de Couserans".

It is this question which allowed us to know in which domains people asked thought that this structure had an action. The answers which were given to us show well that its supposed or real actions are not the same for everybody.

When one asks in which field "le pays" has a priority action, 40% of the questioned people think that it has an action in socio cultural or tourist dynamics. Less than 30% of the questioned people think that it has an action on the natural stock management and spaces, in a sporting dynamics and the management of the services and solidarity and less than 20% answer that it has an action on the management of general economy.

Those answers show well that the concept of "pays" is understood above all in the cultural and tourist field.

Question: according to you, do the "pays de Couserans" have a future?

To the persons who answered yes to the question "do you know this structure", we then asked if they thought that this structure has a future. 80% of those persons answered us yes. It will be necessary to refine this answer by asking then in which domains this structure would have according to them a future to be able to compare with the series of the question 9.

Question: is the level "pays de Couserans" useful?

To all the persons, whatever they answered yes or not to the fact of knowing the "pays", we asked then if this territorial level seemed useful for them. 90% of them answered us yes, the others "do not know".

That we know or not the structure, the scale of "pays" thus seems to be important. Is it because through this naming "pays" we find this first notion of country, this ancient country expensive to our roots, this "country/premises" versus the "country/state" there? It seems essential to leave such a question to be able to study this notion of "pays" and be able to estimate in which measure it is suggestive for the inhabitants of "countries".

CONCLUSION OF THE ANALYSIS

The results of this pre-inquiry allowed us to verify our hypotheses and to bring it nuances. If it indeed seems that Couserans possesses a strong identity, on the other hand the notion of "pays" seems to be known by 60% of people asked. What seems less clear it is the attributions and the missions of this "pays". The fact that more half of the people asked know the "pays de Couserans" reveals a certain paradox as we supposed it. Because if there is a strong identity around a "historic country" and geographical, a great majority of the persons quote the same historic episodes, the same symbols and the representations; the "pays de Couserans" which has nevertheless the same geographical space is little known. Known or not, the scale "pays" seems to be important. Is it because through this name "pays", we find this first concept of "pays", this old "sweet" country with all our roots, this "pays/local" versus le "pays/nation"?

The identical feeling seems to be strong it is thus possible to take up project which uses this feeling as anchor point. As we have just seen it, the identity is the culture, it is the reason for which it is necessary to work on the cultural and patrimonial factors, what joins well that we developed on the beginning of this article.

CONCLUSIONS

This pre-inquiry was realized as prelude in a wider study, which will allow us to analyze the essential elements necessary for the territorial diagnosis of "pays", to improve their axes of development, their respective strategies and problems relative to each of the territories to have a general view of the "pays".

Within the framework of a territorial proximity action development on the territorial scale of the "pays", we saw that it is necessary to develop an identity feeling around this concept. We also noticed that the fact of membership feeling, has mobilizing effects in favour of the regional institutions and their policies. We also discovered that the identity indicators related to the concept of "pays" are closely related on the heritage and the culture because in this concept "it is not the economy or the policy which comes precedes but the feeling cultural belonging" (Dupoirier, 1998).

The result of this pre-investigation allowed us to check our assumptions and then to bring nuances. If it seems indeed that Couserans has a strong identity, on the other hand, 60% of the questioned people know the concept of "pays". What seems less clear, are the attributions and the action fields of this "pays".

This case study in parallel enabled us to define belonging identity and cultural indicators, which will be a base to set up an observatory of the "pays" according to the method Catalyses and to determine the identity feeling of a territory. Finally, identification of these

indicators could be a support with creation of a cultural diagram of the "pays" based on the development of the heritage.

We can note in the territorial communication a movement that seeks to re-register or to register these territories at the same time in a last history and a collective project for the future. This step seems completely in adequacy with the scale of the "pays".

However, Guy Di Méo warns us against certain risks: "the territory makes emerge the social identity of the groups and that can be the best thing, but also carrying exclusions; behind its identity rampart, the territory can be also locked up in a closed vision whereas it must be integrated into multiple scales".

The entity "pays", a concept all in nuances that is necessary to handle with precaution, because is anchored since unmemorable times in our collective memory. Territorial unity "pays" seems to be a relevant vector in the installation of projects of sustainable development within the framework of concerted and participative processes of Territorial Intelligence.

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“Contribution of Socio-technical Systems Theory Concepts to a Framework of Territorial Intelligence”

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Abstract: Territorial intelligence approach to sustainable development is largely relying on two major paradigms of modern social sciences: social constructivism and systems theory as keys to manage complexity. But, whether in current definitions or practical applications, that is implicitly assessed by authors. The aim of this communication is to revisit some of the key concepts and principles of socio-technical systems theory to build up a consistent, explicit and practical framework of territorial intelligence achievements in order to contribute to a general theory of that new field of knowledge.

INTRODUCTION

The Caenti project brings together people from all Europe with their diversities and idiosyncrasies. The question of vocabulary thus can bring misunderstandings and, *at the same time*, richness and new insights. For example the word “intelligence” in Territorial Intelligence is largely polysemic and ambiguous. It may be taken with its Anglo-Saxon connotation of information and inquiry, or with its Latin connotation of ability to understand. We pose the ambiguity of communication within any European project as a source of richness that however needs to be managed appropriately in order to avoid misunderstanding. This is the European way to address complexity. Complexity is our world.

Thinking and dealing with complexity has been the goal of the epistemological endeavor conducted under the banner of General Systems Theory (Gst), from Wiener (1961), Von Bertalanffy (1968), Simon (1960) in the sixties to Von Foerster (1973), LeMoigne (1990) and Morin (1977, 1980) in Europe in the nineties. This methodological light can be seen in the work of Robert Escarpit (1976) on the general theory of information and communication, for whom “*Theorists of telecommunications have used mathematical tools that already exist, namely those the thermodynamic and statistical mechanics*”.

We aim at revisiting some of the General Systems Theory concepts to help structuring complexity in an emerging Territorial Intelligence theory. We will address among others the socio-technical systems, the notion of inquirer, systems openness, and entropy and deduce a discussion about learning and adaptability, emerging properties, game theory, hypertely and decision-making. A case study of urban development will prove how these concepts can be useful to understand and lead a territorial intelligence program.

THE SOCIO-TECHNICAL SYSTEMS APPROACH

The system as a representation

Most every one has an intuitive grasp of what a system is, since we encounter in common parlance expressions like “the nervous system”, “the metric system”, or “the monetary system”. The dictionary says it is “a group of units so combined as to form a whole and to operate in unison” (Webster). Clearly this applies to a territory. But try to ask several persons to define, say, the “social security system”. You will receive various answers to the point that you may embarrass your interlocutor. If you had asked the question about the solar system, you would probably have received similar answers from people at similar level of secondary education, while you would diverge when questioning peasants in far eastern countries. So, our immediate experience of systems approach indicates that a so-called “system” is not an object universally defined and accepted. It is rather a construct of everyone’s mind, under the influence of a cultural background and a social setting. It is the difference between mechanical systems and social systems. The manner in which “a given system is described depends upon the observer, his knowledge, and interest in the operation of the system, although for many systems there are some strata, i.e. features, which appear as natural or inherent” (Mesarovic et al., 1968, p33).

The role of the inquirer

The representation is assumed to have minimal commonality (e.g. rules of construct) between at least two minds so that communication between the latter can take place. Assessing rules for the representation of the “real” is the objective of Gst. Or to put it the other way around, Gst is a meta theory for abstract modeling the real world. Speaking of an object as a system is not an intrinsic property of the object. It is a method of observing it. Anything can be a system. “Systems everywhere”, says Bertalanffy (1968). Defining a system is a specific choice of someone we name “inquirer”, i.e. someone who is interested in doing so.

“Inquirer” is the single denomination for two characters: the observer and the designer. Establishing this distinction between two roles of the inquirer accounts for an intrinsic dissymmetry of human experience: the human mind either informs itself about the world or is creating something new in the world. We may formulate that in terms of information exchange as measured by *entropy*¹¹ as we will see below. When observing the system, the inquirer takes information from the system hence the systems entropy grows. When designing, the inquirer brings information and variety to the system under the shape of ordering and purposeful action; hence the system’s entropy decreases. All these processes are time-related.

Consequence for the Territorial Intelligence framework

A territory is a system that can only be defined with respect to the point of view of the inquirer, whether it is the observer or the designer. The inquirer is able to single out the system from its environment. Hence a territory possesses an inside, an outside, and a boundary. The properties of the boundary will be crucial to systems thinking (Dumas, 2006).

A further assumption is that the collective consciousness of change in the territory rejects the question of disorder, in other words, all forms of entropy. The concept of hypertely, borrowed from Gilbert Simondon, presents an interesting explanatory force to reflect the logical interfaces in building large urban systems, for example. Then the systemic properties of the emergence should enable us to explain the genesis of territorial forms in the context of multiple environments. Finally, we assess whether game theory is in a position to help us build a practical model of democratic formalization of political negotiation.

A PRELIMINARY LIST OF SOME RELEVANT SYSTEMS CONCEPTS

Systems openness and bounded rationality

Pure “rational thinking” is based on a complete, explicit knowledge of cause-effect relationship in a system, or between the system and its environment. This means that in rational thinking a system is conceived as a closed entity, within clearly defined boundaries. It is a self-contained set of cause-effect relationship such as a mechanical

¹¹ A measure of internal degradation of closed systems diversity towards an ultimate state of uniformity.

engine described by a set of equations. Such approach has proven fruitful when applied to hardware or even natural systems. On the contrary, socio-technical systems include a set of relationship that exceeds human reason. They cannot be observed and completely described by any human inquiry. Hence we will name "openness" that property. It is related with the notion of porous boundaries that accounts for interactions with the environment and the possibility for the system to regenerate itself.

When the limits of human minds are reached with regard to its ability to handle numerous variables and cause-effect relationships, the knowledge of the system must be recognized as incomplete. Systems thinking is based on this recognition that the human mind is unable to apprehend the real world in its totality. That is a "bounded rationality" in Simon (1960) terms.

Hence the human mind is compelled to conceive a representation of the real that is incomplete. This representation leaves something outside. It is an open system. The system (e.g. the territory) on which the human mind works is recognized as an artificial simplification of the real. To account for what has been left aside the system must be supposed related to the environment. It is conceived "open".

An open system is, in our representation of the real territory, the counterpart of our bounded rationality.

Systems borders between openness and closure

"The environment such as we perceive it, is our invention" (Von Föerster, 1973, p.74). "A growing body of new knowledge suggests that what we call reality is actually something we construct." The planetary ecological consciousness has to be related to cybernetics, born from the second world war and partly in reaction against it (Bougnoux, 1993).

Admittedly, we are immersed in varied environments that are either close, intermediary or distant. How we deal with them is one of the answers provided by territorial intelligence. Contrary to closed thinking approach, systems thinking recognizes that borders can be both *frontiers* in the sense that they make the world intelligible by reducing it into independent pieces, and *screens* inasmuch as they let interactions occur between all components. Screening the environment is a process of (territorial) intelligence.

Systems of territorial intelligence need to use traditional processes of transmission information and communication and information technologies through Intranet or Internet Web sites, documentation, geographical information systems - Gis -, the Community Systems of Territorial Information - Csit- and the analysis of data. The strategy of Caenti consists in promoting comparative research, with two precise operational objectives, in accordance with the set of themes *"To promote and support research, methodologies and the production of comparative data"*.

Design and diffusion of tools, methodologies and accessible protocols of research, on the one hand, with researchers in Social Sciences and, on the other hand, with actors of sustainable development of the territories is a concrete strategy and results are easily checkable.

Entropy

The concept of entropy originated with the principles of thermodynamics for which we propose here an extension.

Any physical system tends to evolve into a lesser state of organization: it is said that its entropy increases. A compressed gas tends spontaneously to a state where the pressure is lowest. To reduce it to its original state, we must compress, which commits expenditure of work. The entropy of an isolated system can only increase, while the usable energy of the system decreases. This degradation can only stop with a significant external.

The first law of thermodynamics denies the possibility of perpetual motion. The second principle goes further. The energy that each has can not be used entirely for the benefit of its author: there necessarily losses. All events in reality lead to a downgrading of energy. The overall entropy of the world as a single system can only increase. This implies that not only the individual can never win (the first principle), but that he lost a portion of his (second principle).

The second principle leads to the idea of death heat of the world. If any event increases universal entropy irreversibly degrading forms of energy preexisting (by making them less usable), it is tempting to see in each of real events, a step towards a final state where everything movement become impossible by the lack of usable energy.

To understand what entropy is and to translate this scientific concept about which we appreciate, it is necessary to analyze three dimensions of the entropy in connection with the notions of order, balance and information.

- The entropy increases with disorder. In general we can say that in the wild any system ordered in time tending to a maximum state of disorder. To recover the initial order, we must invest much effort. Take the example of a building. If the decision is made not to make the necessary repairs, the house will fall quickly into disrepair. Even if it is cared for, sooner or later it will collapse. This is the trend toward disorder. The aging and the death of biological organisms can also be understood in this manner, as deteriorating structures.
- Entropy increases with the balance. Unlike an a priori, the balance is not related to the order but disorder and thus the increasing Entropy (note the difference between disorder and imbalance). The disorder is to be avoided because it is a defect, deterioration. This is the imbalance which otherwise is a potential towards equilibrium. Anything in nature is in a state of imbalance creates a usable energy. The Earth has two poles of opposing polarity and this imbalance by allowing terrestrial magnetic fields to exist. A drop of water comes from an imbalance and can be used to create energy. The entropy is very low. By contrast, the ocean contains considerable energy in the form of heat. However, the latter being in balance, it is impossible to use it. The ocean has high entropy that makes it unusable. Man was able to control locally and on a limited time increasing entropy. The centrepiece of our churches uses the sum of local small entropies to create a point in high entropy and therefore stable. This system generates not only a balance, and therefore a high

entropy, but an order low entropy and scalable. This evolution is part of a report to the time when the balance is split. The vault will eventually collapse, through its minimum entropy, to immediately find a pile of stone is worth far more important.

- Entropy and information. In information theory, entropy is a measure of noise in a channel where we try to send a message. In other words, when we transmit the information via a canal, there was a noise. Entropy and information can be distinguished. In architecture, for example, building requires information. The latter are reflected in a manual or orally transmitted. The more a construction is sophisticated, the higher information is. On the other hand, we do not need to build manual, with the same materials, a heap of stone. Its entropy will be much higher than that of construction.

The concept of entropy has been used repeatedly information science and communication. However, moving from theory to the social sciences thermodynamics must be done with caution. If the notions of entropy and neg-entropy may apply to information science and communication, it must take into account the human side the area considered: *“We can venture the hypothesis that the concept [of information] is structurally linked to that of entropy, but it differs by the fact that it takes into account two elements ignored by the physical science: life, and especially thought”*(Escarpit,1976).

Lucien Sfez, indicated in *Critique of communication* that *“these considerations lead to promote a relative entropy, which, among a total mess of uncertainty and random and repetition (redundancy) without information, maintain an adequate degree of entropy”* (Sfez (1992). Rather than entropy itself, Robert Escarpit preferred to speak of neg-entropy. While entropy tends to chaos, neg-entropy move away. Two interpretations of the same state, one optimistic and the other pessimistic, *“But sometimes, there may be incidents of communications requiring amendments to the program. These changes are changes that can be a neg-entropic as in the case of adaptations to the environment, or entropic as in the case of cancer”* (Escarpit (1976). It is clear from these notions that if we want to lead a constructive meeting between people on a particular project, it is necessary to create conditions to establish microcosm entropy is locally reduced. What goes through:

- A place where law and order prevails and where spoken are regulated and enforced. Place where the rules of the game are fixed in advance and where everyone enjoys legitimacy.
- A place that is not in balance, where all views can be presented, as well as all categories of users. The balance, we have just seen, is not synonymous with order, but thermal death. The same is true for ideas. In a balanced, they do not circulate and do not thrive.
- A place where information and clear about is suitable for use by all.

The approach requires communication, as a result, these three characteristics in order to reduce the entropy locally and create the conditions necessary for a constructive discussion.

Learning and adaptability

An adaptive system is in the class of complex systems that show self-direction in an evolutive environment. Adaptation differs from controlled behavior inasmuch as it understands a quest for efficiency¹², goals being unchanged. Says Ackoff (1974, 668): “adaptiveness is the ability of a system to modify itself or its environment when either has changed to the system disadvantage so as to regain at least some of its efficiency”.

For Ackoff, this definition implies four types of adaptation: other-other, other-self, self-other, and self-self adaptation depending upon which one of the system or the environment is induced to change. For instance, the quality of gasoline drops unexpectedly due to uncertainty of the environment (the markets). The car owner may continue to ride his car at the same speed by increasing his consumption: he then displays goal-seeking behavior under feedback¹³ control, at the expense of the reduction of his efficiency (ratio speed/consumption) in an other-self adaptation. He may also change the gas in an other-other adaptation, or change the car or change the desired speed in a self-self adaptation. We presently watch such kinds of conducts in relation with sustainable development issues.

“To learn is to increase one’s efficiency in the pursuit of a goal under unchanged conditions” (ibid; p 669). It is noticeable that learning requires time, the ability to make choice and a memory.

It is now common say to extend the notion of learning to organizations. This implies in addition a collaborative capability. E. Morin has shown that an open system like an organization (e.g. a territory) demonstrates capabilities of self-learning by recording its own behavior.

Emerging properties

Open systems display emerging properties when learning and adapting, in the sense that new behaviors tend to create new functions, forms and significances whether in the learning individual or the learning organization. There are strong correspondences between properties, functions, forms and significances. The application of this concept to Territorial Intelligence should allow us to better understand the changes in our present world under the pressure of sustainable development. Networking, social communities are examples of new functions and correlative forms. Information technologies are both the trigger and the result of adaptation in organizations.

The emergence is a property that makes the whole is not reducible to its parts, it is more (having his own properties and overhanging), and less (it does not possess all the properties of its parts, some information is lost). A quote from Robert B. Laughlin summarizes the concept: “*It (a solid, a cloud, an agency) leads his life in an autonomous manner. The rules governing it do not depend on those governing its constituents. It*

¹² Efficiency refers to a ratio between systems outputs and inputs, while effectiveness qualifies the degree of achievement of a systems goal.

¹³ Feedback is the process by which a system corrects the inputs so as to maintain its goal.

reflects a new level of organization. They testify to the phenomenon most mysterious and therefore the most fascinating of nature: the emergence” [Laughlin (2005)].

The existence of emerging properties implies that the addition of several elements is not always equal their sum. Thus, the interactions between components cancel their differences and combine. This limits the scope of certain forces that cancel (electrically charged) or balance to a higher level of observation where the components are no longer taken individually but whole, comprehensive statistical level (crowd, thermodynamics, noise). There may be new properties dispersion as entropy as well as the phenomena of rhythm, strengthening or pipe (a river that widens), which are not reducible to the elements involved (molecular level). It's emergence is the simplest is the statistical mechanics.

Beyond this simple mechanical properties, the emergence on the property to establish, macro level, different properties of the sum of the properties at the micro level. This is the case, for example, the water molecule (H₂O), whose properties are clean and are quite various properties of oxygen and hydrogen. Each element has lost independence to meet the purpose of the combination of the two.

These are phenomena or reflexive construction of a recursive interactive with the environment. Causality is no longer just domestic. There is really emerging from the elements but from the outside and effects. What emerge here are the purpose and the project. It is in a reflective, all capable of changing itself, controlled interaction with the environment, a constant adjustment with the reality. Extrapolation of this physical phenomenon can be made for a meeting of participatory democracy:

- Confrontation of individuals with different expectations cancels their own opinions in favour of a combination of more than their own money.
- The discussions raise the dynamic progress that take precedence over the views of each.
- This dynamic individual imposes its own rules.
- For feedback, the project will become the purpose of this microphone organization. Each individual is different, not by his own opinion, but with a specialization in a particular field of discussion.

It seems that participatory democracy, to work, should respond to basic rules minimizing its entropy and encouraging the emergence of the collective opinion.

This axiom questioned the conduct of a conciliation meeting because even when there is enough qualities of entropy, the emergence of the collective opinion will be held. In the wake of scientific borrowing, one of the solutions is based on a mathematical theory, the game theory. This theory is called upon to illustrate any situation that features players under certain conditions. They must develop strategies to maximize their earnings. The situation has generated a balance and the emergence of a solution around which all will agree.

These gains are varied and depend on the expectations of citizens in a process of participation. This may be the personal welfare or a more altruistic motivation. This theory tells us more about the conditions of equilibrium.

Game theory: toward the balance

The game theory is a mathematical method for analyzing the strategic interactions among individuals with divergent interests by the study of configurations where the situation of each depends on the behaviour of all. It takes its roots in the strategy game. Also, a conciliation meeting, as well as any meeting of participatory democracy, can be treated because every players use strategies to maximize their earnings.

The translation in terms of playing these meetings is done by the initial configuration of the situation described by parameters such as the number of players, all possible strategies, the order of speakers, the information from each and expected gains. Based on these data, each actor player (here each participant in a meeting) develops a strategy characterized by the gain potential he can draw from it.

The mathematician Nash is at the root of the theorem and demonstrated that this type of situation gives rise to a balance called Nash-balance. It is the set of strategies (one strategy for each player) such as no player can't gain more if he unilaterally changes strategy. The choices reflect the strategies of other players. This implies no regrets.

The Nash theorem states that all ended game admits at least one Nash equilibrium. This means that any interaction between various individuals admits a Nash equilibrium, and therefore a strategy. Once implemented, it gives the absence of regrets of the participants. This theorem can be applied to our subject. In this case, the Nash balance came out of this strategy game that is a process of participation. That is a solution which is not necessarily the best, but there are no regrets and a degree satisfaction sufficient parties concerned to arrive at the resolution of the situation, the problem.

Moreover, game theory allows for two investigations that help to the study of the participation process:

- The duration of proceedings for participation should be fixed and known. Nash balance exists if the number of repetitions is finished. However, if the game is repeated infinitely, or if the players do not know how many times it will be repeated the system is not determined and no possibility of prediction. Thus, the rules of a process of participation must be clear if a Nash balance is search.

The solution that emerges from a game or a participation procedure is not necessarily the optimum solution for each. It is one of the inputs of the theory of Nash in the understanding of human strategies. Personal rationality of the players do not necessarily lead to a collective rationality. [The prisoner's dilemma]. This is the dilemma between individual rationality and collective rationality. To escape, it is necessary to explain to both players gains matrix to move towards a cooperation agreement.

The game theory shows that the participation procedure, if properly defined in terms of rules of the game and planning, gives the emergence of a solution balance. It is all the more optimum when it is conducted in a cooperation spirit.

The use of these three theories highlights the auto-emerging character of some forms of participatory process, if the conditions in which these are conducted are enable the phenomenon occur, ie with a value entropic low. These conditions are reflected in the proposal of a model for meeting the laws of physics and mathematics above views. However, in the context continuously adapting what city, negative hypertely is to be avoided.

Hypertely

Hypertely is that way of adaptation of a system to its environment (self-other) based on the hypertrophied development of existing functions. Hypertely is a term borrowed from biology that has been adapted to technical objects by Simondon (1989), and applied to territorial development by Gardère (2006, 2007). There are two sorts of hypertelies. The one is named “negative” to characterize endogenous developments. An example is the expansion of regulations to control public space in city development. The other is “positive” in the sense that it improves efficiency of the system. For example, traffic lights can be used intelligently to regulate the flows of public transportation at the expense of the speed of private vehicles.

Functional relations between objects make up a sub-system within the socio-technical system with emerging properties that induce self-self adaptations. These are both efficient and effective when hypertely is positive. Making it positive is the process of participative democracy at the level of the territory, a process that implies certain types of decision-making as will be evoked hereafter. The management interfaces contained in the notion of hypertely is central in the development of a theory of participatory democracy. The interface between the citizen and the elected exist. To avoid the pitfalls of a poorly proportioned interface (Negative hypertely), it is desirable to determinate this interface while developing the process. This is the keystone of the *micro representativity* (Gardère, 2006).

Decision-making

Decision-making is classically introduced in the literature in the form of an individual exerting a choice between several alternatives of ends and means. A given choice is motivated by its expected outcome(s). This general framework has given rise to several approaches to decision making. Among them are the economic approach to “rational decision making” and the behavioral approach defined by the March-Cyert-Simon school. In short, rational decision-making assumes that 1) all possible alternatives are known, 2) all outcomes are known, and 3) preferences for every outcome can be ordered. Under these conditions, the decision maker is assumed to choose so as to maximize the pay-off. The behavioral approach recognizes that not all alternatives are known: choice is only satisficing. Yet preferences are ordered, and the decision maker seeks to know as many alternatives as possible. Hence a quest for good “information for decision” is a permanent

goal of information specialists (Goria, 2006). But that quest will ever be limited by our “bounded rationality” (see above).

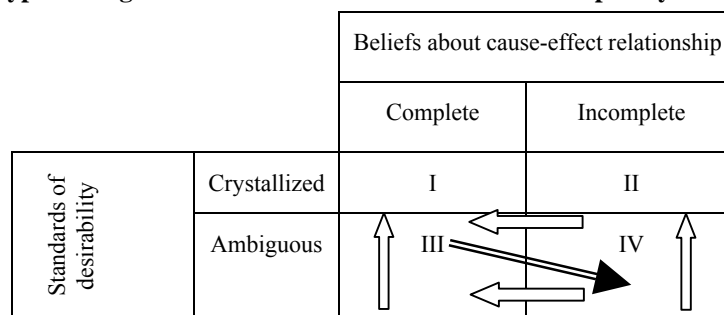
Meanwhile less emphasis can be put on the individual since most organizations decide collectively. Then decision-making is rather viewed as a process of negotiation between social actors linked altogether in power relationship. A given decision is neither optimizing nor satisficing in the sense given above, but it is the result of compromises, trade-offs between conflicting rationalities so as to square with the balance of power between those who hold the rationalities. This is the basis for the experiments in participative democracy and micro-representativeness (Gardère, 2006). It is demonstrated that trade-offs and compromises are possible, but not systematic. A way to reach democratic consensus in territorial organizations consists in recognizing that people behave differently depending on their beliefs about outcomes –implying beliefs about cause-effect relationship- and the way they order their preferences. Thompson (1967) and Dumas (1978) have proposed a model that later orientates the type of “inquiring” adapted to reach a decision.

In that systems modeling of decision making, two basic dimensions account for a typology of decision-making.

- 1) The beliefs of decision makers about the cause-effect relationship of their action to the future outcome;
- 2) The standards of desirability against which effects of causal actions can be evaluated.

By combining the extreme occurrences on these two continua, we obtain a typological matrix of organizational assessment (Figure 1)

Figure 1: Four types of organizational assessment based on the complexity of decision situations.



The four cells identified in that typology correspond to the following organizational situations in Territorial decision-making.

I: closed systems’ thinking relies on the hypothesis of efficiency maximization of outcomes; it is the area where consensus is obtained because everyone thinks alike.

II: goals are shared, but the ways to attain them are controversial.

III: goals are not shared but the cause-effect relationship is fairly clear, so that negotiation can take place in power relationship.

IV: confused situations where all arguments are set forth and debated. It is also the situation where creativity will provide a way to return to cell I where consensus can be reached.

The interest of that typology is that situations are shifting from one cell to another (as figured by the arrows in Figure 1) and this shifting game will explain the collective decision making process.

A case study: urban development as territorial intelligence process

The development of a city, its zones, neighbourhoods, suburban, outgrowths, tracing of the streets and logistical uses create infinite hypertely to adapt the changing environments.

Over the change in a city, the citizens' interactions with each other and with public space generate continual adaptations of the environment according to usage. Thus, the increased requirements on the road leading to arterial roads carry out ever more important. The problem saturations and pollution increases, a transit was privileged. This example demonstrates the various bodies that are successively being hypertely during changes of the city.

In the city, we cannot fail to communicate about the disorder, the immediate signs of disorder. The entropy of black facades, tags, comes into its own policy in the long term: what makes sign, in the public space affected by this so urban disorder is the persistence of the trace. This explains the stranglehold on the political and technical hypertelic solutions. The political instance delegates to the technical power to counter the inherent chaos of the city. The quality of life of a city, as expressed in its flow, its passages and bridges, always a policy hallmark in favour of an optimal technical solution and therefore a successful hypertely: *“hypertely research by value analysis useful information to resolve technical malfunction and/or humans in the implementation of a project. Cells possess the experts who could innovate and ensure the success of the project”* [Gramaccia, (2001)].

The transition from disorder to order is the result of a technical choice in the political process. Two political instances divide public space in the city. The first is the election, which orders (in all senses of the term: in order, to order, to prescribe, to spend). This is what we call the major uses of the city: traffic, access to commercial spaces, security, and hygiene. The second is the user who suffers, in its daily life, the harmful effects of a temporarily disabled or restricted hypertely.

So, what urban public spaces have to redesign for creating settlement spaces? Can we argue that communicational power could be created from the coexistence of institutional political power and popular power? This concern is at the heart of democratic debate. One condition for success is that citizens can freely come to an agreement on collective solutions at the cost of hypertelic sacrifices and individual entropy at short term (provisionally accept losing a little commercial time to build a road for example).

The experience of neighbourhood associations shows that the procedure is difficult to apply if the hypertelic constraints are not resolved.

The adaptation of representative democracy to participatory democracy should not cause negative hypertely. It would make the system malfunctions. The dialogue is not an end in itself but a means. A hypertely of the organizing services of participatory democracy in a city should not, by its heaviness, act against the project. Indeed, a hypertelic communication mismanaged can take precedence over the project. But if the aim is to begin a reflexive process on the terms of proximity, it is to find the way of another technical design, more sustainable.

CONCLUSION

This short insight into systems thinking has proven that those concepts developed in the last decades can provide the theoretical framework for organizing findings on the field. At present this review is sketchy and incomplete. It is an objective of Caenti research to complete it.

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“From Territorial Intelligence to Compositive & Sustainable System. Case Studies in Mexico & in Gafsa University”

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Abstract: Can we consider, for two separate situations, territorial intelligence approach in common, as a model, at the beginning of a National (Mexico) and internal (Gafsa) System of territorial sustainable Intelligence, to be built? We shall discuss it, after a brief analysis of the state of development of this area in Mexico and in Gafsa University (Tunisia). This paper presents theoretical basis to define, based on system concept, a National System of Competitive & Technological Intelligence and, more practical, on implementing an internal system of I.T into a Tunisian University, based on constructivism approach.

FIRST CASE STUDY: A TERRITORIAL INTELLIGENCE PROPOSAL ONTO THE WAY OF A NATIONAL SYSTEM COMPETITIVE INTELLIGENCE

This part presents the theoretical basis to define a National System of Competitive and Technological Intelligence. It is built from analysis about using notion of systems within innovation studies as well as on the relationship between this latter and competitive, technological intelligence. In addition, a model of application on the sphere of territorial intelligence is discussed, including a brief analysis of the state of development of this area in Mexico.

1. EX ANTE: TERRITORIAL INTELLIGENCE

The development of citizenship, democracy, social equity, as well as social and economic progress, is the main objectives of territorial development and territorial governance.

The systems of territorial intelligence need using traditional transmission processes of information through Tics as, Intranet, Extranet or internet Web sites, library, systems of geographical information and method analysis of data

“The Territorial Intelligence can be compared with the territoriality which results from the phenomenon of appropriation of resources of a territory; it consists in know-how transmissions between categories of local actors of different cultures.” (Bertacchini, 2004).

In this context, the CAENTI "*Coordinated Action of the European Network of Territorial Intelligence*" is a project financed by the U.E. within the framework of the "6th Research program of Technological Development" which has for objective integration, dissemination actions of current research about tools of territorial intelligence to give them a European dimension.

Fifteen partners relevant of 8 countries are included into CAENTI which began on March first, 2006 for a three years time. The framework research is fulfilled of three research principal activities contributing at the integration of researches about tools of territorial intelligence: 1) the activity tools part of CAENTI, 2) the methods pool, and 3) the governance activity (CAENTI, on 2007).

By the end of the CAENTI project, within the framework of the 7th Program of the European Union for Research & development, will dash the ENTI "*Territorial European Network of Intelligence*" with a future line of planning the constitution of a *network of excellence*. This project, which will be called for, is planned within the framework of the second call in 2009. Therefore it must be right now prepared because it implies, the extension and the intensification of the Research excellence, the definition of a project joined of additional activities, training, publishing and transfer (ENTI, 2007).

2. THE NOTION OF SYSTEM DREADED THROUGH PUBLICATIONS ON TECHNOLOGICAL INNOVATION

The concept of system was largely covered into the field of studies related to innovation particularly, when three authors (Freeman, 1987), (Lundvall, 1992), (Nelson, 1993),

inserted this keyword into a wider approach '*the notion of national system of innovation*'.

These have suggested a global frame analysis, through holistic approach, to consider how understanding interactions between separate elements, in appearance, when they are engaged into innovative processes.

In spite of some problems, as a relative theoretical ambiguousness (Edquist, 2005), this general frame knew a surprising broadcasting and a miscellaneous of its aspects were adopted by uncountable specialists, policy analysts, international organizations, or adapted as starting point for a similar fine-tuning such as the sector-based and regional systems of innovation and the technological systems (Breschi & Maleaba 1997), (Carlson 1994), (Cooke et Al 1997).

However, thanks to theoretical ambiguousness mentioned previously, this distribution around the notion of systems of innovation implied very varied performances.

At the origin, we can underline that notion of systems cannot be dissociated of studies on innovation itself and it can be found in the own evolution life of the concept of innovation; particularly, when interactive models of this process have been developed, in opposition to the dominant linear vision, because incorporating influences, actions, interactions of a large number of factors into the innovation process.

According to Andersen (1994), this association began during the 70^s thanks to the works of some researchers, around Christopher Freeman and the research center "Science Policy Research Unit" (SPRU).

These performances were maybe more connected to the notions as social networks than with systems, because this last one has more complex phenomenon than simple interaction between elements.

In every case, it is clear that these premature associations between notions close to systems and to innovation implied conceptualization of this phenomenon as a not linear process which inserts the coordinated participation of actors' large number.

On using the concept of systems of innovation, by the end of the 80s and at the beginning of the 90s, involved an extended research area. The key role played by agents' networks in the innovation process have pushed ahead institutions in the front line joining to, in a certain direction, some aspects of the economy evolutionist current.

These new performances, discussed in a vast way, did not bring to us to a unified notion of innovation system probably because the main actors belong to various research traditions in which, maybe, the common denominator was affinity with Schumpeter thesis.

However and fare away similarities between the opinion suggested by Edquist (2005), we can add that the main original interpretation of systems of innovation was dedicated to explain national plans of growth and economic development read, through the analysis of interactions between actors and participating institutions to the networks of innovation.

Also there was an implicit and, sometimes explicit, orientation of the innovation policies more clearly explained in the Lundvall & alii version, defined in terms of institutional learning (Dalum and Al, on 1992).

We could say while this original interpretation called an evolutionist frame to explain the innovative development in national contexts.

As a national context is made of a basic structure with established agents, institutions and interactions, comparison with a system was easy to make and relate all these national components to national innovation systems.

In spite of an orientation towards general policies of innovation, none of the original interpretations included an effective fine-tuning version of systems of innovation. This one was fundamentally developed by the OECD which adopted the notion since the end of the year 80 (OECD, 1992); (David and Foray, 1994).

From this point follows what we can name generalize interpretation of innovation system. It means that the specific national systems can be enough described the enumeration of main components, agents, institutions which participate in the innovation process and analysis of its most characteristic interactions.

From the question "How these interactions generate winning innovation systems?", gets loose identification of "better practices", fundamental components which then act as guide for institutional and organizational learning within the international environment.

This wide-spread performance was improved in many OECD reports (OECD, 1994, 1999, 2002) as well as in studies carried out by abroad organizations as the European Union (Edquist and al, 1998); (Soete & al, 2002), and it is normally the main one which is used in large number of studies published into the literature referring to innovation systems.

Until now, we briefly saw revised both main aspects of performance referring to technological aspects in innovation, the most wide-spread and original vision; these refer to what we could name excellent innovation systems (major or first level).

If we try to improve a little more the concept, based on the fine-tuning of systems, it would be possible to conceptualize the third performance one corresponding to innovation systems of second order (medium level). It would consist of mechanisms, or systems, specifically designed to promote creation and broadcasting economically useful knowledge.

We find the main difference between this third performance and the previous in the fact that agents and their interactions, which compose the innovative processes, establish a reliable, complex and multidimensional system which has specific purposes and comments (Lopez-Martinez, on 2006).

The analysis in detail of this third performance exceeds the target of our present contribution, but it is necessary to say that model of a competitive and technological intelligence system we shall discuss then, is in an intermediate point between the first level, (major one), system and the second one, (medium one).

3. NATIONAL SYSTEM OF COMPETITIVE & TECHNOLOGICAL INTELLIGENCE AND THE SITUATION IN MEXICO

Then, from starting notion of system which aims at the durability, we underline that functions of innovation and intelligence are confidentially bound, to support productive

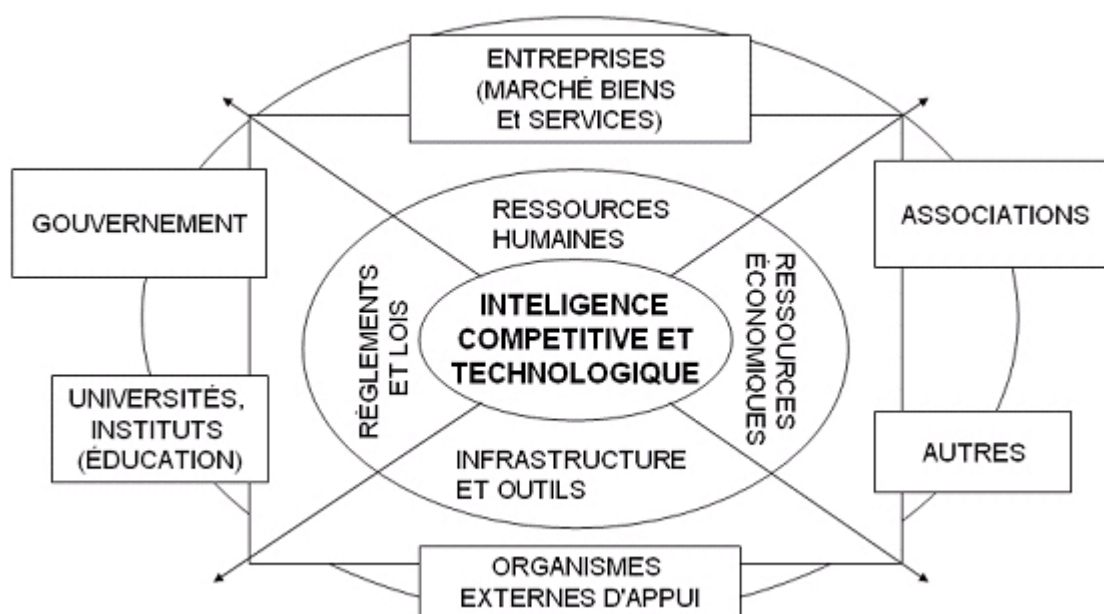
activities which guarantee system survival, we present a short description of elements which establish a National System of Competitive & technological Intelligence in agreement with the model proposed by Rodríguez (2005). We shall also point out conditions of its development in Mexico.

The SNICYT is defined as: all the actors who act with each others in the national environment during the process of information conversion towards a strategic knowledge through effective intelligence process cycle operation.

This system includes two categories. The closest to the nucleus is the most important and it is made of: human resources (intellectual assets), economic resources, infrastructure and tools of support (data bases, methodologies, software of treatment, information analysis, and institutions which define, plan kind of operation.

While the second category includes: government, universities institutes and various other agents engaged in education, companies of goods and services, non profitable organization, services abroad and other actors as group of researchers, agencies, other organizations.

Système National d'Intelligence Compétitive et Technologique.



Source: Rodríguez, M. (2005).

Following, the second category will be analyzed in details by underlining some aspects of the international situation by including Mexico.

3.1. Government, plan & action

For several years, some governments, throughout the world, recognized the activities of competitive and technological intelligence as fundamental for economic development of a country. Let us mention the case of Japan, which is considered as a country pioneer and leader in competitive intelligence (Fuld, 1995; Herring, 1992; Kodama, 1992; Strap there

Marti, 1995). Intelligence activities of this country were encouraged since the Japanese Constitution statutes of 1868, which dedicated one of its paragraphs to "*Look for the contemporary knowledge all over the world to strengthen foundations of an imperial power*" (Rouach, 1996).

In France, we can mention the tenth report of the C.G.P advisory committee (*Information & Competitiveness*, 1990) where is marked the strategic character of professional information inside the French approach by recommending a "*social & technical device of technological attentiveness*" (Mayer, 1990). Furthermore in the 1994 report, we already speak about "*economic intelligence*", which is defined as: "*Set of actions of research, treatment and broadcasting, with the aim of its exploitation, of useful information for economic actors*" (Marten, 1994). "This report is considered as an important reference in the domain".

More recently, we can refer to Jean-Pierre Raffarin's initiative, former French Prime Minister, which have gave a parliamentary mission of evaluation of economic intelligence in France to Bernard Carayon, who committed an official report in return, named: "*The economic Intelligence, competitiveness and social cohesion*" (Carayon, 2003). By consequence, a senior official of economic intelligence was appointed and some initiatives were mainly spread within framework of territorial intelligence.

Gouvernemental entities of Support.

- *For example in Japan, the Japan Patent Office, Ministry of Economy, Trade and Industry, Japan Science & Technology Agency (JST) was merged in 1996 between Research Development Corporation of Japan (JRDC) and Japan Information Center of Science and Technology (JICST), etc...*
- *In Mexico, even if there is some more things to be made. However, there are various state departments which support scientific and technological activities and which can also take a strategic role to measure and canvass the competitive and technological environment.*
- *We can quote the National Council of Science and Technology (CONACYT) which has for mission to impulse and to strengthen the scientific development and the technological modernization of Mexico by training high-level human resources, the promotion and support of specific research projects and the broadcasting of the scientific and technological information (CONACYT, on 2003). This department is also responsible for the researchers' National System whose general objective is to promote development of activities to strengthen its quality, its progress and its efficiency (CONACYT, 2005).*
- *Another organization which should also occupy a key role in the manner to develop watch activities of the technological environment (as in the case of France, for example) is the Mexican Institute of the Intellectual property (IMPI), a public decentralized department with a legal personality, appropriate background and with legitimate authority to administer the system of industrial property in Mexico (IMPI).*

- *Finally, in Mexico many other departments exist, and could play a more important role on running activities about measures of the environment, for example various departments of State (Economy, Foreign office), the Bank of Foreign trade (BANCOMEXT), etc.*

Universities & Other Actors of the Education

Various programs were developed in the world for training to this discipline, since PhD, masters and licenses (for example Mercyhurst College in U.S, Aix Marseille university in France, University from Stockholm to Sweden) as well as certifications and diplomas.

In Mexico, education in this field is still at its beginning, but certain efforts went in this direction. For example at the beginning of 2000 the programme built up itself in the ITAM (one of the main business schools of this country) «Systems of Competitive and technological Intelligence» (Rodríguez, 2000), who was launched for programs to the level Master (information technologies and businesses) and this day this programme is always operating.

Another institution, where this domain was introduced little by little, is the Technological Institute and Higher education of Monterrey (ITESM). It is about a private institute with more of 30 campus in all the country, besides offices in Europe, in Asia, in North America and in Latin America.

In 2001, the Competitive and technological Intelligence for Innovation branch built up itself in the Center of Design and Innovation of Products. Various training programs have been developed for students (License, Master) and entrepreneurs, with an office -advice & research-. At the present day this branch is located in the center of Quality and of Factory (Rodríguez, on 2007).

Organisations

Companies are taking on a fundamental role in this System by adopting methodology and also developing new methods of information collect, analysis, and broadcasting. In this way, under the executive frame of the National Intelligence System, impact goes beyond the own borders of company environment, external and internal, transforming company's management, prospective in general, and so development of interactions.

On the other hand, when we relate to companies, it does not mean that each of all is individually running its own intelligence activities without sharing background with each others. In Japan for example, culture, actions of government support with appropriate organized structures (for exple, *keiretsus*, *sogo soshas*), have facilitated the fulfilment within companies, by sharing research actions, collecting, analysing eminent information so obtained. In Mexico, a few of them are engaged in competitive intelligence program and in the small-médium companies, we are at the beginning point.

Non profitable organisation

Various associations exist in the world connected with this domain, for example, the French Association for the Development of the Economic Intelligence (AFDIE) The

French Society of Bibliométrie Appliquée (SFBA), Competia (Canada) etc... We shall quote in particular the case of, SCIP, Society of the Professional Competitive Intelligence which appeared in 1986 in the United States and counts more than 3500 members distributed through out the world.

The role of this association was very important; among its activities we list organization of price, lesson, international matches, congresses, conferences and promotion of publications in this domain.

To strengthen its presence, the SCIP has more than 50 branches in the world, two in Mexico, but their presence here was not asserted as in the other countries, the interaction is thus made in a more direct way with the headquarter in the U.S.

External entities of Support

It is also necessary to consider interactions which occur outside. Through agreements or strategic alliances between companies, universities, N.P.O of the other countries it is possible to combine efforts and to realize joint actions for measuring, analysing the external environment. It goes beyond sharing material resources; it is a question of strengthening also immaterial, intellectual assets to be connected. For that purpose, it is required to establish working networks which, besides common purposes, look for generating new capacities and which add a value to his group.

At last but not the least

Last element to be indicated: during operation of the system of competitive and technological intelligence, other actors also interfere, non formal associations, agencies, organizations which can accelerate and strengthen this activity.

To end, we have to indicate that our proposition could be found inside category of a System where there are not individual actions which have an impact engendered between them. Effects exist under various dimensions which can promote or prevent stream, conversion and assimilation of information until the strategic knowledge.

In summary, all these elements should act through establishment and durability process of synergies set up between various actors. For such a result, we need shared objectives, encouraged relations between various organizations at a local, international, private and state level. We put in front of our research that territorial approach, summed as Bertacchini & al described from 2000 to 2007, can be, ex ante and ex post, resources for such innovation management to sustainable development.

CONCLUSIONS

Incorporation, using of fine-tuning of systems has measured, substantial advantages for explanation of phenomena, and for building a competitive & collaborative environment. In particular case of productive activities and innovation process, this incorporation finds the origin in the same systematic properties of the innovation. It is taking advantages live in a complete explanation of complex phenomenon, which allows on, one, hand global diagnosis, identification of master agents & valuable interactions.

And on the other hand, design of appropriate mechanisms, steered to improve agents' conditions or their interactions, increasing the general progress of the system. These establishments allow then to identify better practices in the international environment which, without being models to be followed, represent the domains of institutional learning which must be adapted to the particular conditions of every specific case.

In this way, under global perspective of the National System of Competitive & technological Intelligence, acuity of this domain takes on various nuances. At the macroeconomic level, it emerges the potential impact which it has for innovative development of the country in general through various actors who compose it.

In this context for some years, it became established, that under new paradigm of innovation, conversion of information in knowledge, is a determining competitiveness factor but not only at the level of a company but at the level of a whole nation seen as a meta-organisation feed of micro, meso and macro projects.

While innovation processes can be conceived as process of transformation from information in reference, to customers' needs, market demands and technological progress, by generating the knowledge which is expressed through creation of products and new or improved processes (Kerssens-van D.; Weerd-N. and Fisscher, 1996). It is making possible to deduct then, that activities of Competitive & technological Intelligence acquire a fundamental importance in the innovation not only for a level micro but also macro economic.

Finally, it is important to add that countries less developed in this domain, as Mexico, can obtain big earnings in its competitive development and innovation, by means of incorporation political innovation systems as well as from analyses, adaptation of the profits of institutional learning in other nations. Particularly because in the domain on which we based ourselves, complete vision of Competitive & technological Intelligence substantially contributed to processes of innovation, technological development in the developed countries.

SECOND CASE STUDY: A LOCAL PROJECT WITHIN THE UNIVERSITY OF GAFSA (TUNISIA) UNDER CONSTRUCTIVIST APPROACH

This second part of our communication takes support on researches led within the university of Gafsa in Tunisia. Our convergent efforts are working towards implementation of 'one to act professional' of multidisciplinary and intercultural nature shall revealed on to the form of an observatory.

Having been chosen as a reception potential center as implementation of the University Observatory and being aware of efforts to display it and required means, to make a success of this project, The University of Gafsa presents down there in this report its strategy and means of action to set up its observatory.

The implementation of a process of Territorial Intelligence (I.T) within the University of Gafsa should operate a specific hierarchical organization and leads many changes in the working customs of which the purpose to help in the decision-making process & cycle.

We shall show in this communication our ambitious experiment supported by experts of the European Commission and we suggest considering Observatory of Gafsa's University as a Territorial Intelligence process on our territory. On this fact, What are our objectives, our means and with which strategy we are going to practise this voluntarist policy?

1. Complete overview, Territory, Observatory

The university of Gafsa is a young university which has been created in 2004, its creation denotes interest of Tunisia, in some new era of decentralization, about higher education in order to show major role of the University attached as locomotive of radiant development.

Decided to be always opened on needs renewed by its studies and requirements for development of the Southwest region, the U.G's aim used to take more advantages of its work and diversifying its services. For insuring this role several devices were operated, in application among others, the Observatory.

1.1. Définition

The UG's Observatory is, as we can named it, a one to act professional of multidisciplinary, intercultural nature which answers to fundamental objectives of higher education as well as in requirements of various professional groups, putting together actors of diverse geographical parts, economic, cultural previous history. These communities attempt to build a virtual space and use common tools of work and exchange.

1.2. University's goals

In relation with the experimented skill of our young university in particular in the internal and external evaluation, we propose the following objectives:

- promote a culture of evaluation of entry into employment,
- strengthen opening of the educational system on its socioeconomic environment,
- appreciate needs of the working market qualification,
- reducing the distances between both educational and productive systems.

1.3. Stratégic path

The UG's reflection on the forward-looking function of observatories allowed to envisage the Observatory development, conceived initially as a technical tool of treatment of university datum, in a strategic tool of national policy of the forward-looking analysis in higher education.

This evolution allows to think, later, at the merger of the BEPP and Observatories, in a single help assistant to decision, connected with the cabinet of the ministry which could be entitled Center of Study and Forward-looking for Higher education (CEPS). It would include functions of, studies, inquiries and the forward-looking evaluation.

This Observatory will be organized according to the following seven principles: decision, decentralization, partnership, coherence, objectivity, commitment, and quality.

- Principle of decision:

the observatory is under the full and whole responsibility of the president of the university who is the decision-maker.

- Principle of decentralization:

the observatory represents decentralized level by the national BEPP. It is collecting of decentralized databases from establishments.

- Principle of partnership:

the observatory is connected to all regional actors acting with socioeconomic environment and to all actors implied on university information system (SINUS) and the management system of the higher education (SALIMA).

- Principle of coherence:

observation is integrated, in its starting up step, "*under relations management with environment and professional integration and of the training continuous*" article 16 nouveau du décret n° 23-2002 (la décision du MES) – (cf. rapport de mission d'avril 2006).

- Principle of objectivity:

the observatory is equipped with structures of advice and with expertise assessment guaranteeing objectivity in results performance.

- Principle of commitment:

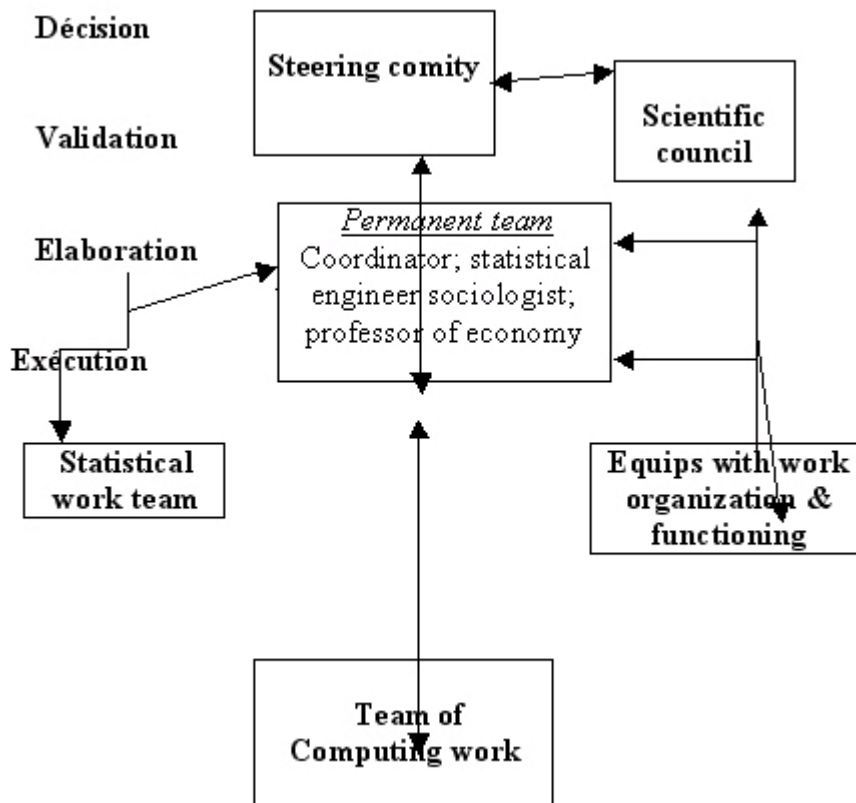
Every socioeconomic or institutional partner is appointing a corresponding person in charge who participates in various structures organized by observatories.

- Quality principle:

The works of observatory respect working procedures which join a quality step.

1.4. Organization chart

The U.G's functioning requires creation of structures of, dialogues, management, analysis and definition rules of functioning according to the following organization chart:



2. New Socio-Technic device of Information & Communication

Currently, we can thus identify actors who take part in creation of the observatory such as socio-economic partners (BTS, UTICA, API, and District Business), the companies, the university, Association of the former graduates

All these actors are supposed to make circulating flows to achieve centre objectives such as information, coordination, communication, training, valorisation gained experiences and to put available data base composed of project ideas (valorization of research), qualifications companies needs (non satisfied employment offers), students' skill (C.V management, repertory of trades, companies, talks on line...)

Gathering all these actors from various origins geographical, economic and cultural, these communities endeavour to build a common space and tools run of work and exchange, undertaking their activity in the field of research and development, research in social sciences. These communities melt their programs and methods of social intervention on the basis to build a structure of decision-making aid as regards formation, insertion and opening on environment.

This project seems to be an intelligent process as regards operation, information treatment and diffusion. Our territory which must evolve in its culture and reach a true mutualisation

of information within a territorial intelligence process whose Bertacchini (2004 & 2007) suggests the following definition: *"one can regard the territorial intelligence as an informational, anthropologic process, regular and continuous, initiated by local actors physically present and/or distant, who transform resources of a system territorial into project capacity"*, (Bertacchini 2004)

The Territorial Intelligence process that one can describe, as step of information and territorial communication, finds here its full justification in assistance brought to decision-making as regards training, insertion and opening on environment.

It is thus necessary to underline heuristic character of this approach and that on an ontological level; we are referring to pragmatic of territory and its actors, of the researcher in his relation with society (Bertacchini, Penalva, 2006)

Lastly, we believe useful to specify that territorial intelligence could not be limited and reduced to a watch step process, relative rather of a *'Bottom up'* project logic which will try to spread elements of a pro-active attitude at risks and ruptures which can affect the territory (Herbaux, 2006).

3. Setting up a Numerical Communication device

This numerical communication device will be made of three sub features. Firstly, on the "academic" forms of scientific paper: publication of articles in reviews at reading Comity, presentation of communications in scientific conferences, etc. Secondly, during training seminars, targeted in the OUG on contexts of teaching. Thirdly, on its Web site which has been just created.

In this way, the OUG answers is facing major concerns of its financiers. For doing it, members of Osbservatory learnt communication strategies, to add value to actions by shaping and structuring in a better way their publications.

It resulted from it, a better targeting, a more precise information, a far more frequent updating of shown documents and broadcasting improvement of the scientific results obtained.

4. Conclusion of the second part

The Observatory of University of Gafsa, this ambitious project, is leading by a strategy, based on a territorial organizationt, information systems, social networks, knowledge production processes around common spaces of exchanges.

This 'one act project' can be shown, from this particular point of view, as one of a most decisive components of a Territorial Intelligence constructivism process (Bertacchini, 2004; Girardot, 2004) whom scientific communities networks are, at the same time, actors and the more efficient vectors of broadcasting.

GENERAL CONCLUSION

Onto these two case studies and, as announced in summary, we would have had as initial intention to show if, when actors project were referring to territorial approach, they have

spoken with *'the same background'* at the beginning or an already started project. We are able to make an answer to the main running question: no. It appeals to justify the negative point of view mentioned above.

We have to precise what we called *'the same collective background'*.

In other words, could we considered a territorial intelligence approach, announced for a project, as acquired, at the beginning of a National (Mexico) and internal (Gafsa), System of territorial sustainable Intelligence, to be built? In fact, was it the same approach we are considering it into the CAENTI network? In other words again, are we speaking onto the same territorial intelligence manner?

We were discussing it, after a brief analysis of the state of development of this area in Mexico and in Gafsa University (Tunisia). This article has firstly presented theoretical basis to define, based on a systemic concept, a National System of Competitive & Technological Intelligence and, more practical, on secondly implementing an internal system of I.T into a Tunisian University, based on constructivism approach.

The first case study at a national level, in Mexico, proposed to set up competitive intelligence and sustainable development approach from the analysis about uses of notion systems within innovation studies as well as on the relationship between this latter territorial intelligence with competitive intelligence.

The second case study communication has taken support on researches led within the University of Gafsa in Tunisia. We have mentionned why convergent efforts were working towards implementation of *'one to act professional'* multidisciplinary and intercultural nature shall revealed on to the form of an observatory.

It acted to explain how, various professional groups, putting together actors of diverse geographical parts, economic, cultural previous history, could joigned themselves and co-constructed, through a specific organization chart, in the goal of regional development.

In that case, it was a project led by a university, i.e. in higher education field, decided to be always opened on needs renewed by its studies in order to take more advantage of its watching attitude and work.

We have mentionned these communities attempt to build a virtual space and use common tools of work and exchange. Thus, we have seen physical and virtual territories in action and in such a territorial intelligence approach as we have considered in CAENTI.

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“RET: Network for the Understanding of the Territory. The case of Buenos Aires, Argentina”

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Abstract: The RET “Red para el Entendimiento Territorial” is the Network for the Understanding of the Territory of the Province of Buenos Aires, in the Republic of Argentina. At present the RET is in the instance of formation of a Partnership in which participate: the UTN (National University of Technology), the Zanetta Foundation, the Government of the Province of Buenos Aires, which is now working to contribute to the UJFK (University John F.Kennedy), the UNLP (National University of La Plata), the CONICET, (National Board of Scientific and Technological Investigation) and different Municipalities. The methodology is organized around three key questions: 1- why a network?, 2-why territorial understanding? and 3 - why real, legal and thought territories? The project is developed from a sense of the communication related to theories that put emphasis in the intersubjective processes and the cultural processes. Among other activities, at present the RET: a) publishes georeferenced territorial information per rural allotment and blocks referred to theoretical use (urban codes) and real use of the ground for 134 Municipalities of the Province; y b) it does research about legal, real and thought territories. The publication is organized as follows: 1-methodological criteria; 2-antecedents and beginning; 3-conception of the RET; 4-theoretical concept of territory, place and management; 5-territorial concepts and axis analysis; 6-Real territories: applied to RET; 7-legal territories: applied to RET; 8-thought territories: applied to RET; 9-development of programs and instruments, and 10-institutionalization of the Network. Conclusions are referred to theoretical and epistemologic bases in territorial understanding.

1. INTRODUCTION

When decided to construct the present, like Network of Cooperation and Complementariness, the context of political-institutional crisis in 2001 and 2002 was the deepest from the crisis of 1930 in the Argentine Republic. There, the leading **problem** in relation to this Network was the null knowledge and information dissemination in the matter of real territories, legal territories and territories thought between institutional public actors, the scientist-academic world and the citizenship in general, as much in the metropolitan region of Buenos Aires, like in the province of Buenos Aires, the greater Province of Argentina (305,000 km² and 14.3 million inhabitants). A second **problem** derived from that talks about to the important dissociation between the academic knowledge and the institutional task in the Argentine Republic.

We wished to express our recognition to the Lic. Felipe Rodríguez Laguens, to the Architect Verónica Vásquez, as well to all the members of the Undersecretary's Office of Municipal Subjects of the Province of Buenos Aires, and to the members of the "Atlas Metropolitano de Buenos Aires" Project of CONICET-UNLP, Argentina, by their valuable participation in this work.

2. WORK DEVELOPMENT

The publication is organized as follows: 1-methodological criteria; 2-antecedents and beginning (the Metropolitan Atlas and the SIOU); 3-conception of the RET Network for the Understanding of the Territory; 4-theoretical concept of territory, place and management; 5-territorial concepts and axis analysis; 6-real territories: applied to RET; 7-legal territories: applied to RET; 8-thought territories: applied to RET; 9-development of programs and instruments (soft, Web site and maps server), and 10-institutionalization of the Network. Conclusions are referred to theoretical and epistemologic bases in territorial understanding.

2.1. Methodological criteria

The methodology is organized around three key questions: 1- why a network?, 2-why territorial understanding? and 3 - why real, legal and thought territories?

1- Why a network? Because a network of this nature constitutes an unique opportunity to put inot practise the principles of cooperation, complementary and transparency in a society where the Political and Institutional chaos caused a very important crisis. In a society where the serious 2001-2002 political-institutional turmoil caused a deep confidence crisis; the worst situation happened at the same moment we were having five presidents in Argentina within a two weeks' time. Trust rebuilding and transparency promotion is one of the main purposes of this net. This kind of net makes possible to make the most of the present potenciales present in the new information and communication technologies: open and net structures generate feedback processes and promote synergy. A net promotes the formation of transdisciplinary groups and as well as intersectorial ones, tailored to different needs, all of them useful to satisfy the territory needs.

- 2- Why territorial understanding? Because a deep understanding of the territory does not only mean having information as well as territorial knowledge. It has to do with a gradual and progressive exercise where knowledge, expertise, as well as knowledge of the academic and scientific world, together with political and institutional world, will start several instances which can give an answer to the following logical collective construction: information about the territory, knowledge of the territory, awareness of the territory, and understanding of it, widening and improving the possibilities in different ways in which a management could be shown. Going by this sinuous path would make it possible a shared territorial intelligence among citizens and employees in the field as well as having the possibility of a democrat and good system access of information. It is all about a process oriented territorial intelligence applied to micro, meso and macro scales as well as in a wide variety of neighbourhoods, in cities and in regions, needless to say in very different programmes, plans and politics where the presence of specialists and territorialities give a theoretical and practical sense and to the territorial intelligence as well.
- 3- Why real, legal and thought territories? A rational and creative procedure within a network would allow us to achieve a better understanding of ourselves, to value ourselves better, in our own land (terra torium) (Lobato Correa, in Montañez Gomez, 2001) the land belongs to someone and within each of our stlocus, as pointed out by Hegel, de place of something or of someone. There are many territories but because of the net we have selected real, legal and thought territories. It is important to consider that the real, legal and thought territories of this net have been created taking into account its usefulness and applicability in a gradual process of territorial understanding.

There could be different views of real territory, this project is such that the main use of real land could be interpreted by rural allotment and block. Its knowledge answers the following question: “Which are the main visible activity signals of this territory?”

There could be different visions of legal territories and this project is the one which gives an answer to the territorial and urban regulations ruling in each of the city halls at present standing in each of the city halls. Its knowledge answers the following question: Which are the existing regulations in each urban and rural allotment in terms of urban and territorial order?

There could be different visions of territoriality thought in that place understood as a sample of inhabitation and territorial ownership in a micro scale. Its knowledge answers to the following question: which are the main models and practices of inhabitation and ownership of the territories ?”

It is important to highlight that, on the occasion of the Workshop in Huelva, participants posed useful and interesting questions related to the second and third questions above mentioned. These contributions will be mentioned in the conclusions.

2.2. Antecedents and beginning

The three steps that lay out the institutionalization of RET -2003, 2005 and 2007- aim to

solve the created **problems**, gradually developing an institutional culture of democratization of the information related to the analysis, the ordering and the management of the territory. From the origin of the Network is promoted, under principles of transparency and cooperation, the diffusion of methodologies and tools of easy use between different actors oriented to the Understanding of the Territory, as support in tasks of diagnosis, observation, evaluation, pursuit and participative investigation-action.

The first step (2003). It is born the Network of Cooperation and Complementariness “Metropolitan Atlas Buenos Aires” within the framework of the self-titled Project, from the National University of La Plata and the CONICET National Advice of Scientific and Technical Researches of Argentina. More than 80 academic and institutional nationals, provincial and municipal referents participate in this event. The Network begins making available of all a digitized map of the metropolitan “real territories”: 23 real uses of the ground by rural parcel and square corresponding to the totality of the Metropolitan Region of Buenos Aires (158,000 squares and 4400 interstitial fractions and urban periphery). In 2004 the first digital map of fourteen “thought territories” is gotten up to the Network, denominated places or patterns of occupation and territorial appropriation: centers, neighborhoods, industrial groups and others.

The second step (2005). It is born the SIOUT Site of Urban and Territorial Ordering of the Province of Buenos Aires, from the conjunction of joint works between the Undersecretary's office of Municipal Subjects of the Government of the Province of Buenos Aires and the National University of La Plata, by means of an Agreement subscribed in 2004. Having realized the lack of cooperative culture and exercise in these thematic ones in the Argentine Republic, has been managed - without effort - to make available in the Web site of the SIOUT public information of territorial ordering of the Province from Buenos Aires at level of detail (square and rural parcel) useful for the task of institutional actors (local governments, provincial and national offices), of the scientist-academic world (investigators, educational and students) and of the public in general. The obtained results are referring to “legal territories” (codes of urban and territorial ordering of each municipality), “real territories” (real uses of the ground by rural parcel and square) and “thought territories” (places or patterns of occupation and territorial appropriation in the microscale). The SIOUT can be consulted in the following directions:

www.gob.gba.gov.ar/cdi/images/siout.swf or http://200.41.22.117/siout_map/index.html

In this stage, one of the pillars to make specific the network was the normalization of the cartography-base; the same one was tried by the Provincial Direction of Territorial Cadastre, by means of agreement of cooperation and complementariness with the Direction of Strategic Planning of the Undersecretary of Municipal Subjects; complementarily the contribution of cartography of the Direction of Geodesy and the Municipalities was received.

The third step (2007). The RET “*Red para el Entendimiento Territorial*” is born: Network for the Understanding of the Territory of the Province of Buenos Aires. At the present time the RET is in the instance of formation of a Partnership in which participate: the National University of La Plata, the CONICET, the Government of the Province of Buenos Aires,

the University Kennedy, the Municipalities of La Plata, Ramallo, General Belgrano, Colón and other cities.

2.3. Conception of the RET Network for the Understanding of the Territory

The project is developed from a sense of the communication related to theories that put emphasis in the intersubjective processes and the cultural processes. From this place, it is important to emphasize that the management of the communication is related to this tie dimension when communicating, to the dialogue, the interchange, to the relation to share, to put in common, beyond the value of technology GIS free and gratuitous like tool. Thus the management of the communication is associated to the possibility of forming a network of cooperation relations and complementariness in which the involved actors not only accede but that to the information also can contribute their glance, its experience and its work and increase and optimize the development and the management of the concrete projects.

The present net places itself theoretically from a collective real place and at the same time a virtual place from where the Province of Buenos Aires can be reached, trying to reduce the digital gap which is still very important. (Trejo Delarbre, R;2001:9) existing in our vast territory, between societies with and without access to the internet. This being understood as a hypernet of nets. This fact above mentioned, placed in a democratic context that can help to strengthen and to make a more transparent and well informed politics in knowledge and later understanding of our real, legal and thought territories, with the motto that more information means more knowledge (Trejo Delarbre, R;2001:8), and more knowledge means more awareness of each and every one of our territory. In other words, the more knowledge and awareness of our territory the better understanding we can have from it.

Talking about the Internet, democracy and international politics, Manuel Castells (2001:13) express: "It was expected that the Internet could be an ideal tool to foster democracy (and in fact this still could be possible). It seems easy to have access to political information through the Internet, and because of that, the citizens could be almost all well informed as their leaders from a start. Counting with the good will of the government, all official documents and the considerable amount of confidential information should be at hand on line. This interactivity allows the citizens to ask for information, express their opinion and ask for a personalized answer from their representatives. Instead of the government controlling people, people would control the government. Something that should be their right. Since in theory, power lays on the people. However, in many of the studies and reports this is quite negatively described with the likely exception of Scandinavian democracies".

It is not necessary to wait till the Scandinavian countries and supposedly a big number of well known rich countries change this negative view to start doing it ourselves. It is all about building a basic agreement and put it into practise.

Stating that the World is based only in cooperation, or that the World is based only in conflict are nowhere leading and simplistic conclusions. As Milton Santos (1996) points out cooperation and conflict are both inherent to our human essence. Therefore, facing the

building of a net as a proposal, cooperation and team work should learn to interact with conflict.

The outstanding progress in the latest five years in terms of Tics and Sig in the Republic of Argentina, nourishes the theoretical methodological improvements previous to other countries; and which are fundamental because they generate a very favourable scenery for a more virtuous social transformation than a vicious one.

However, if a collective decision oriented to cooperation and complement is not made among different teams and groups the net would end being more virtual than real.

The net is an invitation to a horizontal and organized link from the Argentinian University. It is not a question of rebuilding it in a month, it has do with constantly following a collective path. The nets as any liason, need time to build trust and transparency. Only under these basis a more genuine cooperation ad complement could be thought.

Going through a progressive, continuous and gradual information exercise about territory-knowledge, territory-awareness, territory understanding it could be possible to aim at a territorial intelligence shared by operative employees and citizens. A creative and rational management in networks would allow us to get a better understanding of ourselves in order to improve our self-worth, in our terra torium (Lobato Correa, in Montañez Gomez, 2001), land that belongs to someone and in each of our stlocus, as Hegel pointed out, the place of something or someone.

2.4. Theoretical territorial concept

How do we place ourselves in order to define a territory? From what concept?

Our theoretical position is based on the understanding of a complex, solidarian and contradictory dialectic of social processes and natural processes; or else, from the protagonists and individuals who with their perceptions, interests and actions, build up places in a permmanent relation between the man and the environment. According to this preliminary definition the object of study is the territory, with its places, its processes and its participants.

This theoretical conception sustains that it is not possible to study places without its processes and protagonists. Why then taking as a point of departure processes, protagonists and places? Because the protagonists give a continously new significance within different processes. Because the processes have an explanatory strength difficult to put into practise without people and places. Because the places of something and someone are explained through processes, those which at the same time are made real by people. Because processes, actors and places can be studied as a synthesis of a real concrete thought, both in an isolated form as well as interrelated. Because actors, processes and places synthesize virtuous and viced transformations.

Why then taking processes, actors and places as a point of departure for the study of the territory? Because actors continuously do and give new meaning to the places under the light of different processes. Because processes have an explanatory strength difficult to work with or to operate with practices without people and places.

This theoretical conception sustains that it is not possible to study places without processes and protagonists. Because the processes have an explanatory strength difficult to work with without people and places.

It is because the places of something or someone are explained through processes, which at the same time are put into action through people. It is because the processes, actors and places are simultaneous and permanent. Time percolates them. Because processes, protagonists and places can be studied as a synthesis of a real concrete and a thought concrete, both in isolation as in an articulated form. Because processes, actors and places synthesize virtuous and vicious transformations in our Planet.

Because processes, places and actors become interrelated through epistemological traditions which specially belong to the field of Geography, and other Social Sciences. Because places without processes and people are meaningless, because process without people and places too, because individuals without processes and places are also meaningless. Society is the essence and the reason of being of the processes, protagonists and places. Social Sciences are, all and every one of them, resources –strategies- of our knowledge that, somehow -central or secondary- includes their objects of study-or make an attempt to it-processes, protagonists and places.

Which are the main concepts that give sense to this net? Territory; in a wide sense; place and management: from a little diminished level of theoretical abstraction. To put a limit to the territory and place is not easy; probably, because it deals with two polisemic concepts with a millenarian epistemologic tradition, about what has been studied and done research from theoretical perspectives and very different theoretical methodological approaches. To define what is understood by management, though recognizing a tradition of knowledge younger than the ones of territory and place is also a complex work.

Speaking about the territory Geography and other scientific disciplines, though with a less influence, as well as other scientific disciplines of nature such as (Geology, Biology, Ecology, Hidrology, Edafology, Climatology et al.) and social like (Urbanism, Sociology, Political science, Economics in Politics, History, Antropology, Social Antropology, Social Communication, Agronomy, Veterinary and others) gather needs and experiences coming from an important heritage related to expertise and work in the field.

Reflections and applications on the place, record heterogeneous epistemic traditions, among which play an outstanding place Literature, Linguistics, Architecture, Antropology, History, Geography, Psychology, Social Work and Genetics.

With relation to management, Law and more recently Political Science, are disciplines with an outstanding performance in relation to this issue. Many other recent disciplines could be incorporated like (Territorial Management, Urban Design, Local Development, Endogenous Development, Institutional Politics, Territorial Marketing, Environmental Management and others) to the three basic ones making the paradigm even more complex.

Territory, place and management are introduced to us by three approaches. The territory (in latin: *terra torium*) is not the nature, the natural physical substrate and/or constructed it is not the society in action either, nor the citizen, broadly speaking he is something and

somebody in dialectic. Place (in old latin: *stlocus*, in new latin: *locus*) is not the natural physical or built environment, nor the subject, the individual, the citizen, broadly speaking is something and somebody in a dialectic interaction. Management (in latin: *gerere* and *gestatio*) is a rational administration with creativity that pronounces in one action intention where communication, leading, controlling, planning and organizing are the main participant components so as to develop internal political support in order to implement programs.

It is interesting to dive into these three concepts. The term territory, as stated by Lobato Correa (1997, cited by G. Montañez Gómez; 2001) comes from the latin words *terra* and *torium*, which together mean land belonging to someone. Land and someone, land as any place on Earth no matter its scale; someone: an individual, a social group, a social sector, a society. In etimological terms the origins of the word territory is considered dialectic.

For ten years in a very heterogenous University courses in public, professions and places our investigation team CONICET-UNLP has been systematizing hundreds of territory pre notions with the purpose of doing a content analysis. Until the moment, in culture and imaginary of each strong inductive and deductive traditions prevail over dialectic thought, also nomotetic (in spanish: *nomotéticas*) and idiographic traditions are highlighted.

The word place derives from the latin *locus* and, as of century XII, of his derived *localis* and to *logar*, that they mean the premises and of the place, although its origins they are previous. The reader can consult from diverse perspective Rossi (1971) Muntañola (1974), Corominas (1987), García Olvera (2002) and Fernández López (2006). This last author (from Corominas) slogan that *locus* comes from the old latin *stlocus* that means place, site, address, whereas the root of the term is *stlo-kos*, that in old indian means mainland, earth, ground or *sthálam*. In the greek, the place is the *topos* (τόπος).

As Muntañola raises, (1974 mentioned by García Olvera; 2002), the place "... it is something that accompanies man"; recalling Hegel's words he remembers to us that the place "... it is always a place of something or of somebody", I Hegel's thought can be applied in the Genetics. We see, *locus* is the place of a chromosome, where a given gene is located; one is the place of something. Meaning that, in this notion - the being of the place exhibits Garci'a Olvera- "... not only has the identity of the self being it is not just because of the place itself, if not in the relation of what or who inhabits it". From this perspective, the place has a relational nature of leibnizian basis; it is possible to investigate how the reason and the emotion in the meaning of the term take part.

The dialectic origin or of the term place belongs to linguistics; nevertheless in the present sense of the term, there is in the meaning of the term place a dialectic between *locus* and somebody, or between *locus* and something, between a house and its inhabitant: its address, *stlocus* of the old latin. It is very probable that in the process of origin of the term place a turn to a dialectic basic content has taken place from the ground, the Earth, *sthálam* of the old indian to the address, *stlocus* in the old latin.

From this perspective the real meaning of the term place owns its meaning to the taking over of the people, who give their identity to every square, neighbourhood, cafe. On this

basis a neighbourhood, an urban center and its life get their real identity from thousand of individuals, who live, enjoy, pollute, and give a new meaning to them every time.

Aldo Rossi (1971, 1^o Spanish edition), since 1966, pondered similar components in a more analytical way than dialectic one. Rossi poses that "... the bonds and the same precision of locus like a singular fact determined by the space and the time, its topographic dimension and its form, by the being soothes of old and modern vicissitudes, by his memory... But these problems are to a large extent of collective nature and they force us to briefly stop in the study of the relations between the place and the man; to see, then, the relations that are with the ecology and psychology." (Rossi; 1971) They underlie to the ecology and psychology, the nature and the subjects; as we analyze soon is opportune to work how the place notion becomes absorbed in three relations: subject-object, natural-artificial object-action and; first of them it presents/displays in G.Bachelard (1935, 1^a ed), P.Bourdieu (1996) and F.Schuster (2002), and the remaining two in M.Santos (2000) and a good number of authors worked by Santos.

The origin of the word management (in spanish: *gestión*) is latin and it goes back to two terms: *gerere* and *gestatio* (P.Robert; 1988:865); first one talks about the action to administer used since 1455, the second gestation it alludes to the gestation, originally in the maternal belly comes from 1537, soon its meaning is extended and in 1866 the term is used in a figurative way as "...getting ready for something new, preparing a new situation, potentially working for a new spiritual creation." (P. Robert; 1988:865)

In other words management should be understood in administrative terms as creation. Although being contradictory creativity and rationality form an unit, form an hybrid. The absence of one of them invalidates the relation and eliminates de management. Management is thought dialectically.

2.5. Territorial concepts and axis of analysis

Territory: it is a place of varied scales –micro, meso, macro- where the protagonists begin complex processes of interaction between action systems and object systems, formed by a significant amount of techniques- naturally and artificial hybrids–and easily identified according to instances of a territorial organization process during special events-in time and space- and with several degrees of adaptation the the local-meso global relationship. A constant redefinition is the characteristic of a territory.

Starting off of this previous and provisory definition of territory, in a level of greater operacionalization and like a way to begin a dialectic joint between knowledge and reality, at least seven axes of analyzes that are resisted with the reality, in very diverse tactical missions are identified: 1-actors of the public sector, the private sector and the citizenship; 2-techniques like natural-artificial hybrids; 3-systems of objects, systems of action, like occupation landlords and landlords of appropriation of each place; 4-instances of the process of territorial organization (creation, expansion, consolidation, fortification, stagnation and retraction) and events in time-space; 5-local, meso and global: landlords of of concrete action, institutional organization and accumulation/distribution; 6-horizontalities and vertical in relations of being able: events hierarchic, homologous and

complementary. These six axes of analysis are previous in the construction of the concept territory, whereas there is a seventh axis of analysis that, in the analysis, arises a posteriori: one is the euclidian and topologic spaces, and absolute, relative and relational spatialities (in spanish: *espacialidades*), derived from the definition of territory and places.

Place: it is an occupation landlord and territorial appropriation in micro and/or meso-scale where actors start up hierarchic continuous-of conflict and shared in common- everyday happenings, counterpart and complementary, giving new meaning back to consciousness, action and objects of perpetual way in instances of a process of territorial organisation. The place is always redefined.

Referring to the concept of place, it is understood by micro-scales places such as a square, a school, a bar, a church; while in a meso-scale we are referring to places such as a neighbourhood, a shopping centre, a farm, an airport. The concept of place at a meso-scale notion is an application of M. Santos approach about systems of objects and systems of action in the micro and meso scale in order to apply it to concrete research with subjects and objects as objects of study¹⁴. From the theoretical-empirical point of view it is related with the taking over and the action of becoming inhabitant of a specific territory, for example a district, a neighbourhood, a rural area; that is to say, the place as a basis of take over. It is where the acto f inhabitanace become related to systems of objects and taking over together with systems of action and/or social practises by individuals. At the micro-scale, such concept has been investigated in a lesser degree by our team.

Territory and place are two basic concepts and dialectic application; it explains what them, his explanans, and those questions that must be explained, its explanandum (F. Schuster; 2002: 37) are necessary. In the territory and the place "...two categories, object and action, materiality and event, must be dealt with unitary form... At every moment there is a relation between the value of the action and the value of the place where the value of the space is realized... is not independent of the actions that is susceptible to include." (Holy; 1996: 74) In this both of dialectic culture between knowledge and reality he is opportune to work how these slight knowledge of territory and place become absorbed in three relations: subject-object, natural-artificial object-action and.

How does the management enter in territories and places? Reviewing the six axes of analysis and the generic notion of mentioned territory one is to recognize the modalities in which the actors of the State, the market and the citizenship cause changes in each place of the Planet no matter their scale and its intentionality. That is to say that tomorrow the actors will continue producing new techniques that will give new meaning and renew systems of objects and systems of action generating new events in time-space and deepening or cushioning the contradictions of the perverse relations between the global, meso and local.

It must be taken into account that the management notion conceives from a joint rationality/creativity. Slight knowledge underlies to the management such as action,

¹⁴ If it is of interest of the reader it can consult by mail: Bozzano, H. and Sergio Resa (2007) UNLP-CONICET (unpublished)

change, transformation, possibility, uncertainty, vision, projection, opportunity and future, in which it is important to give a new meaning to the relation subject-object incorporating to the analysis the agents of development (professional) and the subjects of change (actors public, industrialists and citizens) to define more real objects of intervention.

Management (in spanish: *gestión*): It is a rational administration with creativity which is shown in an intended action where valuing, take over, organization and communication participate. Within this conditional and previous definition, at least four analysis axis are identified: communication, appraisal, taking over (assume control) and organization. Each individual or collective action has an implicit or explicit intention. Communication is the communicatio = that is to say the action of sharing with others in a more or less participative manner as a point of departure personal bonds and very different events among State protagonists, the market and the citizenship. The appraisal has at least three interpretations: socio-cultural (as a use worth value, including the symbolic value), economic (as value of change) and public (as complex use of value). The taking over is understood from the point of view of a horizontal-vertical dialectic where the individuals take over or else are excluded from the action or process within which they are included. The organization is referred to the planning, systematizing and instrumenting the action to be carried out¹⁵.

In the RET, real, legal and thought territories are nourished by a theoretical nourishment. As long as each territory and each place is continuously transformed, its redefinition is permanent: there come to play in a varied way taking over, appraisal, organizing and communication. That is to say that in each real, legal and thought territory, underly some of the axis of analysis above presented.

2.6. Real territories: RET application

It must be remembered that as a first approach to a real territory is when the main real uses of the territory are interpreted per rural lot and block.

It is understood by the use of the real territory the visible evidence in the land-lot, block, rural lot, fraction – of an activity of the territory, as long as this reflects a way of inhabitation and take over of the place.

The visible outcome refers to the possibility of observation through different sources (direct observation, aersnapshots, satellite images, maps, cartographs, plans) objects and actions closely related with any activity. Such as commercial, services, residential, tourism, industrial, farming and others.

Real territories are characterized as follows;

¹⁵ The analysis axis “communication” was worked with contributions of Eleonora Spinelli and Julia Fedeli (UNLP), from García Canclini, M.J.Barbero, García Mata and Paulo Freire. The analysis axis “valuation” was worked mainly from classic works and of interviews with Christian Topalov. The analysis axis “appropriation” was worked from Jorge Karol and Silvia Bolos and of the concrete work with Sergio Resa, Adriana Peña, Alejandro Jurado and Jorge Heller. The analysis axis “organisation” with the groups of investigation of “ProHuerta” and IPAF (of the INTA) respectively directed by Roberto Cittadini and Gustavo Tito.

- 1- Blocks of mixed tipology: maximum density: people per square kilometre with building construction which varies among, malls, commerce and services.
- 2- Blocks of tipology with continuous residences: medium density with more than a half of the block built.
- 3- Blocks with tipology of residential discontinued: density of inhabitants medium low, between 25 and 50% of built block.
- 4- Blocks of discontinued residential tipology: density of inhabitants very low between 10 and 25% of the built block. baja, entre el 10 y el 25%.
- 5- Block of residential tipology of isolation: density of inhabitancy with less than 10% of the block built.
- 6- Set of houses: it has to do with planned neighbourhoods and horizontal two story houses and one floor house.
- 7- Congested settlement with a high population density, having grown in an unplanned manner and facing problems of infrastructure deficiency.
- 8- Garden residential: includes park neighbourhoods (big urban lots and small rural park lots).
- 9- Country clubs and private neighbourhoods.
- 10- Blocks and empty lots.
- 11- Squares and open green spaces for the public.
- 12- Industrial settlements and big stores.
- 13- Blocks of mixed tipology. Residential and deposits with more of the 50% built.
- 14- Block with mixed tipology: residential and stores with less than 50% built.
- 15- Big stores: sanitary, military, education etc.
- 16- Poultry and faro industry.
- 17- Green house effect with flowerculture.
- 18- Greenhouse and Horticultura production, it also covers horticulture allotments in disuse.
- 19- Dominating forestation: induced and natural.
- 20- Extensive agricultura, includes extensive land cultivated in previous opportunities.
- 21- Cattle breeding without apparent use.
- 22- Intensive cattle breeding: feed lot.
- 23- Swamps and quarries with "cavas" active and inactivate.
- 24- Swamps.
- 25- Deltic: includes large packsaddle cultivated land (in spanish: albardones and maciegas)

Such real uses of the land have been totally under the research by Buenos Aires Metropolis- All the real uses of the land have been investigated by this organization.

2.7. Legal territories: RET application

Having seen different realities, the legal territory is the area with definite boundaries identified for administrative purposes subdividing the city into a number of smaller units: this is usually coming from the general interest that the Government must respect and protect. In the case of the territory of the Province of Buenos Aires-formed 134 Municipal governments it has to do with the Provincial law n° 8912/77 Territorial Organization and land uses. Such law is applied by each of the Municipal governments who through statutes or ordinance (in spanish: *ordenanzas*), define Areas and Zones in which urban signals are given, allowed uses and different boundaries identified for administrative purposes subdividing the city into a number of smaller units.

In territorial terms, regulations take related definitions to the urban and territorial development such us land value, the definition of growing trends, profiles promotions for specific places and the definition of morphological architecture, among other aspects.

Although the law establishes a common criteria each Municipal government is allowed to write its own ordinance; it is important that from 30 years ago up to now, it has not been possible to obtain an agreement with an uniformity of criteria. It is important to highlight that the Province of Buenos Aires has very different realities: metropolitan territories, pampa territories, touristic areas, periurban spaces, basin of rivers, and other territories.

It is important to highlight the significant contribution which represents having been able to make a cartographic version of one single map with the territories for the first time.

Legal territories are characterized as follows:

- 1- Centrality of first range
- 2- Centrality of second range
- 3- Centrality of third range
- 4- Main commercial corridor or walkaway
- 5- Secondary commercial corridor or walkaway
- 6- High density residencial
- 7- Medium density residencial
- 8- Low density residencial
- 9- Park residencial
- 10- Country clubs area
- 11- Closed neighbourhoods
- 12- Mix residencial
- 13- Service corridor

- 14- Mixed industrial
- 15- Exclusive industrial
- 16- Specific use
- 18- Green areas
- 19- Center of watch rural zone (in spanish: subcentro de servicio rural)
- 20- Service road zone
- 21- Intensive agricultural
- 22- Extensive agricultural and cattle
- 23- Protection zone
- 24- Recovery zone
- 25- Reserved zone

2.8. Thought territories: application to the RET

The thought territory is that one place understood in terms of occupation landlord and territorial appropriation in the micro and meso-scale: a district, a commercial centre, an industrial group, an agricultural place and others. Its knowledge responds to the following question: “Which are the main practical landlords and of occupation and appropriation of the people in the places” One is to recognize the systems of objects (M. Santos; 1996) in terms of landlords of territorial occupation, fixed, space forms, natural and/or constructed territorial configurations; and simultaneously, to recognize the systems of action (M. Santos; 1996) in terms of landlords of territorial appropriation, flows, social but salient processes in each place.

The investigation in thought territories - territorial Air places or landlords Good register 16 years of scientist-academic antecedents. Of this footpath of work reference next to two applications becomes: a) Argentina and b) Municipality of General Belgrano, to constitute ends of the case which occupies us in the RET, is worth to say, Buenos Aires is one of the 23 Argentine Provinces and General Belgrano is one of the 134 Municipalities of the Province of Buenos Aires.

a) Argentina and Buenos Aires Province: In 2005 a proposal of a preliminary classification of 30 places for the whole argentinian territory. The proposal of “Purposes and Places of the Argentina” (CONICET-UNLP). This proposal for all the Argentine Republic is almost feasible-per stages, in different provinces, in this case Buenos Aires with an economic reduced budget.

From the combined interpretation of different sources, direct observation, Google Earth satellite information, public information corresponding to the cartographic authorities and national statistics (IGM and INDEC), of the argentinian educational system (MECyT and provinces jurisdictions) of the know-how from the university (UNLP and other universities) as well as the technological-scientific system (CONICET) build a map in order to get to know ourselves we argentinian better.

The places or areas of settlement (standard of inhabitation) and territorial take over make together an explanatory basic instance to study the Argentinian territory. In the last two years the task is established by the combination of two criteria: territorial analysis unit and classification: a) territorial unit of analysis: the territorial unit of analysis is the set of a variable amount of blocks, equivalent urban spaces, urban interstices, and/or rural lots b) classification: places of lots will be given and territorial take over would be classified according to the categorizing of 30 places.

The thought territories corresponds to the following places or standards of settlement and territorial take over:

spaces	place (<i>lugar, stlocus</i>)
urban spaces	1-centers, sub centers and commercial walkaway (malls) 2-consolidated neighbourhoods 3-neighbours in consolidating stage and weak suburbs 4-industrial parks and zones and wholesalers merchant activities. 5-big green spaces 6-big equipments 7-big degraded and weak areas: slums 8-areas of tourism (seaside resorts, hot springs and others)
periurban spaces	9-intensive-primary productions and underused in value 10-leisure and green open and closed city 11-big equipments(in spanish equipamiento) 12-periurban mixed (productive, leisure, big equipments, deposits, green city and expeculation)
	13-villages (between 20 and 100 inhabitants; it includes railway stations, big <i>ranchos</i> and other houses conglomerations) 14-small villages (less than 20 inhabitants; it includes railway stations, big <i>ranchos</i> and other houses conglomerations) 15-rural sites, <i>parajes rurales</i> (includes rural schools and governments headquarters: prefecture, gendarmerie, police and others) 16-agricultural with irrigation 17-agricultural without irrigation 18-farming 19-cow cattle 20-woollen cattle 21-subsistence pastoral 22-forest natural and/or induced 23-land-silvo-pastoral 24-extractive and/or industrial mining 25-industrial parks and great industries in the middle rural 26-big dams 27-big equipment 28-tourist sites in spaces nonprotected
open spaces	29-national, provincial and municipal parks and natural reserves natural 30-tourists places in protected places

* This proposal is ready to form part of a specific Program within another one which is ongoing-Territorial Argentinian Organization 2004-2016 within the Federal Ministry of Planification of the Nation, which is continued by the new Government of the P. H Cristina Fernandez de Kirchner.

Resource: CONICET-Geography UNLP (2005) Places and uses proposals of Argentina, directed H.Bozzano.

b) General Belgrano and Municipalities Governments of the Province of Buenos Aires: *In 2007 theoretical-methodological criteria were proponed to define places at the General Belgrano Municipal council. Such investigation was the basis to the conception and writing of the territorial and Urban Planning (legal territories) according to the inforce Province Law 8912/77 (Bozzano, H and S. Resa; 2007; op.cit).*

The methodological criteria are organized mainly on the following hypothesis: “To conceptually define with the highest possible accuracy place and territory in term of an object of study, offers valid contribution in order to be used on a second instance together with others such as politics, programming, management, strategic intervention, territorial development, local development, institutional development, planning and organizing in terms of concrete intervention objects”.

Within the definition of place 4 questions are incorporated to the day to day concrete issues of investigation a) the relation subject-object and the other epistemological obstacles, b) the articulations between knowledge and reality in a problematic field, process of object construction strictly speaking and its relation with the object of study; c) the process of construction of the object of study in itself; and d) nature of the object of intervention and its relation with the object of study.

The application of the methodological theoretical concepts are based on a dialectic exercise between theory and empiricism from the beginning to the end of the job. The definition of the criterium comes from a particular interview relation among categories, concepts and variables. The concepts, categories and variables which are next shown here as a way of analytic matrix, make a provisory and preliminary definition of the object of study (Bachelard;1986 reedition), based on previous investigations (CONICET – UNLP) referred to places (2005) lots of inhabitance and taking over (2003), territorial standards, and to logics of territorial inhabitancy (1993).

Analytic matrix oriented to understand the place in terms of an object of study

Categories (categorical concept or essential concept)	Operational concepts	Variables (operational variables)
←		→
bigger theoretical weight	empirical theoretical nexus	bigger empirical weight
territory place (<i>stlocus, lugar</i>)	territorialities	urban territoriality periurban territoriality rural territoriality natural territory
	vocation	residential vocation vocation of centrality recreational vocation industrial vocation and compatible vocation for equipment intensive productive vocation farming vocation extensive mining- extractive vocation harbour vocation vocation of natural reserve other vocation
	rationalities	environmental rationalities social rationalities economical rationalities
	processes	sinergetic procesos conflictivos
	trends	value trends vulnerability trends accessibility trends
	actors	public actors private actors citizens
	spatialities	absolute spatiality relative spatiality relational spatiality

Bozzano, H. and S. Resa, 2007, op.cit.

The applied methodology is organized in five stages, called as followed.

- 1) Territorialities and territories.
- 2) Vocation and “pre-places”.
- 3) Rationalities, processes, tendencies and protagonists.
- 4) Place mapping.

5) Matrix synthesis: “places, concepts and employed techniques”.

In each stage the operational concept is checked to see if it is understood and employed the techniques are given, both with relation to the use of the sources as well as the procedure. (Bozzano, H y S. Resa, 2007, op. cit)

The investigation done by General Belgrano organization gave as a result the knowledge of 16 places, 12 of which are urban, 10 periurban and 4 are rurals.

Urban Places

1. Central
2. Consolidated residential
3. Block of houses
4. Residential in consolidation
5. District-park and residential garden (permanent and temp)
6. Weak residentials
7. Commercial and services runner
8. Residential compound (with sheds and industries)
9. Urban equipment (specific uses)
10. Urban interstice
11. Recreational and tourist (public and semi-public)
12. Associate industries and services (they can be periurban or rural)

Periurban places

13. Urban edge with urban lots
14. Urban edge with rural lots
15. Productive intensive (horticulture, cranberries, endives)
16. Productive with medium and high territorial impact
17. District isolated in periurban scope
18. Equipment in periurban scope
19. Periurban valued by route (Routes 29 and 41: buffer of 200 ms to each side)
20. Periurban valued by legal qualification of the ground
21. Degraded places: rubbish dump and diggings
22. Weak periurban

Rural Places

23. Rural places and railway stations

24. Colony the *Bosque Escantado* (Enchanted Salty-Forest)
25. Cattle-agricultural in great operations and of so large half
26. Cattle-agricultural in small and average operations
27. Intensive, preferably milk man cattle dealer
28. Intensive cattle dealer: haras and cabins
29. Medium intensive cattle dealer of and high impact: feedlot
30. Extensive cattle dealer in great operations and of so large half, with farming aptitude average
31. Extensive cattle dealer in small and average operations, with aptitude farming average
32. Extensive cattle dealer with important environmental restriction
33. Rural sites of landscape-cultural value: local roads afforested and helmets of stays
34. Valorised by routes (Routes 3, 29 and 41: buffer of 500 ms to each side)
35. Bird-raising operations
36. Forestal exploitations

2.9. Development of programs and instruments

The new born Net lays on in the programs developments and necessary instruments so as the public institutions and the citizenship could have free access to work sarroundings simple and fun.

For that purpose a new place in the internet has been created which address is:

http://siout.frlp.utn.edu.ar/siout_map/cartografia.phtml

- *The totality of the used software are of free an open code. In the map server an interface was created in order to modify and handle the data entrance and information layers management.*
- *The server used is called Apache.*
- *For the modules map script php was employed; for the geoespacial services Postgre with the extension Postgis; y Smarty Template Engine for the templates html.*

2.10. Institutionalization of the Network

The 10 of October of 2007, the UTN National Technological University and the Zanetta Foundation, through their Centre of Urban Projects, have signed the agreement that gives to origin to the RET Network for the Understanding of the Territory.

AT present the RET is in an instance of formation of to partnership in which the UTN participates and this Foundation, that to after to have entered into engages in a dialogue and to have decided principles and objectives the RET with to other institutions and organisms, formal invitations to public institutions of government have attended,

universities and organisms of scientific research to add itself like adherent members. Institutional It is understood that it collaborates with and academic fortification, through the mutual cooperation between the sectors that ploughs added; also, it promotes the development of an institutional culture of democratisation and diffusion of the information, related to the analysis, the ordering and the management of the territory, transmitting territorial information, in order to construct knowledge and to promote an increasing process of understanding of the territory.

The benefits with which the members of the RET have are:

- a) free access to the Internet with map visor and territorial information at a real scale of the Buenos Aires Province;
- b) availability of the information corresponding to the legal uses of the ground of the totality of the municipalities of the Province of Buenos Aires;
- c) data bases of texts of effective municipal ordinances of territorial ordering with provincial convalidation;
- d) thematic finder of the territorial norm;
- e) options of text unloading and planes of this norm;
- f) city-planning cards by zones of the legal uses of the ground of all the municipalities;
- g) cartography bases standardized contributed by the Direction of Territorial Cadastre of the Province of Buenos Aires;
- h) thematic cartography related to the territorial ordering briefing city-planning ranks of subdivision of the ground, parameters, intensities of occupation and other aspects;
- i) basic and applied territorial investigations of real territories: real uses of the ground by rural parcel and apple of the 40 metropolitan municipalities;
- j) maps of detail of real territories: real uses of the ground by rural parcel and apple of 40 metropolitan municipalities;
- k) basic and applied territorial investigations of thought territories: places or landlords of territorial occupation;
- l) maps of detail of thought territories: places or landlords of occupation and territorial appropriation of 40 metropolitan municipalities.

3. CONCLUSION: INTELLIGENCE AND TERRITORIAL UNDERSTANDING

The territorial intelligence and territorial understanding are two main concepts with poor epistemologic tradition and strong theoretical weight. One of the reasons for this situation would be conditioned with the conceptual nature and practical approach of both concepts. In terms of intelligence and territorial understanding, the theoretical development from the academic-scientific world on one hand and the outstanding diversity and richness of usage from the politico-institutional sphere, on the other hand, have been contributing to shape in the last decades two ways with bonds that today it is necessary to go deep into.

CAENTI constitutes a favourable scenery to the theoretical empirical coordination in this sense, due to the significant number of concrete experiences that the net gathers. The on going projects in France, Spain, Italy, Rumania, Belgium, Hungary, Great Britain, Taiwan, Argentina and other countries are a rich quarry from where it can go deep into the dialogue among the public institutions, the social organizations and the university.

It is not a matter of giving territorial information, neither to reach the territorial knowledge, both are necessary but not enough if to achieve a territorial understanding and intelligence is the aim. In this situation we ask ourselves when is there territorial information in a project?

When are there territorial information and territorial knowledge? When are there information, knowledge and understanding and territorial intelligence? In case one of these four situation is present: In whom has it got a place? In public white collars, in academics, in social referents, or in citizens?

In intelligence and the territorial understanding they converge, expertises and knowledge of the scientist-academic world, the political-institutional world and the actors directly involved, starting up a series of instances that, in principle, respond to the following logic of collective construction: 1-information of the territory, 2-knowledge of the territory, 3-brings back to consciousness of the territory, 4-territorial understanding and 5-territorial intelligence. The concretion of these instances allows to as much extend and to improve the possibilities in the diverse ways that can be indicated the management, the study and the interpretation, of the territory, as of the actions, practises, processes, programs and plans that in each territory are carried out.

Nevertheless, no project in march within the framework of programs of intelligence or territorial understanding will be territorial in a 100%. Study or of intervention will be inherent questions in order where, still doing without territories, territorialities and spatialities, he will be oportune to know his logics operation of another nature: social, cultural, symbolic, political, environmental, economic, legal or others. Despite not being territorial visions, it will contribute to enrich brings back to consciousness territorial tending to obtain the understanding and/or territorial intelligence.

The profit of understanding or territorial intelligence is a gradual and progressive exercise that is pronounced according to different rates in referents, professionals, referring and citizen, depending it on the appropriation of the project on the part of each, as well as of the degree of it brings back to territorial consciousness that wakes up in each one. Recognising in each actor different temporalities in the appropriation and the territorial consciousness, after transiting this winding way, it will be possible to expect an understanding and a territorial intelligence common to civil employees and citizens, extending the diffusion and democratisation possibilities of the information, but mainly to increase the territorial consciousness.

Intelligence and the territorial understanding suppose the beginning of oriented processes to obtain brings back to consciousness territorial in micro and macro scales, in districts, in cities and regions, in programs, very different plans and policies. Being concepts of great

theoretical weight, spatialities –*espacialidades*– and territorialities they give to theoretical and practical sense to intelligence and the territorial understanding.

It brings back to consciousness territorial, it bases of the understanding and territorial intelligence is obtained in the measurement that the actors of each project incorporate some inherent concepts to our daily practises, although not sufficiently known from the theory. We talked about the euclides and topologic spaces, to the absolute spatialities, relative spatialities and relational spatialities, as well as to urban, periurban or rural territorialities, and to other applications of the concept territoriality. One has been being to articulate concepts developed for centuries (Euclides, Newton, Einstein, Leibniz, Heisenberg) with territorial and space applications related to concrete social practises. The development of each of these concepts, as well as its application in concrete projects is investigation object at the moment, anticipating its exhibition in encounter CAENTI to be realised in Besancon, France, in October 2008.

In the case of the RET Buenos Aires, Argentina, the real, legal and thought knowledge on our territories and places will be able to have major development in the measurement that, doing a work in network, we make one possible *communicatio*, a putting in common of our territories and real, legal and thought places from the scientific community and the referents who work in the subject, in all the other actors which they incorporate, evaluate, give meaning and reformulate their territory according to particular experiences, knowledge and intentions, and whose main preoccupations are other than ours.

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“Composite Picture to Help to Study and to Define a Regional Economic Intelligence Device”

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Abstract: Economic Intelligence is a French conception of organisational sustenance by an improvement of information management. At the end of 1990, this consideration emerged from the concepts of Competitive Intelligence, Business Intelligence and Knowledge Management, notably, being supported by French government. One of these applications is the Regional Economic Intelligence initiatives. The most prominent of these projects is the cluster of competitiveness call. But, it is not the only proposition, many other enterprise clusters initiatives or the Regional Economic Intelligence Devices (REID). Then, in front of this panel of different Territorial Economic Intelligence initiatives, we decided to propose a tool to help any decision-maker develop a Territorial Economic Intelligence Device. This might help shape the overview of some particular REID and other similar devices and it is associated with a tool to define a composite picture of the project of REID. These composite pictures are realized on the basis of information visualization technique of Chernoff faces. In this sense we have developed a methodology to identify the characteristics of a typical REID in terms of Economic Intelligence actions and other actions connected. We have associated these characteristics with quantification by parameters and these parameters were linked with a particular feature of Chernoff face.

1. INTRODUCTION

Nowadays, we are in the context of globalization. Also, many firms try to be more competitive along with time and attach more importance to activities related to information. Economic Intelligence (with the French meaning), which is a conception of Competitive Intelligence in addition to other functions such as Enterprise Knowledge Protection, Benchmarking, Lobbying, etc., is a very good example of this type of firm orientation to information.

Thus, consequently of the weak resources of small and medium enterprises (SME) compared with big companies, Territorial Intelligence Devices were set up to improve their competitiveness. From 2000, French government promote this type of information sustainment to some competitiveness. In fact, different projects sharing and regrouping resources to access and use information were born from it. This volition realizes some ideal conditions for development of territorial Economic Intelligence device as cluster policies or French cluster of competitiveness. In these cases, territory is characterised like the geographical support of Porter definition of cluster, ie. "*a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities*". (Porter, 1980).

In this paper, we focus on a kind of Territorial Intelligence Devices that we name REID (Regional Economic Intelligence Device). One of particularities of this kind of devices is to be associated with and sustained by a region which is a territorial subdivision of a France with median size of around 26000 km².

During our study, we have observed some of these specific devices that we name REID. We have gone into detail on nine of them and, we have considered different ways to match or differentiate them in order to deduce some similitude and variations which exist in their choice of EI applications. In relation with this work, we present in this paper our understanding of REID and present a tool to use information called Chernoff faces. We have adopted this tool because it is very practical to deliver some visual information and facilitates distinctions and similitude identification between many elements. We used it, because its representations are in shape of faces and with this metaphor we can propose, for any decision-maker aiming to develop an REID, a tool to realize a composite picture of it and compare it with other visage of REID that we have referenced in our study. Then we propose in this paper, our methodology that we have used to specify a REID in term of its main function of EI, KM and Innovation. We present the link that we realize between REID and Chernoff faces through a set of parameters and Chernoff face elements. At last, we develop our method to realize a composite picture of an idea of REID and how we use it to recognize some REID which exist and are potentially interesting to realize a benchmark in relation with the initial idea of REID.

2. CONTEXT OF WORK AND PROBLEMATIC

Our problematic is linked to many effort of French institutions (government, Regions or Towns for example) to help with EI companies to be more competitive. In these efforts, information and its use by companies is the most important element. Although, some ideas

of Territorial Intelligence appeared. In the particular case of French regions, these ideas and their applications have given birth, notably, to Regional Economic Intelligence Device (REID).

2.1. The Regional Economic Intelligence Device

Firstly seen as a national device, EI in its second step becomes a regional operational device.. Indeed, the prosperity of companies does not imply only the big groups but also and especially that of the small scale enterprise (SME) which form the greatest part of the economic fabric of France. EI thus has as an ambition and vocation first to support the local development: which justify definitively the relevance of territorial intelligence.

These devices have several objectives: to produce and share knowledge between the socio-economic actors of the territory, to protect this knowledge; to promote the emergence of networks which are not limited to only private decision-makers but include both private and public decision-makers. The global objective is to improve comprehension between these two entities, that they grow rich by the experiment of each other, work together and share their competences, in order to support the potentials of attractiveness and competitiveness of their region. Thus these devices tend to promote a new model of regional economic development, whose end goal is to make it possible for the region to obtain means of anticipation which put the local decision makers in the capacity to develop new creative activities of employment and richness. With these indications we can identify some big categories of REID. First we have the real REID, define with these specific term by the French government. We name these devices simply REID. We have too some others French government or regional initiatives which we can speak of REID. In these cases, we have the clusters of competitiveness initiated by French government in 2004. Another kind of REID that we have considered are the regional sectorial cluster initiatives. At last we have included too in our consideration of REID, some other regional Intelligence Territorial initiatives dedicated to local enterprises.

The real regional devices, placed under the responsibility of the region prefects, are directed towards two shutters:

- 1 Competitiveness: by anticipating and accompanying economic changes.
- 2 Economic security: it concerns the management of the scientific and technological heritage and the identification and the treatment of the threats on the companies.

The steps are as follows:

- To define a strategic perimeter at the regional level, in other words: establish or bring up to date a mapping of the significant companies.
- To train and sensitize towards economic intelligence: to train on the stakes of competitiveness, on knowledge sharing, on the protection of its patrimony, by orienting the decision makers towards the qualified structures in each quoted field.
- To set up networks between government and company and between firms thus allowing better circulation of useful information for the economic actors.

For example

The Lorraine device DECiLOR (Lorraine) aims at sensitizing the economic development actors of the territory towards EI, to train them on the methods and tools of watch and to provide them personalized information. It also proposes the setting up of network of the adherent companies by the means of sectors managed and animated by some personnel named: infomediaries. The actors of the device are the Region, the CRITT (Regional Center of Innovation and Technology transfer), the CEIS (European Company of Strategic Intelligence), the organizations consular, SME of local fabric (distributed under seven sectors) and the infomediaries (one to two per sector).

Second, about the *cluster of competitiveness* or “*pôles de compétitivité*” in French, we can say that on the contrary of others company clusters, the cluster of competitiveness respond to a government call for project and must include a laboratory and “Grandes Ecoles” or an university in its structure. The cluster of competitiveness are by nature the devices for networking competences and knowledge whose objective is, amongst other things, to bring together the research of companies to make emerge products and processes which could be developed and marketed and thus lead to an international influence. This type of structuring makes it possible for small companies “to bore on the market” and also allows research tasks to be concretized and applied directly to the industrial sector.

On Sept. 14, 2004, the Inter-ministerial Committee for planning and development of the territory (CIADT) characterized a cluster of competitiveness as a combination, within the same territory of:

- Three components (companies, training centers, research units) engaged in a partnership approach designed to find synergies of joint innovative projects with a mass critic necessary for international visibility;
- Three critical factors (partnership, R & D projects, international visibility).

Also, the principal objectives of the cluster of competitiveness “*are to reinforce the competitiveness of the national territory, to make the economic development dynamic, to create or maintain industrial jobs and to attract investments and competences at the European and world level*” (Leroy, 2005).

Two major types of **cluster of competitiveness** have been identified:

- 1- cluster of competitiveness predominantly *technologic* (importance of research activities and the strength of interactions between research centers and companies working on the development of a technological field);
- 2- cluster of competitiveness predominantly *industrial* (concentration of companies with R & D activities more applied and closer to the immediate market).

The four criteria posed include underlining:

- the repercussions in term of *creation of value*, economic activity or job (this creation of value is appreciated in a general way and can concern only members of the cluster of competitiveness: locally concerning a whole sector, the impact is considered to be sufficient);

- the innovative *technological contents*;
- the development of new products or services that can be put on the medium-term market (possible marketing: it is the industrial research, and not the fundamental research, which is financed; it must lead to sales, patents, etc);
- the coherence of projects with the strategy of the cluster of competitiveness and the companies concerned.

The contribution of economic intelligence to the cluster of competitiveness

The clusters of competitiveness are the resultant of an industrial and research coupling on a territorial scale. This new articulation clarifies the contribution of economic intelligence in region. Let us recall that EI in region is perceived as a true policy of territorial development making it possible to analyze the market of a territory and to detect the threats and opportunities which result from this. Besides, it is the elaboration of the strategy of networks of actors with the objective of creating, directing and motivating the bonds woven between actors with the service of a joint project. Thus the ambition of the cluster of competitiveness is clearly strategic insofar as they promote a regional EI. The certification of the 71 projects distributed in all the regions can be perceived as a political will of France to strengthen each territory from networks of actors mobilized around common objectives of competitiveness and attractiveness. Indeed, the clusters of competitiveness are centered on the principal concept of networks: network between firms (SME, great group), networks between the private sector (companies) and public (local communities, research) and networks between the companies, the research centers and the training organizations. The objective being the collaboration of all the partners around technological cooperation projects for a better competitiveness.

For example, the cluster of competitiveness “**SYSTEM@TIC**” aims to consolidate the leadership of the major integrators to maintain their R & D activities in the Paris region, to contribute to the emergence of new companies and the development of globally oriented technological SMEs and strengthen the attractiveness of France in the field of digital technology. These actors are Universities, Colleges, SMEs, and Corporations. The cluster of competitiveness “**Véhicule du Futur**” seeks to increase the readability of international territory, to make its contribution, to propose and implement solutions at the European level of service vehicles and mobility of the future. It aims to mesh the skills of the territory in the transportation and automobile industries. These actors are Universities, Colleges, SMEs, and Corporations.

Third, in the case of the *regional cluster initiatives*, we have seen above that we report to Porter definition of cluster. But, in our specific work, we have considered a cluster like a REID, if its geographical localization is close to the regional land area on which majority of its company components are in placed. Another important point for them is that these clusters are to be associated with some administrative element of regional government.

The cluster can be defined as a network gathering the companies and the actors of excellence in the same pole of activity, wishing to reinforce the competitiveness of the companies directed towards this market. The objective is to answer the challenges met by

these companies by the implementation of concrete actions. The cluster put on the direct participation of the actors to define the strategy of the actions (Loubet, 2006). Porter (Porter, 1980) defines it as the geographical concentration of industries which obtain an advantage by their co-localization. It can be of two types: vertical: the companies are dependent through the relations purchaser salesman or horizontal: the companies are bound by a common market, a finality of common production or the joint use of technologies or competences or by common natural resources. The interest first of the cluster is to increase the sales turnover and the economic effectiveness of its company and then to detect in its environment the factors supporting its growth. The cluster is an interesting strategy when a whole of companies is more effective than an activity consolidated in only one company.

For illustration, **Aériades** was created to federate competences and to be used as interface between the companies and the large clients of aviation, space and military defense, ... The structure gathers 28 Lorraine SME in various fields as the mechanics of precision, electronics, the plastics, the systems of measurement..., all likely to work in the sector of the civil aeronautics and military. Its originality is to associate ten scientific organizations, such as the Institute of welding or the European Committee of scientific intelligence. Together, all hope to promote the vocation and the aerospace potential of Lorraine, often unrecognized by Lorraine themselves.

Fourthly, to these three case of REID, we have added some regional Intelligence Territorial initiatives which are not really a clusters but have been initiated by an administrative regional element with some principal goals to stimulate EI actions in the local companies. An example of this last kind of REID is the Regional Information System (SIR in French) of the IAAT IAAT (Institut Atlantique de l'Aménagement de Territoire)¹⁶ of Poitou-Charentes region. These device has for main goal to provide data informing for politicians and managers development decisions.

In general manner, about main objectives of a REID whatsoever is real shape, we begin our work with like the three fundamental goals of real REID. Then, if the steps 1 and 3 above were necessarily considered at the moment of conception of all of REID project, the second have implicated some specific actions linked to function of the REID themselves. In this manner with our large consideration of REID, we would be asking the questions of repartition and categorization of action than they can be qualified to REID actions, ie. in direct relation with local companies and EI conception.

2.2. The REID first study

We have seen above that in France there are many kinds of devices than we classify under the terms of REID. Notably, in the case of a practical thesis in EI, we have study a panel of potential systems which it is possible to understand as REID. One of first question posed by this thesis is about the comprehension of what is REID and the role of its EI actors. Thus, we have already study question of usability of just one principal actor of EI in this device who is often times at the beginning of REID project the watcher. We have

¹⁶ <http://www.iaat.org/>

compared this specific actor with another EI actor in charged of coordination and animation of REID actors (personals and companies). We have made some suggestions in this direction, but in particular the proposal and presentation after many observations of new roles and expected competences of EI necessarily interesting for the development of REID. The principal goal of this investigation of others roles of EI actors in REID is just to reduce certain faults located in the devices and to make the latter more powerful.

After this first work, we can say there are several kind of REID and their EI actions by the point of view of actors are varied. But, another observation that we can make now is: The prime objective has been achieved in great majority, the companies were sensitized and one speaks more and more about EI. The effort now is to sustain the step. While making available the EI devices to all the companies, by including all the partners of the State in the chain of information and especially continuously to coordinate the efforts in order to reinforce the private / public bond necessary to the correct operation of the economic intelligence devices. We have noted too through our field experimentation that many gaps remain, on the account of the novelty of this step, therefore the lack of experience, the lack also of budget, available competences, methods, etc. Among our observations, we noticed that the profiles of the people mobilized within the devices are generally that of non-specialists in economic watch: general practitioner in local development and regional planning statistician or professional of information and documentation. More specialized profiles are however also represented: economist, specialist in fields or economic sectors, but still seldom expert in watch or economic intelligence.

Then we have posed the question about the actions undertaken by the devices set up currently in France, were they accomplished and what are the shape of solution proposed.

3. AN HELP TO DEFINE HIS REID

This work takes place in large consideration to decision-making help from the point of view of EI process. In respect of this contribution to decision-making help, the EI process propose to improve the management of information and its actors to affect in positive manner the competitiveness or live of the organization, in our case: the REID. For this we use one survey of REID, a protocol of identification of good indicators to qualify a REID when permit us after with the application of information visualization technique of Chernoff faces to represent in graphics all of REID analyzed and after this reference to propose a very simple method to consider a future REID with regard to our panel of REID.

3.1. Problematic

In fact, like we have just said, we try to propose a solution to help decision-maker when they are in the step of definition of an REID project. In this sense, on the basis of a survey of some charismatic French REID identified, we have envisaged to present our result as information chart completed by others traditional visual tool for information presentation like radars, pies in dynamic representation of patterns of distinction or distinctiveness linked to one variable into an important group of variables. And in our case, first results of investigation to REID have given already a number of seven exploitable parameters, but we wanted to increase this number and we had the ambition to improve the number of

REID referenced in our panel. Then, with six REID and seven variables our chart and graphics took many places. To designate some information we have use at this time some colour to associate one value to one colour. Thus, because we want perform our REID panel information presentation, then we consider possibilities offered by Chernoff Faces technique. An interesting point of this tool is to present information with a face metaphor which can easily be transformed into a tool to create some composite pictures. This is the solution that we have chosen.

3.2. Methodology employed

For each decision-maker who hopes to develop its REID, we propose a set of information about REID studied. In fact we propose a method to recognize which REID already referenced look like to decision-maker system ambitioned. For this we use in addition to our REID study, the information visualization technique of Chernoff faces. This technique is especially effective to compare different objects represented by a high but constant number of variables.

Our method allow to realize with help of Chernoff faces technique, a composite picture of any REID and after what to look for among REID studied, some of them which are the most interesting for REID envisaged with the composite picture. Since, in our research works, we have observed some developed French REID, we propose from this evaluation, a tool to benchmark other REID to identify and understand much information to best adapt their REID project to their needs. However, to understand our method, it is better: to know what we translate by terms EI, KM or Innovation and Creativity; to have some basis about Chernoff faces technique; to at last present how to realize a composite picture of REID like an help to decision-making.

3.2.1. Presentation of EI, KM and Innovation in our choice of study

Like we have presented in the beginning of this paper, we characterized the REID by their action of EI. But, if we don't say for this expression which is associated with a lot of definition from its conception in France in 1990, our topic would be difficult to understand. We consider Economic Intelligence like a sum of functions or actions to manage information of an organization with the goal to help in decision-making process. In general, EI include functions of: Watch, Protection and Influence (Clerc, 1997). In the case of territorial applications of EI, there is three actions developed regularly by the REID which complete their first three functions: (Collaboration) Networking, Sensitization and Advice. To have a large vision of EI, we consider Watch function like focus on action information acquisition-gathering, identification organization environment modification (technological, competitive, sectorial, judicial, ...), analysing and shaping the information relevant in function each decision-maker. In general actions of watch are: active information retrieval, environment scanning, patent and web monitoring. As regards the Protection function, we understand by this term all aspect to improve the informational protection of organization and its members include: Classification and labelling information; Handling protocols to specify use, distribution, storage, security expectations; return, and destruction/disposal methodology, sensibilization to escape information,

Audit/compliance processes and disaster recovery; informational risk management (ASIS, 2007). For Influence, we understand by this term all communication and human networking technics intend to affect on decision-making of some targeted people. In this large sense, disinformation and promotion actions can be including in this function.

For the three others functions, we understand by Networking all strategies to help to collaborate between people or companies.

Sensitization represents a set of activities dedicated to motivate and persuade companies to EI and KM opportunities for them. In relation with theses activities we include too training actions to teach some complementary people on the device tools and methodologies of EI, KM or Innovation sustainment.

At last, because in many REID, we have observed that advice activity of EI, KM or Innovation is often proposed or that is solicited by many companies for device, we added this function to our set of REID main functions.

In relation with the first part of the study of REID, we have identified two others usual actions included by Economic Intelligence expression or even undertake by some REID in relation with EI actions. These two categories of actions are: Knowledge Management and Innovation. We understand the Knowledge Management (KM) all action of knowledge capitalization help and knowledge and competences mapping that we link to the first objective of REID. For the others usual functions of KM, ie. knowledge acquisition, knowledge share and collaboration help and knowledge creation; we don't include them in our practical definition of KM, because: knowledge acquisition can be interpreted like a kind of step of watch process, knowledge share and collaboration is included in our conception into the generic term of animation and networking, at last knowledge creation is very linked to innovation and creativity functions. Also, the other category added in our study is Innovation. In this term, we understand action of support to innovation or technology transfer help and creativity help too.

For this, from ours REID interviews, we have translated some characteristics of six of REID into effective elements to differentiate between them. After observation and survey, we propose a very simple tool to realize a composite picture of ideal device for any REID associated project. Firstly, we explain what we imply by REID and then develop a REID consideration from 8 actions and goals which are generally chosen to do so. These 8 actions are:

1. Watch
2. Protection and Security
3. Influence (strategic networking, lobbying, promotion, etc.) and Communication
4. Networking for cooperation and knowledge sharing
5. Knowledge Management
6. Training and Sensitization
7. Innovation and Creativity help
8. Advice

In addition, two actions/goals contain some subcategories. Action 5 is linked with three dimensions which are: Capitalization, Mapping and Knowledge Creation for Innovation. Generally, Knowledge Management also include Knowledge Share and Knowledge Acquisition dimensions, but we considered that these dimensions are always defined in REID actions/goals by 1 and 4 actions (watch and networking).

Action 6 of sensitization and training is linked with four dimensions of Economic Intelligence which are the first five elements of the 8 actions and goals of REID (ie. Watch, Protection, Influence Networking and Knowledge Management) plus the action 7 (Innovation and Creativity help). To each action is associated a parameter which is use to quantify the degree of action realized by the REID. In addition, another parameter exist to represent the number of manpower in charged of EI, KM, Innovation or creativity help.

We have developed a methodology in three steps to define our composite picture of REID. First, we survey a panel of REID in project or in course of realization to define what are the actions and goals of this kind of Economic Intelligence device. These REID are chosen for their variety of EI actions which they propose. By these actions, we have classified them with a measure scale of three degrees: [not realized], [in project, in course of realization or minor action], [major action].

Second, we interviewed a REID staff in order to obtain a representation of the device and to collect information to realize a data chart. These collect of information is relative to the seven actions of typical REID and the four EI dimensions for Training. These kinds of data collected are scaled with three levels of interest for each actions or EI dimension to training: none, in project, set up.

Thirdly, we translated ours data collected in picture representation. In this goal we used the technique of Chernoff faces. This tool allows identification very easily and relevant value associated to EI actions of a REID.

3.2.2. Chernoff faces technique of information visualization

This is a technique of multidimensional data visualization introduced by Herman Chernoff in 1973 (Chernoff, 1973). With this technique, we can associate one face to one REID. A set of results of questions linked to actions of future REID give us a different face in function of choices. In fact, facial features represent values of data and, it is very easy for one reader to say these faces are similar and these are very different. For one think group which want to develop a territorial Economic Intelligence device, it is possible with this technique and our first data collected from REID studied to define a composite picture with our method of REID representation with Chernoff face and, after identifications which REID must be benchmark to realize their project. The only difference between REID already shaped in composite picture and a vision for a group of its ideal REID is in the consideration of data scale. In this last case, we remove consideration levels of REID referenced: none, in project and set up; respectively by: zero, low and high levels.

For example, if a face is a face of individual with no hat, this face is different from a face with little or big hat. And, with the technique of Chernoff faces in our work, a face with a

that is attributed for a REID with a advice action for Economic, Knowledge Management or Innovation (cf. figure 1).

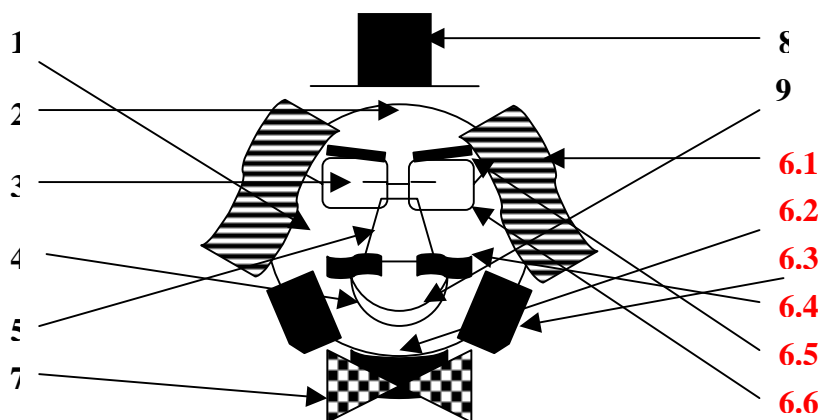


Figure 1. Relation between variables / parameters of REID and parts Chernoff faces used.

In this manner, the picture 1 presents the nine parameters employed into the survey and the visual element of Chernoff face with it is linked.

Thus, parameter 1 is expressed by the roundness of the face. It seems than one Watch action is developed by REID. The more face is round, the more Watch action is important.

Parameter 2 is linked to Protection and Security action and is represented on Chernoff faces by the thickness of hair on the crown.

Influence and Communication actions are the parameter 3 and they are shaped by the degree of eye openness.

The shape of the mouth is the visual element to show the implication of REID to networking. It is the 4 parameter for which a smiling face seems an important support to networking action and an unhappy face seems no action of this type.

Width of nose (parameter 5) presents the importance of KM actions proposed by REID. No nose seems no KM action.

Presence and size of glasses help to represent the parameter 7 which is linked to Innovation and Creativity Help developed by the REID to its adherents.

Parameter 8 shows the Advice activities proposed by REID in EI, KM or Innovation domain.

Another parameter, the 9, is devoted to express the number of manpower in EI, KM and Innovation action of the REID.

Finally, the parameters: 6.1, 6.2, ..., 6.6 presente respectively the actions of Training and Sensitization dedicated to: Watch (presence and size of a collar), Informational security (presence and width of side hairs), Networking (presence and size of side collar), KM

(presence and width of moustache), Influence (presence and width of eyebrows) and Innovation-creativity (presence and size of a bow tie).

In addition, with the nice aspect of this type of presentation of information with Chernoff faces, we can evaluate easily in one eye shot some REID and their similitude and differences. Compared to classical technique of radar plot representation, use of Chernoff faces add some redundant elements to help reader to recognize some characters and is very easy to link one kind of data to one face characteristic. One of the “*advantage of the technique lies in displaying single values and an overview at the same times*” (Ohmann et al, 2006). Another is that “*symbols also form an important mnemonic device and, to varying degrees, are interpretable without special training or expertise*” (Brown, 1999).

Then, openness of the two eyes, for example, seems the same information: REID proposes some approaches or supports for Communication and Influence actions. Thus, if we compare with Chernoff faces that we have generated from information collected from System@tic and Vehicule du future competitiveness cluster of competitiveness, we can say very quickly their similitude and differences. For example, the cluster of competitiveness Sytem@tic proposes a training and sensitization action to EI. For the cluster of competitiveness Véhicule du future, it is not the case. Presence of side hairs for one and its absence for the other permit to us to have an easy indication to differentiate these two cluster of competitiveness: existence of action to watch training and sensitization. The same thing for the roundness and openness of eye of these two REID faces which permit us to say these two clusters of competitiveness propose two actions of watch and Influence to their adherents.

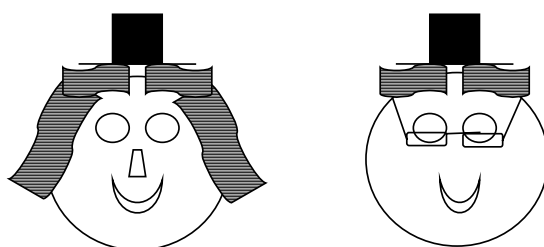


Figure 2. Comparing of cluster of competitiveness «System@tic» (at right) and «Véhicule du futur» (at left) from Chernoff faces.

3.2.3. Realization of a composite picture as decision help

It is possible for us with this technique and with our survey of REID to propose help to decision-making for any decision-maker who hope develop his Territorial Intelligence device with a REID model. For this, we propose to the decision-maker to define his priorities in terms of REID actions. He must choose the action which he want to develop in first and the manpower envisaged. At first, we realize a Chernoff face of his REID project and we show him after the REID Chernoff faces of our referential. From similitude which are identified between his project and the 9 REID referenced, he can decide to inform himself and benchmark this or the other REID.

To help him to imagine his REID, we accord him by default 11 points (ie. the low average of REID analyzed) to allocate with this reckoner: a major action worth 3 points and the minor actions 1 point. Major actions are identified like actions which necessities at the least one personne at half time and are proposed during all the year. The number of points to allocate can be reduced or improved in function of manpower in the rate of beneficiaries of this action for the REID. With this basis, a first composite picture of the REID imagined is realized.

After, the decision-maker compares the composite picture of his REID with the nine others in our study. In function of similitude and differences recognized on the others composite pictures and some other complementary information about REID referenced which we have, the decision-maker can if he want redefine or not his REID project.

For example, if we take a think group in charged to define a future REID, we can have like beginning of project imagined by these decision-makers, the elaboration of a lambda REID responding to these criteria:

- Major action(s): * **Watch** (3 points);
 * **Training and sensibilization** to informational security aspects watch and Influence (3X3 points).
- Minor action(s): * **Advice** (1 point);
 * **KM** (1 point).
- Manpower at full time: **2**

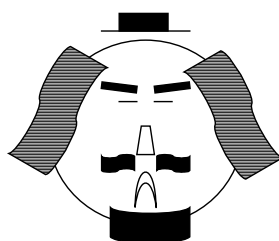


Figure 3. Example of composite picture of one REID Lambda.

We found in the figure 3, the composite picture of lambda REID. Then, in this case, we have in our REID panel, two composite pictures or REID which are looking like it. In this case, we advice the decision-maker of lambda REID to analyse and benchmark these two REID. These two composites picture are about REID DECiLOR and Lorrain Wood Cluster (CBL in French) which are represented with Chernoff faces of the figure 4:

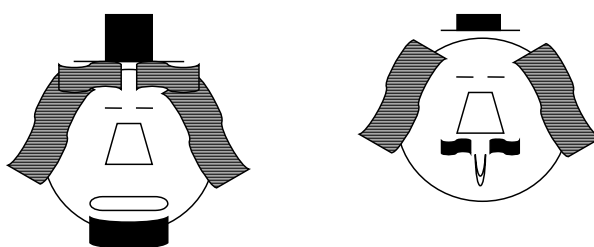


Figure 4. Chernoff faces of REID: DECiLOR (at the right) and CBL (at the left).

Thus, even though no REID referenced have exactly the same characteristics than the lambda REID projected, our methodology permit us to easily identify one or more REID of reference issue of 9 of our survey.

4. CONCLUSION AND FUTURE WORK

REID are devices dedicated to application of EI in territory which are or are similar to a French Region. Their customer are more often the SME existing on the territory. Their goals are to perform with an improvement of information management and furniture the competitiveness of these companies. Nowadays, from the end of 1990, some kinds of variation of these REID were set up. We have presented our vision of REID and the little taxonomy of these devices. We have seen how we have identified the main functions of a REID. We have presented too the Chernoff method of information visualization. With this technical presentation, we have addressed our choice of Chernoff faces to create some composite picture. And at the last, we have just seen how we think using these composite pictures to propose a help to decision-making. This is in relation with information sought about REID benchmark to collect experiences to develop a future REID. With this above example, we hope persuaded you about possibilities offered by our method and extend our panel of French REID and possibly with others REID in Europe or in others countries¹⁷. Then, it is necessary for us to test validity of our work and pick up some information to perform our method. In addition, we hope to dispose a face book on REID in Europe classified by categories, functions and territories to identify some tendencies in the development and application of these devices. These evolutions of ours works will be developed in the year 2008.

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WORKSHOP 2. TERRITORIAL ANALYSIS TOOLS

“Urban HyperScape: a Community Game for Territorial Knowledge”

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URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Woloszyn>

Abstract: With considering cooperative and sustainable development of urban and social territories, and dealing with modelling tools and dynamical practices of land (and sound) scape observation, our goal is to experiment a collaborative way in order to observe, fabricate and animate the urban landscape elements, through a cooperative media creation process. From observation phase should emerge mechanisms which will allow prediction of the territorial intelligence processing, through territory global complex behaviour modelling. Territorialized collective representations should be readed within the complex interaction scaling dimensions, which virtual components should interact in order to produce an emergent structure, through a participative hyperstructural game playing.

In that way, Hyperscape should reveal the territorial emergent perceptive hyperstructures related to the concerned populations and their respective teleological assumptions, in order to constitute a support to the “negotiated ideal district” produced through the concerned territory projected vision.

1. INTRODUCTION

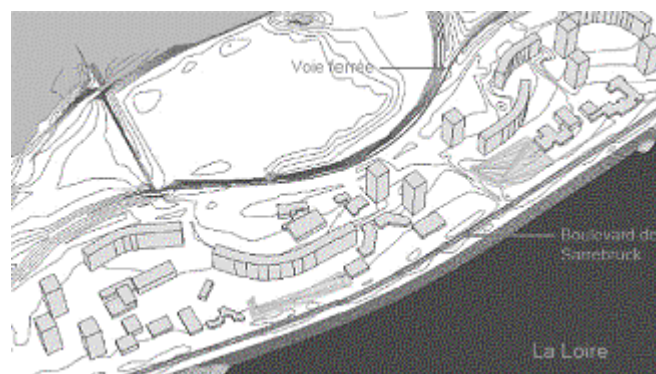
With starting a reflexion about territorial development management within the framework of a study on urban renewal, GPV “Grand Projet Ville”, of the Malakoff downtown district in Nantes, we propose here a multidisciplinary approach relying on GIS as a tool to support analysis and assist in decision making. Association LBA “Les Badaux Associés”, initially collected testimonies regarding the way in which the territory and these transformations were perceived and understood by the inhabitants. Thus, a study about the concerns of local actors, researchers, political town planners, architects, sociologists and decision makers has associate the inhabitants in the process of knowledge and development of their territory.

2. URBAN DEVELOPMENT AND PARTICIPATORY SOCIAL ISSUE IN THE DISTRICT MALAKOFF

2.1. An out-of-range territory

Enclosed between the “Sarrebuck” high speed boulevard, a railway and a “Natura 2000” area too, “Malakoff Pré Gauchet” is counting about 2000 flats, in an architecture of towers and bars, most of them designed for low-social classes access. Marked with social difficulties, this district is actually supporting deep urban and social transformations, underlining the problems and difficulties which arise for the actors of the project (Dumont, 2005).

Figure 1: The “Malakoff Pré Gauchet” district.



2.2. The LBA district experience

The LBA “Les Badaux Associés” association developed since 2001 a participatory art project involving professional to youth, children and adults Malakoff neighborhood. Therefore, the association proposed to develop a first action program, *Paysages Enchantier* on these issues of accompanying and involvement of local communities and professionals in a dynamic urban and social major change.

Stating that the participation of the people as partners and co-actor of an urban development project can not be decreed unilaterally, the previous associative participatory approach involves the development of complex processes developed endogenously,

touching transversely to both institutions and public and private performances, as well as individuals and cultural groups.

In developing an approach to the topic of landscapes in the district Malakoff, LBA association logically continued his work of study, research and action, which began 13 years on the roles of imaginary, playful and artistic co-exercises as factors essential for the mobilization and involvement of the people as actors and relay of local processes of sustainable development.

2.3. A mitigate state-of-the-art

From the institutional point of view, motivate the asset of the urban and social development of the territory concerning social co-education and economic development is aimed to achieve dialogue in order to assess publicity campaign for equipment and services installation. From the inhabitants point of view, the desire that the district evolve with them leads to blur and often fantasmatic testimonies regarding the development of the district and the institutional intentions of the urban and social renewal. If, in the district, information actions and consultations with the inhabitants were frequent pedagogical processes of involvement referrals were not very many and the quality of resident's participation was not satisfactory. This weak inhabitant implication in the processes of urban dialogues implies a both misunderstanding of the territory representations and of the stakes and realities of the urban transformations in progress. Nevertheless, during many meetings with residents and professionals of this neighbourhood, the problematic of urban transformation and especially social seemed to be at the heart of concerns. Consequently, the major feeling that the transformations will be made without them and can be against their concerns (representation and social co-education), regarding the harmful effects related to the building sites (health, safety, well-being) and the destruction of the urban landscape for this very long period of time. Lack of will and competences to cooperate apart from social and cultural circle leads the professionals and the institutions to react in spite of the sensitization process. This confirms that confusing residents dynamic participation with communications strategy aims to produce counterproductive projects, leading to passivity of the population, consumption benefits, vandalism or urban degradation. (Bourdin, 2007) This attitude may also feed a mistrust tenacious about what may emerge in the approach of the project as urban attempted instrumentalisation, breaking traditions or imposing symbolic and societal models.

Difficulties to change the very stigmatized image of the district and to attract new populations is the result of interconnected effects such as the lack of culture and practices of design and participative project management, the institutional shyness, and the difficulties to manage the participative action through multi-media tools and co-operative contents.

2.4. Birth of a research-action program

From this first diagnosis, LBA association proposed to develop a program of research-action, *Pays-ages Enchantier*, bearing on the implementation and the evaluation of

dynamic co-operatives of accompaniment and implication of populations and professionals in the renewal and the shared and durable urban management of a territory.

Based on the experience of an accompanying structure of territorial actors: the *Grand Projet Ville* (GPV) Malakoff Pré Gauchet co-operative action, our objective here is to exhibit the structure and organisation of the participative global assessment system applied to the specific case of this district (Bourdin et al., 2007).

Therefore, the *Paysages Enchantier* program is structured around 4 poles:

2.4.1. Social and popular education pole:

It proposes to inhabitants and professionals a popular education experiential. It is about making common cause (cooperative play) to create a collective wealth, to be helpful staff and live together. The actors are accompanied throughout the program in a process of workshops led by scientists, artists, engineers, animators and actors expert partners, involved in the project. The dynamic of co-operation is organized by thematic workshops: writing workshops, workshops multimedia, art workshops... The co-actor shares one or more missions and is involved from beginning to end of the workshop. The workshops bring together the co-actors of a cross-cutting and multidisciplinary approach.

At the end of 2007, already more than 1000 inhabitants (of the district but also of town) will be involved in the collaborative process of the program for one or more strands (Bourdin, 2007). There have been involved in an individual capacity or as part of schools, associations and institutions in the district.

2.4.2. Scientific pole

Several scientific research disciplines such as environmental psychology, social geography, architecture, acoustics, Ambiance landscapes and virtual reality, are associated with the program of action - research and constituted under the coordination of Philippe Woloszyn (ESO lab.) and Gaëtan Bourdin (LBA) multidisciplinary scientific team. Goal is to bring new knowledge on participatory urban development, including questions of the mood of the landscape, the terms of representations of the territory, information systems collaborative proximity, immersive multimedia systems, or even governance hyperstructure.

The scientific research program HPU (Hyperscapes for participatory urban development), developed in the present document, has been implemented in the context of an IRSTV global research assessment, Linked to a regional "call for research" response. A dedicated Interdisciplinary cooperative working group has been set up for this program, in partnership with scientific institutes: IRSTV (Institut de Recherche en Sciences et Techniques de la Ville, FR CNRS 2488), ESO (Espaces et Sociétés, UMR CNRS 6590), AAU (Ambiances Architecturales et Urbaine UMR CNRS 1563), PSYECCA (Psychologie Environnementale, Conseil et Communication en Aménagement, SC).

2.4.3. Artistic pole

LBA association has asked several artistic researchers, local and national, to implement

urban and social symbolic co-creation games, with associating inhabitants and local actors, in order to revive the contextual and situational art of the city in its symbolic significance through imagination. In that way, landscape is considered as the result of a collective co-creation of a common work.

The key here is the art in the making, the game of drafting a speech, a sensitive and critical relationship, a vision of itself, its environment, other, and not only knowledge of art or access to the work. What is important is the work in progress, browsing art acting, experience poetic/symbolic of the collective co-creation.

The program expected results can be listed as follow (Bourdin et al., 2006):

- Experimentation and modeling a dynamic participatory urban development,
- Collaborative tools and multimedia content knowledge Production, included a territorial approach animation education referrals,
- Co-creation and co-achievement artworks urban ephemerals and sustainable, forging urban landscape territorial identity,
- Enhancement of the image of the neighborhood and its inhabitants for themselves and for others,
- Best apprehension by people in urban change issues and social territory (dynamic changes)
- and capacities of the city,
- Acquisition by the inhabitants of skills and many fields of knowledge,
- New links inter-schools, inter-associations and inter-institutionals, inter-generational, inter-cultural, parent-children, generated by the project,
- The emergence of a network of inter-cooperation on the theme of participatory urban development (inhabitants, scientifics, artists, technicians, policy makers).
- Emergence of new and innovative services for the management and animation of the territory with inhabitants.

This participative procedure aims to cross in a transversal and creative manner the differences of status between the categories of the territorial co-actors or users. Crossing those status differences through the corresponding representations assessments can clear the conditions of the dialogue between the actors and clarifies the criteria of integration of the landscape ambience conditions in the urban renewal project.

3. HYPERSCAPE: A MULTIMEDIA SPATIAL PLAY-GROUND MEDIATION: SCIENTIFIC PLAYERS AND METHODOLOGIES

HPU's research work General Objective is the observation, analysis and modelisation of an urban territorial cooperative experience, through manufacture and animation of urban landscapes, linking people, actors, experts and policy makers, in order to promote sustainable development common values and goals. To do this, the mentioned research

program also proposes a spatial mediation through on-line medias (Urban-HyperScape) representing the Malakoff district with an inquiry about the inhabitants stories in order to enlighten their territorial representations. (Woloszyn et al., 2007).

3.1. Interdisciplinary cooperation

This co-production approach also implies an immersion into the different educational and social workshops, artistic or scientific ones, for the different “expert actors” of the project (scientists, artists, politics). This identified actors will propose their experience, express their point of view, or develop a specific technical or aesthetical knowledge regarding the specific “district workshops” thematics. To do so, a cooperative platform has been built on, which allows selective access to the different “co-actors families” to exchange data which are relevant to the project.

Scientific methodology itself imply researchers of many various research domains. The project is re- warding for the researchers in the way that the studied neighbourhood is already explored for many years. It therefore provides the study with already marked-out landscapes.

Public participation to those territorial observation data creation provides useful information to characterise:

- Malakoff representations, through discursive contents analysis produced during the district associative workshops, and an inhabitant representative inquiry (Barlet et al., 2006).
- Inhabitant daily mobility, especially concerning kids displacement checking inside the district using GPS modules (Depeau, 2005).
- Artistic retentivity, more or less represented in the district through visible or invisible territorial markers (Veschambre et al., 2005). Social link and landscape appropriation are related to the artistic actions performed in the city: these actions and the corresponding artistic vestiges are stored in a “History notebook” maintained by the inhabitants.
- Hyperscape tool backfire representations studies through a public evaluation process.

3.2. Knowledge and image of Malakoff from the inhabitants and users

GPV is a huge renewal project concerning Malakoff district, which is declining into two parts, urban and social. Regarding its urban part, this project is dealing with all the users urban surroundings, from individual (housing) to collective scale (district-city relationships). Social dimension of the project reveals a double preoccupation: public action optimisation around major thematics (such as employment, prevention, citizenship) and a proximity urban administration management. As noticed by the project manager team, “this project transforms widely the district shape together with its inhabitants life”.

Malakoff district renewal project edicts clearly communication and information diffusion needs, with proposing a consultation process between the project management team and the district inhabitants. In this evolutionary context where institutional and action-research

processes are interacting, an experience feedback evaluation seems to be an important step for the participative process understanding. Are those actions influencing the inhabitants district image? Are the district inhabitants more concerned with this renewal project now? Those are few questions which could help to understand the evolutionary situation within the district, through inhabitants urban and social perceptions and representations inquiries. People will be asked about their familiar surroundings at different district evolution key-moments (urban transformations, participative and informative actions,...). To do this, the following three-steps phasing seems to be convenient:

Phase 1 aims to explore Malakoff district inhabitants perceptions and representations between 2001 and today: this phase aims to produce a “snapshot” of the perception and internal representation about the evolution of inhabitants surroundings, with analysing the changes already done and the changes to be applied and the participating actions themselves, as a perspective from the previous study made by a sociological department in 2001 as a first institutional participation and information balance-sheet. A questionnaire inquiry is actually in progress towards a 50-80 persons sample, not only socio-demographically representative, but also taking their district relationship history motivations into account (installation date, housing location and typology...). This inquiry is related to different thematics, as the Malakoff district actual description, its relationships with the downtown district (physical and social environment perception evaluation, uses and practices), the realised changes in the district (changes identification and evaluation), the future evolution of the concerned district (through the future changes knowledge evaluation), the information and communication processes evaluation, and some personal requests, concerning spatial mobility, territory attachment or residential history of the inhabitants. Constructed on the same basis on what have been realised the previous mentioned inquiry, this tool will identify and quantify the environmental elements evolution between 2001 and today.

Phase 2 of the present workpackage will complete the district perceptions and representations inquiry with the collection of spontaneous “words”, which will be able to enhance the “guided” previous inquiry data. This phase will lead us to participate to the educational workshops within the Malakoff district, in order to collect individual and collective experiences, and analyse this aimed co-creation process.

The last phase will allow to evaluate the adequation of the various tools for territory with the ability to take into account one’s surrounding, to get an internal representation of the urban space and to generate the corresponding territory knowledge. An evaluation of the modification of the territory perception is necessary to measure the impact of the various participating actions performed. In particular, the multimedia tool has to be refereed with the internal representation of the familiar surroundings, appropriation feelings, and daily involvement in the neighbourhood. This evaluation procedure will focus on the characteristics of such tools, on their goals, on the potential enhancements, throughout an inquiry. It will give informations about the consequences of participating actions onto the local governance, on the decision comity, about the personal matters, in order to let come to the surface a specific knowledge on lasting development of a given territory.

3.3. The exploratory approach of mobility territory

The way to observe mobility has followed the evolution of urban planning, going from motorised mobility to pedestrian mobility and similarly from a focus on road infrastructures and planning to physical and aesthetical ambiances. Thereby, the way to collect data used to be indirect methods (such as diaries, interviews, questionnaires). Moreover in research on children's mobility (Hillmann, 1997; Prezza et al., 2001; Horelli, 2001), when detailed attributes about ambiances and travel behaviour are required, individuals have to answer a lot of questions and some are based on memory. In this context, few methods, except commented journeys (Thibaud, 2003) allow to get in and observe finely the "here and now" of mobility which is necessary to better qualify the strided and attended spaces. Since the fifth last years, tracking methods with technology such as GPS data-loggers or cellular phones seem to generalise as soon as the aim is to track travel behaviour and the accuracy of geographical positions (Asakura & Hato, 2004). In this project, the method allow to understand not the place of destination but the place of travel itself in order to track ambiances, behavioural and social travel-strategies.

In this way, it is possible to go beyond rational logics which usually guide the methodological paradigms in research on spatial mobility and to understand logics of hedonism, of safety and of sociability in public spaces. This procedure has also permitted to measure in some contexts, such as Malakoff, how the visibility of tools and techniques which are used and entrusted to children is as much important as the visibility of interviewed persons.

3.4. Immersive tools and virtual contents

Within HyperScape project, a few landscape re-appropriation "experiences" are under development. The project aims at contacting the various cultures existing in the relevant territory and the various generations of inhabitants. It is necessary, in order to be efficient, that the developed tools should be, in somehow, "fun".

Technically, our methodology is based on a feedback between an information system of the town and the associated psycho-physical data, in order to allow an inquiry of the constituted database with the immersion techniques relative to Virtual Reality technical process. Hyperscapes uses visual, sonic and textual contents, including trans-media navigation features (Christie et al., 2002) as an on-line "clickable" media navigation process into the territorial representation, in order to constitute an useful tool which facilitates the mediation among the actors of the territory. Therefore, a project specific software library will be designed through many broadcasting ways like CDroms, WAP phone navigation, Internet, using many screen sizes like phones, PDA, Wide digital screen, projector for video. Showing and navigating through various types of data (sound, video, pictures, vectorized data, text) with various constraints for the diffusion implies some difficulties for the development of this software library. This later will be designed in order to easily define new way of navigation through the database. It can be noticed that the uses and the needs are very similar to those of internet navigation. This project will approach a sort of Hyper Text Modelling Language (html) extended for the considered kind of media.

Sound games for territory discovering includes a landscape beat box, and a sound atmosphere generator. The mentioned beat box consists into a computer application that permits the creation of music using sound loops which are recorded within the Malakoff neighbourhood soundscape. This tool should help the inhabitants to read in a new way their sound space through a recognition and an identification of the various sounds that are suitable for the beat box. The goal of the sound atmosphere generator is to allow each inhabitant to reconstruct her/his perception of the Malakoff sound atmosphere, which will be performed thanks to a sound database which can be mixed in order to recompose the global sound.

Immersive 360° picture and sonic tool will allow the user to explore the neighbourhood by viewing 360° pictures (a change of view is performed by mouse scrolling) together with clickable areas which “moves” the user to a new 360° picture corresponding to the clicked area. Developed with an integration of the soundscape recorded on the various locations and played according to the presented view, this tool provide the user with an easy-to-use tool, and really immersive with the need for a small amount of data and a quite low computer. In order to get a sound varying according to the presented view, an innovative 3D sound recording and playback technology has been developed (Woloszyn, 2005).

A lot of multimedia data will be collected by the inhabitants through the associative assessment *Paysages Enchantier*. Those tools aims to provide an non-boring way to explore these data, with using an avatar onto a 2D map of Malakoff. When the avatar is located near designated locations, the corresponding multimedia data are shown to the user. This tool performs a link between vectorized data (the map) and other data (picture, video, sound or text). The multi-criteria data exploration tool profits from the real-time *html* page generator *php* language in order to create web pages showing the multimedia data arranged according to criteria selected by the user. The idea is to design a tool which helps the navigation through the database. The user can select the type of media, the specific area of the neighbourhood, the creation date, the event. A navigation by similarity is permitted as well.

Through this on-line media support designed for interdisciplinary dialogue between inhabitants, professionals and decision-makers, this game-dimensioned research work will also create on-line *Ambient Data Games*, involving territorial actors playing on a dynamic mapping of the media - markers of the territory.

4. HYPERSCAPE AS A TERRITORIAL AMBIENT CO-CREATION GAME

Production of urban well-being, sustainable development and urban ambiances of the territories is relevant to a multi-dimensional and multidisciplinary approach of the concerned territory (Girardot, 2004), both concerning physical phenomenon modelling and environmental psychology inquiry methods.

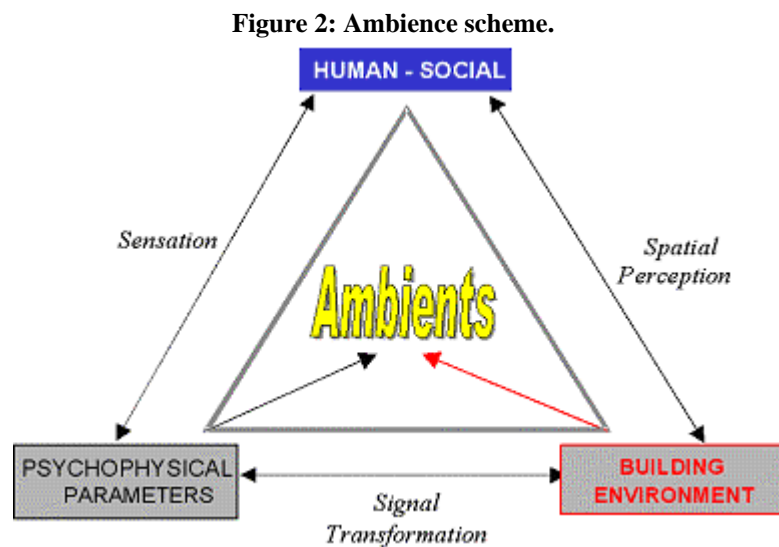
4.1. Notion of ambients

Psycho-physical models allow to describe and to manipulate environmental phenomena in space. Models of suggestive representation allow to place the individual perceiving in

the centre of design process through the use of Virtual Reality tools. Human being, both identified as a modifier actor of the environment, and as an ambience perception subject, is also interacting with the environmental constituents. This leads us to re-formulate the concerned environmental parameters from an anthropocentric point of view, leading to the notion of ambients.

Architectural and urban ambience production is related to the following three main interacting parameters (Figure 2):

- the specified built form, which shape and material characteristics are able to generate an identified physical ambience condition,
- the specific urban physical factors, which cover a large spectrum of environmental phenomenon such as wind, temperature, sun exposure, acoustical propagation or pollution dispersion,
- the human being, both identified as an actor of the environment and as a subject (an ambience perceptor).

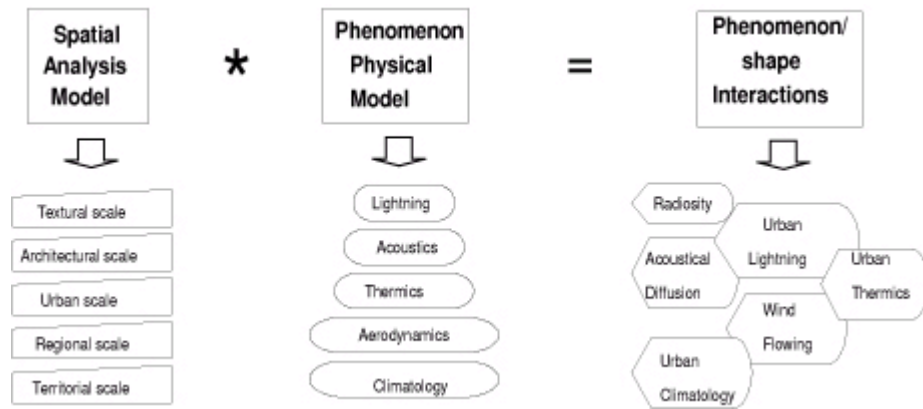


The corresponding method analyses results of psycho-physical simulation through the descriptors linked to the spatial position of the observer, constituting a cartography with GIS use.

4.2. Physical constraints: the rule of phenomenon scaling

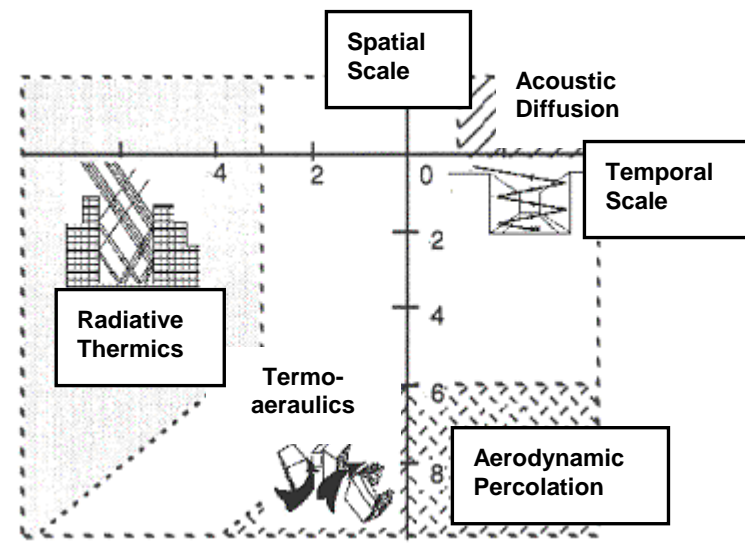
As the main support to analyze the phenomenon of architectural and urban environment is based on particular techniques like modeling and simulation, it is useful, in a first step, to segregate their three main elements into elementary physical manifestations, which involve specific parameters as seen on the following figure 3:

Figure 3: Physical ambiances phenomenon and their associated scales.



For example, the sound wavelength, which corresponds to architectural and urban scales (from millimeter to meter), is very far from the light wavelength (micrometer), and from the microclimatic phenomenon characteristic scale (kilometer). In addition, those spatial characteristic scales are complemented with the phenomenon temporal scales, which have to be taken into account in order to implement the physical parameters into the urban built geometry (Woloszyn, 1997) as seen following figure 4:

Figure 4: Spatial and temporal scales applied to ambiances phenomenon.



Reference to various analyse systems will be necessary, as the most currently used methods, other than the direct phenomenon parameters measuring, imply a physical model for process evaluation. This multiphenomenon characterisation leads us to organise the urban space as a field of data aimed to ambiances physical parameters description. In order to exploit those data for building production process (i.e. the choice of a specified absorption material aiming a sonic quality of an indoor space), we'll focus on *Virtual*

Reality tools reliability for one-scale testing of the corresponding material properties. This physical constraints pre-testing of architectural solutioning of an ambience target constitutes one of the most powerful and flexible in- and outdoor ambience simulation application tools.

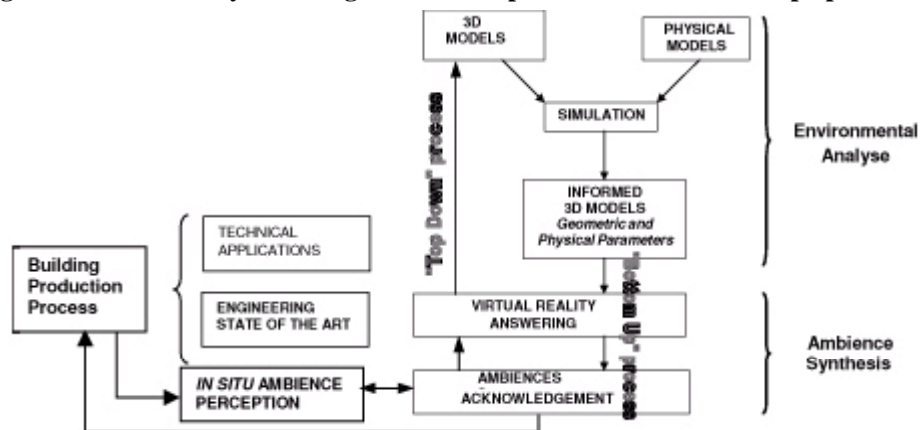
4.3. Virtual Reality instrumentation

This new representation introduces a new vision of the objective environmental conditions of the analysed space, and is to consider as a workshop for the environmental designer, testing *in silico* different spatial hypothesis to the breadth of the psycho-physical ambients filtering.

Environmental simulation is fed between a 3-D geometrical model of the town and the associated physical data, in order to provide a specified ambience perception condition through technical applications. This psychophysical method, consisting to compare engineering solutions with subjective judgements is known as the “Bottom Up” process of sensorial data treatment (Dubois 1993).

Virtual Reality technical applications allows to feedback this methodological approach, with including the human being at the beginning of the process. An interrogation of the pre-constituted engineering database provides an ambience acknowledgement through Virtual Reality immersion process, in order to inform the geometrical model directly with human environmental needs, as seen figure 5:

Figure 5: Ambiences synthesising scheme: “Top Down” and “Bottom Up” processes.



This “Top Down” processing model constitutes a new answer for integrating semio-physical parameters into the built environment engineering, through discursive (verbal) expression of environmental needs. Furthermore, as the “Bottom Up” descriptor is computed from the results of physical simulation of the concerned phenomena, the “Top Down” analysis modality is based on the comparison between objective statements and judgment of interviewed people immersed into the scene. The ambiances 3-D scheme used in immersion process synchronously links “Top Down” and “Bottom Up” physical

dimensions to perception shapes, into a spatio-temporal dynamic, traducing the physical shape of a phenomenon into a technical solution to be integrated through the building engineering process.

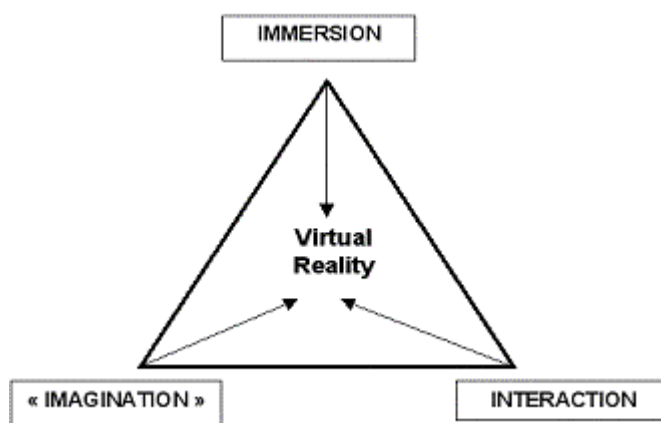
Nevertheless, the use of virtual reality techniques for environmental visualisation can't afford a satisfying ambience representation without integrating the sensitive aspect of phenomenal perception. In that way, we can consider this aspect as a sensation vector from subject (the human being) to the ambience complex. Taking sensorial interaction through the physical simulation process into account leads us to an hybrid ambiances representation model, rooted to our researches in the both domains of spatial analysis and ambiances perception (Woloszyn, 2002). The final model we propose would enable the final user to "re-feel" the ambience parameters at each step of its wandering.

Moreover, the ambience exploration process, combining physical properties and perception actions, will enable the space *producer* (architect, urban planner...) to translate the *space-users* needs and representations of the involved environment into its physical properties to be implemented through engineering solutions.

Those scalar physical phenomenon are perceived with specific *human sensors*, which perception and judgement iteratively act on the building engineering solution choice through ambience simulation. In fact, the laws of human perception, considered as a *sensorial filter* of the reality, are specific for each physical domain relatively to their spatial and temporal characteristic scale. Otherwise, psychological perception studies point out a noticeable difference between individual perceptors, which ambient sensitivity is depending at the same time on the local context of perception situation and on the inner disposition of the human being (Dubois, 1993).

Following those remarks, we can afford to compare these complex interactions with the known Burdea's virtual reality symbolisation (Burdea et al., 1993), based on the three major principles of Imagination, Immersion and Interaction, as illustrated figure 6:

Figure 6: Virtual reality scheme (Burdea et al., 1993).



4.4. Immersion process

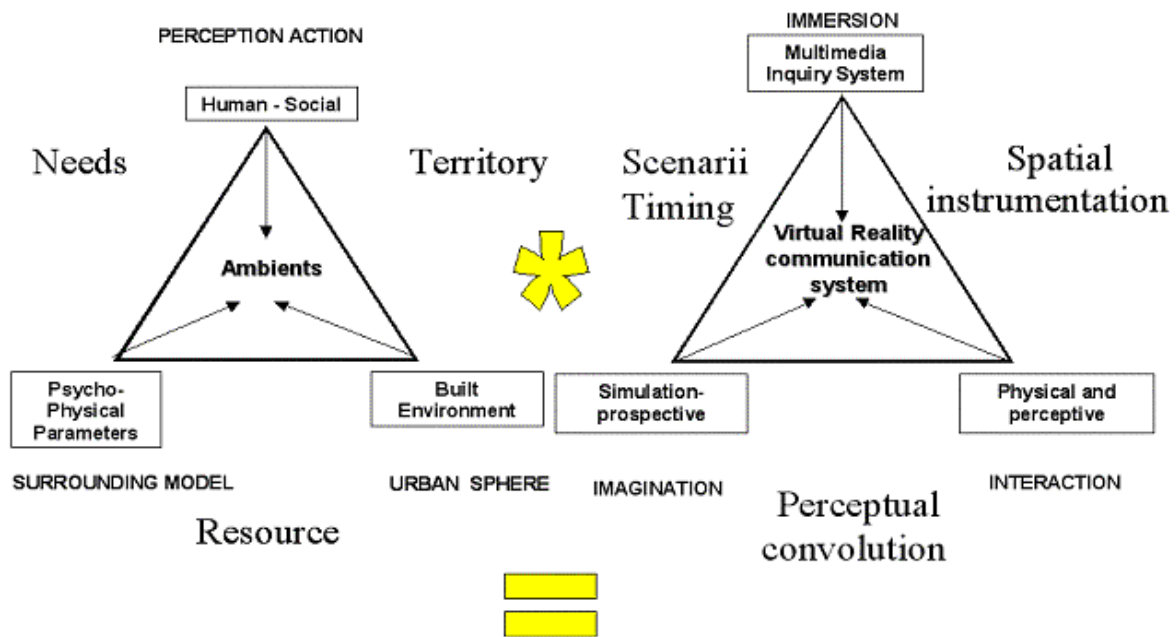
The Immersion process (Slater et al. 1993) places human in an equivalent position of a *classical* urban pedestrian, with rigorous conditions for ambience restitution, involving precise geometrical subject placement in the 3-D town numerical mode and total environmental control, linked to pertinent perceptive descriptors. The effect of this positioning is a simulation of physical phenomenons and spaces interaction very near from the reality. This realistic interaction principle is conditioning the user's freedom degree in the *re-feel* system.

An immersion with a total interaction will allow a free moving and a dynamic parametering, permitting a total independence between each side of the triangle figure 6. This moving and sensing degree of freedom is important for space conditioning, and, consequently, for exploration acknowledgement.

Imagination characterises interpretation of the parameters resulting from the virtual reality experimentation. Those descriptive parameters are related to the physical phenomenon with replacing them in the perceptual context. Several known methods can be applied to this aim, and the results shows a *zoning ratio* for each perceptual characterisation, implemented from the starting point of the perceptor to the rest of its evolution during his walktime along a specified Worldline.

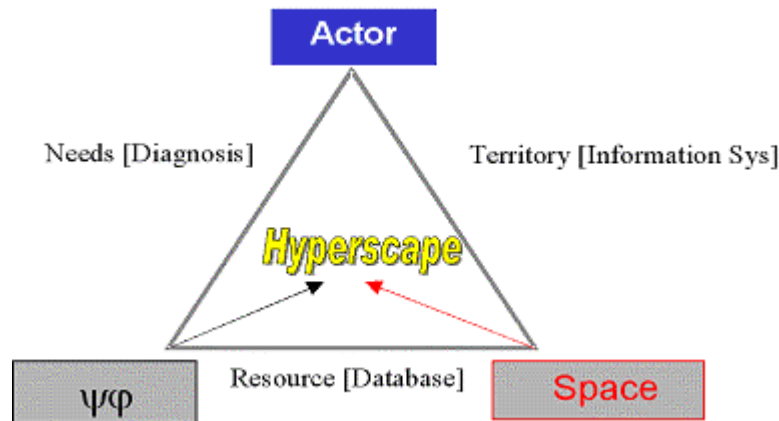
This approach doesn't discriminate the phenomena, but considers perception as a single object. The involved scalar physical phenomena are perceived with specific *human sensors*, which accuse sensorial disparities between environmental phenomena.

Figure 7: Ambients instrumentation.



Considering perception as an action sensation vector from subject (human being) to the ambient complex, the corresponding psychophysical representation space suppose the construction of an homoeomorphism between scenarii timing, perceptual convolution and spatial instrumentation, cognitive transposition of one's population needs, human resource and geographical territory (Girardot, 2004), figures 7 & 8.

Figure 8: Hyperscape territorial scheme.



4.5. Experimental ecological validity

Experimental restitution has to be ecologically valid in the sense of Gibson (1986). In other words, ambience reproduction has to provide a real functioning referential illusion. Physical phenomenon is parameterised through spatial-dimensioned emission, propagation and reception modalities (Woloszyn, 2006). Consequently, stimuli used in this restitution should enforce the initial conditions of the real reference situation, in terms of source physical characterisation, spatial propagation laws and reception conditions. Those *ecological conditions* would be modelled on the background studies concerning relationships between physical characterisation and spatial perception (Hoc, 2001).

Correspondence between physiological organisation and modelled conditions enable an ecologically valid immersion system aimed to test real ambiances *in labo*, without contextual pollution, in order to obtain the twin data types necessary to join physical properties and perceptual effectiveness through ambiances characterisation as follow:

- sensitive data provided trough subjective answering to sound stimuli,
- physico-spatial attributes obtained through signal analysis.

Comparison between space physical characterisation and sensitive exploration leads us to define psychophysical parameters for ambients prototypic categorisation, entered on semantic rendering of the subject's brainwork. In this way, symbolical information treatment involves the subject into the interactional emergence construction process. This cognitive approach means that ambience complexation is no more reduced to environmental

information treatment, but constituted with preliminary representations organising the perception action (Woloszyn, 2005).

4.6. Psychophysical specification of ambients

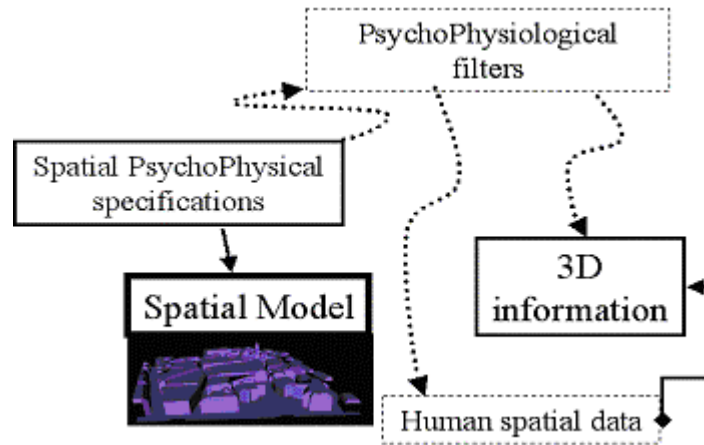
As shown through previous psycho-acoustical experimentations (Woloszyn, 2005), dynamical behaviour of perceived ambient objects confirms the principle of approximation continuity (Carey, 1995): this confirms perceptive experiment as a complex action, readable through successive instant attempt, which global description formalises a non linear schematisation through Worldline walkthrough. This supervenience principle (Davidson, 1970), stating that mental properties and facts supervene on physical properties and facts, underlines the microstructure of sound information-and more generally for environmental one-. This non-reductive determination principle states on inductive inference between psychological and physical description of the same phenomenon. In our case, the resulting interlevel theory, *psychophysics*, may infer that psychic behaviour of the subject is both determined by the physical properties of his environment and the relationships between their constituents, leading to this global environmental set called *Ambients*.

This ontological dependence states psychophysical laws on general principles of rationality, as mental and physical properties can define an event if and only if mental change in an object's properties-the supervening properties-entails *and* is the consequence of a change in its physical properties. Each step of a psychophysical experiment is empirically supported both by observations of relevant correlation and by the empirical adequacy of psychophysics principles, which unifies the two levels of the observed phenomenon, psychology and physics. Following this principle, sonic shape recognition proceeds to a connectionist approach, treating information as a discontinued process, successively slicing the perceived objects, in order to reference them in an allocentric way during the perception action.

In the aim of environmental prediction, the use of virtual reality immersion techniques enables the identification of pertinent indicators used for urban ambience subjective evaluation, through an adapted representation space.

Moreover, supervenience principle edict totally disconnected laws between individual and collective behaviour processes. Cognitive modelling of behavioural aggregation could be approached through quantitative evaluation of event density probability. In the resulting aggregate, perceptive complex of an ambient is denoted through the the homeomorphism between the perceived event and its evocation. This should describes both the quality of the identification of all the ambients components, and the capacity for the perceptor to find there a sense, that is to recognise a natural and relevant organisation of its constitutive elements for identification. In that aim, spatialized time/space descriptors will help clearing the stimuli complexity, in order to proceed to its taxonomic description figure 9.

Figure 9: Psychophysical Characterization of Immersive Tools.



Hyperscape system will associate the different modes of shape/phenomenon relationships we described previously, taking into account the structural organisation of one of the main stimuli which built the perceptual representation of ambients. Those lasts will be described through evaluation of the corresponding psychophysical pertinent indices with coupling cognitive representation, based on the virtual reality scene judgement, to technical characterisation of a specified ambience This method constitutes a step-over for simulation or measure data analysis obtained in the field of environmental studies. In this way, virtual reality allows interaction characterising with use of interlevel indicators in the cross-fields of urban built environment, physical phenomenon and human perception *in virtuo*.

5. A HUMAN INTERACTION DESCRIPTION MODEL

5.1. Universe line: Minkowki theoretical assessments

For the pedestrian that circulates in the urban space, the ambient phenomenon superposed to the urban landscape can be considered as a marker of the totality of phenomenon distributed around a place, creating an atmosphere perceptible for any pedestrian situated in this space. It is revealing a new geometry of the city, modifying its shape during a walk. This ambient landscape reveals its dynamics through the urban wanderer walking through this new ambient city perspective, showing new ambient phenomena that punctuate space along the wander direction, following the so-called *Universe- or World-line* of man in the city as illustrated figure 10, from Moles (88):

- The past of the given event is formed by all events that can influence the event (that is, which can be connected by world lines within the past vector line to the given event).

The present plane at the given event is formed by all events that can be connected through light cone with the event. When we observe the sky at night, we basically see only the past vector line within the entire spacetime.

Figure 11: Minkowski space representation for one point of the Worldline.

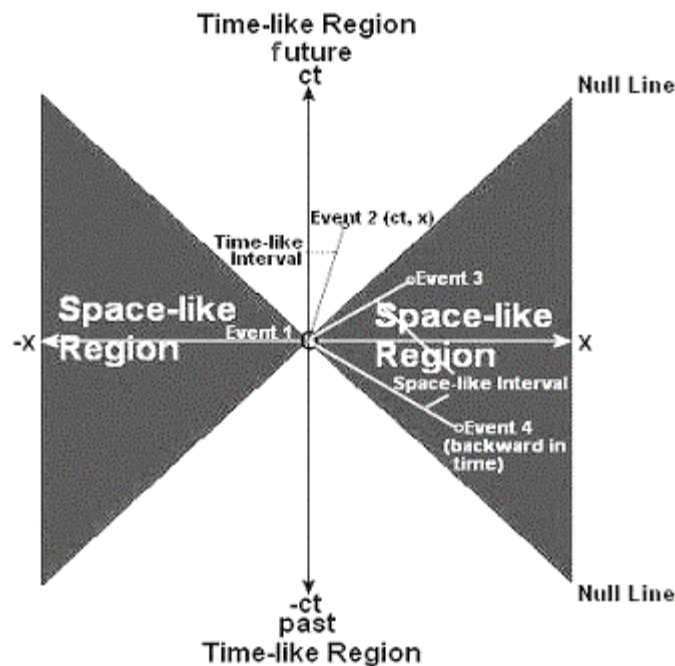


Figure 11 shows the present depth as the region between the two white cones. Points in an observer's present are inaccessible to her/him; only points in the past can send signals to the observer. In ordinary laboratory experience, using common units and methods of measurement, it may seem that we look at the present, "Now you see it, now you don't," but in fact there is always a time delay for light to propagate. Of course: the involved geometry is Minkowskian, not Euclidean.

5.2. Event Interaction entropy dimensioning

Geometrically, Minkowskian measurement operates a *present depth* neighbourhood dimensioning, with the use of the so-called *Minkowski dimension*, describing the structure's entropy through its scale manifestations, or fractal behaviour.

Thus, Minkowskian geometry of event distribution can approach an incertitude evaluation through entropy dimensioning, relative to a territorial problematic. Those last indicators should describe an interaction quantity, understood as a teleological tension from past to future action of participative processes. Human information data relative to

those relative interactions from an actual situation to a projected one recover different natures, political, institutional, social, psychophysical, and should be defined through an order spectrum for uncertainty measurement and interaction quantification. This order spectrum constitutes the Correlation Dimension probability signal, which can be deduced from the general entropy quantification through its Dimensional Measurement. Entropy probability distribution should then be computed from information dimension of the event data structure, and its measurement momentum will enable entropy generalization to complexity through multidimensional analysis. Inquiry request as an approach of teleological tension between reality and ideal provide multivariable information for present depth Dimensional Measurement. Recent applications based on inquiries and expressions dimensional analysis are well-adapted to this data treatment, and should define the items dimensional values (Woloszyn et al., 2001).

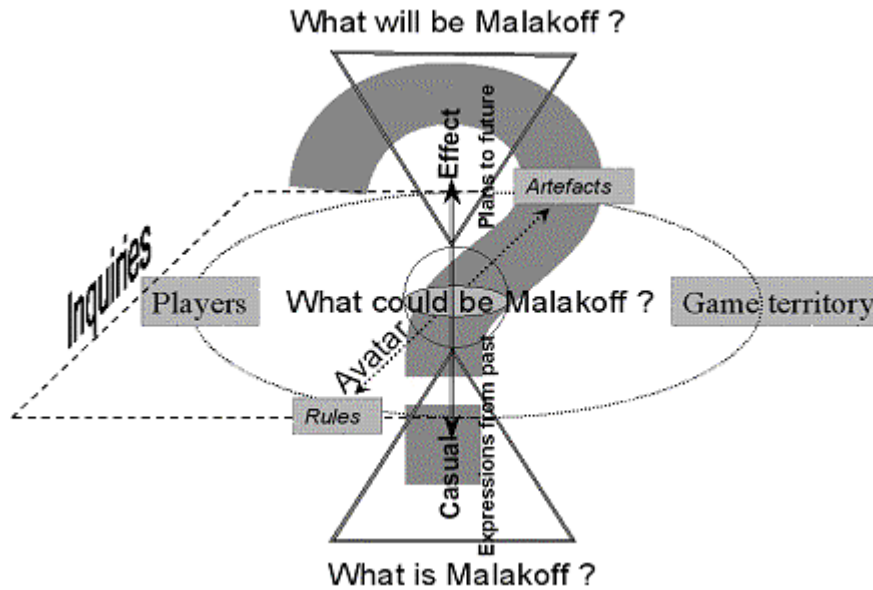
As a particular space/time interaction model, the Worldline Minkowski representation is divided into three parts too:

- The future of the territorial event is readable through political, institutional, social, psychophysical interaction effects quantification, answering to the following question: “What will become our territory, Malakoff, in the future?”
- The past of the territorial event is formed by all events that can be connected by world lines within the past to the given event, as an event memory structure. The relative question states on the actual situation of the territorial event: “What is Malakoff?”
- The order line of the given event is constituting with the territory game map and players inside the present depth. Central position within the casual-effect cone enlighten its present- centred position in ideal construction: “What could be our territory? ”

5.3. Hyperstructural entropy measurement

This teleological construction uses a virtual formalisation of reality, producing artefacts with territorial rules acting into the present depth, so that interactive players would be able to interact through avatars into the game territory, ideal expression between past and future territorial representation as a specified hyperstructure. Virtual environmental modelling reproduce partially some interaction rules, leading to territorial artefact construction (*Present depth* central node) through hypermedia spatial mediation with using Hyperscape play-ground figure 12:

Figure 12: Teleological interaction dimensioning though Hyperscape play-ground.



Hypermedia applications tend to use simple representations for navigation: most commonly, nodes are organized within an unconstrained graph, and users are presented with embedded links or lists of links. Recently, new data structures have emerged which may serve as alternative models for both the organization, and presentation, of hypertextual nodes and links.

The underlying infrastructure of such an information-centered environment is the *network of informations*. This network is a hyperstructure (Richardson, 1999), using Minsky's (1975) *frames* as multidirectional informational connection network. Hyperstructures essential assumption consists into the variation (minimalisation) of the hypergroup emergent properties, concerning associative or commutative natural minimality. This variation could be evaluated through the corresponding entropy calculation.

Thus, considered as multi-level emergent structures as for living organisms or social community structures (anthroposystems), the Hyperscape structure is then formed by information flow dimensioning, and enables information entropy quantification. Measurement space can be also deduced from the main (emergent) characteristics of a number of earlier explanatory inquiries in perception.

6. TOWARDS A TERRITORIAL INFORMATION SYSTEM

From biophysical to sociodynamic sciences, interaction laws (or in general, organizational principles) that emerge from the regularities in collective behaviour are most of time unlinear, as the actors teleological assumptions acts as environmental-dependent non-linear interactions. Those interactions emergent properties are deeply networked to the system observers, in our case, inhabitants involved into the territorial observatory and acknowledgement process.

This is the reason why this research-action approach, constructed from game-information theory, considers complex urban interactional systems as a representative virtual interaction space, a game territory made of land-, sound- or ambient- scapes. This approach should produce specified interaction rules, through environmental scenarii under defined social tradings, relatively to a specified territory hyperstructural system called "HyperScape".

As a collection of interacting systems shows collective behaviour, observed territorial mechanisms of sociophysical ambient observations will allow to constitute a "live" interaction model, feeded with territorial inference rules mechanisms through hypermedia space-time virtual processing.

Within those territorial rules integrations, intelligent system HyperScape should be able to operate an ecologically valid transcription of the representations of a given territory as a collective construction in spatial terms as well as in social ones, aiming at the emergence of a common knowledge of the territory, towards the idea of a community of interest.

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***“How the Local Governance System is Influenced by the Creation of an
Observatory: the OSER 70 experiment”***

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URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Moine>

Abstract: The new tools now available to territorial intelligence cannot but take into account the various time and space scales. Setting up a socio-economic observatory - operating as a regional network- allowed us to state again and outline more accurately the issues pertaining to the notions of territory and observation. Our study remained constantly focused on a major preoccupation: the actor should always be at the heart of a local project and governance system.

In France, regional development has changed. It no longer depends on a centralised decision-making process imposed from Paris but is now based on the recognition of local territories. They are many, and not only the administrative “*régions*” and “*départements*”. They are constantly overlapping, interpenetrating, merging or separating. Traditional administrative divisions become less important than local stakes and priorities or even a wish to collaborate.

Nowadays a wide variety of actors play a role in the process of elaborating, deciding and implementing development programs in a context characterised by multiple space and time scales.

Observing the territory involves methods which gather and present data in many different ways. Surveys of local dynamics may take into account several observation spaces. Most spaces are predefined but some of them are changing or do not even exist yet. As information is too often considered a mere commodity, understanding and using it at best has become the major issue, a precondition to building a territorial intelligence system.

However, the tools used by the various local operational or decisional bodies to observe and understand how territories change hardly seem to progress. Good governance undoubtedly implies an efficient processing of any information describing the space along different time scales and allowing to grasp the intertwined interventions of multiple actors within interpenetrated scales.

The “*Agence régionale de développement*” -Regional development Agency- in Franche-Comté -ARD-FC- is implementing a real strategy: identifying, organising, publishing and enhancing data and knowledge thanks to a mutualisation of regional means and resources so as to strengthen exchanges and collaboration. The ThéMA research group, in a partnership with the Société I@D informatique, was chosen by ARD-FC to design a tool capable of including the dimensions of time and space, of taking multiple points of view into account, of sharing and assimilating high-quality data. All these capabilities had to be developed within a framework allowing a large number of actors to observe their territories from the very specific point of view of economic development, an essential theme. This new tool is known today as the “*Observatoire socio-économique en réseau de la Haute-Saône (OSER 70)*”.

This contribution aims at describing a method which allows an assessment of the governance existing before the observatory is created. Appraising the data used by the various actors and the expected indicators allows a better understanding of the organisational context in which the upcoming observatory is going to develop within a territory and existing practices.

1. FROM TERRITORY TO OBSERVATION TOWARDS BETTER GOVERNANCE

1.1. Territory, observation and governance

When it comes to territorial development and policies, and whichever theme is dealt with, several concepts are related to the issue of observation. Territory, observation and governance are therefore closely linked.

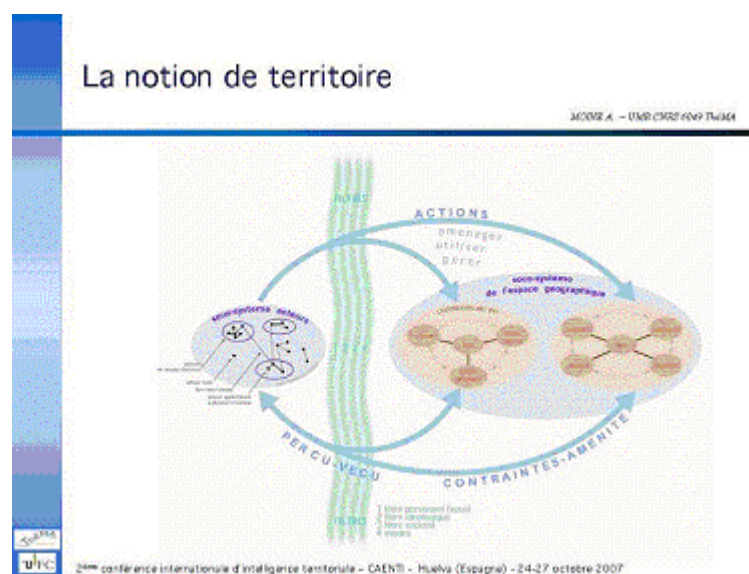
First, a territory is a system, and is indeed endowed with all the characteristics of any complex system. It is made of two twin sub-systems: on the one hand, the actors playing mutual games when using, developing or managing the second sub-system, the geographic space. The latter is made of places or objects which interact according to their location and even more so through the amenities or constraints which they provide to actors. This interaction creates the feedback loop of regional development.

Secondly, observation is the long-term monitoring of a given system, a system described by an array of indicators shared by a community. This underlines the extent to which observation tools are at the heart of systems where actors are in conflict, at the heart of a given territory, at the heart of governance indeed. But this also highlights the issue of indicators which use various and multiple data to describe the consequences of the use, of the development and of the management of a geographic space by human beings.

Finally, governance relies on the complex relations between the actors of a territorial system with a view to guaranteeing its permanence through contradictory relations which ultimately require a consensus within “*a continuous process of cooperation and adjustment between different and conflicting interests*” (SMOUTS 1998). Thus governance must gather all the actors within a territorial system. It may eventually be described as “*a process coordinating actors, social groups, institutions, with a view to reaching specific goals which were discussed and defined collectively within discontinued and uncertain environments*” (BAGNASCO et LE GALES 1997).

In this context, the actors on a specific territory should be given the ability to obtain reliable information thanks to observation tools and therefore to make informed decisions and support an efficient governance. As geographic space keeps changing, it is essential to create tools able to provide a constantly updated image -notwithstanding the space or time scale required- taking into account the evolutions of institutional frameworks.

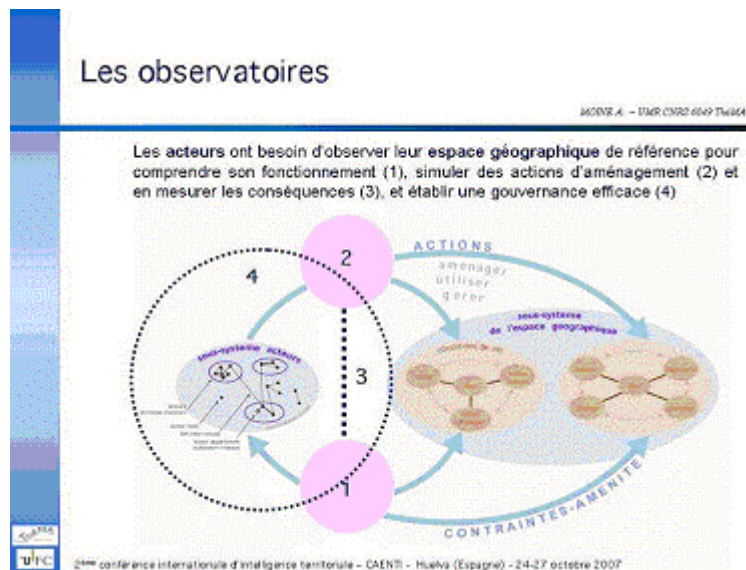
Figure 1: the notion of territory.



1.2. Observatories

Observatories are generally tools designed to satisfy specific expectations from their users. In the field of regional development and territorial intervention, they aim at sharing reliable data permitting to describe the geographic space upon which the users are to act by using, developing or managing. This highlights the issue of indicators which, thanks to multiple and various data, make it possible to assess the consequences of the utilisation, development and management of geographic space by humans. There exist different types of indicators, each with a different logic: they may describe a system's condition -a diagnosis-, the impact of development policies -an assessment-, or the likely evolutions of a system -a forecast. There are also differences related to their organisation within the observation tools: they may deal with themes -population, housing, employment etc...-, or stakes -such as precariousness for instance- which concern all of these themes. Finally, observation implies sharing information in two different ways: upwards, so as to gather more information for the observatory, and downwards so as to use it in a rational way. Local territories as we presently know them are many-sided and they federate a large number of actors in the field of development to work on a project. Governance, which may be interpreted in many different ways, helps, justifies and supports these changes.

Figure 2: Observatories



1.3. Problems hindering governance

Today we may notice that a large variety of actors have an influence on the geographic space. This is explained by the French system characterised by its multiple administrative levels which became even more complex with the devolution process and then the growing cooperation between local authorities -with the birth of the “*intercommunalité*”, a formal network of neighbouring local councils-, and also with the evolution towards new processes involving more participation. Since many actors play a role in a single reference

space, it becomes necessary to encourage a cooperative approach. Today it has become obvious that sharing data is essential to supporting the decision-making process: the cost of gathering such data is generally high, and they often describe only one aspect of the dynamics to be studied. If we are to improve our understanding of how territories function, we cannot be satisfied with analysing only trade or industrial data but we must compare the latter with more extensive data, allowing us to take a much larger view of the different problems being studied. Yet it appears that exchanging data remains difficult from a technical standpoint, and is also quite time-consuming; people lack time and tend to forget about it, which implies the production of more superficial analyses, for which no common references have been agreed upon by the various actors in charge of regional development. As a consequence, governance may be described as insufficient since the actors' visions cannot be superimposed. Thus their interventions are scattered and often inappropriate.

1.4. The problems of economic observation

In the field of economic observation, the problems evoked above are stressed by another phenomenon: the ongoing competition between the various actors who are supporting economic promotion encourages defensive behaviours. Thus any information about the geographic space, the actors, more generally the territory is often viewed as strategic data. It seems impossible to share such data which include references to files concerning firms and their full descriptions. Such files have been painstakingly established and updated and are thus considered no less than treasures. Yet they are sometimes very disappointing, they often contain identical information, they are scattered and can by no means be exhaustive. Much time would be saved by sharing these files which are not exchanged. They rarely benefit from complementary data which could be used as the basis for reliable and shared indicators. Such a situation leads us to conclude that economic observation is weakened, often dealing only with specific aspects, specific categories of businesses, specific areas whereas nothing is done to consider a sharing of information.

2. OSER70, AN INNOVATIVE SOLUTION WITH AN INTERNET-BASED EXCHANGE PROCESS

IAD-Informatique and the ThéMA research group were chosen by the *Agence Régionale de Développement de Franche-Comté* to design and develop an adequate technical solution allowing socio-economic observation in the local context. The tool relies on a regional data storage hub jointly used by the different actors producing or using information. A dedicated Web interface (OSER70) enables them to upload and download the hub's data and to consult the indicators produced by statistical processing. Various representations of these indicators are available -charts, territory profiles, maps, figures. This new tool's goals may be described as follows:

- sharing existing resources
- developing socio-economic information, in terms of quality as well as quantity, through a multiplication of information sources -general and specialized
- capitalise socio-economic information by making it available to a larger range of actors

- encourage the birth of regional “territorial intelligence” network

Thus the original idea consists in offering a tool able to record data -figures, documents, maps-, to make them available to all the users, to update them, to compare and sort them and to accomplish the necessary calculations so as to build strategic indicators related to a territory. A territory profile may therefore be constantly updated with the help of information pertaining to various themes -population, housing, businesses, employment, household resources...

Indeed, this decision to set up an observatory should eventually encourage a change in local governance as it enables the different actors to gain better knowledge of the geographic space that they use together, that they control and manage. But governance will not appear only because the observatory is functioning; governance must be considered a specific goal when designing the tool. We finally noted three steps which encourage the partners' involvement in the observatory's creation. Even before the tool is being set up, this involvement fosters relations which appear to be necessary when establishing better governance:

- helping privileged partners to identify and exchange whatever data they use
- explaining the procedures which guarantee the quality and safety of data
- implementing and clarifying statistical secret

When such support measures -also known as project support- are taken, it appears clearly that data are very simply at the heart of the various actors' concerns. Even though they generally disregarded them, they approach data differently. Indeed they are information to be shared. When suspicions concerning their use, their safety during transfer processes and the issue of statistical secret are alleviated, actors are noticeably more willing to consider setting up an observatory, which implies sharing their data. If no such measures are taken, they procrastinate and will not readily acknowledge the potential advantages of the upcoming tool. The method appears as a catalyst for attention. It also encourages relations between actors through the different questions which they have to answer, compelling them to identify existing or potential partners and to assess their unsatisfied needs as far as data and indicators are concerned.

2.1. Collaborative work as a goal

Setting up such an observatory requires a detailed knowledge of the needs of the various actors likely to feed and/or use it. They belong to some twenty different bodies -state and local administrations, development agencies, Chambers of Commerce, trade-union representative bodies etc. It is therefore vital to gather information about the way they work, which area they cover or manage, what prerogatives they have: such knowledge is essential to establish a very accurate definition of the future users' needs and also to offer them a customised solution.

With this goal in mind, we led a qualitative survey -based on interviews- in order to achieve a detailed understanding of the various actors' roles and skills and to identify as accurately as possible which data are routinely used by these actors and also how they

manage and exploit them. This enabled us to define their specific needs in terms of information -data, indicators etc...

We were aware of the very large scope of the issues to be discussed during a two-hour interview -sometimes even shorter- and we prepared interview guidelines which were sent to all stakeholders before meeting them. Some actors accepted the rules and took time to look into the document, but many of them had their first look at it during the meeting, which indeed made it a little more difficult for us to collect information.

2.1.1. Aspects of methodology

We not only discussed with the technicians who produce or handle data on a daily basis, but we thought it was also essential to talk with decision-makers within the various organisations studied. They are indeed the ones who make strategic decisions. They should take a global view, thinking beyond the vertical approach generally observed among junior employees who do not necessarily have the opportunity to take a distance and size up the real scope of their organisation's global intervention. But beyond this consideration, we truly believe that setting up an observation network should necessarily imply that as many of its users as possible are familiar with its concepts, methods and techniques. Another necessary precondition is to help people become aware of the consequences that creating an observatory will have in terms of internal organisation as well as local governance. We actually needed to explain and illustrate what an observatory looks like so that the necessary changes could occur and the adequate decisions could be made by authorities.

This led to organise specific meetings, with two successive stages designed to avoid consuming too much of the managers' or department heads' time. The first stage -about thirty minutes- was essentially intended for the authorities. It was closer to a discussion than an interview -in fact a semi-guided interview- and aimed at improving our knowledge of the partner through a thorough description of the organisation.

In a second stage of the meeting -which lasted from thirty minutes to two hours, depending on the organisation-, we essentially discussed with the technical staff and this allowed us to build up a clear view of the various professional approaches -based on their skills- and eventually discuss indicators.

Information collected in the process was organised on a heuristic map which had been pre-designed on the basis of the questions listed in the interview guide. It is a chart representing connections between the various issues dealt with together, a mission and a person directly involved in it, a topic and an outside organisation playing a role in the intervention, an issue and the data or indicators related to it, some data and the people producing or using them, an indicator and the data used to build it etc...

2.1.2. A better knowledge of the partners

We established a descriptive file for each organisation we met. Our goal is to achieve a better knowledge of the organisations and their missions. It provides some clear indications on their internal structure, partnerships, field of intervention, interests and expectations as far as the socio-economic observatory project is concerned.

The information originally collected thanks to the answers brought to our questions may be completed by the organisation after the interview.

Understanding internal governance so as to find the right links with the observatory

Understanding the internal governance pattern which defines how partners get involved in the OSER70 network is absolutely essential.

The people we met represent their department or organisation. In all cases, we need to retrace the decision making process and identify whatever authority each of them may ultimately be submitted to.

More specifically, we try to collect information enabling us to identify -within the organisation- the resource staff likely to be involved in the observatory project, for instance thanks to a decisional or functional org-chart:

- Who decides to get involved -or not- in a project? What about the decision-making process?
- How are the various organisational levels related within the organisation?
- Which services or departments are interested in the project?
- Which services or departments are interested in new data and new indicators?

Assessing the technical capability concerning data management

As far as data are concerned, we question partners about how their internal organisation provides for the management and functioning of available data collections. We focus on the means invested in this field and type of activity: is there a department or a specialised staff member in charge of managing data, is there a formalised process of data management throughout the organisation, are there adequate tools -including interoperability capability- giving access to data throughout the organisation, allowing data exchanges between departments within the organisation and also with partners, customers or suppliers -etc...- thanks to simplified transfer protocols.

We also take an interest in how information -endogenous and exogenous- is structured, particularly through rules applying to whatever data are available and possibly transferred and/or compatible with the customers', partners' or suppliers' own data.

Assessing how successful actions are through partnerships

An observatory becomes useful and economically justified only if it generates enough traffic -the number of connections to its site- or if it adds enough value as far as knowledge is concerned -adequate technical capabilities and high quality information. A data bank is expected to reduce the number of data requests by giving free access to information according to the policy applicable to data and to the persons identified among the partners. Moreover, information will be useful and provide added value only if potential users know it exists. The observatory must therefore become a visible and readable information provider.

We may also notice that, as an observatory is developing, it should by no means overlook the many relations existing between the organisations involved. Through formal partnership agreements, or sometimes much more informally, many organisations build and develop relations with other organisations, or departments within the latter, which underline the many interests they have in common.

During interviews, we determine the extent of the local network as illustrated by the many existing collaborations. We try to define as precisely as possible the status and purpose of these relations and also how they could potentially be influenced by the observatory currently being developed.

Collecting needs and expectations

Interviews are naturally part of the project support process. The managers of the organisations we interviewed are therefore expected to assess the observatory project. At this stage, many new questions are raised:

- Can/should the project entail progress in terms of internal organisation, administration, management and the use of data?
- What complementary knowledge might be produced by the observatory project, regarding analysis, synthesis, forecasts, consulting and mutual work?
- What types of cooperation are likely to be strengthened by the project, in the fields of production, consulting and also mutual work?
- Can the observatory contribute to strengthening creation -thanks to the use of new methods and techniques-, to developing communication -publicising through the whole network an actor's abilities and the results it achieved- and training -by spreading good practices?
- Can the development of OSER 70 become an opportunity to launch new projects?
- Does the manager consider the possibility of internal evolutions to adapt to the new tool, at the organisational and/or functional levels?

We intend to enable the people we meet to voice their expectations with regards to a rational use of this information pool made of data and mutually available documents.

2.1.3. Analysing the relation between the actors and the territory where they play a role

During this second stage of the interview, a very specific and technical one, our first goal is to obtain an accurate view of the geographic field of intervention of the concerned organisation -in other words the exact area within a territory where the organisation interferes directly- by listing the existing projects, the divisions in different sectors with different types of intervention, the divisions of the territory used as a temporary reference - for the specific needs of a survey for instance- or again by observing the various collaborations.

We also want to understand the organisation's position within a larger geographic space, since the former may be indirectly concerned with peripheral or remote territories, or possibly with temporarily defined territories.

Then we question the interviewees about their own approach of their territory and the bases of this perception. At this point, they are implicitly invited to go beyond administrative considerations linked to their belonging to a specific structure. This is a means to discover the fields and themes which really interest and concern all the actors involved. If need be, it may result in the supply of a wider range of indicators designed to support the actors' analyses.

2.1.4. Collecting information on the use of data

We wished to complete the listing started by the architects of the observatory and create links between the fields of competence observed, the matching phenomena and the data which were produced, processed and used. Such identification of data and indicators requires a preliminary definition of a metadata system -definition, unit, source, format, frequency, geographic scope, specific local geographic scope, etc...- built in the data model of the “*Système de gestion de base de données*”, or “SGBD” -Databank management system.

We choose to highlight three categories of indicators which are now routinely observed in assessment methods:

- Context indicators offer an appraisal of the basic situation of a phenomenon and allow one to describe the global evolution of a territory, an industry or a company within an observation period. They are mostly classified in themes: demography, income, equipments, infrastructures, employment, training etc...
- Achievement indicators deal with the actors' activity within a territory. They are expressed in physical or monetary units -number of events organised, number of companies benefiting from financial support, commercial square metres built, etc...
- Result indicators report the direct and immediate effect produced by the different actors' usual interventions. They provide information about the evolution of the behaviour, abilities or performance of the direct beneficiaries. Such indicators may give physical data- available infrastructures, migratory balance, number of jobs created, etc...- or financial data -influence of the private sector's investment, turnover growth, a decrease in transportation costs.

2.1.5. Progress is real but still insufficient

Through this survey, we aimed at collecting essential information so as to build up adequate responses to the expectations of the future users of the system, thanks to a detailed understanding of each of the actors involved -human resources, specific knowledge in a field, information sources, endogenous data production, experience, know-how, communication tools...- and of their needs in terms of information.

Interviews are an opportunity to underline how essential it is to promote meetings between technicians and decision-makers about issues in which their various organisations take an interest, thanks to networks which may be more or less formalised. Because they tend to remain confined to specific approaches related to their field of intervention, the actors often have a narrow-minded view of the territory's life, even if they say they would like to

have a more comprehensive knowledge of their environment. Data collection remains characterised by individualism, in a process where many institutions pursue the same goals without any mutual connection.

Data management within databanks is by no means the rule. In many instances, information is stocked in fully written documents which require very hard work to adapt them to the demands of users.

Apart from a few exceptions -to be found in the field of territorial or economic engineering-, the space and time dimension of issues is not taken into account and the divisions are merely justified by the organisation's practices. Territory is rarely considered as a whole and its perception is influenced by the hierarchic vision of the territorial system, which certainly does not encourage the ability to understand the complex issues at stake.

Yet, while these interviews enable us to have a global approach of how local actors are organised and to explain what stakes and logics are presiding the development of the observation tool, it remains very difficult to identify the tools likely to be helpful to potential users –and the short time devoted to interviews does not make thing easier.

Moreover, we may notice that the professional practices observed essentially resort to context indicators. The available data do not reflect the implementing of interventions and their achievements. For instance, no data are available about the training or support programs intended for people creating or buying a company which are offered by Chambers of Commerce and identical organisations to their members. Nor could one assess the local impact of such programs on job creation and unemployment decrease, on turnover growth or again on exports, etc... This certainly illustrates a missing link between the problems tackled and the results obtained when projects are set up. Such a remark thus reflects the lack of a culture of evaluation, the latter being too often considered as a mere sanction punishing inadequate implementing of the organisation's skills instead of being used as a tool to bring about progress.

Therefore it seems necessary to meet the actors -in fact the stakeholders of OSER 70- again and to follow the initial methodology all the way through. Indeed the latter aimed at approaching the issue of data and indicators as a means to create links between the problems and causes met in the actors' geographic field of intervention and in their own fields of competence –and not as a mere listing.

Nevertheless, several hundreds of data were chosen and added to the tool; we used the data provided by the partners. The former were characterized -definition of metadata- and standardised –by turning text data into digitalised geographically referenced data. What mattered was not so much the relevance of such or such data but the pedagogic approach to the process, in other words showing why and how to deal with information so as to create added value. This is illustrated by the data path example -see figure 4.

Our approach has certainly been too candid or too optimistic as to how much added value such a project could bring in terms of internal organisation or the production of new knowledge. At this stage of the process, there is no denying that actors are essentially interested in understanding the ongoing change. They can hardly envision the future which

remains unclear even though changes are looming in the short term -less than six months- and find it difficult to assert their view of the project as actors or organisations. Only after the interviews and a formal meeting of the partners which gives the opportunity to display the tool's abilities do many of them become aware of the irreversibility and effectiveness of the process. At this point, they acknowledge that inducting the new tool in their practices is essential and should take place very soon. This proves how useful it was to encourage the actors to structure their data and consider setting up relevant indicators about specific issues such as analysing precariousness. As a result, groups of technicians started meeting and other groups met to discuss specific themes. But this became possible because interviews were used to alleviate concerns -see 2.2- and build up trust, a precondition to the observatory's growth.

Moreover, the formal and informal networks which may be observed in each organisation and around each key staff within them should be used to root the basic principles of territorial intelligence and observation in the economic context.

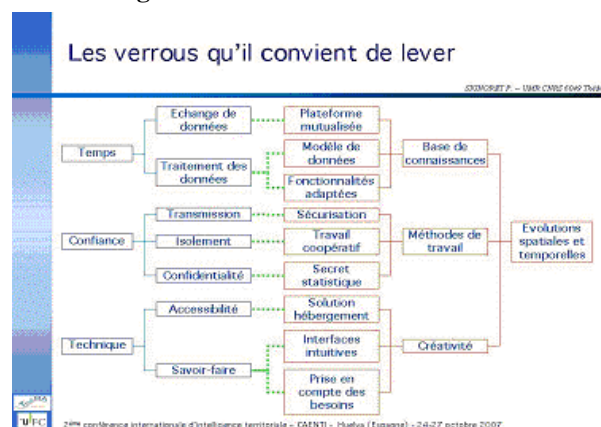
2.2. Concerns to be alleviated so that data will be at the heart of project support

Creating an observatory necessarily stirs up entrenched prejudice as to the changes generated by any innovation in the organisation and management of information and more generally the evolution of professional practices. The new territorial intelligence tools are often considered as excessively and unnecessarily complex and are also deemed to be time-consuming -it takes time to understand how it works, to feed the tool and use all its functionalities.

People tend to be afraid of such new technologies because they think they demand expert computer skills or important technical means to get connected to the system.

Potential users are even more wary of such tools because they tend to have insufficient knowledge of the actors in the territory and of the practices of some organisations whose structure and methods are quite unknown. Some also worry about how available information will be used. The data providers wonder whether data interpretation will be correct, particularly specialised data: they believe that nobody -but themselves- can really use such data.

Figure 3: concerns to be alleviated.

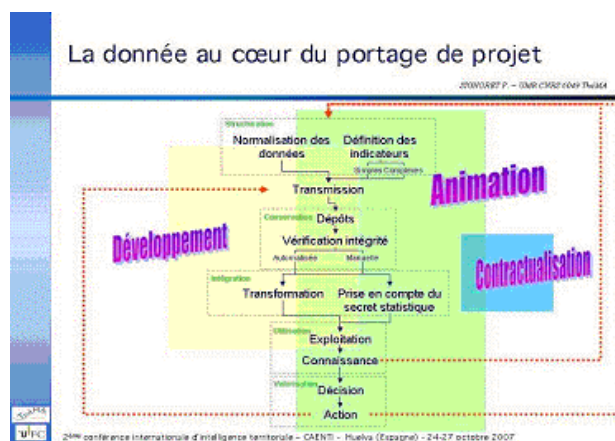


If a large number of actors are to be involved so as to build up a large community of knowledge federated by the observatory, the project proponents have to be fully aware of these concerns. They should also muster whatever energy and methods may be necessary to turn these obstacles into operational objectives likely to encourage the largest possible use of the tool:

- Decision-makers must take into account the means already committed outside any formal structure -routine practices relying on several people without any coordination- and potential productivity gains.
- An intuitive interface based on the common characteristics of Internet browsers – tabs, scroll menus etc...- must constantly provide help or extra information allowing the users to understand how to use any given functionality, where the data come from, how they were generated etc...
- Standardised data to be shared, easily exploited thanks to fast and efficient functionalities, become a real asset to strengthen the knowledge basis of the actors in the territory. They have access to information –data, documents, maps- previously available to a very limited number of people.
- Data transfer and storage have to be perfectly safe.

The observatory gathers partners coming from various backgrounds -different jobs, fields of action and approaches- who have the ability to promote and share their knowledge and experience. In such conditions it offers them the possibility to experiment cooperative work through a technical solution -software- available on the Internet. Thus the software’s development must necessarily be backed by excellent tutoring with a strong pedagogic content. If indeed the partners’ commitment to the new system is essential to justify the observatory’s creation, data remain at the heart of this system and they are naturally the major concern.

Figure 4: data is at the heart of project support.



2.3. Trust needs to grow: statistical secret

Observing the territory requires the use of data assembled and made available synthetically –charts, maps or statistical indicators. The local dynamics which are studied are observed

according to different scales. In order to allow the specific study of any type of space, it seems necessary to offer very specific data –at the lowest possible level, generally the town. But at this level, data providers usually oppose the use of data, in the name of statistical secret, professional secret and respect for individual freedom -CNIS 2002. The OSER70 databank management system takes this demand into account by offering two way of dealing with geographically referenced data:

1. A simple control: the provider determines a threshold –minimum number of items- under which the data cannot be seen. If the condition is respected, the data becomes available. Otherwise it remains hidden -replaced by SS.
2. A control based on another piece of data: this means carrying out a simple control of a piece of data -A- by defining a minimum number of items below which another piece of data -B-, cannot be obtained in the context of a specific analysis –of an area or a theme. For instance, the “turnover” data is barred by statistical secret if less than five companies are concerned. It will not be available.

The method to deal with statistical secret is provided and checked by the supplier: the observatory’s manager then inducts the data into the databank management system -*SGBD*. An algorithm written as an SQL -Structured query language- request is used to implement statistical secret. Then the *SGBD* produces a “view”, in other words an intermediate chart for each level of analysis, taking into account the constraints of secret. The “views” -rather than rough data- are then used to build up the illustrations -tables, maps, charts- available to the observatory’s users.

Beyond the technical solution, what matters is to show that technology is perfectly under control and that it takes into account the potential risks for the providers. This type of technical solution built in the organisational pattern of data handling, from the administration through to the *SGBD* and then to the web interface, is thus explained during the observatory’s slow development process. Such an advanced solution encourages a high degree of trust which is vital if partners are to adopt, use and feed the new tool.

CONCLUSION

When setting up observation tools, it appears clearly that one should essentially pay attention to future users. Because they involve the sharing of data, observatories require prior identification of every actor’s practices in order to highlight the added value brought by the new tools, but also to alleviate the future users’ concerns as to how data will be used.

If observation tools play a role in the improvement of local governance, the different actors involved first need to discover an operational solution before accepting to share data. Hence the necessity of an adequate pedagogy about the new tools, including meetings with the partners aimed at listing their expectations, explaining how their data will be inducted and shared by other users.

Governance relies first and foremost on mutual trust, which cannot be built without prior discussion and a mutual awareness of needs and practices. Such steps are necessary to make sure the observation tool will be adopted and used in the future.

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***“The Air-Ténéré National Natural Reserve (RNNAT) Observatory:
Territorial Intelligence for Sustainable Development”***

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Abstract: The Air-Ténéré National Natural Reserve is a protected area in which conservation and development principles tempt to be combined (co-management). To follow-up environmental changes which determine people’s life, and to support decisions to manage the Reserve, the first steps of a territorial observatory are introduced. Beyond the technical build up of the Geographical Information System (GIS), the prototype proposed here is a concrete expression of a part of a territorial intelligent tool. It embraces all territorial dimensions from spatial to actors ones, and try in the context of the reserve, to revisit the definition of local governance. This work is based on a master thesis (Flety 2006).

Keywords: “natural resources” management, territorial intelligence tool, GIS, governance, Air-Ténéré Niger.

1. INTRODUCTION

Territorial intelligence, beyond its impudent label, consists in a systemic approach of a territory to create an active cooperation towards sustainable development (Bertacchini, 2006). Its concrete application is a complete data collection, and the confrontation of stake holder's point of view, leading to coherent community actions. Its specific aim is to create and produce information from the data collected. In this way, territorial observatories could be considered as one of the instrument of territorial intelligence. They are mainly web numeric applications with tables, maps and indicators, used to follow-up an evolution with prospective concerns. If the importance of partnerships and actors aspects is often emphasized, we propose here to focus chiefly on the territorial dimensions, so on actors and space. We introduce here a work dealing with the participative management of natural resources with development goals in the Air and Ténéré National Natural Reserve (RNNAT).

The RNNAT is a protected area in which conservation and development principles tempt to be combined (co-management). The way forward goes through resources management which deals with an evolution of ecological paradigms assuming the consideration of human factors (Rodary et al, 2003). Existing experiences have shown that exogenous conservation policy run up against local actors needs. Those policies lead to reconsider the traditional relation to resources which have shaped biodiversity, and so have negative consequences on the environment and the socio-economics population conditions. It seems relevant to consider local population as the first guarantors of conservation actions, the biodiversity managers and the beneficiary of its valorization. Territorial intelligence tools acquire a special importance in this co-management context of protected area. They tend to revisit local governance. The general context of territorial intelligence and observatory is the framework. Specifically, this paper aims at developing the integration of landscape evaluation and traditional ecological knowledge on a landscape unit basis. It illustrates the instrumentation method of a territorial analysis tool. In this sense, the prototype of a Geographical Information System (GIS) capable of integrating traditional ecological knowledge was build.

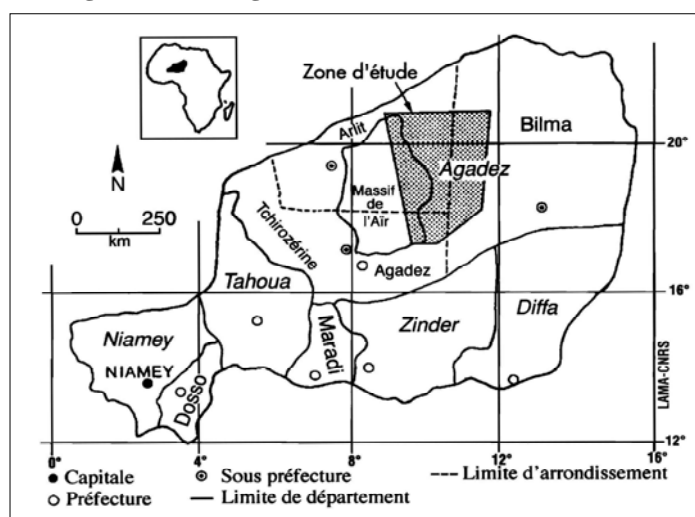
2. CONTEXT, PROBLEMATIC AND GOALS

2.1. Context: The RNNAT, between richness and fragility

The RNNAT covers some 77360 km² between the Ténéré desert and the Aïr Mountains. It boasts of an outstanding biodiversity. If rain volumes characterize the indigence of precipitations, norm in arid context, they do illustrate neither their random distribution nor the inter-annual fluctuations (Agadez 39mm in 1970, 4mm in 1984) (Giazza, 1996). This spatio-temporal variability of rainfalls constitutes the limiting factor of the reserve system and should inspire flexible management methods. Vegetation is the renewable resource, conditioned by the rainfall, which represents the best indicator of the ecosystem evolution (Tucker 1991, Breman, 1991). Thus, it varies in extreme proportions from one year to the next, with obvious consequences on pastoral population recently settled. The assessed population may reach 5,500 shepherds and 3,500 visitors leading to consider this space as

an agropastoral and touristic area. The addition of anthropogenic pressures linked to resources harvesting (overgrazing, fuel wood, water or poaching) are an issue. So it seems expedient to build management methods based on environmental diagnostics to take into account this new relation between man and its environment.

Figure 1: The Nigerian RNNAT (in Giazzi F. 1996)



2.2. The COGERAT program: Co-GEstion (co-management) Resource Aïr-Tenere

The main goal of this co-management program is sustainable development linked to participative principles. If the program is in keeping with environmental protection principles, the set of actions has to be made in a framework involving population as well as scientific, stakeholders and decision-makers. The specific goal of this program deals with the identification of intervention areas considering land degradations, and the proposition of technical solutions in a participative way. The action plan is build on “Pastoral run”, scale including valleys in the geomorphologic sense and landscape facet. The definition of “Pastoral runs” emanates from an anthropologic approach; they are spatial units restricted by a number of water wells and valleys which define pasture areas consumed by identified flocks. Those pastures are organized and used by producers namely identified who belong, according to them, to a specific tribe. As a consequence, the “Pastoral run” is a socio-spatial unit where production activities take place (Bourgeot, 1999). For each “Pastoral run”, a “Pastoral run” assembly, community structure composed of elected representatives, has a proposal capability related to resources management. Those management assemblies consider the “Pastoral run” as their spatial units of intervention. Moreover, an institutionalization process leading to the creation of commune based on those pastoral runs see the light.

2.3. Questions and goals: a perceptive variability?

Are planning and management possible without information on the area under study? If goals of co-management fixed go through mutation reports, environmental assessments are

needed. Those assessments need geographical information through data collection and analysis. How to cope with the exceptional morphological variability of this environment and how to gain and to organize data to manage this reserve? Which tool can be enough reactive to deals with those changes? The main hypothesis is that the modeling of the system reserve through a GIS could contribute to the understanding of issues to manage natural resources. Resort to GIS is suitable as a synthetic, modular and scalable tool to monitor natural resources. The follow-up of landscape entities and their mapping, based on traditional ecological knowledge could lead to a sustainable management of the Reserve. Those assumptions imply that the reserve management is done not only for ecological purposes but also for development (tourism or pasture) ones.

The aim of this work is to approach the system reserve by structuring information about it in a framework able to integrate traditional ecological knowledge. The concrete declination of this goal consists in a tool allowing action by providing a representation of the environment, a prototype of GIS. If participative GIS are under increasing interest, the participative aspect of the tool proposed here is, for the time being, limited to data collection through environmental perceptions and evaluations. The question raised is the introduction of a quantitative occidental instrument to local Tamashek population. The traditional ecological knowledge and evaluations have to be calibrated for the equivalence with an occidental evaluation system. This paper aims at developing the participative integration of landscape evaluation and traditional ecological knowledge on a landscape unit basis to manage resources and to surround development processes. This work constitutes a methodological step needed to build up a prototype on a limited area (Theriault, 1995).

3. MATERIAL AND METHOD

3.1. Landscape ecology as guideline, theoretical framework

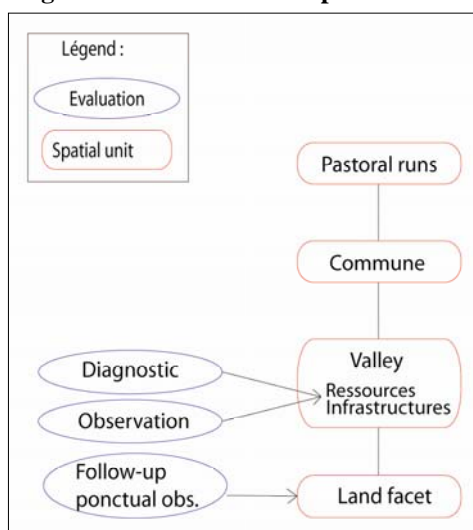
In this protected area, different anthropogenic pressures were identified. The main one, the loss or fragmentation of habitats are well-know as a critical factors for biodiversity (BIOPRESS European Project, 2006). To deal with those pressures, there is a need of underlining the changes and to be based upon landscape ecology. This last associates two disciplines which are geography and ecology, trying to link spatial structures, and ecological processes. Different from the geographer landscape approach (Filleron, 2006) and if the ecology was “*without space and men*”, landscape ecology incorporate both (Burel and Baudry, 1999). The landscape is considered as a stack of ecosystems: it is constituted of spatial landscape units imbricated one in another. Although we mentioned landscape ecology principles, we do not use pattern or fragmentation of habitats for diagnostics. The resort to this hierarchical structure has consequences in the way we have organized data, and in the way the reserve is managed (grade participative decision process). The idea is to deal with units getting smaller and smaller. In this sense, the smallest unit of the environmental follow-up is the land facet.

Land facets (Bell and Clarke, 1985) are a spatial division based on an existing classification (Giazzi, 1996). They constitute the smallest area of the follow-up even if the

limits of conclusions occurring at those big scales in arid conditions can be underlined (Niamir-Fuller, 2000). Indeed, spatio-temporal variations of rainfall lead to extraordinary fluctuations in vegetation structure. That the reason why the classification used considers the combination of two scales: the land region and the land facet and bring in land facet other biophysical characteristics as soil types, topography or microclimate. In term of landscape reading, land facets are identified as relatively homogeneous units during photo-interpretation. However, if land facets are the main units of monitoring for specific observations, due to the area of the reserve, most of the data would be gathered on a valley basis. The environmental follow up goes through data harvest as environmental diagnostics.

Environmental diagnostics need regular and participative evaluations. They are divided in three temporal components and are realized at different scales (Figure 2): punctual observations (landfacet scale), seasonal environmental diagnostics (twice a year, temporary view at valley scale), and phase diagnostics (every 5 years at valley scale). A set of indicators is specific for each type of diagnostics. Diagnostics elements based on traditional ecological knowledge and indigenous evaluations are geo-referenced to link natural processes and human practices.

Figure 2: Evaluation and spatial units.



3.2. Traditional ecological knowledge and indigenous evaluations

Traditional ecological knowledge deals with data, information or knowledge; they are an heirloom handed down from generation to generation about the relationship between human and their environment. Despite their arduous formalization, they are able to identified ecological changes (Berkes and Folkes, 1998). Several studies in the field of resources management used semi-directive interview based on maps to collect knowledge. The participative framework of the COGERAT gives a specific role to maps and mapping,

they become the base of discussions. The gathering of that knowledge is considered as data collection.

3.3. The landscape maps as federative tool

If the RNNAT's biotope classification based on landscape typology appears as a preliminary step through environmental assessment, the landscape map should be able to realize environmental assets. Indeed, an inventory mapping carried out in a participative way would be able to interface local and scientific evaluations through traditional ecological knowledge (Giazzi, 2004 and 2005). Those assets have to be done by resources users. Thus, the map assumes a specific dimension in a participative framework. What are in this context the user's reference landscape units? Coming from anthropological approach, "Pastoral runs", valleys or facets, should be able to capture population relations to space and resources.

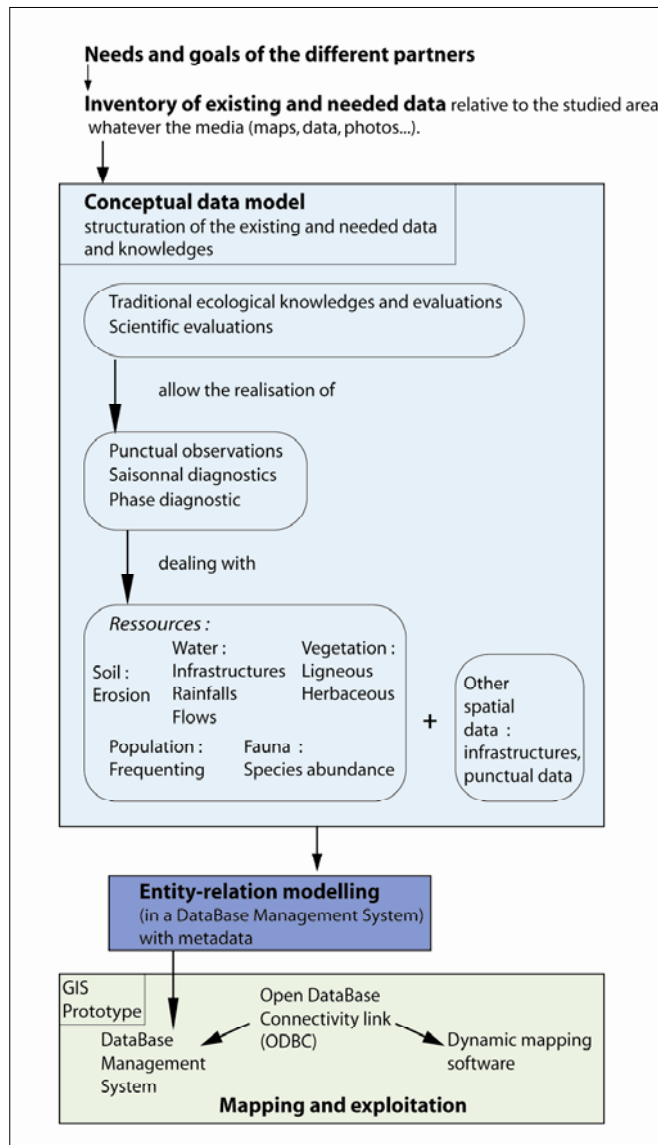
The map, as visual aid of data-reaping and analysis synthesis, would be able to be read by shepherds. Thus, integration of local knowledge and scientific ones, localized and confronted, would constitute a monitoring tool. However, considering the stretching of the Reserve and to answer the amount of spatial information and its heterogeneity, integration of landscape maps and local knowledge was done in a GIS. The last demonstrates up to date, spatial analysis and mapping capabilities, answering territorial management processes. In spite of its technical goals, the tool introduced here is a concrete expression of a territorial intelligent tool embracing all territorial dimensions, from spatial to actors ones, revisiting the definition of local governance. Indeed, as mentioned, the evaluations are made on socio-spatial scale becoming participative administration entities, pastoral runs.

3.4. Methodology

The increasing complexity of decision process leads to use analytical tools, in our case, the coupling of a database management system and mapping software. The resort to this GIS, considered as a toolbox, a geo-referenced database and a partnership organization structure (Burrough, 1998), has some consequences. Beyond their ability to manage data (acquisition, up to date) and more than their technicality, they used occidental scientific paradigms. Thus, the question of the insertion of a quantitative tool must be raise. The rationality in term of landscape spatial divisions is sensitive in respect to population's perception. They can be interpreted as a political injunction (Rodary 2003). However, in the participative framework of the Reserve, based on "true-life" socio-spatial entities, those remarks should not be retained.

To reach the build up of this prototype, the organization of information is made in several steps, get from MERISE method in its last development (Perceptory with UML, (Bedard, 2006) and becoming the geomatic approach (Figure 3).

Figure 3: Build-up methodology.



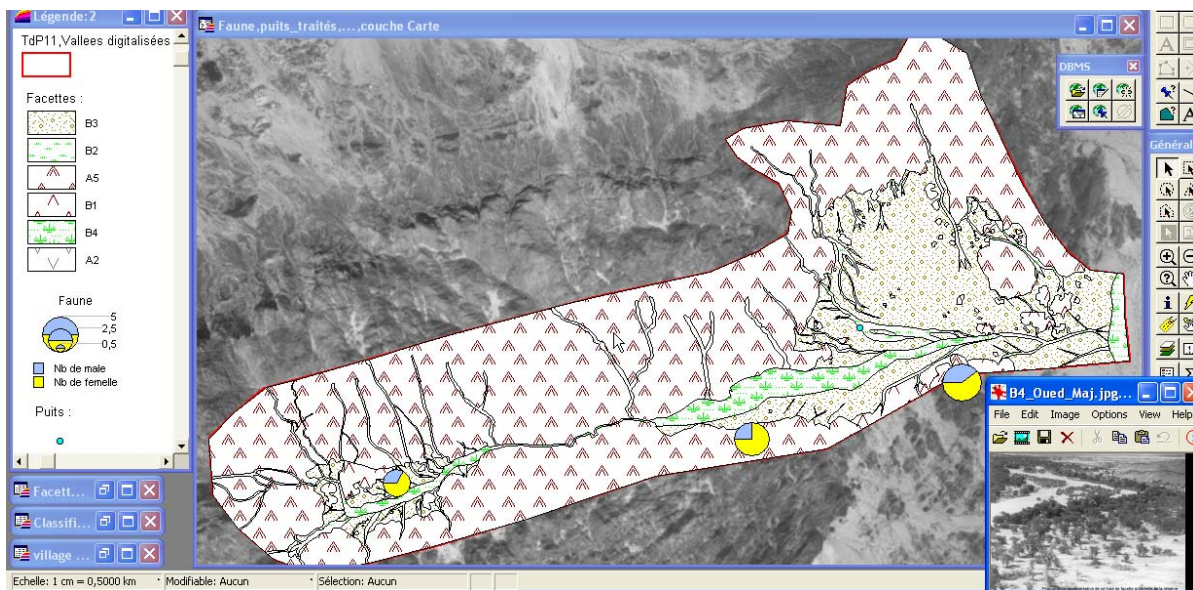
4. RESULTS

After having gathered the needs and goals of the different partners, comes a variety of models, from Conceptual Data Model (CDM) to entity-relation one, implemented in a database management system accompanied by metadata. This last is dynamically linked to mapping software.

After the identification of partners and future users and because of a participative context, we mentioned that the tool has to use indigenous evaluation for environmental diagnostics. One goal is to build a dual equivalence system, indigenous and scientific, requiring a calibration. What is the equivalence of 12mm fallen in June 2002 for the herdsmen? If an

answer to the representation of quantitative data can be get round by codification, the one relative to calibration is empiric. The collect of the two values, indigenous and scientific, during a time has to be done to reach the calibration (started few years ago). At least, one condition of the participation is directly linked with the accessibility of the tool in term of language. Through technical aspects (Figure 4) which take a particular dimension in participative context, a double reading is possible. All toponyms, field entities or evaluations are in Tamashek, accompanied by an audible pronunciation. In the same way, distinctive photos can be displayed to identify and locate facet types, or other entities.

Figure 4: Mapping software snapshot.



5. CONCLUSION

In a participative conservation and development framework, and to cope with evolutions bearing upon a sensitive environment, a management program has been started. To reach this goal, one condition is to dispose of geographic information. Their gathering are based on ecological knowledge on a landscape basis and by this way, empirically, it promotes participatory and collective choices for actions, necessary but not sufficient conditions of “good governance”. The tool is not considered as the heart of the decision process but as a pretext of questioning and a participation medium.

The proposed prototype gives a structure to data and integrates a dual equivalence system of evaluations, indigenous and scientific ones. GIS capabilities with the centralization and normalization of data are suitable in this context. GIS are considered as a toolbox, a geo-referenced database and a partnership organization structure; the link with territorial intelligence is then obvious: giving favour to actors or technical aspects, territorial intelligence or GIS come together in structures named observatories.

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“Theoretical Approach of Network Communication and Collaboration in Research”

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Abstract: Collaboration and cooperation in the virtual surround is one of the key elements in international cooperation research. This paper is about understanding functions of the virtual tools with the help of the Participation Theory of Communication (PTC). Various forms of the phenomena described as communication can all be characterized as being rooted in the need of the agents to recognize and/or to solve problems. Communication is a way of understanding the agent’s behaviour as the potential ability to recognize and/or solve problems with the help of symbols (or signs). The basic theory is discussed and applied to the field of network-communication. The CooSpace as a real application - used in the CAENTI project - was built on the basis of theoretical conclusions. The web based applications can be described as a set of communication devices. Different communication devices have different characteristics. One of the most important factors of effective use of these devices is knowledge which helps the users (agents) to choose appropriate tools to solve their problems. CooSpace supposes self-motivated agents aiming to solve their problems. Usage is not important in itself. Usage is important only as a way of helping to increase the problem-solving capacity of the participants. The developers are working on improving the tools in the CooSpace system using valuable experience gained from the CAENTI project alongside scientific approaches.

1. INTRODUCTION

The main idea we are going to look at, is the role of information technology in scientific cooperation, and what the boundary conditions are that we must be aware of. The question seems to be simple but, as we shall see, after a short investigation into the terms used in the above sentence such as cooperation, science, technology, and information, a rather open discussion will follow. The information society and its essence has been one of the most often discussed contemporary topics since the early '60's. (Bell, 1979, Toffler 1980, Castells, 1996) On the other hand, information, culture, cooperation, and communication are also keywords of discussions being far from finished, and displaying quite a rich spread of opinions. The history of epistemology concerning the origin of knowledge touches the colourful images of what science is all about. Philosophers, taking an analytic, pragmatic or hermeneutic point of view, have different ideas about the status of knowledge and truth, therefore their concepts about the origin of meaning are also different. The anthropological approaches to the understanding of human society through culture (Boas, 1940) or through interpreting elements in structure (Lévi-Strauss, 1974) deploy a large variety of ways to the better understanding of a society. The term culture sometimes seems to be more complex than usable. Clifford Geertz (1973) called Taylor's definitions about the aspects of culture, a "mixed vegetable-soup by Taylor".

When taking into account more sources, one finds that science arises not only out of the essence of knowledge (disregarding the epistemological aspects) but also out of a socio-cultural process of societies. (Kuhn, 1962) The term, communication, mostly emerges from the fact that culture is being described. Culture could be understood as a construction made up of social interaction or, looking at it from another point of view, culture is a kind of knowledge that we use in communication. (Habermas, 1981).

2. COMMUNICATION THEORY USED

This short essay does not want to solve any of the above-mentioned problems, but it shows the complexity of the terms that we use. This paper is based on the Participation Theory of Communication (PTC) (Horányi, 1999). From this aspect, the various forms of the phenomena described as communication can all be characterized as being rooted in the need of the agents to recognize and/or to solve problems. Communication is a way of understanding the agent's behavior as a potential ability to recognize and/or solve problems with the help of symbols (or signs). The problem of the agents is a difference between the desired and therefore aimed state and the current state.

The basis of understanding patterns as symbols is common knowledge. The agents participate in this common knowledge, *communio*. *Communio* is not a factually existing phenomenon. It is strongly attached to an assumption of agents and to a concept which is about understanding some aspects of their behaviour. This kind of description titles their target as communication. The Participation Theory of Communication (PTC) (Horányi, 1999) is about describing a scale and topic and independent description of agents and their problem-solving capacity according to their preparedness. One possible "place" of problem-solving capacity is symbolic which results from the agents process of

signification in a given place and time. The constituents of symbolic are the signifier and signified as it is discussed with various terms in the literature of semiotics.

Patterns are differences in time and/or space accessible via modalities of perceptions. The patterns or structures of it – understood as problem solvers – are agents, while other patterns are recognized as symbols (or signs) or raw-patterns. Human agents in everyday situations are, firstly, participants in a communication as agents that give a potential subject to be understood by someone and, secondly, the human agents are able to understand their own or others' behaviour as participants in the communication.

Communication is not something that can be recognized as a force, as a process, or as an architectural or structural phenomenon that is independent of the supposition of an agent with teleological goals and with abilities to step forward. The agent as an assumption of willing power is not just a possible description of human but it can be applied to something that we can call collective or fictive. The assumption of the collective gives us a chance to understand organization also as an agent. The collective never appears on its own. Another agent behaves in the name of the collective. We can call this appearance, role. When G. H. Mead in the 30's presented the theories of social interactionism, he recognized the dynamics of building the aforementioned second ability. Mead (1934) also recognized the interactiveness of playing and tuning the roles at the same time.

There are two double agent-constellation aspects: mimetic and virtual. The mimetic double agent-constellation gives a model of the understanding of somebody who behaves like somebody else. We all know, in the theatre, actors play their lines, but we are concentrating on the character to appear. In the situation where we show an architecture (designed structure of physical elements), it seems to be or behaves like an agent, but this is virtual. Virtual and mimetic are not exclusive categories. We need a concept of agents in order to understand the surrounding patterns that are accessible via modalities of perceptions. The description of patterns is mostly about understanding agents that create a pattern or appear to do so.

3. COMMUNICATION DEVICES AND COMPUTERS

Understanding these patterns in many cases are based on the common knowledge about symbols (or signs) that are called *communio*. The patterns could be fixed for the future, transformed in space and amplified to overcome the limitations of perception. These architectures created for modification of accessibility of patterns are communication devices. They range from a simple amplifying-glass to complex television systems.

The most fundamental description of communication used, very often derived from a technological approach. The model C. Shannon (1948, 381) describes the schema of one general communication system where a well known transmitter and receiver are connected and the signal is carried the message trough channel is influenced by the noise. The approach Shannon described is the essential mathematical model communication crucial in signal processing technology. This approach is one of the most important theories in kibernetical tradition of communication but it describes signals without meaning. That is why, this theory has a little narrow focus on communication described: "The fundamental

problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point. Frequently the messages have meaning; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem. The significant aspect is that the actual message is one selected from a set of possible messages. The system must be designed to operate for each possible selection, not just the one which will actually be chosen since this is unknown at the time of design.” (Shannon 1948, 379) The reproduction of patterns is a logic of communication devices.

A computer network is not a communication device on its own. Applications (computer programmes) organize network and hardware infrastructure to become a communication device. The computer has a relatively free universal functionality. The use of a computer opens up many ways of use: it can mix a functionality of communication devices and/or can behave like an agent (as virtual agent). In the virtual agent concept we know it is not “real”, but we want to apply the concept of an agent. By the universal computer theorem of Neumann it is obvious that the computer has the memory to admit programmes which partly determine the functionality of the architecture. (Aspray, 2004)

Communication devices are used and integrated very deeply in everyday life. Society and culture are strongly influenced and built by the way communication takes place. The use of computers and their networks give functional dynamics to communication devices. These changes make the information age. It creates a space of flowing information (Castells–Ince 2006 [2003], 60) as a new virtual platform of economical and social relevancies. The crossways of “real” space flows of raw-material, energy and people leads to the big and important cities of the today world. (Bell, 1979)

The various communication functions of the Internet as a social phenomena was a surprise for the first inventors. The history of e-mailing shows, how motivating and interesting it was to find new ways of communication via new software devices. Ray Tomlinson (young engineer in BBN) who created the e-mail in 1972 says: “It was just a hack. And the next step was to get other people to try using it, because so far I’d only sent mail to myself first and then to the other people in my group.” (Segaller, 1998, 105) Len Kleinrock, professor of computer science at UCLA, former director of ARPAnet Network Measurement Center says: “...As soon as e-mail came on, it took over the network. We said, 'Wow, that's interesting.' We should have noticed there was something going on here. There was a social phenomenon that was happening.” (Segaller, 1998, 105) The usage of computers and networks today are different from the dreams of pioneers. The most popular applications involving more and more users are about communication between people. The E-mail or MSN, Skype, ICQ, IRC or Chats, Forums and most of the interactive web is about each other. E-mail is the tool developed first, and it plays one of the most important role until now. In most cases the computer handles (transfers) patterns from one place to another, but the categories the digitalization process uses (frames, wave forms, letters) are far from the semantical structures. It means that in most cases the process, the computers go through is not about the meaning. In some cases – where data structures are defined – a chance is

given to building processes relevant according to the content. In database applications, search engines can offer patterns never composed by anyone.

The use of a communication device depends on how the agents understand it. Knowledge about the structure is how the patterns are transformed, fixed or amplified via the device with knowledge about pattern accessibility and the control mechanisms of the device.

Written text is one of the most important classes of symbols. Understanding language representation entity pattern as sign is not a simple following of a bijective relation between elements and meanings. The debate on meaning tends from the relatively strict point of view of the logical positivists (eg. Carnap, 1931) to the rather pragmatic rich concept of meaning (eg. Quine, 1951, 1961) focusing on the assertion here and now, or there and then. The meaning is contextual therefore it is crucial in collaborative virtual environments to represent scenes as the corner point for the signification efforts of agents.

From the theoretical approach, one tool is a separable end describeable structure of patterns transfer and access control mechanism. The one-to-one e-mail has characteristics we can analyse, but the use of distribution lists and automatically generated e-mail messages are different communication devices. The world-wide web is also a complex. The static web pages as composed and publicly accessible patterns draws characteristics as a communication device. The interactive web applications using database to store, reproduce and algorithmically compose content are a class of communication devices. Depending on the architecture, algorithm we can describe different tools. What are the general aspects of this description?

- What kind of patterns are handled by the communication device?
- What kind of knowledge is supposed?
- How does the actual device control, organise the access of patterns?
- What are the time and space characteristics of the communication device?
- Does the digitalization process deal with semantics?
- How effective is the transformation and transmission of patterns?

Some communication devices work with textual data, some others operate auditive or visual data depending on the modalities of perception involved. The users of the device have to understand the device. That means answers for aforementioned questions. The communication device architecture controls the access of information. There are some devices (architecture) where the functionality is about the control of access. The mailed closed envelope with its address of addressee and cultural regulations and a process of post are about who will receive physical access to a content of the envelope regardless of the patterns inside. Most letters have text inside, but we can send drawings or even a smelling perfume as well, but the envelope controls the access. Some tools are used to extend the access range of patterns. The amplifier helps the speaker to be accessible for larger audience. The information technology architectures control the access. The access includes possible ways of creating and “reading” the patterns created. The most important basis of this control is the user authentication of identified users. Depending on the identity and

rules, the decision about access control is authorization. In the case when the IT system has a relatively high number of named users and many accessible entities the setup and administration of access rights becomes difficult and a time-consuming process. The role based and content category based access control make it possible to manage systems such as scientific cooperation architectures.

The communication devices save the patterns against time. The tape recorder stores the sound and plays it back when needed. The mobile phone bridges the distance in space and repeats the sound patterns on both ends of the connection. The web applications support time and space characteristics as well. The chat as real-time, synchronic communication works against spatial distance. The forum stores the dialogue against time, but it also has a spatial dimension. One of the most interesting aspects of the analysis of communication tools is the question of digitalization. Digitalization is a decision about relevances, meaning we have to decide what is important and what is not important from the perceptible. If it is not possible to strictly distinguish between the important and the not important, we have to use units and categories making it possible to prolong these decisions. It is partly because of the theoretical hard questions about the intersubjective meaning and partly about when the architecture of digitalization is unable to recognize, or access the content regardless of the impossibility of the agent to read independently. The video recorder does not know anything about the pictures and the story. Recognition of a human face is quite a hard task for computers today. The video recorder uses frames one after the other quickly, but it has no relation at all to categories of meaning. The sampling is not relevant in terms of semantics but fast enough to give a chance for viewers to recognize agents and patterns to be able to enjoy and understand the story. The typed text has letters and the words are separated with spaces and other punctuation symbols. The words are semantically relevant categories. This makes it possible for computers to build network search engines and serving pages containing the keyword we entered. The tagging of pages, XML/XSLT based web technology let the computers appear to be smarter at handling the content of web. The last aspect for discussion is the effectiveness of the communication tool. We have to evaluate effectiveness taking into account what the function of the communication device is. Lots of the devices we use, aim for the good (equal, similar) representation in comparison to the original. Many expressions show this: The camera has an “objective” to create a good quality picture. We like the CD player if it is HiFi (High Fidelity) quality. Music-fans criticize MP3 format music quality and they listen to audio format files without loss on appropriate equipment. Colour television is better than black&white. And HD standard video has a closer relationship to the original. The textual representation of information is special because it is very unusual to use as raw pattern. We handle text as symbolic and therefore composed pattern by an agent. In cases of other representation formats it is possible to switch off or simply forget the communication device and pattern appears to be raw perception with the relative freedom of understanding it as symbolic or not.

4. SCIENTIFIC COLLABORATION TOOLS

The research of network communication is not an independent disciplinary field. Theoretical approaches should be applied. Jonathan Sterne suggests (1999, 275): “Cultural

studies' critique of realism, and my support of it herein, would suggest that it is neither epistemologically sound nor politically desirable to just study "the Internet" in isolation from other cultural phenomena. Our fictional study, *The Internet*, might at this point no longer be a study of a medium itself but its place in everyday life."... "Internet research in general, needs to be further integrated with research on other, related phenomena." One important field where the computer based tools can take place is collaboration. "Collaboration is more than a popular buzzword dropped casually into organizational discourse, and more than the jargon used to describe joint software projects in the technology industry. In most communities today, it is a necessity for groups, organizations, and institutions to work together collaboratively to confront complex issues." (Heath et al. 2004, 189)

The significance of the information society lies in the fact that - thanks to the use of computers – communication devices are functionally dynamic. This feature of these devices enables them to meet new requirements very quickly. Parallel to this the preparedness of individuals is changing increasingly rapidly and sharply. The relevant preparedness tends to mean the ability to access and obtain preparedness itself rather than the ability to store information like an encyclopedia. This change is the key to the use of new technology. This approach to the information society gives an indication to design a new research and education system that is suitable for the mobilisation of skills. The research and education are in co-operation in the interest of common aims. In different scientific fields researchers use different methods and computer programs in research, but the communication between them is also very important. The history of Internet shows that the higher education institutions and research laboratories were the first real users of the network. One of the scientific collaboration tools we use in the CAENTI project is CooSpace.

5. DESCRIPTION OF COOSPACE

The developed CooSpace System is communication-centered. CooSpace is a web based application aiming to create a real situation in virtual surround. Real cooperation takes place on the virtual scenes of application. Participants are joined in the particular scenes through their roles. It is the participants' role to determine the tools used where participants can make appointments and organize their communication freely. The co-operation emerged of the common intent of the participants, but the scenes of the CooSpace are supporting the co-operation of the members of the groups by the ways of assuring numerous forms of communication between them. A situation is important because it selects the knowledge the communication is based on and it refers to the *communio*. A situation (scene) gives context to a symbolic representation of the problem-solving capacity accessible via the system. A scene is a virtual space of a real existing group. The users (agents) are the members of this group. It is an interesting feature of the cooperation scene that participants can form smaller groups that are allowed to create a subscene where the members of the group can work on a particular task on their own. CooSpace certainly provides participants with basic contact information (address, e-mail address), but the participants also have a possibility to upload their photos to make their relationships more

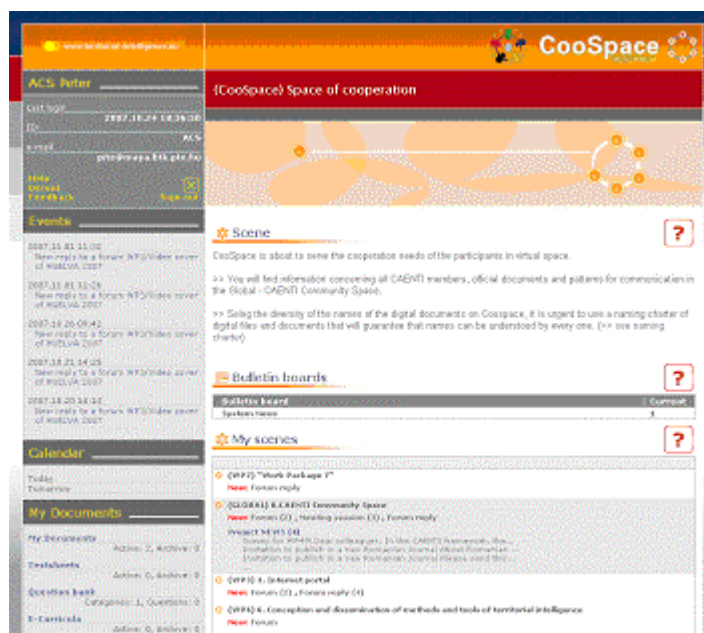
personal. CooSpace provides numerous ways of communication within the scene for the user of the co-operation – or in other terms, research – area. The users can proceed with dialogues, can discuss different topics in the frames of definable thematic forums (direct correspondence), or via chat (in real-time). It is possible to congregate virtual or personal meetings. With the help of the messaging system the personalised follow-up of the events and changes in the system is possible. With the use of e-mail messaging possibilities the users of the research area can earn knowledge of changes and events important to them.

The system gives possible, organized ways of co-operation for involved researchers and they can publish their achievements for the closer and the wider circle of researchers. The system of CooSpace supports the management of tasks emerging during the operation of a distinct (research) team/group. It is possible to appoint tasks for the whole group or for the specific members of the group, to send in the solutions for these tasks and to rate these solutions. One can set out deadlines to tasks, which appears in the time schedule of the scene. The calendar management gives an overview of the different tasks in the research areas. It is also possible to view a summary of the tasks and results, achievements of the scene which can be saved in a format available for other applications. Assignments can be provided and the papers can be “handed in” uploaded in a form of a file. Other participants can then evaluate these, but they can also produce an automatic-type test. In the communication of participants the synchronic and asynchronic services (chat-room, forums) used in traditional virtual classrooms are also available.

In a unified way the data of the education or research community can be accessed. The shared document storage provides an easily accessible, common system of the achievements, templates and semi-final documents. The distinct users can share documents, mediafiles and with the compilation of bibliographies they can set out curricula and working papers. Document is a complex element. CooSpace provides a possibility for registering data of documents and attaching files to them. The management of the documents is independent from the scene, but they can be connected to scene, that way creating the bibliography for that particular scene.

The system can handle zipped and uploaded static websites with an appropriate access control. Special zipped format SCORM compatible e-learning materials are also handled. The activation of the new document notification message helps the users to keep track of changes made. Another important tool is the simple messenger services used among the participants. Notification and exchange of information are also assisted by messages on automatically generated events. Regulation of access can ensure that confidential materials are available only for the people concerned. Other tools — not discussed deeply here — are also provided: test-banks and photo albums, blogs and linked external application module interface support, and a specially tuned mobil-browser interface. Each member of the group can enter this scene or subscene, where the activity is controlled by the user rights management. The rights of the distinct member (user) are defined by the relation (role) of this distinct member to the particular scene (researcher, teacher, student...).

Figure 1.



The design of the user interface is intuitive. On the user interface there are identifiable areas and icons to support the user in navigation. (Figure 1.) The CooSpace application is available in five languages and other translations are in progress.

6. EFFECTIVE USE

Effective knowledge is based on how the virtual scenes, as the representation of real word situations, are built up and are available to the users (agents) to solve their problems. Use of CooSpace requires self-motivated agents aiming to solve their problems. Usage is not important in itself. Usage is important only as a way of helping to increase the problem-solving capacity of the participants.

Aspects influencing the efficiency of tool (device):

- Using common language. (Not only an agreement, but the accessibility of symbolic.)
- Giving exact objectives for collaborators. (Sharing problems to solve.)
- Clear representation of real word context in the virtual surround. (To help recognition symbolic as a potential place of problem solving capacity.)
- Knowledge of system to help the users to utilize it for problem solving. (User training, for effective navigation and tool usage.)
- Giving good and appropriate variety of communication devices (tools) to use.

The development of the CooSpace recognizes the priorities above. In parallel the CAENTI project, thousands of Hungarian students are also using CooSpace. The researchers and

developers are working together to improve Coospace to help the participants benefit more from the system. It could be done by broadening the content available and by having the potential users access the symbolic, serving the needs of the project and providing the participants with new tools. The tools concentrate on specific problems, giving a communication device which aims to be proper and recognized by the users.

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***“Inter-visibility a Concept at the Service of Territorial Intelligence, a Tool
at the Service of Governance”***

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Abstract: At the limit, the proposition «this point of space is visible or non-visible from this other point of space» is a strictly geometrical assertion; nevertheless, we will be able to continue the gathering, by integrating information on the sight distance, the proportion that is visible from a given object (for example a pylon) or the visual contrast with respect to a background, etc. such information layers are not trivial at all, even in a research that is directed to the peoples’ true-life. It is not indifferent to notice the notions of exposition to the glance and of inter-visibility were firstly developed by the architects, in the approach of the relations between a space function and its insertion in the visual beams, and more generally in the approach of the inhabitant’s well-being.

From these introductory purposes, in this papers successively examine the technical outlines of inter-visibility, then its potentialities and its limits in the framework of an inter-visibility taking into account in the territorial decision.

Speaking about inter-visibility in a conference which general theme is territorial intelligence could seem strange, or even curious. Here, I would like to emphasize the fact the thematic of inter-visibility and its relations with the territories settlement, can constitute a genuine problematic of territorial intelligence, and lead to question some of our conceptual representations.

The usual dictionaries define the landscape as a “space portion that is offered to the visual observation”. Since the beginning, this proposition is ambiguous. It has the advantage to clearly show that the landscape is linked to the glance, what is rather relevant and never superfluous, but it induces the idea the landscape would be an object, submitted to the visual recording, like a viewing. It would let suppose that the landscape existed before the landscape glance and that it could be circumscribed by a strictly denotative approach.

Such a conception would not take into account the complex operations of visual recognition, the semantic functioning, the role of the cultural determinants, etc. However, the issue of the landscape rhetoric that is involved in the territorial decisions is strongly concerned by these latest levels and, more generally, by the mechanisms of social construction of the landscape.

Why do we pay interest in the landscape visibility or inter-visibility? Mainly because the visual moment of the landscape process is the articulation point between the objects world and the glancing subject one, consequently it constitutes an essential information stage, as well as a strategic positioning in the framework of territorial governance and mediation.

If we consider the vision is an ascending process, which leads from the detection of primary visual clues (light intensities, orientations, outlines, textures) to the association of clues (shapes, relieves) and lastly to the high-level mechanisms that make intervene semantic, symbols, reasoning, inter-visibility mainly concerns the lowest levels, those that have the lowest plasticity, at the individual and the species scale. Thus, this alignment on the lowest levels of the perceptive edifice authorizes an objectivizing behaviour that allows capturing measurable information, to the nearest point of the vague frontier between the object domain and the subject one.

At the limit, the proposition «this point of space is visible or non-visible from this other point of space» is a strictly geometrical assertion; nevertheless, we will be able to continue the gathering, by integrating information on the sight distance, the proportion that is visible from a given object (for example a pylon) or the visual contrast with respect to a background, etc. such information layers are not trivial at all, even in a research that is directed to the peoples' true-life. It is not indifferent to notice the notions of exposition to the glance and of inter-visibility were firstly developed by the architects, in the approach of the relations between a space function and its insertion in the visual beams, and more generally in the approach of the inhabitant's well-being.

From these introductory purposes, we will successively examine the technical outlines of inter-visibility, then its potentialities and its limits in the framework of an inter-visibility taking into account in the territorial decision.

I. EXPOSITION, SUBMISSION, INTER-VISIBILITY

The architecture scale

For architects, inter-visibility refers to the more general notion of exposition to the glance and indicates the set of visual interference problems between two private spaces or between a private space and a public one. We speak about intern-visibility, in a strict way, when there is a reciprocal visual exposition, for example between two private spaces.

If the Athens Charter theoretically eliminated the problem by suppressing the *vis-à-vis*, it is not the case in the central and closed to central urban spaces, and the issue of the exposition of private spaces to the glance can create accurate problems during rehabilitation or some constructions affectation changes. Besides, the rehabilitation operations are often accompanied by the arrival of new inhabitants whose tolerance towards these issues is not the same as the former inhabitants' one.

More precisely, the architecturology or space psychology works have very quickly very important difficulties because of the discomfort graduation that is created by such interferences. Many authors tried to suggest limit distances or relations between outside/inside space, below which the situation is considered as impeding. Apart from the fact this distance or this relation also depends from the glances incidence angle, such approaches very quickly face civilisation and sociological factors, of which Hall's works shown the importance (Hall, 1971) and that make any quantification difficult.

Nevertheless, it is obvious it is possible to map the spaces that are actually submitted to expositions from someone else glance, within an urban sector. Mapping can be made from readings *in situ* or from a data-processing three-dimension model; in all cases the mobilized information is information of tangential kind that is put on the space of projection representation that is constituted by the background map, what we will see again when think at the landscape scale.

Even if it is Boolean (exposed/not exposed), this map making for example allows saying that a garden or a courtyard that is located in a sector will actually be able to be used as a private relaxation place because it is not submitted to the glances from the neighbourhood windows. On the contrary, other gardens or terraces will *a priori* appear as less adapted to this function because they are submitted to plunging glances from other flats.

But the parameter of exposition to glances is rarely isolated. An absolute confinement from other persons' glances can have as corollaries a difficult accessibility, a limited sunshine, or a limited opening to the sky. The issue is generally presented in terms of compromise and optimization.

After having said that, some kinds of exposition to the glance can on the contrary be sought, when the objective is to guarantee the visual control of some accesses or to monitor playgrounds for children from a flat. In the same way, the urban theatricality requires places it is important to be seen and to see that were are seen, as the bars terraces, the chic promenades and other «passagietta» circuits.

It is true these considerations are not located at the landscape scale, but they already indicate all the problems that are linked to the landscape inter-visibility. Between the cold space of the map, of the plat or of the mock-up, and the appropriate and lived by the inhabitants' space, there is space for an intermediate information field, the visibility one that requires a specific protocol of gathering and treatment and that opens vast prospects in terms of management.

The territory scale

A quick search on Internet from the headword «inter-visibility» offers very different results. Almost all of the hundred got answers refer to the universe of the Geographic Information Systems (GIS).

From a Digital Elevation Model (DEM), they allow three-dimension visualization and visibility calculations. For each DEM pixel, the spaces that he can visually accesses can be determined, it is the “active seen”.

Conversely, for each DEM cell, it is possible to calculate from which other cells it is visible, it is the “passive seen”, or view submission, which corresponds to the “visual exposition” we already speak of. For that matter, this is this glance commutativity that justifies the inter-visibility word use. Generally, the DEM is topped by the soil occupation that is provided by an image which is derived from the satellite data to integrate some obstacles presence, like vegetation and buildings.

Most of the GIS that are presently on the market provide such functionalities and the latter notably improved during the latest years. For example, they allow specifying an item height that is in the target pixel; indeed, for a given pixel, the visual submission of a pylon or of a 30-meter wind machine will not be the same as the one of a daisies fluff that is located on the ground close to the wind-machine. Conversely, the setting of the observer height in relation to the soil allows simulating the visible space from an observation platform and for example optimizing the density, the location and the height of monitoring towers of forest fires. It is also often possible to calculate of which height it would be useful to raise the observation spot so as a set of points become visible.

In most of the cases, the user can also define maximal visibility distances and thus specify the scope of the taken into account vision; of course, the visual weight of an item decreases with distance.

Some software also allow detailing for each pixel not only the pixels number from which it is visible but also these pixels location and distance in relation with the target-pixel, what genuinely allows knowing what is seen and from which place.

Beyond these elementary measures that allow saying I see / I can not see from this point, or I am seen / I am not seen from this point, some tools offer advanced functionalities that make them closer to the vision pragmatic.

They allow integrating angular, horizontal and vertical constraints that impose to the observer, for example from a car windscreen, or the window of a railway coach.

Some of them allow calculating for any point of the space a visual field width. Other inform on the distance and the point of view from which a work or an equipment (plunging view, horizontal view or tilt-up), what specifies the way the item visually manifests itself to an observer who is located in a given place.

Lastly, the optical contrast can be determined from the same information-sources. The all thing being equal, a pylon will not have the same visual impact according to the fact it is seen on the sky or it is seen on a foreground on a mountainside; and in the last case, it will radiate much more from the background if the latter is composed by grasslands, and much less it is covered by wildland or forests, here we join the principles of the prey and predator camouflage.

II. FROM THE LANDSCAPE INTER-VISIBILITY TO MEDIATION

If the inter-visibility measurement is interesting because it provides reliable information, which can be quickly reproduced, implemented and opened to simulation, it does not sell out the landscape issue and even presents the danger of scientism, or of an appropriation of the landscape management by a new kind of techno-knowledge. The layout of visual basins or of zones of equal visual submission is only a framework that details the spatial field of the glance exercise and does not prejudge the landscape atmosphere that is felt by the inhabitants, and even less their expectations or their behaviours.

Nevertheless, it offers a thinking and negotiation material which quality is to have a landscape essence, what does not have the information layers that are usually in the GIS or in the cartographic files.

By positioning in the prospect of the soil vision, the vision that is called «tangential» distinguishes itself from the projection representation that is the usually controlled by the power representation. *A priori*; such tools seem better adapted to the participative democracy.

They can merely authorize a better understanding between the stake-holder' and inhabitant' points of view, in the strict meaning of the word. Indeed, many misunderstandings could be avoided if the actors adopted the same glance axle and the latter one correspond to the daily vision, when the objective is to settle daily elements.

In *L'Espoir* by Malraux, a peasant tries to inform an aviator of the Republican Army about the enemy positions, during the Spanish Civil War. The peasant knows where the Francoists are, but his description of the places can not be understood by the aviator who does not know the region seen from the soil. When the aviator suggests him to show him on a map, the peasant does not manage to locate the concerned place. Eventually, the peasant goes on board, but when he sees his usual environment from on high he does not manage to locate himself and is unable to help the aviator.

In the same way, in the settlement field, there are so many misunderstandings because the reference spaces are not the same. The stake-holder has fixed points in map geo-referenced space of the map, the cadastre, the urbanism document. As regards the inhabitant or the walker he behaves in the geo-referenced space of his personal topology.

Here, we see again the distinctions that Erwin Strauss made between the landscape space and the geography space (Strauss1935): the first one corresponds to the feeling and implies a horizon: *“In the landscape, we only manage to move from a place to another one and each place is only determined by its relation to the adjacent places inside the visibility circle. We leave a part of the space to reach another part of the space; the place where we are never embraces the totality”*. As far as the second is concerned, it corresponds to a more elaborated and more universal vision, it is a space without horizon, a closed one, and presently we would say a geo-referenced one: *“The point zero of the coordinates system is arbitrarily fixed; but determined once and for all, it is absolute. It is universal and my position is always determined according to its situation in the system. I am not in the centre of the system any more, as in a landscape that is surrounded by a horizon”*.

The rehabilitation of the tangential vision in the negotiation and mediation phases seems to succeed. Nevertheless, these cartographies of inter-visibility are not easy to understand and require a patient pedagogy, even with the elected people. Indeed, we do not only a face an intellectual understanding problem. The fact these cartographies adopt the inhabitant's or walker's point of view paradoxically compromise their legitimacy, even towards the latter ones. In a fundamentally Copernican environment, made by distancing and of absolute cult of the grid, the coordinated system, the taking into account of the landscape as I see it, from which place I see it, glances like the returning of a Ptolemaic vision that creates troubles because it shoves all the mound of the classical science.

Generally, it is easier to make the people apprehend the mental maps, because we distinguish them without any ambiguity from the true maps, the exact and serious maps, and we know subjectivity is their research field. As regards the inter-visibility maps, they are hybrid subjects and consequently they are little worrying, they claim rendering an account of the normal vision, of the people's landscape whilst having the ambition to do it in an objective way, and whilst respecting the spatial continuum.

Lastly, the other problem the approaches in terms of visual submission cause comes from the fact that they implicitly imply the best way to built or settle is to do it in the most discreet way that is possible, in other words in the less visible way. It poses a problem: as we can accept this systematic seeking for discretion in the field of noise and noise pollutions, as such an attitude in the landscape field emphasizes a kind of absolute cult of the existing elements, which are considered as an exclusive reference, as a norm.

CONCLUSION

If the mankind is fundamentally a builder, a developer, if the landscape is “a civilization work” (Saint-Girons, 2001) what does this systematic shyness, this guiltiness to intervene on the existing mean? Would we be in a society that became unable to dare the landscape gesture? Obviously, this question refers to the patrimonialisation one that glances more like a museification step than as a patrimony production one. At his time, Victor Hugo was already moved by the difficulty our societies have to apprehend the urban modernity. The thinking of the motorways firms on this issue is actually very interesting. For the landscaper J. Houlet, every thing depends on the equipment size and on the concerned landscape basin one (Houlet 1999). When a motorway passes a landscape of major scale,

the constructor can (should) claim the new infrastructure as a landscape component, in harmony with the pre-existing components.

On the other hand, in the smaller landscapes, the best solution is often to hide the new infrastructure. We find this open vision in the European Convention of landscape that plans three action modalities, the protection of some landscapes that have a particular historic or aesthetic value, the management that implies a reasoned accompaniment of the physiognomic transformations of the ordinary landscapes and the settlement that is to say the creation of new landscapes.

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“Analyzing Survey Data Concerning the Construction of Central Taiwan Science Park using Association Rules and Geographical Information Systems”

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Abstract: Recently, many data mining techniques have been developed for and deployed by scientific and industrial use to automatically mine, analyze and extract hidden knowledge from raw data given. Among them, association rule, one of the most commonly used ones, is often used to discover relationship between two set of items. Also, commercial Geographical Information Systems (GISs) and their functions have been quickly developed and significantly improved respectively in recent years. Researchers and policymakers can input environmental data to a GIS system to gain spatial analytical results which often show up how data is geographically dispersed. In this paper, we discuss how to apply association rules to analyze surveyed data collected from people living in the Situn district and Dayia village which are two areas surround Central Taiwan Science Park so that researchers can accordingly realize some facts that can not be superficially obtained from raw data concerning the construction of the science park (before and after). The results can be referred to by local and central governments as a reference when making public policies. Besides, if we can input the analytical results to GIS, the hidden meanings or rules embedded in the survey data can be then uncovered more deeply and precisely.

Keywords: GIS, Association rules, survey data, Central Taiwan Science Park, Shitun district, Dayia village

1. INTRODUCTION

Nowadays, Geographical Information Systems (GISs) are widely used, particularly in designing and showing a city's road networks, underground pipes, power lines, and et al. Users can search roads or landmarks on a electronic map or in internet if the map provides a web version, to realize the locations they are interested in.

Besides, machine learning [1-7] is also a well known intelligent technique/model. Most of the researchers or decision makers rely on computers to analyze their data in deep which are always stored in computer databases or files. However, databases or files are passive data. We can query or manipulate them only. They never actively tell us the knowledge deeply embedded or hidden in them. In the social or geographic domain, few applications deploy GIS and data mining at the same time.

In this paper, we will discuss how to apply association rules to analyze survey data collected from people living in the Situn district and Dayia village, which are two areas surrounding Central Taiwan Science Park (CTSP), so that researchers can accordingly realize facts that can not be superficially obtained from raw data concerning the construction of the science park (before and after). The results can be referred to by local and central governments as a reference when making public policies. Besides, if we can input the analytical results to GIS, the hidden meanings or rules embedded in the survey data can be then uncovered more deeply and precisely.

2. RELATED WORK

To date, many application domains have employed data mining or GIS techniques, but not both, to promote their business.

In health care domain, Mitchell [1] described several prototypical uses of data mining, including an expert system able to predict women at high risk of requiring an emergency C-section. Merck-Medco Managed Care, a pharmaceutical insurance and prescription mail-order unit of Merck, used data mining to help uncover less expensive but equally effective drug treatments for certain types of diseases or patients [2].

In finance domain, Bank of America deployed data mining to detect which customers were using which Bank of America products so they could offer the right mix of products and services to better meet customer needs [2].

In sports domain, Brian James, assistant coach of the Toronto Raptors professional basketball teams, used Advanced Scout, a data mining/warehousing tool developed by IBM especially for NBA, to create favorable player matchups and help call the best plays [3].

Besides, many commercial products of GIS have been released, such as ArcGIS [4], TomTom Navigator [5], Google Map [6], Yahoo Map [7]. Some of the products are for single client use, and others for web-based service. For analysis purpose, the ArcGIS is much more mature than others since it can perform almost every type of geographical analysis. or mobile or navigation purpose, Garmin and TomTom have released many products in this domain.

3. SYSTEM DESCRIPTION

Machine learning is a complex process. Computers are sometimes good at learning concepts. A concept is a set of objects, symbols, or events grouped together due to sharing certain characteristics. Concepts can be well designed and structured for future retrieval and management. Common concept structures include trees, rules, networks, and mathematical equations.

Data mining, a famous machine learning model, is the process of employing one or more computer learning techniques to automatically analyze and extract knowledge from data collected in a large database. Its purpose is to identify trends and patterns in data so that users can extract *hidden predictive information from the database*. It is a powerful technology with great potential to help researchers focus on the most important information in their raw data.

Many types of data mining techniques have been developed. Among them, association rule is one of the most commonly used ones. It is often used to discover relationship between two set of items.

3.1. Association rules

Affinity analysis is the general process of determining which things go together. A typical application is market basket analysis, where the desire is to determine those items likely to be purchased by a consumer during a shopping experience. The output of the market basket analysis is a set of associations about consumer-purchase behavior.

To perform affinity analysis between two things A and B, confidence and support are two important parameters required to be considered. Confidence is the conditional probabilities of the occurrence of A given the occurrence of B, and the occurrence of B given the occurrence of A.

Support is simply the minimum percentage of transactions or instances in the concerned database that contain all items listed in a specific association rule. Confidence and support should be each over their given thresholds before we can start the affinity analysis by using association rules.

3.2. Geographical Information System (GIS)

A GIS system (or GIS in short) is an application system for creating, storing, analyzing and managing spatial data and associated attributes [8-13]. In a more generic sense, a GIS is a software tool that enables users to create interactive queries, analyze spatial information, edit data and display geographically-referenced information.

GIS is often used for scientific investigations, resource management, asset management, environmental impact assessment, city development planning, cartography, and route planning, for example, to identify a polluted area that needs to be isolated from others.

3.3. Data Creation

Modern GIS technologies rely on digital information, for which there are a number of collection methods. The most common and popular one is digitization, where a hardcopy

map or survey plan is transferred into a digital medium through the use of a digitization tool which is a computer-aided drafting (CAD) program with geo-referencing capabilities.

3.4. Data Formats

GIS represents real world objects (roads, wetlands, buildings) with digital data. Raster and vector are two common methods used to store data in a GIS for discrete objects and continuous fields. Raster images consist of rows and columns of cells where a cell stores a single value. The value recorded for each cell may be a discrete value, a continuous value, or a null value (if no data is available).

Vector uses geometries such as points, lines (series of point coordinates), or polygons (shapes bounded by lines), to represent objects. Vector features can be made to respect spatial integrity constraints through the application of topology rules such as 'polygons must not overlap'. Vector data can also be used to represent continuously varying phenomena to show us the continuous change of objects, e.g., the annual development of last 20 years.

Additional non-spatial data can also be stored besides the spatial data, e.g., names and addresses, collected through questionnaires or interview. In vector data, attributes of object are required. For example, a city inventory polygon may also have an identifier value and information about its population. In raster data, the cell value can be attribute information, or an identifier relating to records in another table.

4. DATA ANALYSIS ON SURVEY DATA OF CTSP

Central Taiwan Science Park (CTSP) has started its running since 2003. Its surrounding environment has hugely changed. For example, a huge shopping mall has been constructed. Many luxurious restaurants are opened during the past three years. Many big houses and apartments have been constructed. Currently, about 20,000 people are employed by CTSP corporations. The ultimate number of employees will be 50,000, which would increase population of CTSP residents to about 200,000 (including their families). The more people, the more business opportunities and the more shops and restaurants.

In the survey on people who live in Shitun district and Daya village, a total of 613 (Shitun 401 and Daya 212) residents are successfully interviewed. Among the questions in questionnaires designed, eight are GIS related.

Question 34: *About 4 to 5 years ago (before CTSP started running), where had you gone shopping?*

Question 35: *In the passed one year, where have you gone shopping?*

Question 36: *About 4 to 5 years ago (before CTSP started running), where had you eaten out?*

Question 36a: *In the passed one year, where have you eaten out?*

Question 37: *About 4 to 5 years ago (before CTSP started running), where had you gone to spend your leisure time?*

Question 37a: In the passed one year, where have you gone to spend your leisure time?

Question 38: About 4 to 5 years ago (before CTSP started running), where was your office or business location?

Question 38a: In the passed one year, where was your office or business location?

4.1. Distance Analysis

According to the survey data, about 65% of answers of question 34 are the same as those of question 35. Most people as their usual go to middle-scale supermarkets or nearby smaller-scale supermarkets to purchase their daily needs. It seems that they do not change their shopping behaviors. The reasons are that they are familiar with everything in the supermarket or supermarkets they have often gone, and know what the supermarkets have and the prices. People can also easily find out what they want and used to buy. Therefore, seldom of them change their shopping locations. Additionally, no large-scale supermarkets, that are currently available and can attract them to visit, have been constructed and opened, even several are now under planning and designing.

From questions 36 and 36a, we can realize that many residents have their meals at home. But those who often eat out gradually change their restaurants (from 23.1% to 31.8%) from far away ones to nearby since many new restaurants have been opened in Shitun district and Daya village. The reason is simple. More than 70,000 people (CTSP employees and their families) come to live near CTSP. Many restaurants are required. Further, most restaurants (old and new) are much more expensive than before since high-tech employees make much more money than other original residents. Of course, restaurants offer higher quality foods. What we can also learn from the phenomenon is that many schools, including elementary, junior and senior high schools, are required to fulfill future educational needs because most CTSP employees are young. Many more high quality houses and apartments are also required since high-tech people have much more money to buy luxurious ones.

From questions 37 and 37a, we can conclude that about 83.7% of people do not change locations where they like to spend their leisure time. There are three reasons. One is leisure facilities, e.g., new parks and department stores, are not newly constructed and equipped. Nothing can attract them to change their original leisure facilities. The second is original residents currently are not rich enough to change leisure facilities to new ones. The last one is they enjoy their current leisure ways. As we further study the reasons by interviewing concerned people again, the three reasons truly exist. We also conclude that people living in these two areas due to prosperous business activities have earned much more money than before.

Questions 38 and 38a show that about 89% of people do not change their jobs since most people living in Daya village are less educated. Seldom residents have opportunities to enter CTSP as workers. Most Shitun original residents, even having a little bit higher education, have their own jobs before 2003. Their professions, positions and ages are or are not acceptable by CTSP corporations. So only few original residents are employed by the corporations. But, the remaining 11% of residents is business people. They move their

businesses back to the area near CTSP. They do benefit from this science park since CTSP employees have higher consuming capabilities due to a higher high-tech salary and payment.

4.2. GIS Applications

In this paper, several GIS applications have been developed, including drawing roads that are newly constructed but not drawn on any maps. The way to do that is carrying a global positioning system (GPS) to drive a car through the roads newly constructed with breath first approach [14] and retrieve longitude and latitude from GPS periodically, e.g., once a second, along the roads. After that, we plot the positioning signal on an existing map. As shown in Fig. 1, new roads are clearly illustrated on the map. The area that CTSP locates is colored by yellow.

Another application is to plot the areas within a specific distance from CTSP. Fig. 2 shows an example. We can overlap data or objects plotted on other layers, e.g., population statistics and buildings, on the map. From which researchers can then realize the distribution of the objects he/she is interested in. For example, the distribution of population living in the areas within one, two and three kilo meters away from CTSP.

The third application is given students an easy way to point out locations an interviewed person answers if the question raised is to give a specific point he/she likes to go and the location is hard to be described by oral description. Of course, as shown in Fig. 3, a coordinate system should be given, e.g., x-axis is marked by A, B, C, ...and y-axis is marked by 1, 2, 3, Students can record the position given by recording the corresponding points in the lattices, e.g., 2-A and 6-D, instead of writing name of a location or an address. After interview, students can easily translate the records of these points into their longitudes and latitudes, which can be then shown on an electronic map.

Fig. 1: Roads newly constructed in CTSP and the area that CTSP locates.

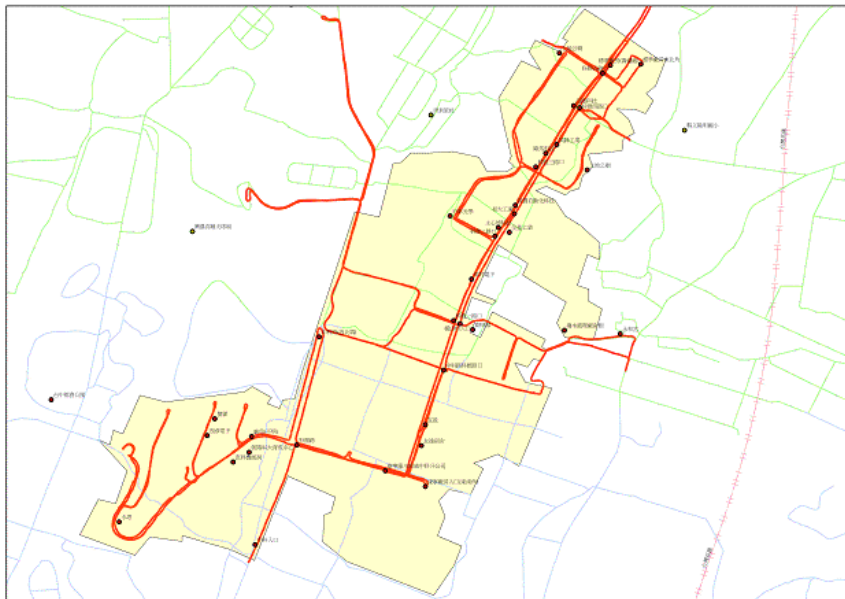


Fig. 2: Buffer areas within 1km, 2km, and 3km away from CTSP.

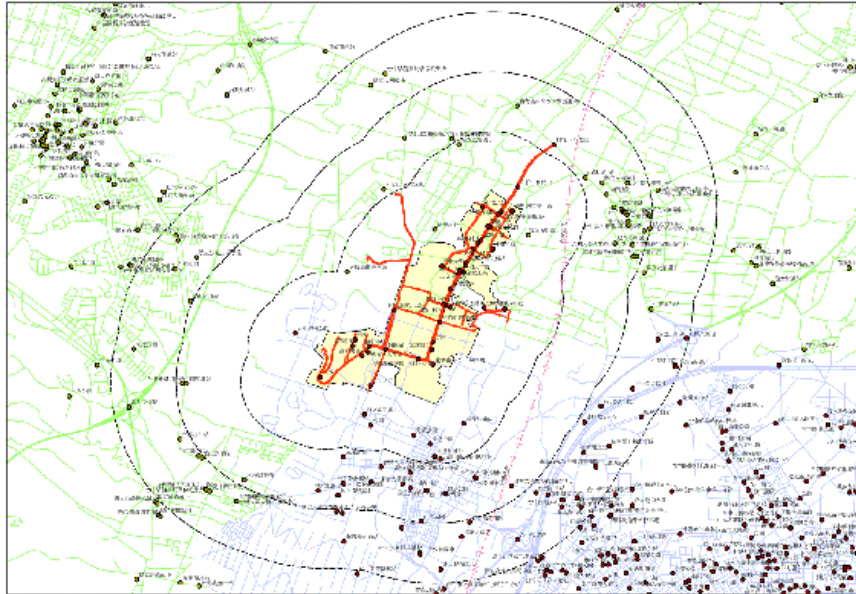
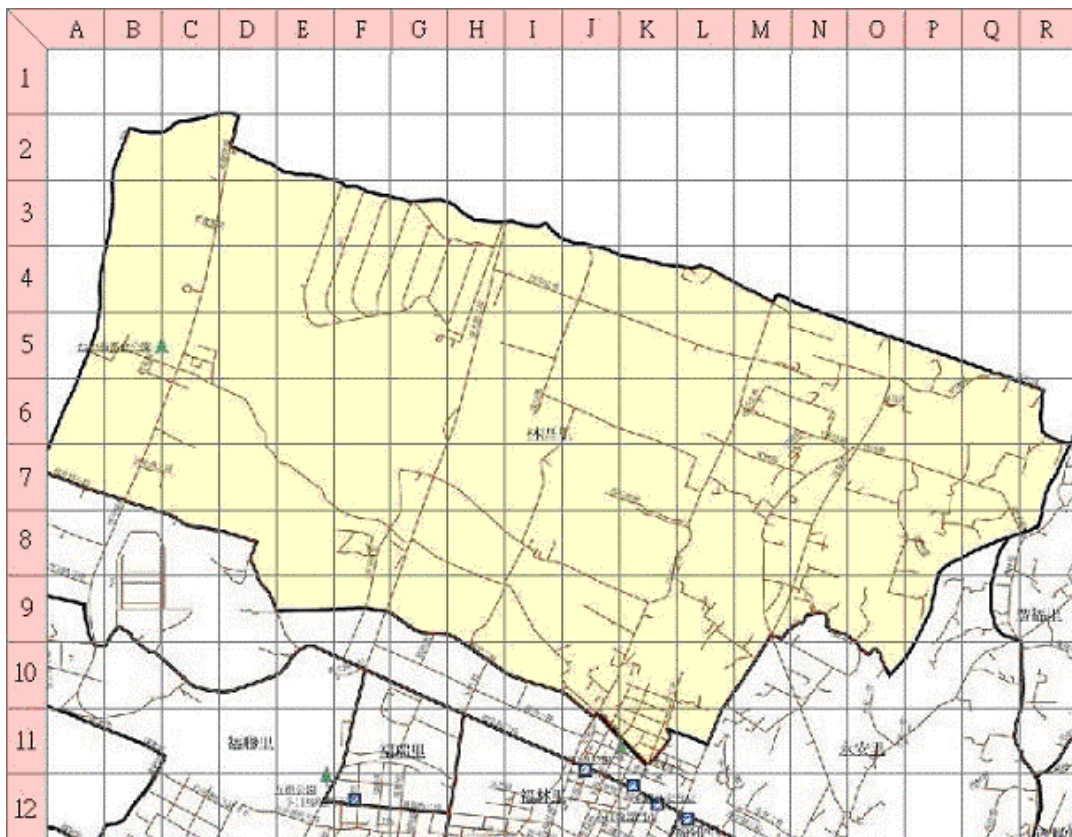


Fig. 3 A map that provides x and y axis so that students can easily locate a location that an interviewed person figures out by oral description



4.3. Data Mining – Two Examples

We use association rules to identify large-item sets between two or among n attributes, $n > 2$, and discover that a group of people consider that traffic does not change. But, they feel that public security is worse than before. However, the other group on the contrary thought that traffic is terrible and public security is fine. Opinions of the two groups are quite opposite. We further study the reason and realize that most people of the first group are housekeeping women. When their husbands and children go to offices, they stay at home, thus very often experiencing no rush hours during eight to night AM and five to seven PM since during these time periods they are cleaning houses and cook dinner for their families, respectively. However, many salespersons sell something at day time, particularly home by home, and in these areas burglars often break into houses also at day time, making these women feel that they are unsafe at home.

Their husbands and children are the second group. They suffer traffic jam during rush hours and when they stay at home, the whole family comes together, making them feel safe and happy.

The other example is that many people answered that they very much concern events that occur near or surrounding their homes. Assume that this is question 0, Q0 in short. But, their answers on the following questions are highly contradictory. Table 1 lists their confidences and supports.

Q1: Do you know there are several protests against poor environmental quality of the area near your home recently?

Many residents answered “I do not know”. The other choices are yes, no, and just can not remember.

Q2: Who is the key institute or organization that has the strongest power to determine environmental quality of the area near your home?

Many residents answered “residents themselves”. The other choices are government, community, and non-profit organization.

Q3: Have you ever raised your opinions or suggestions when local government makes a decision or defines policies that may affect environmental quality, particularly affecting that of the area near your home?

Many residents answered “never”. The other choices are always, frequently, and seldom.

	Q1	Q2	Q3	Q1&Q2	Q1&Q3	Q2&Q3	Q1&Q2&Q3
confidence	45.3	57.2	48.6	33.3	29.8	37.6	21.4
support	54.4	61.7	59.9	40.1	45.5	39.0	32.1

Our conclusion is that residents like to participate in activities that can improve environmental quality. They also know that they play the key role in those activities. However, some of them do not know any recent protests against poor environmental quality of the area near their homes and of course absent from those activities. The reasons are that they are disappointed in what have been done by government, even their suggestions and opinions are known to government (53.7%). The second is that they are

busy all day long, and have no time to participate in those activities (32.4%). The third is that some of them satisfy their current environmental quality (13.9%).

5. CONCLUSIONS AND FUTURE WORK

In this paper, we propose a way to analyze survey data collected from interviewing residents living near CTSP through the use of association rules and GIS so that we can realize the residents' feeling and opinions on the environment surrounding CTSP before and after the park started in 2003. Association rules can give users the deep relationship between two or among several attributes. GIS shows relationship among spatial data. We only give several examples. Users can analyze the remaining attributes and develop many more GIS applications to fulfill their analytical needs.

We will continue analyzing the data by using other data mining techniques, like neural networks and time series, to predict the trends of some specific data, e.g., amounts of salaries of CTSP employees and incomes of CTSP corporations.

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“Information System: Transport Dynamic Cartography in Alsace”

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Abstract: The issue of the presented work is to publish on line a dynamic cartography system of the transport traffic evaluation, based upon the Alsace (France) regional level experiment. After a large design work of a transport database, arose questions about accessibility, data updating, choice of information processing systems, and development of Internet tools. Three points of view will be approached: the system design from the user point of view, the raised questions of communication and the data-processing. The synthesis allows analyzing the experiment of the installation of a Catalyse tool at a public State level service, at a French "région" level.

Diagram 5: Portal of transport dynamic cartography in DRE-Alsace (prototype)

Direction Régionale de l'Équipement Alsace

accueil

Liens utiles DRE

Liens

Sites d'intérêt :

- ASTRA
- DRE-37 (transport)
- DRE Alsace

Sites de centres étrangers :

- ASTRA (Alsace)
- Liens de Région-Universités

Création :

- Tracinfo

Base Transport

Bienvenue sur la base de données « transports » développée par la Direction Régionale de l'Équipement Alsace en partenariat avec l'Université de Franche-Comté.

Cette base a été mise au point afin de répondre aux besoins suivants :

- centraliser les données de mesures des trafics :
 - par points de comptage
 - par origine-destination
 - par mode
- centraliser les résultats de prévisions de trafic de différentes études
- permettre des comparaisons entre les différentes études, entre ces études et les observations

Elle repose sur la définition :

- de point de comptage des trafics (sections de route, de voie ferrée)
- de zones définies par leur niveau géographique (quartier ou pôle, ville, agglomération, département, région, Etat...)
- de relations d'inclusions entre ces zones (de type mère / fille) permettant des calculs de regroupement
- de caractéristiques des informations de mesure : catégorie de marchandise, période de mesure, type de mesure, type de trafic (voyageur / fret / les deux...), nature de l'information (véhicules ou transporté)

Elle permet des visualisations des résultats sur un fond cartographique à partir de la définition de requête filtrant la nature des informations à afficher. Selon la nature plus ou moins confidentielle des informations, des droits d'utilisation sont définis par utilisateurs.

Pour en savoir plus, vous pouvez contacter le webmestre (adresse).

Vous pouvez utiliser cette base en y intégrant vos propres données, en indiquant leur éventuel degré de confidentialité afin de restreindre plus ou moins leur usage.

Avant d'intégrer les données relatives à une étude spécifique, il importe de définir et d'intégrer le zonage de l'étude et les points de comptages qui ne seraient pas déjà inclus dans la base.

Rechercher

* Identifier :

* Mot de passe :

>>>

INTRODUCTION

This study is strongly linked to the activity of the CAENTI work package 6 “Tools for actors”. The on-line publication of a transport database dynamic cartography system is an experiment of the Territorial Information System, third tool of the CATALYSE toolkit (see CAENTI Deliverable 56 available on <http://www.territorial-intelligence.eu>).

In the Catalyse toolkit, the objective is to give to the user the possibility to build an economic web server of thematic atlas without high-level data-processing development that would be robust, easy to install and to set on a server.

Consequently, we should reach an easy-to-use tool for:

- publication and query resulting in series of thematic maps
- representation of the spatial entities that are compatible with a standard GIS
- management of their attributes in ordinary tables.

The Alsace (France) regional level experiment (presented here) uses this specific tool developed with AlovMap. The design of this kind of system was experimented in the framework of the SIGVille website project for the DIV (Inter-ministerial Delegation for Town). The website that resulted from this project can directly be seen at the address <http://sig.ville.gouv.fr/>, or *via* the DIV website (<http://www.ville.gouv.fr/>).

Three points of view will be approached to explain this research:

- system design from the user point of view,
- raised communication questions,
- data-processing. The synthesis makes possible to analyze the experiment of the installation of a Catalyse tool in a public State level service, at a French "région" level.

USER REQUIREMENTS

Transport data are quite complex to gather, use and analyse. In charge of transport policy at the NUTSII level, particularly of managing infrastructure projects, mainly on roads but also on rail or inland waterways, the Direction Régionale de l'Équipement d'Alsace decided to set up tools and methods to evaluate (*ex ante* and *ex post*) local transport policy effects.

It covers various aspects:

- Coordinating projects traffic evaluations (*ex ante*), mainly through traffic simulation
- Following effects of policy measures (forbidding road transit traffic accross Vosges mountains) or new infrastructure building (new bridge accross the Rhine river) (*ex post*)
- Gathering traffic data from special studies (truck origin-destination enquiry) or counts in a unique framework

The aim was also to build the framework which could be able to give to the user and in a simple way all the information about a specific network section or about the traffic between two zones. For an easy use, reports and maps were required.

Since important data were available in Excel or Access format, a database was needed and the available software environment was standard office software, we firstly selected ACCESS.

The first part of the work was to define data structure and expected results:

As the aim was to make things sizeable, a clear and precise definition of data was required, with ability to make sums and data conversion:

Data would be provided at the more detailed level available from any study

Data record would be of two parts:

A-Data definition set on the following parameters:

Source description

Data type: either concerning vehicles or transported items

Traffic type: passengers, freight or both

Traffic type (2nd level): NST for freight, kind of travel for passengers (Local...)

Mode of transport

Reference period (peak hour, yearly day, open day...)

Reference Year

B-Traffic volume:

For information about a specific network section, data would be: network section reference, traffic volume, origin and destination if available

For information about a traffic, data would be: traffic volume, origin and destination

For flows (origin – destination) calculations, acute geographical information were needed. The most important issue was to set hierarchical level and grouping types in order to allow sums over subarea information.

16 levels with 8 ranks were defined, and the database structure used grouping facility for zones, enabling to know if it was possible or not to sum data in order to answer a particular query.

But the unique form was never achieved, and the geographical calculation therefore only worked partly.

A cartographic interface was set up to give results, but also to update data, through static forms. Since no zooming or interactive cartography was available, a new form had to be developed for new perimeters. At the end, the database had 6 different forms.

The second part of the work was to set up the updating process.

The various available studies, with their own zones, their own network or data specifications, led to set up almost one process for each new study to integrate. Specific queries were needed with sometimes even new tables to be added.

Towards an online system

The access database was of great help but had also very important limiting factors:

- It was not possible to allow various rights to different users (other than all or nothing manipulation).
- Changing the area of interest would lead to build new forms, which was quite harmful and time expensive...
- Origin – Destination query never completely worked, what led to the need of several forms and even several tables.
- Importing study data was often complicated.

For these reasons it was decided to move to an on line site. Specifications were built from the Access database and debated between the DRE and the MTI.

COMMUNICATION QUESTIONS

The use of on-line information systems is different from the classic navigation (which corresponds more to discovery, leisure activities, or purchases oriented). Most of the time used in professional environments, the object (portal, website, intranet or extranet, cooperative space) is above all perceived and used as a tool, so as to make a regular work. Then, the navigation is a medium to choose the tools that are in a suitcase, what generates questions linked to usability.

Now, the recommendations in IHM and in ergonomics are most of the time acquired, understood, experimented, and finally set up in an often effective and relevant way. However, they only partly approach the use issues that are generated by these online information systems. Thus, convoking these recommendations is essential during the design and the shaping of the system. However, questions about neither meaning, nor reception, nor knowledge building, nor getting in touch, nor above all communication objectives are asked.

The toolkit, to take back our metaphor, can be conceived to store the contents in a practical way thanks to these recommendations. However, they help us neither to understand what is of use in such tool, nor how we can use it, nor how the relation to the tool generates new uses and new knowledge.

Semiology brings a certain number of notions we can organize to clear up the questions linked to meaning and understanding (Masselot 2006), hence the name eSémiotique or SémioNet. Numerous research activities in this field are in progress. The system of transport database dynamic cartography is an object which feeds them, by also allowing appealing to the concepts and the notions of the information and communication sciences.

This experiment investigates the contribution of these research activities in the design and in the present building of such a system, by taking into account the transition - transcription of an off-line pre-existing tool to an on-line system, the dimension of multiple uses, and a communication strategy which can be imagined in this context.

On-line software: mutualization and collaboration

The on-line publishing of such an information system results from a strong political will, which widely exceeds the mere information production. The project was not built *ex nihilo*, because an outstanding software was already designed and previously used. The expertise (assessment) led on this product demonstrated many limits, which advocated for the updating to an on-line system (cf. 1 User requirements):

- At the end of 2004, the transport database was approximately 170 Mb large, and accused several minutes waiting times for some queries.
- The content had to evolve in a more fluid, faster and more simply accessible way
- The supply, as the use of the base and its content, inevitably had to exceed a restricted number of users, at the same moment within the framework of the public mission of the regional structure, and in that of the ministry of which it is part.

The design of the on-line system is necessarily fed by these principles, and also asks new questions linked to the internet opportunity. The public concerned by this system largely widened: at first, the aimed public was the DRE Alsace staff, with an opening planned for outside users (for example to the data suppliers from external structures, for example SNCF). The aim is to use this system as a mutualized tool by observation of flows and traffics, handbook and updating, combining quantitative statistics, dynamic cartographic representations, additional documents (statutory texts, standards...). It implies some users called "experts" are able of managing the content.

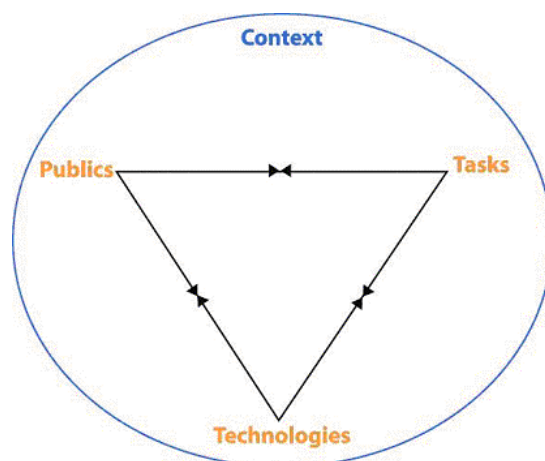
The dimension of the collaborative work which ensues from it pulls then the consideration of the variety of profiles for the public, the possible actions (services offered by the system), and available technologies allowing answering these expectations. In particular, the on-line available modules improve the opening of an off-line software in the other uses, related and useful for the first objectives, as the access to specific documentation, to illustrations (fixed or video) giving a visual representation of the flows environment, or still as a specific forum guaranteeing the exchanges within a thematic community which can then find an existence and a professional valorisation.

Use design: expert and general public

The conceptual analysis of the system brings to light a crossed board between the necessary actions (rubrics of the portal) and the manners, according to the target public.

The access to the portal requires an identification which authorizes or not, in a classic way, the display of some tools according to the user's profile.

Diagram 6: Conceptual analysis.



Analysis of the "target" public

The conceptual analysis begins with a **detailed study of the public(s)** that is/are concerned by this project. The "target" publics, in the commercial meaning of the word, should be taken into account: to who is addressed this project? What are the messages this project will deliver? Practically, it is necessary to wonder about: for whom are we working? To whom the results are addressed? Who will use this work, the devices? Which actors will contribute to create these devices?

This information will be used to choose the constituent elements of the project according to the profile of the concerned publics: if it is a researchers' community of the same discipline, we will for example be able to use the scientific vocabulary of their domain; in the same way we will be able to choose a layout coherent with the use frequency of the product, as they are recommended by the conception techniques lauded in Human-machine interaction and in Semionet [Masselot & Bougenies 2003]:

"The means of communication evolution implies the necessity of a permanent control of the meaning produced by the used and published supports. Consequently, a detailed and evolutionary knowledge of the public-target motivations and expectations became particularly important for the majority of the companies that want to build a coherent and thoughtful communications strategy."

We can read on the previous diagram, from the pole called "publics", an arrow joining another arrow from coming from the "tasks" pole. Indeed, the identified needs will allow a first estimation of the tasks the product will have to perform. In a similar way to a system of search for supply – demand adequacy, the analysis work of the public needs will have to lead to a well-framed evaluation of the actions that the end product will allow. It will thus have an influence on the determination of the tasks. It will also have a not neglectible

importance as regards the choice of the technologies which will be used (other arrow towards this angle): according to the motivations, but also to the professional, individual skills, as well as the desires of the target publics, the system will have to offer (or not) a certain level of online help, or on the contrary a thoughtful and necessary complexity in a reflexive progress allowing making a decision... whilst completely respecting the capacities of the various discriminated publics.

In summary, when it is a question of designing a computing, organizational tool, a form, or an action, we can think that we will have to take into account the following factors, during this analysis of the users:

- Psychological: learning speed, memorization capacity, curiosity
- Physical and physiological: size, weight, right-handed / left-handed people, visual acuity, dexterity, resistance and endurance in a task
- Sociocultural: studies level, formation, gender, social origin, linguistic and general culture ...
- Professional experience, level of competence in the task
- Thematic sensibility, capacity of hindsight (meta-attitude)
- Position in an organization chart, personal stakes

Obviously, all these criteria are not compulsory for every project: it is rather an overview than about an exhaustive summarization. In this specific project, this evaluation was led during the design phase, which concrete expression is the specifications, which resulted from it.

The objective of the presented project is to open the current system to other users whilst improving it, so as not to repeat the current limitations which limit the “base transport” to an almost exclusive use of a single person, both at the level of the data key-in and at their consultation one. A genuinely multi-user use was difficult for several reasons: the first one is the base initial format (managed by Access), which offers limited possibilities for the use by several people (the maximum is about ten simultaneous connections); coupled with the slowness of most of the queries, as a consequence the use in network was not really conceivable. Furthermore, the complexity of the exchanges in network between the various sites of DRE Alsace does not facilitate neither the multi-user systems.

The ideal scenario is obviously the base Transport is not limited in this way any more, namely a mono use user. The transfer towards an on-line accessible data base, should enable a much less binding implementation compared with the limits of the DRE network, and also facilitates the access to the base for all the potential users.

Thus, as a web-site is by definition accessible to a large number of simultaneous users, it is logical to design a new version of the “base transport” as a multi-users system. It implies user profiles and access rights identification. Indeed, the Access single user limit is technological. As soon as this limit will be overcome - what is the case with a transformation in a web version - other persons of the DRE Alsace will be able to use the base Transport, as its contents can be profitable to their missions.

The public eventually defined is firstly the entire staff of DRE Alsace, with a foreseen widening to external persons (data suppliers from external structures, railway companies as SNCF for instance). It requires an access to the site of the base Transport by internet, so as the external users can access them.

Besides, it emphasizes the necessity to implement a users' and users' rights management. Classic system within the framework of broadcasting contents on the web, such a system allows giving access to some actions on the website, through a login and a password.

Within the framework of the base Transport, such a management system is interesting for several reasons. First of all, it allows securing the data, because only the authorized persons can key-in new data, modify them or delete the existing ones. The other users only have a consultation right, on all or part of the base. In addition, such a users' management also allows having an important flexibility as regards the evolution of the base uses rights. For example, if the system should be opened to a limited group of responsables from other regional DRE, for purposes of free consultation or of mere demonstration, creating a new user account and transmitting the login and the password to the concerned persons will be sufficient.

Several different rights are available. The base various users' profiles are defined according to the rights which are assigned to each of them. Thus, it is possible to distinguish several "basic" profiles that are linked to the good functioning of a multi-users site.

- **Administrator profile:** the administrator is one of the rare persons who have all the available rights. He is in charge of the base. He can add all types of data, modify them and delete them. He can also create, modify and delete new users.
- **Data supplier profile:** this naming characterizes the users who are able to add data and/or modify data. For security reasons, the suppression right is in principle reserved to the administrators. Thus, this profile is intended users susceptible to be able to add new data to the base. It seems necessary to set up declensions of this profile, according to the data the users can add. A person in charge of countings will only have a right to add countings to the base, the management of the other types of data being unavailable for him.
- **Lookup Profile:** this profile is the most restrictive, it is the user profile which is assigned to the larger number of people. In this case, users have no action possibility on the stored data, they can only consult them. It includes the functions which are necessary for consultation, search, sorting, etc.

Data consultation can be filtered according to sources. The objective of these limited lookup rights is to restrict the diffusion of some data to the external users.

A latest right that is independent from these typical profiles is also necessary; it is the right to **save item selection**. These particular recordings, planned for the counting points and the traffics (and the zones aggregations if it is validated), allow protecting a selected set of data for later direct access. This recording function is reserved to the users who are authorized

to make these selection, but then all the users can consult these data in direct access. Thus, a right of "selection saving" should be assigned to get this functionality.

The various rights that can be allocated are the following ones:

- Right of addition / modification of countings (for every addition right, authorization of manual key-in and import)
- Right of addition / modification of counting points
- Right of addition / modification of traffics
- Right of addition / modification of basic data (gathers the data except concerning the zones/. counting points / counting / traffics)
- Right of addition / modification of zones
- Right of deleting counting points
- Right of deleting traffics
- Right of deleting basic data
- Right of deleting zones
- Right of selection safeguard (includes the modification and suppression of these safeguards)
- Right to export data
- Right to manage users (creation / modification / suppression)
- Right of management of the homepage news (addition / modification / suppression)
- Right of consultation assigned by source. The management interface of these rights should be studied, but it seems necessary to be able to authorize every thing, restrict to some sources or only authorize some sources, so as the attribution of the consultation rights are efficient and quick in every case.

During creation of his profile, a new user does not have any particular right, he can not see any datum. Thus, it is necessary to attribute at least a lookup right during the user's creation. Given the consultation can be limited, this choice is compulsory not to spread data by mistake. A rights management module is planned to settle these parameters.

Task analysis

To set up an activity, whatever it is, a sequence of actions with an unpredictable order, is incontrovertible. Every task is accompanied by a series of sub-tasks which will allow the planned execution. Thus, we observe a structured organization, of an action in tasks and then sub-tasks, and the latter are then sequenced in sub-elements, like the inseting of Russian dolls. Consequently; it is important to unwind the hank of the deliberate action, in order to organize its elements, by logical group, and in the course of time.

It is strongly recommended that at every stage (every intention of action, of product) a stage of **analysis of the tasks and under tasks** is made. By qualifying the led project, this

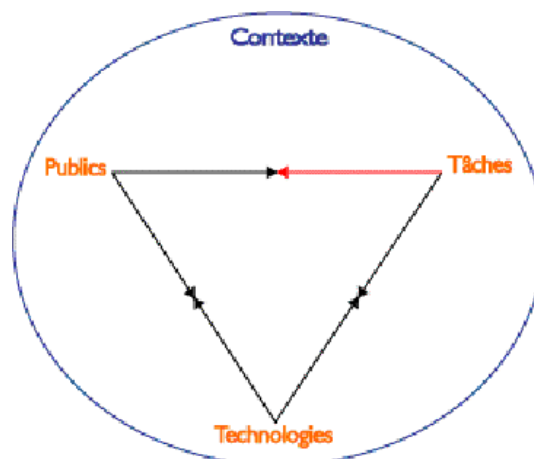
stage also allows organizing it structurally, and in the time. It will be the base of the editorial work, for example, of a retro-planning (which type is the Gantt diagram). The link with public definition is important: indeed, it is sometimes necessary, or even indispensable to gear down an action various execution moments to facilitate its achievement and to guarantee its quality. On the contrary, it is often recommended, in study of human-machine interaction, to reduce the number of actions to be made, the number of elements to be manipulated, to avoid problems of cognitive overload. The famous rule "too much information kill the information" has grounds. In the theory of the human processor [Card, Moran and Newell 1983], the knowledge engineers explain the memory has its own limits, in terms:

- of capacity: number of remembered elements, between 5 and 7 mnems for the short-term memory
- of persistence: time at the end of which the probability to find an information element is inferior to one over two
- of kind of stored information: according to the memory type, physical, symbolic...

These are part of the theories that are taken into account during the navigation design, and of the portal interface.

The tasks definition has an assured influence on the target users. All of them can not be trusted to the same person, and all of them can not technically be executed by whomever because they involve specific skills to some users' profiles, as the data management (import-export for example) or the cartographic data that inevitably appeal to deep competences in this field. A determination of users' profiles should be made, when the identified tasks will only be able to be made by these categories of individuals, what explains, in the diagram of conceptual analysis we already presented, the arrow that goes from the tasks towards the targetted public:

Diagram 7: Conceptual analysis: tasks influence.



These jobs with responsibilities were found in this project with this device; specific trainings will be necessary, as well as the appeal to certain specialized professions, especially in cartography and statistics.

Debate around technology

During the project design, it would be excessive to say the technological aspect is the less important: the contemporary professional cultural heir of a dichotomous thinking system where someone is either technical or romantic tends to leave the technicians making the technological choices (computer specialists, infographic specialists).

According to the arguments that are presented above, it is not always possible to take into account the decision-making process between the application of an advanced technological degree that will allow making the planned tasks and a product, that could require more time to be made or could be heavier to make, but that would have an easier handling for the users. It is incontrovertible to know not controlling all the possible computer programming techniques and languages, but to be able to handle indicators and criteria that will allow making this kind of decisions.

The "*veille informationnelle*"(informational intelligence) is a necessary tool in this perspective: it is also a question of not starting a heavy development, with languages and technologies without future, without technical support, and which would be soon thrown away. Again, we will not be able to ask a doctor, who has become project manager, a foreman, a manager of associative structure, to acquire the technological knowledge necessary for the proper guidance of project, in addition to its professional knowledge. Nevertheless, he will have to know bringing to his activities the necessary skills, he can estimate the relevance level of the work being made and suggested choices, and he regularly faces the cogs of the tasks and procedures to estimate the necessary time to program computer and to execute a simple or complex statistical processing.

The technological choices are strongly influenced by the analysis of the targetted publics (users, beneficiaries, designers, directors, computer specialists), and, as the task specification for such staff category, there will be an evident effect of the taken decisions on the typology of the potential users. Indeed, some necessary and unavoidable tasks lead to the implementation of detailed and expert technologies that are only accessible to the individuals who have a certain level of technical control.

An authorized study compared three technical possibilities taking into account the previous éléments: at the moment, several " technological schools " are confronting for the creation of "simple" on-line cartographic systems (that is to say projects such as ViaMichelin or Mappy, to only quote them); it is the *svg* format, the Java programmes such Alovmap¹⁸, and systems created in *Flash*, as Géoclip¹⁹. The first result of their compared study is that AlovMap remains the most interesting system because of its use flexibility and the acquired experience, whereas the *svg* format is advised again, and Géoclip requires a

¹⁸ Alovmap website: <http://www.alov.org>

¹⁹ Géoclip website: <http://www.geoclip.net/fr/index.php>

narrow partnership with the company of the same name, as it is recapitulated in the following table.

Software	Technical Constraint	Advantages	Disadvantages	Price
Svg format	IE 5+, adobe SVG Viewer	- Simple to develop: writing similar to web pages - free system	- Bad distribution of the reader svg, little used technology - reserved to Explorer, in speed loss	Free
Géoclip (Flash)	Plug-in Flash	- Very wide-spread, effective technology - geographical system in the most "salesman" aspect - advanced cartographic features - plug - in light	- proprietary system - Advanced use requires contemplating the execution of the project by the company Géoclip.	24000 € (source: http://www.geoclip.fr/fr/p21_produits.htm)
AlovMap (Java)	- Virtual Machine Java on the client PC - Client mode of AlovMap server: Apache Tomcat on the server (free)	- very good cartographic functionalities - free system	- Plug-in Java harder to install than Flash - much inferior aesthetics than what Géoclip can suggest	Free

The chosen cartographic module is AlovMap. A technical question still arises further to this choice. There are two versions of AlovMap, the first one is the "applet" solution, the second one is more advanced and can be called "customer version server". In the first case, no server technology is necessary, the only pre-requisite to the use of the AlovMap applet is the presence of the plug - in Java on the user's computer. On the contrary, the customer version server offers more functionality, but requires the implementation of the free server *Tomcat* to manage the server side. The customer version server particularly allows loading only the *shape files* that are necessary for the asked display zone, contrary to the applet version which loads all the files. As a consequence, the customer AlovMap server can notably reduce the waiting times during the loading of the cartographic module. These technical elements are presented in the following chapter.

Context

The last element of the conceptual diagram we presented above is the *context*: each action, whatever it is, takes place in a precise context. Cultural, social, professional, ambient, determining context are working conditions to be taken into account as much as possible where the project is being designed. The first parameter to know is the context where the project takes place: places, history, previous and present policies, legacy and traditional values... are the elements that will allow estimating the importance of the project in the concerned zone, according to strategic stakes. The analysis of some ground executions shows that such stakes sometimes lay in the realization, and that a thematic, that was not a priority before, is merely underestimated.

It is generally preferable to obtain this information before beginning the conceptual analysis, because their influence is very strong on the three poles, and consequently avoids

wandering around some questions. Do decisive differences as the writing and reading senses should naturally be taken into account? The tasks analysis will always need to be fed by contextual information: the concerned users evolve in a particular culture, with their own universe of cultural referents, which will be able to be used as a basis, not to have to lead some explicitations. It is in this sense, that we previously used the notion of expectation horizon that is inherited from the semiology: a situation, a context, are "read" from these cultural universes which contrive the apprehension the individuals have of the project.

The analysis of the context naturally completes as the poles analysis goes along. Thus, we generally advise to establish the four elements in a bound way during this design phase: firstly, each of them in a separate way, not to get lost in guesses, and then to resume the whole in a sommative analysis to work on the interdependences links (the influence arrows from a pole to another one), in a clear context.

Its definition in this project allowed clarifying the DRE functions, the project stakes for the institution, and for the project partners:

- DRE Functions:

The Regional office of infrastructure of Alsace (DRE) is responsible for several missions linked to land planning, transport and housing. These missions include projects of arrangement, transport infrastructure implementation and observatories on various questions, such as traffic regulations, road safety or housing. A complete presentation of the DRE various functions is visible on the official site, at the url: <http://www.alsace.equipement.gouv.fr/>

Transports have a pregnant role in the problematic of all these missions, including those who are not directly linked to it. Indeed, the transport of persons and goods is strictly linked as to the geographical scheme, that is to say the housing, as to the problems of land settlement.

- Project stakes:

Transport problems influences all the DRE missions. Thus, it is very interesting for the DRE the available statistical data can be easily shared between the various services. Initially, these data were centralized in the Access monopost version of the base Transport and the diffusion of these data was extremely limited. The major stake of the project, if we consider it at the level of all the DRE services, is to make available the transport statistical data for all people, and to have the base fed by many of them, in a collaborative way. Real strategic stakes are being built:

- in terms of governance, because this portal is an observatory feeding a decision-making process that is at the same time technical, administrative and political.
- institutional, because the DRE should play its role in this process, and by being the mainspring of such an experiment, it can maybe then value its work by a transfer towards other close or identical structures.

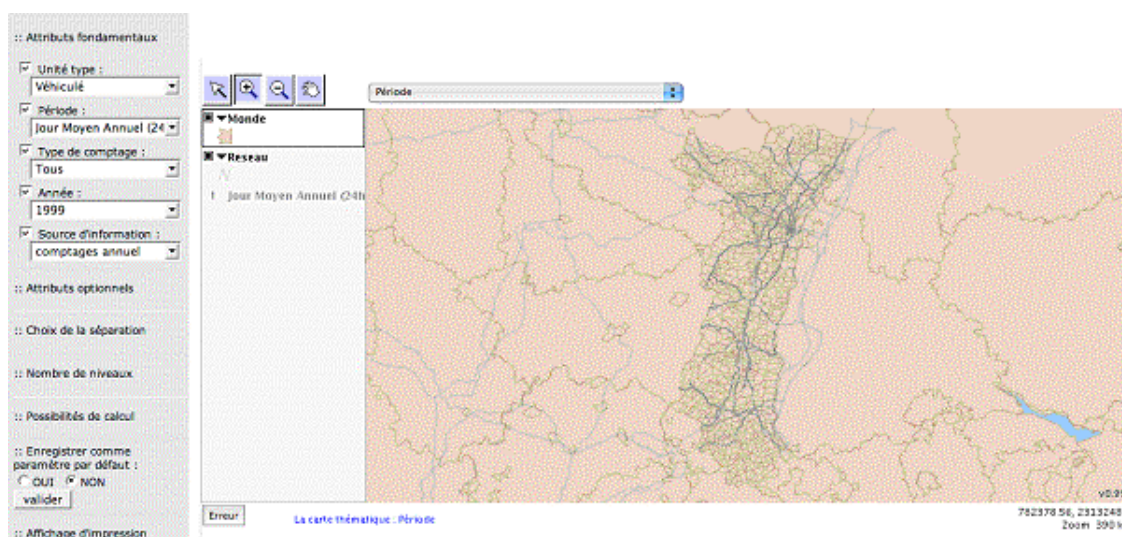
- in terms of service (Service de la Maîtrise d’Ouvrage), because the service in charge of the project shows its dynamism, its professional creativity, its concern to improve current tools.
- Individually, because the persons who are involved in the project have to answer an interesting challenge in design, project follow-up and in technical execution, and this challenge can be professionally productive.

- Services participation:

Several services of DRE Alsace were associated to the project, to assure its good progress and its success. The main interlocutor is the SMO (Service de la Maîtrise d’Ouvrage). The communication service of the DRE has a consultation and validation role for the graphic charter applied to the project. Finally, the cartographic needs of the project (choices and elected standards, cartographic data dissemination) are processed with the staff of the geographical information system (GIS), and of the Service of Regional Observation. Eventually, the DRE computing service was consulted about the various possibilities of technical web-hosting of the project.

In this project, the idea was to add two levels of use in some menu items in the interface. These levels are not inevitably managed by the automatic profiles, but by the users according to their needs at the time of the navigation. Consequently, in the use of the dynamic cartography, a contextual complex menu was generated, allowing real time interaction with the parameters of the created map. Most of these parameter settings ask for a real level of expertise on the contents (sources knowledge, gathering conditions, available criteria...), on the statistical methods of the information processing, as well as on the cartographic principles and the geomatics.

Diagram 8: Map of Alsace (France) counting points.



By default, the left menu reflects the statistical and cartographic choices made by the experts on the subject. On the other hand, all the menus are not displayed, so as the use levels are respected. Thus, a simple use will not be perturbed by a variety of too technical choices, however they remain available for an expert use. The idea is to guide the users, by giving a direct access to the simplest level.

Most of the concerned public do not perform all these conditions; presence of a complete menu authorizing all these modifications appears heavy, not to say bothering, in a not expert context of use. It is thus a question of structuring this type of menu to give access:

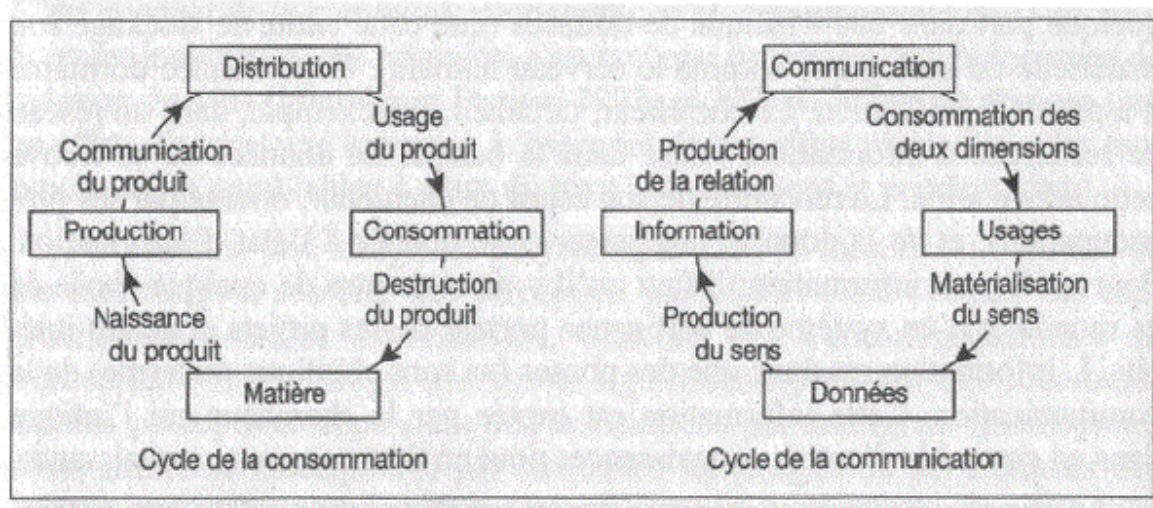
- At first to a minimum of basic tools, at once understandable and widely sufficient for a cartography, that does not require complex parameter settings
- In a second time, by "unfolding" the menu, in the various complex parameter settings appealing to these experts, said questionings.

This structuralization of the interface is still at the experimental stage, because the other modules of the portal could certainly take advantage of the same analysis and consequently win in use simplicity.

GIS and communication

This system, in a simplified way, allows organizing a process which goes from data to information, communication and way of use. Mucchielli (2003) develops this idea in what he names the communication cycle that he illustrates:

Diagram 9: Communication cycle by Mucchielli (2003).



The system feeds on data either gathered from various sources, or internally built. It structures them in a data base (cf. third part), and organizes three stages presented in the scheme:

- Stage of signification production that ends in useful and usable information
- The communication putting into relation information and users
- And finally the use way of "both dimensions" one.

The information production is generally well designed and experimented by the research activities led in human sciences (geography, economy...). The question of putting into relation often remains to be clarified, as a dimension which is not still approached during the design of this kind of project, whereas it is fundamental to guarantee the relevance of the way of use in a professional environment, which appeals to a scientific level, nevertheless it is difficult for a wider public to approach it.

According to Wright (1973), this putting into relation between information and users, with the environment, is one of the levels to be analyzed in mass communications, where the environment gets a social perspective, that is here professional.

Thus, the design of this kind of system appeals to the notions of mass communications, as well as to those which are exploited in the scientific communication, as the principles of vulgarization, mediation and mediatization (Masselot, 2006). These statements allowed, for this project, thinking over the process of information building, and over the communication one, on the mass media uses point of view and of the scientific mediatization.

Prospects

In terms of communication, specific studies remain to be led, in order to validate the first reserved options, and to improve the constructed system:

- Analysis of the human-machine interactions and user ergonomics,
- semiological, informative and communicational analysis, allowing approaching the expert and administrators way of use, as well as those of a larger public.
- The technological overhangs (cf. conclusion) will generate new questions which it will be advisable to approach on the communication process point of view.

COMPUTER SCIENCE ASPECTS

How a TIS generally operates

Basic data: geographical support and attribute data.

The data that are manipulated by most of the so-called vectorial²⁰ GIS formally and logically distinguish two-sub sets:

²⁰ The vector mode suggests the description of geographical entities under the form of series of points located by coordinates [X,Y]. It is traditionally opposed to the grid or raster mode that represents the space under the form of a regular canvas of elementary cells that generally have a square shape: the «raster» mode gets close to the digital images but it is different from them.

- the geographical support that is composed by entities that are described under the form of points (example: wells), of lines (ex: roads or level curves) or polygons (ex: communes or forest parcels), that makes a spatial description of localisations or objects that are located on a reference plan²¹. We use the word «cover» to refer to a regional set of entities that have the same kind and are gathered on the same logical structure: we can sometimes imagine it as a map background.
- The assigned data, which characterise the geographical entities.

Identifiers.

Each entity has a particular identifier (for example, the INSEE code of a polygon-commune) that we can also find in the assigned tables that are linked to this family of entities. When it is possible, it is advisable to use normalised identifiers (for example, in Portugal, the DTCCFR codification – 2 numbers for the *distrito*, 2 numbers for the *concelho*, 2 numbers for the *freguesilla*). The European Commission also suggests a codification that is called “NUTS” for all the administrative cuttings about the Union. The toponyms are poor identifiers, because of their complexity (composed names), of their repetitions (“Saint-Martin”) or of orthographical problems (accents, hyphens...).

Covers.

ActiveMaps exploits covers that are coded in shapefiles (extension .shp and .shx), this ESRI standard for ArcView is presently the most used for the data exchanges. When it is possible, it is advisable to obtain (even freely) the covers from specialized organizations (example: website of the CNIG in Portugal): all the problems of previous formalisation, homogeneity and updating are rejected. When there are not the wanted covers, it is necessary to use a GIS (even a light one: ArcView, MapInfo...) to make these covers preparation. We will do the same as regards the frequent updating problems.

Among the other logical formats of diffusion of the geographical information, we can also quote:

- MIF (MapInfo) that has a specific interface for ActiveMaps et AlovMaps by MIF2SHP.exe
- E00: export Arc/Info (interface IMPORT71 peripheral of ArcView, independent from the ESRI keys)
- XYZ: ascii files that describe points (coordinates and users, can be imported for ActiveMaps and AlovMaps by DBF2IGIS.exe, after having converted the dbase format)

²¹ The reference plan is generally a representation of the Earth surface, which is determined by a projection system. These projection systems are particularly varied in the world –even in a same country; thus, in France several different systems (according to the latitude and to the scale) are built according to the conform conical Lambert projections, but NATO uses more the UTM (Universal Transverse Mercator) system. The definition of the projection and of its parameters are part of the geographical support: they should be carefully kept to allow ulterior modifications.

- SDTS (Spatial Data Transfert Standard, standard that is imposed for little time by the US administrations; it will probably develop on the market).

Assigned tables.

ActiveMaps and AlovMaps use the ArcView conventions: the attributes (example: the communal data about population) are stored in dbase (.dbf) tables, that concern the same radical as the entity files (there is also a possibility to connect to external DBMS)

These tables present the descriptors in columns and the entities in lines. Three points deserve we pay a special attention to them:

- The field names of the descriptors should be brief and should only include standard characters (majuscule letters and numbers, to avoid any problem);
- There is no calculation tool on several fields in ActiveMaps: the rates, the ratios, the densities, etc... should be previously calculated, for example with ArcView or Excel;
- The link between the shapes and their data is not dynamic: it is managed by index at the GIS level. The lines (records) of the assigned tables should be cautiously used: neither sorting nor adding nor destructions... On the contrary, it is possible to modify the columns (fields), except the identifier one.

Functioning of a TIS with Alovmap

Architecture of the website with Alovmap Server

An online TIS implements an architecture that is called of the «three-thirds». This structure makes a difference between three levels:

- The client, who communicates by the means of his web browser
- The server, that processes the client requests'
- The data, that are stored in a DBMS

The client needs a web browser (whatever it is) and that the virtual machine java is set-up on the used computer (very often, it is set-up at the same time as the computer system, which can be Mac OS, or Windows). We can freely download the set-up of this virtual machine java at the address: <http://www.java.com/>.

On the server side, the configuration is more complex. It is composed by:

- A web server Apache
- With its PHP interpreter to communicate with the information of the data base in a dynamic way
- That is managed by the MySQL DBMS
- For the cartography on Alovmap server, an additional configuration is necessary: it requires a server of Tomcat applications which, by the means of its servlets engine,

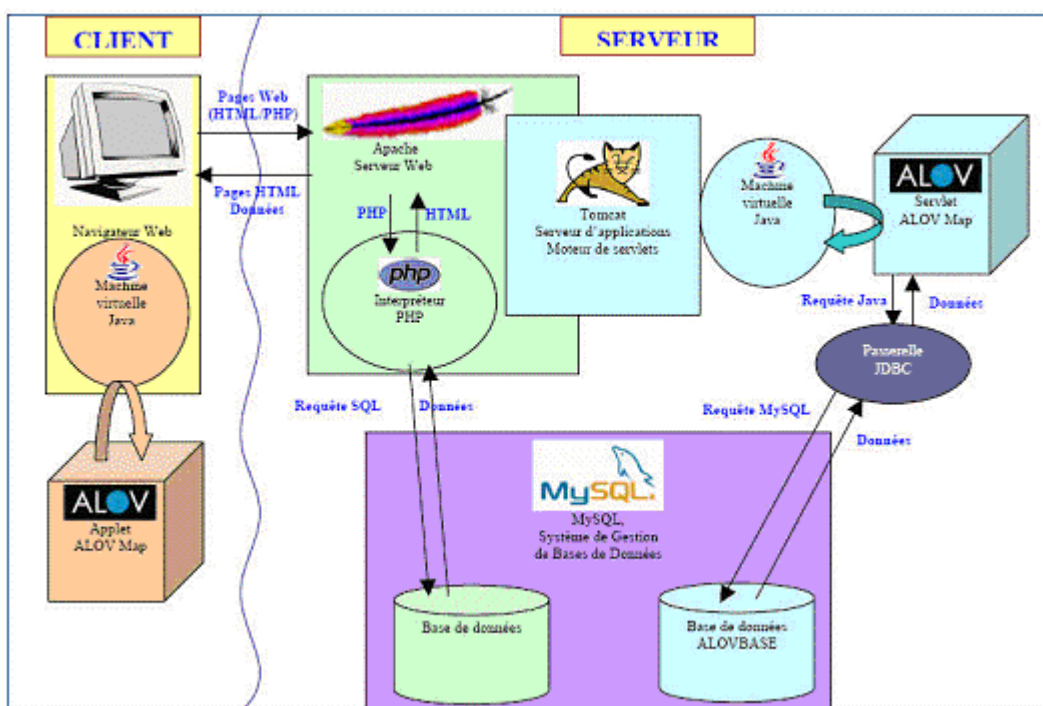
connected to the java server environment, allows executing the servlet of ALOV that also connects to the DBMS.

The data base stores many of the data that are necessary to the application, in particular the data that are linked to the gross data, but also some geographic ones. These geographic data are:

- The coordinates of the centre of the zones that will directly be registered at the level of a «zone» table
- The geographic data that are linked to the lines that represent the geographic objects to be represented (points, roads, traffics, rivers...)

As regards the base maps, they are separately registered on SHP and DBF files

Diagram 10: Typical architecture.



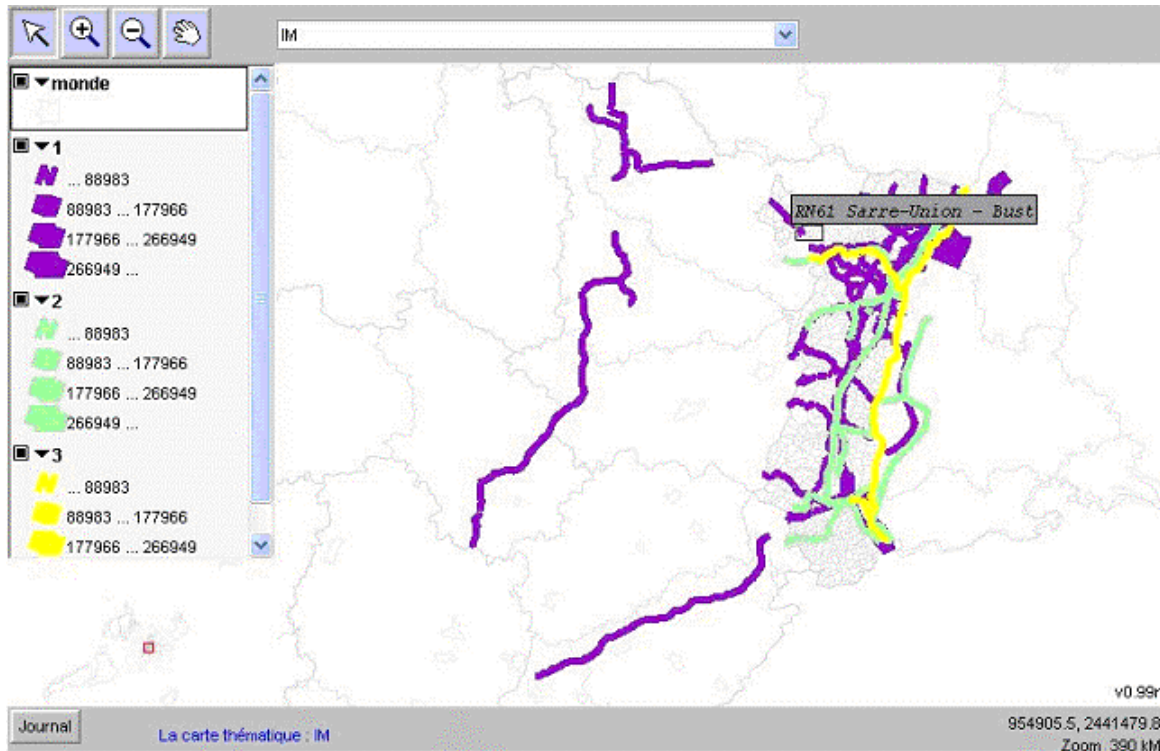
Alovmap can work either in applet or in servlet.

In applet, the geographic data are memorised in shp and dbf files, whereas in servlet these data can be memorised in a data base, that allows dynamically managing these data.

Thanks to the data base, it is possible to select only the information that should be necessarily displayed and sent to a client. The data of the selected elements will be the only ones that will be sent to the clients. Without a data base, this selection is more complicated to make and less performing because it would be necessary to dynamically create DBF and SHP files.

Elements of the cartographic module

Diagram 11: Cartographic module.



The cartographic module has several elements:

- A toolbar that includes the wording of the layer attribute and 4 buttons:
 - A button to get the selection tool, either by clicking on an element or by drawing a selection zone (rectangle on the image). Passing the mouse on a count point displays its name (the frame «RN61 Sarre ...»)
 - A zoom tool, either by a simple click or by drawing a selection zone
 - A tool to zoom off
 - Lastly, the hand is used to make the map glided (it is possible to make this with the click right of the mouse even if another tool is selected).
- A legend zone that records the value of the various lines (layer value) and the size of each line (by range). As regards the traffics origin, it is directly proportional to its value (and not to ranges like the lines) but it is calibrated on the lines size, according to their value.
- Lastly, a status zone that includes a log file (where we describe the loading and above all where the errors are written, if necessary), plus some other information (for example the zoom level).

Selection options

The selection of counts or traffic(s) point(s) opens a window.

There are two kinds of windows: one is used if only one element is selected and another one is used if several elements are selected.

In this second case, the window includes a descriptive simplified list of each element. From this list, it is possible to display the second type of window, which presents a more detailed description of the selected element (count or traffic point). It also allows linking to the descriptive page of the count point or to those of the origin and destination zones.

Diagram 12: Selection description.



COMPUTER SCIENCE CONCLUSION

The portal is presently a prototype, and its hosting is in transfer to a platform of specific production. Consequently, an evaluation will have to take place after its official launching to improve its possibilities.

The used technologies are necessarily already exceeded if we refer to the current overhangs, where new more advanced solutions appear. The dynamics of the technical and conceptual creativity progresses according to a temporality in advance in relation to the

applications. It is advisable in a next phase to establish a new analysis of the existing and tested technologies, by taking advantage of the possibilities offered by Web 2.0, and even soon 3.0, and to develop this product this way.

ACHIEVEMENT AND FURTHER WORK

The next step is of course making use of the new on-line site. A validation period, requiring test users will start soon, to check all the process.

At the same time, work on GIS objects (networks and zones) could be carried on, in order to give a better look (several zones or network sections have been quickly shaped and would need some redesign). At the same time, the use evaluation can generate new questions about the creation of information process and about the communication process (for example new relationship, new public...). The data processing translation of this point has to be organized with the results of the CAENTI WP6, and maybe with a new technology (Web 2.0).

In a second time, site diffusion and publicity could help information grow and therefore site interest.

The most important challenge will of course be to obtain restricted data and rights to use it (from rail operators for instance...).

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Webography

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<http://www.alov.org>

“Modeling Urbanization to Simulate Prospective Scenarios: a Comparative Approach”

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Abstract: In France, managing urban growth and sprawl depends on the housing policies made by municipalities (or groups of municipalities), by the Department, the Region or the State (i.e. by public actors) through specific statutory documents like PLU (Plan locaux d'urbanisme) or SCOT (Schémas de cohérence territoriaux). Currently, the policies leading to such documents appear very crucial. Indeed, sustainability in urban development has become a crucial issue. To manage it, urban planners use a variety of prescriptive tools such as Geographic information systems (SIG) or Computer aided drafting (CAD) softwares. Nevertheless, these “traditional” tools have a reduced predictive capability and since about 20 years, researchers try to develop modeling approaches allowing to improve describing and forecasting urban growth and its consequences. The aim of this paper is to present and compare three of these modeling tools, relaying on different theories. The heterogeneity of the produced results is discussed in the conclusion and envisaged as a interesting contribution to feed debates about urban growth management in the current framework of territorial intelligence.

1. A SUSTAINABLE SCENARIO OF URBAN GROWTH

The problem of urban growth and sprawl (and more generally the problem of urbanization) is currently very crucial for public actors dealing with the interdisciplinary characteristics of its management. Uncontrolled urban sprawl can indeed lead to several kinds of bad consequences (Antoni, 2002) that must be anticipated. Some new principles of urban planning can also be proposed in order to offer alternatives to sprawl, in accordance with the principles of sustainable development (Frankhauser et al. 2007).

1.1. Alternatives to urban sprawl

On the one hand, several studies show that urban sprawl usually leads to numerous kinds of problems. As regards transportations (Handy 1996), urban sprawl leads to the increase of road infrastructures, atmospheric pollutions, environmental deteriorations and peak-hour congestions. As regards settlements (Banister 1992), it leads to urban spill over that pushes away the limits of the city and breaks the frontiers between urban and rural areas, creating a new dichotomy between dense centers and diluted outskirts. As regards housing, it leads to new kinds of behaviors (neo-rural or rurban realm) and socio-spatial segregations (districts exclusively built-up with individual houses), etc. As regards facilities, urban sprawl leads to increasing costs for the accompaniment of periurban areas with the needed services, and to connect new settlements to water, gas, electric or phone networks, etc. Finally, as regards environment, uncontrolled urban sprawl leads to a major perturbation in the ecosystems of the periurban belt and breaks up the periurban farming activities by influencing the price of terrains, etc.

However on the other hand, it does not seem possible to stop radically urban growth because it appears a real answer to a social demand of housing. On a quantitative point of view, the increase of the households in the suburbs (decrease of the households size and then increase of their number) contributes to the increase of the housing demand that can not be only satisfied by the occupation of vacant flats and houses. On a qualitative point of view, the residential location, the comfort level and the quality of life associated with available housing do not completely respond to the social wishes. In this context, it is necessary to continue building new housing. Two main options are possible: 1. Urban renewal can consist in transforming old farms and buildings in apartments; 2. The urbanization of open spaces can lead to new sub- or peri-urban settlements. The first option offers the advantage to revitalize peri-central abandoned areas and to increase the housing offer without any sprawl effect. But it will probably not allow to satisfy the whole demand. The second option increases de facto the consumption of new residential spaces, in favor of urban sprawl.

Nevertheless, according to the principles of sustainable development, the second option must not be considered as a real problem, particularly if the new built-up spaces do not: 1. compromise the ecological quality of natural areas; 2. compromise the economic viability of agricultural spaces; 3. compromise the landscape quality; 4. compromise the ventilation of urban centers; and 5. increase the number and/or the length of daily motorized commuting. This point of view is currently strengthened by several authors noticing that the

principles of a compact city do not necessarily present specific advantages anymore (Breheny, 1992, 1997). The development of a compact city can indeed generate traffic, flux and flows, and then an important congestion of the communication networks because a big part of the residents must cross large areas and long distances in order to reach peripheral leisure zones. Thus, it appears obvious that a big compact city do not allow any correct ventilation in the city center.

1.2. Principles for a sustainable development

Such considerations can lead to the idea that space could be “better consumed” i.e. that urban growth should better be canalized than forbidden (Beaucire et al., 1999). But a practical question remains: how? Considering that little modifications of the urban structure can lead to strong modifications of the urban functioning (Batty, 2001), Frankhauser et al. (2007) then proposed to base the orientations of urban growth and planning on three main ideas: 1. Reduce the number and the length of motorized individual movements so as to induce positive effects on pollutants and noises emissions and on the congestion of the road axes; 2. Improve the accessibility to the various amenities (urban and rural) existing in the city and its extended outskirts (assuming that it should lead to the improvement of the quality of life in the urban areas and to the diversification of the housing offer); 3. Avoid the dissemination of built-up, natural or agricultural areas in order to protect the ecological environments, to maintain agricultural activities in the urban peripheries and to preserve the landscapes quality.

But these three ideas lead to related geographical questions: where must we open new spaces for urbanization? Where must we locate the future residential implantations? Where must we create new centralities or consolidate existing ones? Four main rules can be proposed according to the principles of sustainable development described in section 1.1:

Rule 1. Limit the scattering of individual houses (that must not be too far away from the city center, and not too much scattered, in order to allow the implementation of profitable and effective public transports);

Rule 2. Limit urban spill-over in order to reduce the length of daily motorized trips, to protect outer-urban agricultural spaces, and to avoid the construction of isolated buildings that could affect the landscapes quality;

Rule 3. Increase the heterogeneousness of the urban forms so as to avoid the development of large areas characterized by uniform private housing estates (that could lead to the homogenization of the social patterns of the population, and then to possible segregation processes);

Rule 4. Insure the penetration of green alleys into the built-up areas, in order to assure a good “ventilation” of dense central spaces.

Different modeling concepts issued from physics and computer sciences have inspired geographers to develop simulation tools allowing to visualize the consequences of such principles, by generating scenarios of development and spatial simulations mapping the possible futures of cities.

1.3. Simulating a scenario with three models

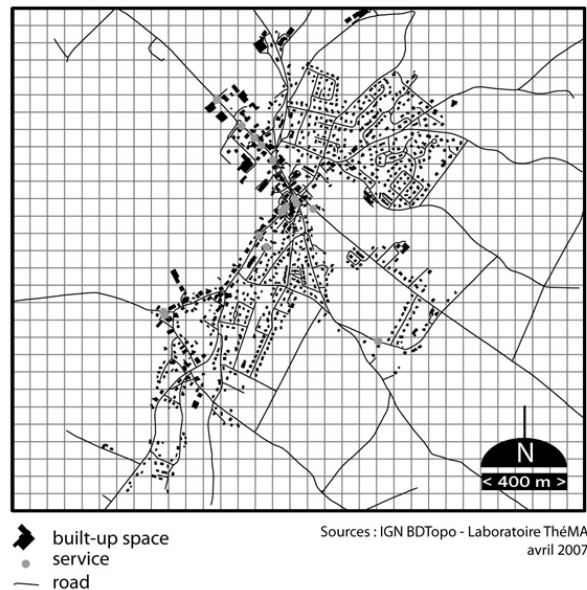
In order to understand better the interest and the limits of the modeling purpose, it is important to explain the differences we make between a scenario, a model and a simulation, and to give the definition we associate to each of these terms. In geography, the term model has been defined by Chorley and Haggett (1967) and must be understood as a simplified version of the reality constructed in order to better understand some parts of this reality. The term scenario refers to a set of ideas or principles leading to a concrete proposition of land planning or design. Based on Antoni and Tannier (2006), the following formulation can be proposed to define what a simulation is:

$$\text{Simulation} = \text{scenario} + \text{model}$$

It simply means that a simulation is the result of a particular scenario applied with a particular model. Thus, different simulations should emerge from different scenarios applied with the same model, and different simulations should also emerge from the application of a unique scenario with different models. In our case, there is only one scenario, described in 1.2. This scenario will be applied using three different models relevant for urban planning issues. The first one is a potential model (see section 2), the second one relies on cellular automata (see section 3), and the third one on a fractal approach recently developed by P. Frankhauser et al. (2007) (see section 4)...

The testfield is the municipality of Saône, located in the south sector of Besançon. Saône is a typical example of the villages located just around the main city (about 15 minutes by car), that are strongly concerned with the periurbanization phenomena because they contain very interesting constructible areas. Saône is currently a location for new housing that is considered part of Besançon's hinterland. A focus on this village can then allow the visualization of the local consequences of periurbanization, connected with the development of the whole city, through the expansion of its global shape (Tabourin, 1995). In order to compare the different simulations, the studied area is decomposed into regular cells. Each cell has a dimension of 80 meters (Figure 1). Such a cellular approach to geographical space allows the successive application of three different models to simulate the main scenario. For each of the three models used, we will describe the main theoretical characteristics of the models, then the choices of their parameters (Antoni, 2006), and finally the obtained results.

Figure 1: The Municipality of Saône.



2. A SIMULATION BASED ON A POTENTIAL MODEL

The first spatial simulation uses a potential model. Potential models belong to the main family of spatial interaction models, based on the idea that the urbanisation process generates interactions between older and future built-up areas (two kinds of spaces that are considered as complementary). The simulation then tries to minimize the distances between each one (old and future), and allows to identify the areas with the best potentials.

2.1. Specification of the model

Spatial interaction models are issued from the classical gravity law used in physics. They offer the capacities to determine what Abler et al. (1972) call the “underlying interactions among places”, and that can be interpreted like the intensity of the influence between two locations i and j . Based on the well-known Newton's formula, the intensity of the interactions is considered proportional to the product of the respective masses M_i and M_j of these two points, and inversely proportional to the d_{ij} distance (i.e. the straight line distance between i and j). It then allow to take into account the famous law expressed by W. Tobler: “Everything is related to everything, but near things are more related than distant things” (Miller, 2004).

Among spatial interaction models, potential models offer the particularity to reproduce such a principle for all the locations included in a studied area (and not only two points considered together), by defining some complementarities between all of them. A potential value P_i is then calculated for each location i regarding the masses M_j of all the other locations j . This value can be interpreted as the influence, the accessibility or the attraction effect between the places. The potential P_i can be defined as:

or

$$P_i = \frac{M_1}{d_1^b} + \dots + \frac{M_{i-1}}{d_{i,i-1}^b} + \dots + \frac{M_{i+1}}{d_{i,i+1}^b}$$

$$P_i = \sum_j \frac{M_j}{d_{ij}^b}$$

where M_i is the mass of the cells depending on the land-use categories and b is the exponent of distance (here $b = 1$). Hence the influences issued from different places add simply one to the other without explicit interactions.

As noticed by Nadasdi et al. (1991) and Weber (2003), interaction models, and especially potential model, are often used for demographic or social purposes (so as to assess the relationships between population, services and locations, or between users and services for example; see Stewart and Warntz, 1968), but more rarely to study the evolution of land use. Donnay (1994, 1995) or Donnay and Lambinon (1997) applied it on remote sensing grids and tried to determine the limits of urban areas by defining the interactions between some land-use characteristics, or to forecast the possible spatial developments of urban settlements over years (Weber and Hirsch, 1997; Antoni, 2003), White and Engelen have also introduced the notion of potential in their CA-model, however without referring to the usual distance deterrence term (White and Engelen (1993)).

In our case, a potential value is calculated for each cell of the studied area and must be interpreted like a force of attraction for the future urbanization, produced by the accumulation of all the attractiveness masses M of the neighbouring cells j . One of the interests of this methodology results in the surface of interaction that can be associated to the location of each potential value. When all the places getting approximately the same potential values are joined, a map can be designed that represents the reciprocal influence (or force) of each point located in the studied area. These forces might be considered as a gradient decreasing from high potential values to low potential values. Future urbanisation should then take place in the highest potential values cells.

2.2. Choice of the model's parameters

Each potential value appears strongly determined by the mass values M_j associated with the cells of the studied area. These values can be associated with landscape objects, natural or urban amenities that are considered weakly or strongly attractive for future urbanisation, i.e. for each future house or building. Landscapes and amenities are determined by the land-use category of each cell; the attractiveness (mass value M theoretically defined between 0 and 10) of each land-use is “man-made” defined regarding the scenario (see section 1.2) and summarized on the following table:

Land-use category	Mass value M	Weighting
Open spaces	5	1
Built-up spaces	5	1
Services	10	5
Roads	10	1

A symmetric mass value ($M=5$) is associated to the built-up areas and the non built-up (open spaces supposed natural) areas. Such a calibration allows to take into account the fact that urban areas are considered as attractive as natural area, and that new buildings should take place at an equal distance of both of them, so as to improve simultaneously the possibilities of leisures brought by natural areas and the economics of urban density brought by built-up areas. Such a calibration answers the idea that the interface between built-up and non-built-up interface must be privileged (rule 1) and that the contiguity of urbanised spaces must be optimized (rule 3).

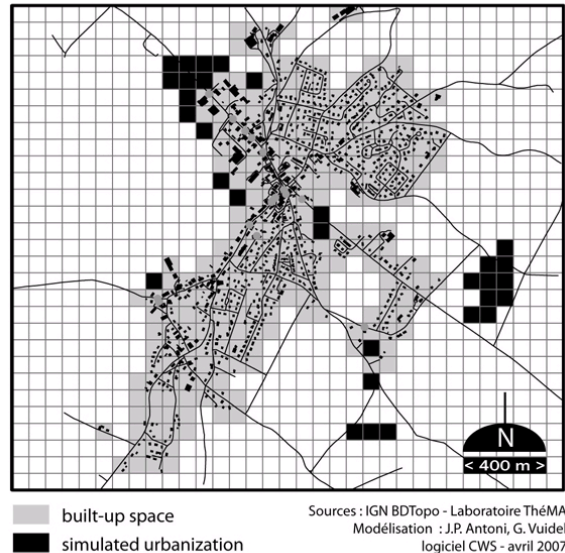
The strongest mass value ($M=10$) is affected to the services. Services represent the most common urban amenities of the studied area and their proximity is an important factor of location for the future urban extension. Such a calibration should allow to respect the second main rule of the sustainable scenario we try to simulate.

Finally, the roads are very important too. The associated mass value ($M=10$) relies on the idea that the global accessibility (i.e. the possibilities of movement between all kinds of spaces considered as complementary) is an absolute necessity (rule 2), but that no new network must be created to accompany new constructions (rule 4).

2.3. Results

By affecting different mass values to each land-use in the municipality of Saône, the potential model reveals a very controversial spatial configuration : on the one hand new built spaces will increase the density of the old ones in the centre of the community (north-west sector); on the other hand they will take the shape of urban lots in the periphery (east and the south sector) that correspond to sprawl (Figure 2).

Figure 2: Simulation of extension based on a potential model.



3. A SIMULATION BASED ON CELLULAR AUTOMATA

The second spatial simulation is based on cellular automata (Agostinho, 2005). A cellular automaton is a discrete model in which space is represented as a number of identical cells arranged in a regular grid. Each cell is defined by a limited number of states. Time is also discrete and the state of a cell at time t is function of the states of a limited number of cells in its neighborhood (i.e. a selection surrounding cells) at time $t - 1$. From more than 30 years, cellular automata have been used as models in many fields like physical sciences, biology, mathematics and social sciences. In geography first W. Tobler (1979) and later on Phipps (1989) discussed the potential use of such an approach from a more conceptual point of view. For simulating urban pattern dynamics, first M. Batty and P. Longley (1986) and later on R. White and G. Engelen (1993) introduced cellular automata models.

3.1. Specification of the model

Cellular automata arise from the field of distributed artificial intelligence that can be defined like systems in which agents act together to solve a given problem. The first known cellular automaton is issued from Von Neumann's theories in the 1940's. One of the simplest examples of cellular automata, and certainly the best-known is the Game of Life created in the 1970's by the British mathematician *J. Conway*. In spite of very simple rules, this automaton can produce some very complicated patterns.

The interest of using cellular automata in social sciences appears more specifically in the 1980's, with a new way of considering geographical space like comparable to a cellular space. Thus, several researchers began to consider geographical space like a matrix in which each cell represents a portion of space characterised by a type of land use. In particular, researchers have been developing modeling approaches to describe and predict

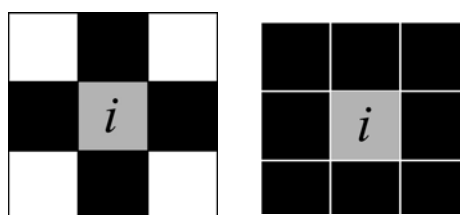
urban growth (Wu, 2005). Such a cellular automaton is a bottom-up iterative process used for modeling complex systems (Stevens et al., 2006). Cellular automata operate on a regular grid of cells in which every cell contains a single value that represents its state at time t . The change in a cell's state between initial time t and the following time $(t + 1)$ is determined by a local neighborhood rule. The state of cell i at time $t + 1$ can be defined as:

$$S_i^{(t+1)} = f(S_i^t, \Omega_i^t)$$

where S_i represents the state of cell i at time t , and Ω_i represents the state of the neighbourhood of cell i at time t . A cell i can be defined with two kinds of neighbourhood

- the Von Neumann neighbourhood corresponds to the four cardinal cells around cell i ,
- the Moore neighbourhood corresponds to the eight first adjacent cells around cell i .

Figure 3.a: Neighbourhoods in cellular automata.



Von Neumann neighbourhood

Moore neighbourhood

The transition of a cell's state is rule-based and looks like the form of "if...then" statements, such that if the neighbourhood Ω_i of cell i shows a specific pattern at time t , then the state S_t of cell i at time t will change at time $t + 1$, according to a set of rules (Batty, 1997). The iterative application of this set of rules allows to identify the patterns and properties of the emergent system.

In many cases, cellular automata have been used to model urban growth at multiple scales, from regions (Clarke and Gaydos, 1998; Clarke et al., 1997; Engelen et al., 1995; Landis, 1994; Semboloni, 1997), to built-up areas (Cheng and Masser, 2004; Li and Yeh, 2000; Lo and Yang, 2002; White et al., 1997; Yeh and Li, 2001). In these studies, the classical formalism of cellular automata has been extended to adapt the complexity of urban environments. In particular, built-up areas don't sprawl randomly, but they are governed by both bottom-up and top-down processes, such as urban planning, which need to be considered in urban growth models (Stevens et al., 2006).

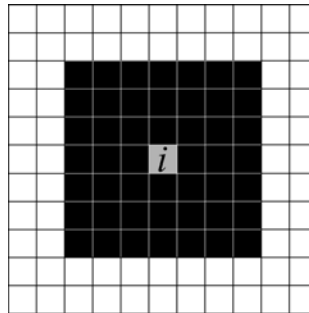
3.2. Choice of the model's parameters

In this paper, each cell of the cellular automaton model is defined by its state, that is to say by one of the four land-use categories (open space, built-up area, services, roads) of the municipality of Saône (Figure 1). According to the scenario we want to simulate, the cellular automaton is then calibrated according to a single rule allowing the cells to move

from the “open-space” category at time t to the “built-up space” category at time $t + 1$. This transition occurs for a cell i only if:

- its “3-cells extended” Moore neighbourhood (i.e. in a radius of 240 meters; Figure 3.b) contains more than 35% of built-up cells (that is to say at least 17 built-up cells among its 48 surrounding cells);
- and its “3-cells extended” Moore neighbourhood contains more than 35% of open- space cells (that is to say at least 17 non built-up cells among its 48 surrounding cells);
- and its “6-cells extended” Moore neighbourhood (i.e. in a radius of 480 meters)
- contains at least 1 service among its 168 surrounding cells;
- and its “3-cells extended” Moore neighbourhood contains at least 1 road among its 48 surrounding cells.

Figure 3.b: The 3-cells extended” Moore neighbourhood.



As for the potential model, such a calibration responds to the sustainable scenario developed in section 1.2. In particular, the two first points allow to favour the interface between built-up and non built-up spaces, while the contiguity of urban spaces is optimized (rules 1 and 3).

The third point insists on the necessity of a proximity to services considered as urban amenities, what is a condition to minimize the length of daily mobility. Thus, the criterion of proximity is pointed up in order to respect the rule 2 of sustainable scenario. We then consider that one service at least is required in the 480 meters around a cell i to allow this cell to be built-up.

The criterion of accessibility is also very important: the fourth point makes much of the necessity for a cell i at time t to be near a road to develop into an urbanized cell at time $t + 1$.

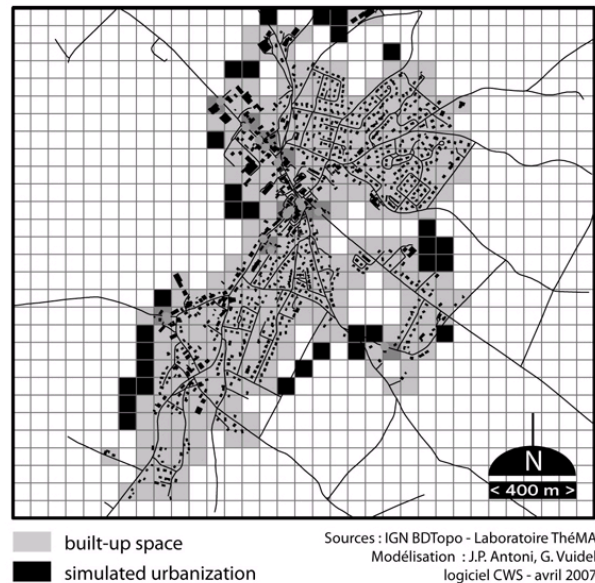
Thus, the intention of not creating new networks is realised (rule 4).

3.3. Results

By affecting these rules into the cellular automaton, the simulation allows the identification of thirty one cells (about twenty hectares) corresponding to the different criteria.

Moreover, the cellular automaton simulation reveals a particular spatial configuration, in which the new built-up cells are located all around the existing built shape, except in the north-east and the south. In particular, the simulation shows the creation of twelve urban aggregates with a medium size of 1,65 ha. Only one is a little bit more important with about 4,48 ha (south-west).

Figure 3.c: Simulation of extension based on cellular automata.



4. A SIMULATION BASED ON A FRACTAL MODEL

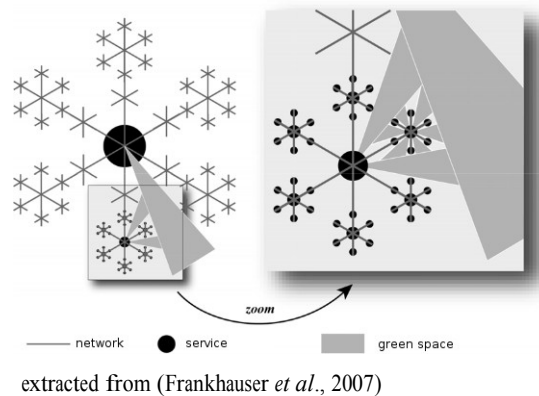
The third simulation is based on a fractal model determining the areas that could be urbanized. Fractal models in geography are defined in several works till the early 90's (see White and Engelen, 1993; Batty and Longley, 1994; Frankhauser, 1994, 1998; Tannier and Pumain, 2005). The fractal model we present here is relatively more recent and essentially known through the works of P. Frankhauser. It consists in using fractal geometry to define urbanisation rules, and to apply these rules at different scales of the urban areas (fractal decomposition).

4.1. Specifications of the model

The fractal geometry allows to generate hierarchical multi-scale structures. This property can be used to enlarge Christaller's central places theory (Christaller, 1933) which introduces a hierarchy of services, but within a uniform spatial distribution of the localization of settlements. Frankhauser et al. (2007) proposed a fractal model for urbanization taking into account Christaller's hierarchy but apply a hierarchical principle also for the spatial distribution of services and other facilities. Residential areas are grouped around first importance shops and services (daily used), whereas larger non-urbanized areas separate locations of the second order (weekly used) and the third order (monthly used) shops and services. Hence large interstitial and non urbanized areas

are introduced into the city's shape, while build spaces are moved closer to the main transportation networks (as shown on the Figure 4.a). So, the expected simulated spatial configuration should allow to create a system of green belts referring to urban planning concepts developed in some European cities like Copenhagen or Berlin.

Figure 4.a: A fractal model of urbanization.



For real world patterns the presence of such spatial hierarchies can be measured by different methods. The degree of hierarchy is then characterized by the fractal dimension (...). In the present case it seems more interesting to make the presence or absence of such a hierarchy graphically evident. For this aim a method referring to one of the standard methods used for fractal analysis of spatial patterns, the grid analysis (...), called fractal decomposition, has been developed in the frame of a recent research project, financed by the research program PREDIT. It is based on covering the urban pattern progressively by cells of different size according to different scales of analysis. In the first step, the complete studied area is covered by a system of $v \cdot v = v^2$ quadratic cells of size l_1 called «first order cells». In the second step, each first order cell is decomposed into $v \cdot v$ cells of a $l_2 = (1/v) \cdot l_1$ reduced size, called «second order cells» (the complete area contains v^4 second order cells). The decomposition is repeated until the size of the smallest cells reaches the size of the buildings, and allows to calculate the fractal dimension of the built-up space:

At each stage of decomposition, the number N_i of built-up cells can be counted. The geometric mean value N between all the stages can be interpreted as parameter which allows computing approximately fractal dimension (Frankhauser et al., 2007):

$$N = \sqrt[k]{\prod_{i=1}^k N(i)}$$

The fractal dimension D can then be introduced within the standard relation:

$$D = - \frac{\log(N)}{\log(r)}$$

where r is the decomposition factor.

In this research project, the accessibility to different kinds of amenities has been considered as well. Supposing the built-up spaces as concentrated in the areas deserved by transportation networks, and the non-deserved areas as offering rural amenities, Frankhauser et al. (2007) notice that built-up areas should be contiguous to open spaces (green and natural areas) and that open spaces should be related between themselves. Such a configuration indeed combines several advantages: proximity between built-up and non built-up spaces, concentration of buildings in areas well deserved by transportation networks, presence of large contiguous non built spaces...

Fractal models of urbanization can then be used as a means to test urban planning rules. E. g. we can imagine the application of rules maximizing the contiguities:

- between open spaces; such a rule should lead to the non-fragmentation of existing green and natural areas, and then allow the preservation of ecological corridors and periurban agricultural activities;
- between built-up and open spaces ; such a rule should lead to the maximization of the number of buildings directly located near the city's boundary (boundary line being considered maximizing the interface between urban and rural amenities).

For urban planning, fractal models then appear particularly interesting because the optimality of the urban shapes they produce offers a good response to different criteria: maximization of urban buildings and amenities inside the fractal shape, multi-scaled organization of the built- up/non-built-up distribution, maximization of the accessibility to urban amenities (shops and services) and rural amenities (green spaces, natural and leisures areas) on different scales: very local, local, global (christallerian hierarchy). It demands to be tested and calibrated on the testfield of Saône.

4.2. Choice of the model's parameters

Firstly the area of Saône must be transformed into a multi-scalar grid according to the principles of fractal decomposition. A decomposition factor $r = 1/3$ as been retained. Then, three steps of decomposition are sufficient to highlight the multi-scalar organization of the built-up shape: non-built-up l_2 cells can be found inside each built-up l_1 cell, etc. correspondingly to a fractal logic. Nevertheless, in the agglomeration center, building are more densely present, and the number of “built-up spaces” cells increases. Results of the decomposition can be seen of the Figure 4.b were the scale of each cell is given by the thickness of its outline.

Secondly, simple rules can be defined according to the objectives of the main scenario (see 1.2), determining the capacity of each cell to be urbanized on Saône's multi-scalar lattice.

These rules can be organized according to their order of priority. This way, five rules are considered as first priority rules and are imperatively applied:

1. The total number of built-up l_2 cells in each larger l_1 cell, etc. must not exceed the N number determined by the fractal dimension (defined by the fractal decomposition);
2. The priority for urbanisation is given to the cells located in the areas characterized a good proximity to shops and services;
3. The cells moving from the “open-space” category to the “built-up spaces” category must border an already built-up cell in order to create a global continuous and non fragmented built-up space;
4. The contiguity of non built-up areas must be preserved;
5. The access to shops and services must not exceed a distance defined by the user

Two second priority rules are applied as often as possible:

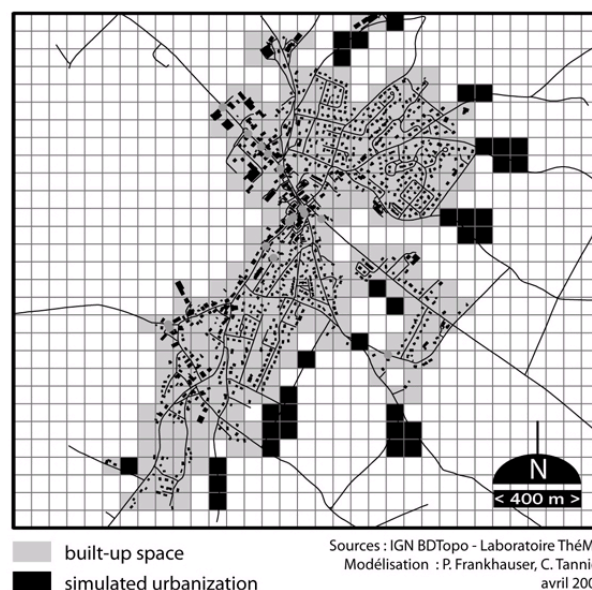
1. The cell must be crossed by a road
2. The cell must border an open space cell

The iterative application of these rules on the different size cells determined by the fractal decomposition, from the largest to the smallest, allows to identify the l_2 cells that could be built-up in the future, in accordance with the principles of a sustainable urbanisation.

4.3. Results

The resulting simulation shows that urbanization will take place in the east of the village, and take two complementary forms: a. agglomerated near the existing built-up spaces; b. scattered into existing interstitial spaces. Finally, urban sprawl is mainly located in the immediate periphery of the municipality, around the main road axis.

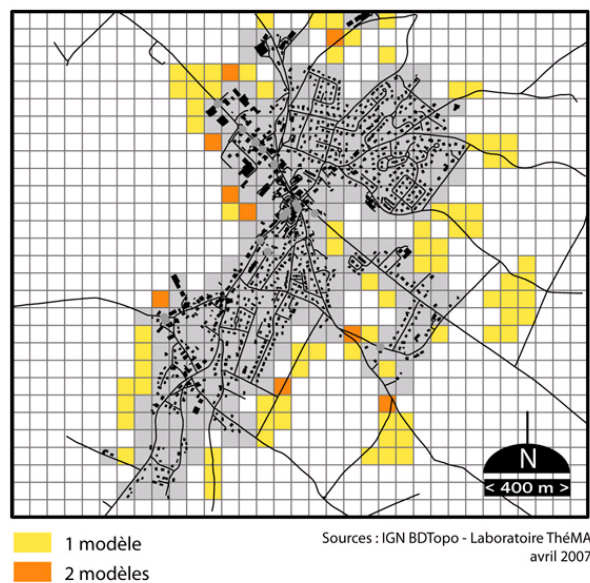
Figure 4.b: Simulation of extension based on a fractal model.



5. CONCLUSION

Figure 5 allows to compare the results of the three models on a single maps. Its shows that there is no actual correspondence or convergence between the results. Each model focuses on cells located in coherence with the sustainable principles declined into rules or parameters, but these cells do not overlap. In order to compare more precisely these results but also to measure with a bigger accuracy their consequences on urban growth, several morphological indicators of centrality (Bachi, 1963, 1968; King, 1969) could be used. They are currently being implemented in the modelling approach and should quickly lead to comparative results, helping for making decision about urban planning solutions.

Figure 5: A comparison of the three models results.



Furthermore, while each model was constructed to meet the four objectives of the main scenario, the comparison of the results shows that there are no potentially constructable cells (or spaces) common to the three models. Several reasons may be found for explaining these differences. Indeed the rules are similar but, according to the model concepts, not really identical. Hence neither the potential model nor the cellular automata model takes into account the decline of accessibility to open space for already urbanized cells since rules refer only to non-urbanized cells and consider their potential for urbanization. The fractal model requires on the contrary that already urbanized cells may not be affected in their quality of life by new urbanization. Moreover the fractal model strictly avoids to destroy the contiguity of open space. Both these restrictions leads automatically to more fingering patterns. This shows that supplementary rules referring to open space and already urbanized space should be integrated in the cellular automata model and the potential model in order to obtain comparable results, what does not correspond to their usual model architecture. Important differences exist also between the potential model and the CA model. Firstly, in the potential model distances are weighted by an inverse power law, and

thus influence declines continuously, whereas in the used CA model criteria introduce an strong cutoff: dynamics are conditioned just by the absence or presence of a phenomena (roads, amenities) within a predefined distance range, and out of this range the influence drops immediately down to zero. The same kind of argument holds for the factors M_i which attribute different weights to the diverse types of amenities in the potential model what is not the case in CA.

This report suggests the need for a new reading of the simulation results, including a more sensitive approach. These results show the interest of comparing diverse modelling approaches in order to test the influence of underlying assumptions on simulations. Indeed, the concepts traduce different types of hypotheses concerning spatial interaction and hence refer in some sense to different approaches of perceiving distances. This helps to understand how distance perception may act on urban dynamics. On the other hand, for planning the different concepts may be associated to different kinds of constraints for accessibility in order to manage urban sprawl. Such an approach should associate different actors (concerned with the urban sprawl problem and its consequences on social and environmental aspects) and confront different points of view, so as to open discussions and envisage suitable futures for urban areas expansion (Antoni, 2004), in the framework proposed by territorial intelligence (Pascaru, 2006).

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“The contribution of the computer science as well as the information and communication science approaches for the editorial function of the territorial information systems“

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Abstract: This collaboration focuses on the data-processing software evolution which implements an editorial function in territorial information systems in various using contexts. It results from collaboration between humanities, social sciences, computer science and information and communication science researchers, and which has been established since 2000 within the ISTI²² and the MSH LEDOUX²³ framework.

In a previous paper, we summed up the research activities about territorial intelligence since the seventies'. Essentially, it was a friendly data processing solutions development: PRAGMA for quantitative data analysis; ANACONDA and NUAGE for qualitative data analysis.

²² Institute of Information Sciences and Technologies of Franche-Comté funded by the Regional Council Franche-Comté (regional assembly), the Regional Department of Research and Technology (Ministry of High Education and Research), the Regional Department of Industry, Research and Environment (Department of Trade and Industry) and the European Fund for Regional Development.

²³ Institute of Humanities, Social and Environmental Sciences Claude Nicolas LEDOUX funded by the Regional Council Franche-Comté (regional assembly) and the Regional Department of Research and Technology (Ministry of High Education and Research).

Thanks to computer science researchers collaboration, the SITRA²⁴ research action allowed the completing of statistical analysis data by spatial analysis and cartography tools. Then the ICASIT²⁵ started updating and making the statistical data and spatial analysis software, previously developed to evolve within the networks and Internet framework.

Progressively, we became aware of the editorial function importance of this analytical chain, directed towards an online results edition.

This paper deepens the specific added value of computer science as well as information and communication sciences to the design and the territorial intelligence systems modelling.

²⁴ Territorial Information Systems for Actors Network (2002-2004), a research action of the Information Sciences and Technologies Institute of Franche-Comté (ISTI).

²⁵ Analytical Chain integration in Territorial Information Systems (2005-2006): Another research action of the ISTI.

1. BASIC MODULES OF THE TERRITORIAL INTELLIGENCE COMMUNITY SYSTEMS PLATFORM

A territorial intelligence community system (TICS) is a territorial information system (TIS): a tool used by the territorial actors.

In a previous article (GIRARDOT, 2007), we defined the specifications and general functions of the territorial information systems.

An information system is the databases structured integrity which gathers a defined set of information and functions. It allows their connection establishing it, defining these relations direction or measuring them.

In a Territorial Information System (TIS), the information concerns a territory, that is to say a geographic space and its community. They are referenced in space and time. The aim of the Statistical and spatial analysis functions is to help territorial actors by producing knowledge on this territory. A TIS allows:

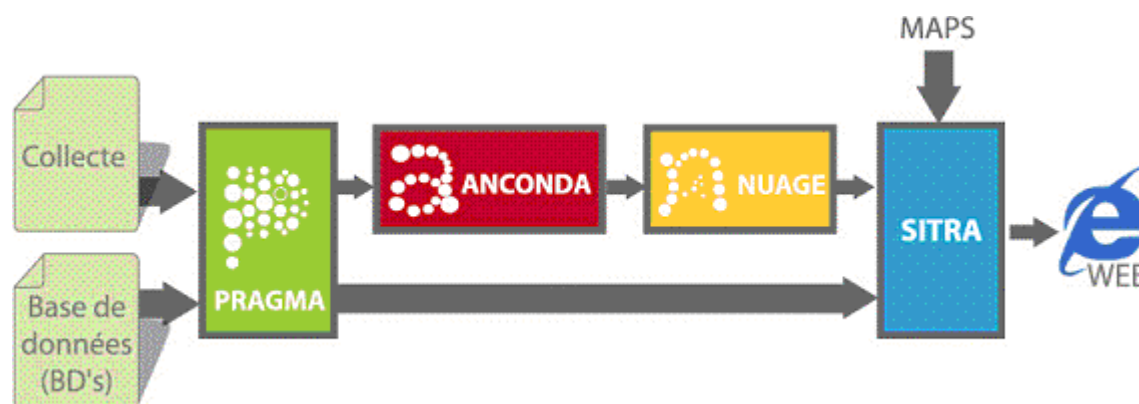
- Gathering information;
- Analyzing them according to scientific protocols, especially in a spatial prospect;
- Interpreting these analyses results;
- Representing the information and the results;
- Drafting decision-making scenarios;
- Managing and valuating policies, programs, devices, projects and actions that result from the decisions.

The fundamental analysis modules of the territorial structure information systems we recently used were initially developed as complementary software:

- The PRAGMA software was created in 1991 to make a statistical data qualitative analysis in order to make the data tables drafting easier for qualitative processing.
- ANACONDA (GIRARDOT, 1982) was published before to diffuse the use of the data qualitative analysis methods (factorial analysis and classification) in Humanities and Social Sciences. They are multi-criteria methods that allow analyzing statistical individuals described by a multidimensional characters set. The factorial analysis determines the structural factors or trends of an important data set. The classification dissociates its main classes. They are very important methods to understand the complexity and diversity. It was completed in 2003 by NUAGE to represent simultaneously the Factorial Analysis results of the Correspondences and the Hierarchic Ascendant Classification in three dimensions.

The friendliness concept, which is fundamental in their conception, implied the ideas of economy, simplicity in the use, accessibility, sharing and cooperation.

Diagram 19: Basic modules.



The first versions of these pieces of software proposed to users, a convivial and easy for use “TIS” draft because of the complementarity which existed between them (and above all the complementarity with the space analysis). That “TIS” draft took into account the humanities, social sciences specificities; it was appropriate to multi-field uses and allowed gathering collectively a great set of data. The success of this solution led users to wish using it in various contexts.

However, these pieces of software only allowed the use on a working station. As distant partners who belonged to different bodies and worked in network mainly used them, the need to integrate these pieces of software and to make the output and input files compatible and available at a distance, quickly appeared.

At this stage, the collaboration with computer science researchers has become a need, since the NUAGE realization. The TIS has to be usable on potential users’ machines. These machines can have only few resources (software, memory, Internet connection, etc.) and can function with various operating systems. In order to allowing these pieces of software functioning on different platforms, the first stage consisted in rewriting them by using the Java language.

In addition, following the Internet development, users wished to have an online TIS version.

The Internet presents the tool’s distant use, but also a possibility of more stronger communication between different TIS actors.

This last possibility drives us to one fundamental TIS evolution towards the Territorial Intelligence Community Systems (TICS).

The software transfer from a mode mono - user to a mode multi – user, presented some computer sciences problems, such as the security, data share and applications development based on the multi-level architecture.

Thanks to computer science researchers’ collaboration, the SITRA research action allowed completing:

- The NUAGE software in a multi-platform version in Java language
- The data statistical analysis by SITRA tools of spatial analysis and cartography.

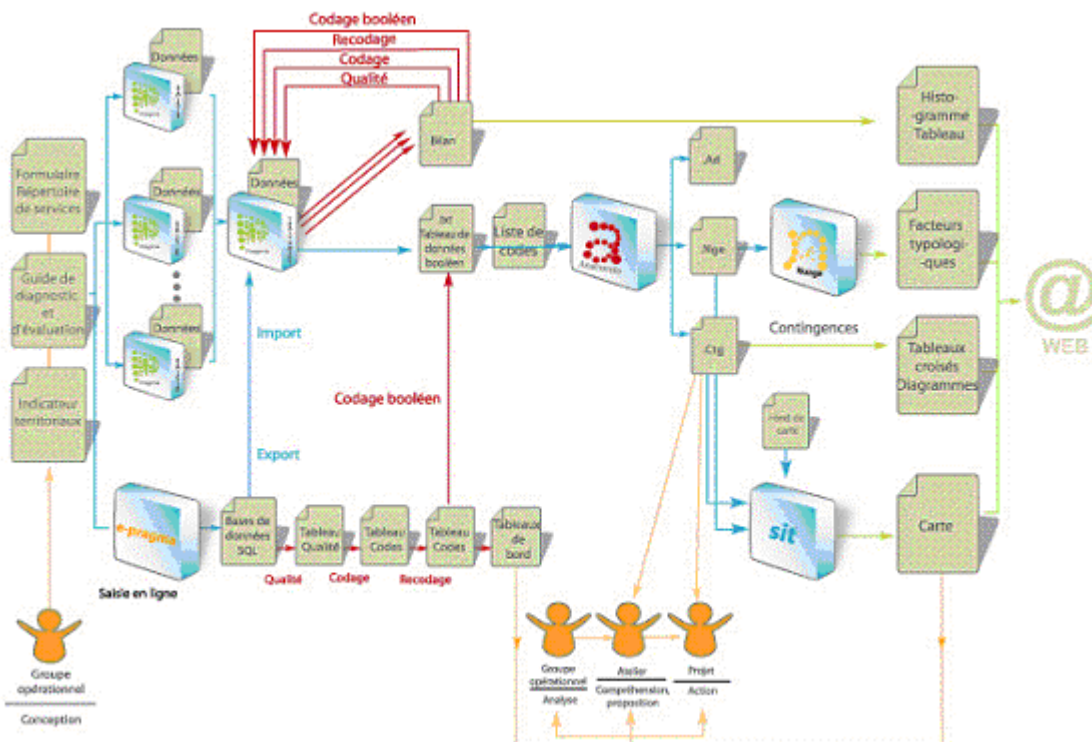
ICASIT started updating in multi platform Java versions and integrating the data statistical and spatial analysis software. There was a communication of these works during the ICTAMI of mathematics and computing conference in ALBAC (Romania) in September 2005 (GIRARDOT 2006), and a paper was presented in the annual International Conference of Territorial Intelligence in ALBA IULIA (Romania) in September 2006 (GIRARDOT 2007). There were been another two presentations in Taiwan, November 2006.

The initiation on the TICS's basic module data-processing evolution completes these presentations and opens perspectives on TICS evolution in the computer science domain.

During this research, we became aware of the editorial function importance of this convivial analytical chain that is directed towards online results edition. In the context of the territorial intelligence systems, this editorial chain concerns production of digital documents that should be shared within an actors' partnership. It is also a work flow, which can not be organized only according to data analysis technical protocols, but also to allow participation within the partnership, but above all beyond it, within the territorial community. That is why we call them Territorial Intelligence Community Systems (TICS).

Deepening and exploring the TICS editorial function is our present research prospect, following the next diagram:

Diagram 20: Territorial Intelligence Community System.



The research actions on the TICS modelling now concern:

1. The statistical and spatial analysis functions integration (blue)
2. The analysis protocols modelling (red)
3. The documentary and editorial chain specifications (green)
4. The social uses modelling and integration (orange).

2. TICS BASIC MODULES' DATA-PROCESSING EVOLUTION

The previous PRAGMA and ANACONDA versions, which have become now the basic territorial intelligence system modules, aiming to propose users a user – friendly, economic and simple software. At the beginning, they were conceived in order to work on microcomputers mono- posts.

The evolution and the diversification of the data-processing post, the user's materials diversity, the network and the Internet have rapidly requested computer science knowledge highly specialised in order to develop free cross platform solutions and to make them available online.

An important work was completed between socio-economic and computer science researchers, within the multidisciplinary research projects framework, in order to develop the probability of software features and to conserve their use simplicity in spite of the increasing interface human-machine complexity. These tools' integration, which gradually became the TIS basic modules, was committed and multi-user accesses solutions were equally developed within the collaboration framework, which now is directed towards the basic data processing transport on line.

2.1. TIS portability and facility of use

The TIS must be usable on the potential user's machines and must be installed just as it is, without requiring any tools or individual configurations. Indeed, user's machines can have only few resources (software, memory, Internet connexion, etc) and functioning with different exploitation systems.

The basic modules have been gradually rewritten in Java, in order to obtain a TIS multi platform, based on free software tools, which can be installed and used as simply as possible.

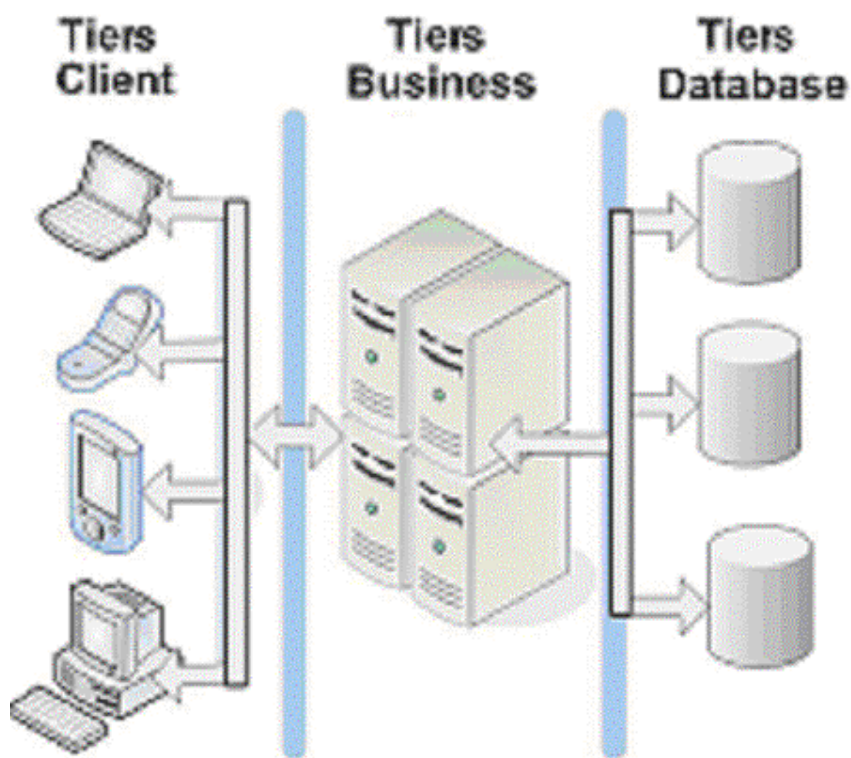
In the first TIS version, the produced matrices by the ANACONDA application were represented by the software Mac spin, specific to Mac/Os system. To be able to make the data representation on various types of platforms, the Nuage application was developed by using the Java tools during our collaboration. It provides the same features as Mac Spin.

Different functionalities were added to the ANACONDA software, rewritten in JAVA. Particularly ANACONDA worked with parameter settings corresponding at 99% of the uses. It is now possible to parameter the application during its launching. This parameter can be carried out manually by modifying directly the parameters into a file or by using a

graphic interface (ANACONDA Control Panel). Furthermore, functionality of file's contingency creation per class was added.

The PRAGMA software's rewriting in JAVA is in progress. This application's rewriting is the occasion to reorganize the aspect about data storage, to design the manipulated data by TIS software set. Previously, PRAGMA saved polls' data into a text files. From data-processing point of view, the database used for information storage is the appropriate solution. As PRAGMA must be able to be installed as simply as possible (complete PRAGMA installation starting from CD), an embarked database manager – SGBD allowing its manipulation from JAVA programmes was chosen. The database introduction put in evidence the need to design the totality of the handled data by the TIS. An HCI (Human – Computer Interaction) easy to use based on Swing was developed. The software's trade part containing the treatments is realised into a separate package. This PRAGMA software's structure corresponds to layers: presentation, trade and data of three levels architecture (see Diagram 1).

Diagram 21: Three thirds architecture.



Originally, the TIS was conceived from three distinct software. In order to realise a complete study, the user was supposed to know how to use each one of this three applications and particularly to know how to transfer results from the one like a data from the other. This operational chain was restrictive for the user and could induce it in error. To easy the TIS's use, it was decided to fuse these three applications leading it to a unique operational chain.

This work is under development. Firstly, the ANACONDA and Nuage modules were united. Initially, to obtain a space results representation, a user is provided to launch ANACONDA with a file issued from PRAGMA and than launch Nuage with files obtained after the ANACONDA's treatment, as shown on Figure 2. Now, a unique software is placed at user's disposition: ANACONDA/NUAGE (see Figure 3), which using a file issued from PRAGMA directly carries out the space results' representation.

Diagram 22: The initial operation chain of ANACONDA and NUAGE software Diagram.



Diagram 23: The current operational software ANACONDA/NUAGE chain.



2.2. Multi users access

The TIS can be used within the collaboration's framework on one same machine or online. This introduces the TIS multi-users access. Several users can handle the installed TIS on a machine in turn, as for example; users cooperate for the poll's input and the results' treatment. Several users can access the TIS online at the same time. The TIS multi – users' access poses the classical confidential problems about data, TIS security access and data's competitor access.

The TIS use by various user groups allows the realisation of different surveys using the same tool, but each group should dispose its own data and makes them available for each user group. That is why we introduced into the TIS traditional data – processing concepts such as user's privileges and groups. A user belongs to one or several groups. The groups' members dispose privileges defining theirs access rights to certain data, for example read, add, modify or delete these data. A particular user called administrator manages information concerning all groups and theirs privileges. This administrator creates users

and awards them an ID and a password. It creates, modify or delete groups and theirs specific data privileges as well as the groups' member list (set of users).

The TIS initial version generated a certain number of text files. A simultaneous TIS access by several users, posed data coherence problems: what is happening when several users modify at the same time the same file? The text file replacement by databases permits to hand on the adequate tools, the Database management system, and the competitor data access problems.

2.3. TIS online installation

Thanks to the Internet evolution users wished to dispose online TIS.

The TIS installation online happens through the web – page conception. The principle TIS concerned part is the PRAGMA software. Indeed, this application allows the poll's creation and the response input and should be able to be used at distance by many users. Since 2002, using Php/MySQL made a first web-service HMI version. In 2006, a PRAGMA rewritten in Java was started. This new version uses the MySQL database in order to store somewhere the information.

3. COMMUNITY AND COMMUNICATION SYSTEM

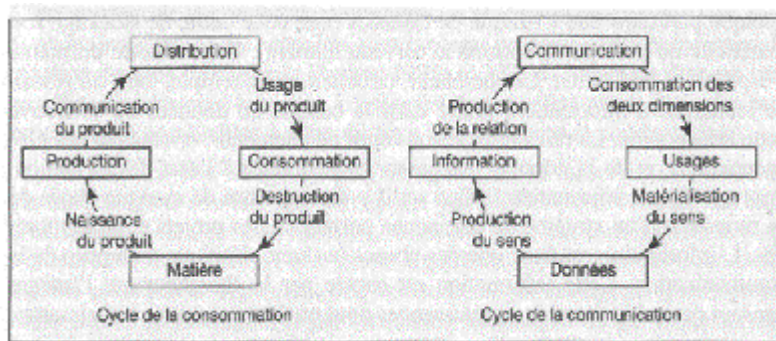
The social actors implied in territorial intelligence observatories, using this TICS (GIRARDOT 2004, BERTACCHINI 2004 and DUMAS 2004) lead to the need of quantified and qualified information producing, first of all bearing in mind, theirs actors' orientation in function of the population. Rapidly appeared a sudden question to put into relation this built information with other actors, closer or distant (GIRARDOT 2004, MASSELOT 2006). The territorial intelligence's used method has than imagined to convene reflections that ICS carry on for a long time, an informational process into the communication process, without forgetting the uses allowing the *direction's materialisation* (MUCCHIELLI 2003).

According to the MUCCHIELLI communication cycle (cf. the figure below), the Catalyse method is interested initially in two very precise methods approached to ICSs concepts.

- The sense production, which takes place during data treatment into information.
- Communication development strictly speaking, in function of the initial data and the produced information.

It is thus advisable to structure these steps into a communication aiming, without omitting the forth usage dimension.

Diagram 24: The Communication cycle of A.MUCCHIELLI 2003.



3.1. The sense production

The first step, called the sense production, should be in function of various necessary communications.

- Interns to the team that are carrying the project: the treatment must be as much as possible complete, advanced as possible, and authorizing for example multiple statistical explorations at the end of produced knowledge improvement. It is here that we produce at most the frequency table (from gross statement up to qualified statement, after that to a statement correlating to the characters selection, including the calculated classes), cross tabulation (allowing to understand better the quantitative as well as qualitative phenomena), response indexing, graphs illustrating the results ... This team acquired here a detailed comprehension of the initialized data, as well as one previous result's vision to communicate, allowing it one first semi – public modelling, still at the working papers' state.
- Interns to the Operational Group (cf. TICS scheme): a selection between the previously produced elements must be done in order to conserve the most interesting ones and to become a subject of a broader discussion. These results “pre – mâchés” (French expression meaning: to prepare the results in order to achieve without any problems), allowing to participants analyze together the obtained statistics, without any need to return backwards many times. The research must be avoided at this level in order to guarantee the communication process effective, on each background experience. This level really produces the territorial intelligence useful for the observatory.
- External: this stage permits to the Operational Group to organise one public publication, thus one communication which recipients are less known and for which we can less control the waiting horizons. The objective is to establish final documents to give an account about these quantitative as well as qualitative results to the general public and especially to sponsors.

The goal here is to exceed the first mission of an observatory, where it is a question above all to collect data in a structural manner. The agencies majority, which carries out this type of study traditionally, organize their intervention like an external project's expert. When a territorial diagnostic is entrusted by a structure that is elected by an institutional legitimacy like a local community, or by a socio – economic preoccupation for example ONG, the installed procedure calls upon the existent official data on the concerned territory: census (Padron in Spain, data from INSEE France or INS in Spain and Belgium); official studies by statistic administrative services etc. This data is than treated, commented, interpreted, and charted. The obtained result is rather a consequent report, written by these experts, which lecture is very rough and mostly requires an explication written by the same experts in order to understand its contents. Also, it is not rare, beside its difficult accessibility due to this studies' prose aridity, not to understand the used approaches, methods and scientific tools in order to achieve the already presented results. Concretely, the territorial descriptors chosen by these experts cannot prove to be pertinent for field actors confronted to one

reality in motion, which is not clarified by the global statistics' at the state of a territory on superior level.

Thus it is evident that the observation manner influences this stage of information production. The fact's and reality's approach, consists thus a filter which experts, although being aware of this phenomena directing the analysis, accept in order to obtain a final product, the study's report. The real diagnostic's objective is unnatural: it is effectively about actors to discover one population's and territory's need; for the experts it is about to produce a report... The waiting horizons (JAUSS 1978 and ISER 1985) activated by these two professional categories are not in phase.

Only at this stage the information's production starting from existing facts, the Catalyse method clarified in the TICS scheme enable to modify this observation's approach.

- Descriptors and modalities allowing to structure facts into data, and than data into information, are collectively constructed by the territorial actors accompanied only by the experts.
- Experts follow the initial observation objectives that is to say the field's action installation with the aim to improve the situations of the users' structure (institutional or not).
- The collection, an important structuring moment, is also carried out by actors, aware of the double transforming process in progress and possibilities for different point of views (possible interpretative skews).
- This collection, organised collectively, on its own at the same time is a communication process with users and an intern: the formulary permitting to unroll in time this process and is equally a product allowing the exchange between users (it can be indicated in several meeting, progressively with the individual projects development and its follow-up) and to help the stakeholder to structure the matter according to socio-economical needs, more like a maintenance guide than a questionnaire's abrupt. We can see than the global objective where the communication process is in service to help the decision and the territorial action contains another internal "cycle" where the relation's production is an issue.
- The collection is a lean production process, contrary to the photographic type's study, the observation has being permanent by the definition. The territories situation's evolution is however visible by series of statistic treatments operated at various moments "T", generally to a semi-course and for example at the end of the civil year. Daily, weekly and monthly instrumental panels are also available, in order to have a synthetic and global vision on certain key indicators for a given territory. Furthermore, the objective is that these statistical or quantitative as well as qualitative treatments are carried out by actors themselves, accompanied by the university experts. Thus, they are the selected data's masters and they control the information's creation process.

The informational process described above is to be considered as an incontrovertible governance element: actors write themselves the indicators permitting them to control the territorial intervention, the set up actions, to reformulate or to re-qualify. The experts have a scientific accompaniment role (essentially tested), but also a transfer role, thus a formation one's. They are no more traditionally external to the procedure, but really implied to various observation moments.

3.2. Relation Production

The conceptual analyze of all communication products, prerequisite essential for any realization, imply a certain number of reflection, which is advisable to bring it to a successful conclusion to produce the relation between the created information (where one part of the sense is constructed) and the reception actors:

- The public target identification must give a clear framing of the communication act's complexity in itself: will proceed from this analyze a series of recommendations at the same time strategic and ergonomic. To address to pairs whose thematic culture is equivalent comes to call upon the shared knowledge, which can economize didactic explications into the scientific communication domain (mediation, popularization...). The TICSs having an important role into the Territorial Intelligence, addressed to decision makers (politicians, sponsors) as well as to general public (interested or not in the themes set).
- This first stage has an immediate consequence on various issues that are taken into account: operational objectives from the territorial action, local politics influence, and activity (so structure) duration, justification of the private and public funds use... Not all of these issues have equal influence according to the enunciation moment (in connection with the temporal but also spatial context according to the 7 contexts definition about communication processes by Mucchielli, 1996). By identifying the importance into these contexts is thus the determining element of the communication quality.
- The objectives' and communication intentions' conception and the concretization lead us to a pragmatic awareness-rising of "what we want really to say". To pose these reflections black on white and than, confront them to public and identified issues draws a logical evaluation of the possible communication in the stated context, and take a part in the communication plan's elaboration including different stages in time, places and possible relations between receivers – recipients.
- The TICS communication approach specificity lies mainly into the paramount transfer and formation function. The communication objectives consider that any communication act in the Territorial Intelligence intrinsically contains one didactic transposition part desired or not, related to the new systemic territory's approach and its components innovation. The human phenomena's explication cannot be resolved with only one factor, a simple idea that is a question of clarifying, particularly in the social domain. The used methods and tools require

pre – requisites with the risk to be unintelligible, therefore to cause reaction of rejection... These analyses precisely make it possible to identify what it is advisable to clear up or not, and especially in the manner of relating individuals with this knowledge.

- We can improve the possible waiting horizons (JAUSS 1978 and ISER 1985): which ones will be activated by these actors since de reception, how they modify the communication incidence angle, which decisions to take before to realise concretely the objects and services of communication?
- The relation's production can usefully rest on the networks construction of significance, isotopes, with a principal communication objective (the sense is built progressively during the consumption, by significant redundant units relieving the same isotope) and with a human network's consolidation objective, demonstrating by this significations' deconstruction that the public really share, contrary to received ideas, the same cultural and relational contexts, because they understand the same components and in the same manner.

The relation's production is co-built and then between the emission actors and the reception display prominently the project's community reality, strong condition of the process appropriation.

3.3. Two dimensions' consumption

All the communication issue is concretized in the use, and so in two dimensions' consumption in direction of the product (information) and the created relation (communication).

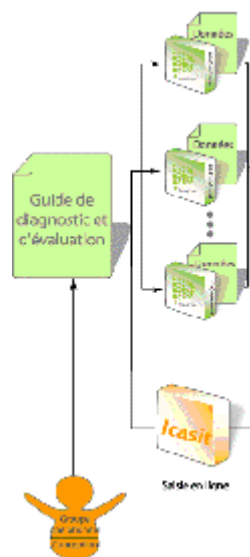
The produced information's usage covers, according to what we have written above, several encased processes, each one adding by definition a new value to the transformed object.

- From facts to data: the observation process is organized according to the Catalyse method and structured by its composing tools, it is led by the Operational Group actors (c.f. TICS diagram), since the connexion stage. Thus, it is question of an internal process to this actors' group, which is also a measure of crossed formation, where actors and guides (university experts, experienced actors ...) exchange the knowledge on territories and humans. The raw material (the observing facts) is composed from humans mainly, services and territorial actions, economical activities, spare time ... everything that composes the life on one given territory. In order to establish data from this raw material it is necessary to observe it, and to describe it ... It is not enough to look at a fire and produce the sense that we see it; a first informational process must extract from it as much formless as possible by the PERRIAULT (2003) sense through semeiological encoding (where the sign is composed of significant, signified and referent union, the whole into a system $S = ((Sa+Sé) +R)$ making it possible from a referent to deduce a valid signified, than a acceptable and usable significant.

The process already produces one part of the informational sense, but we do not have the information yet insofar as the data is still without any real form.

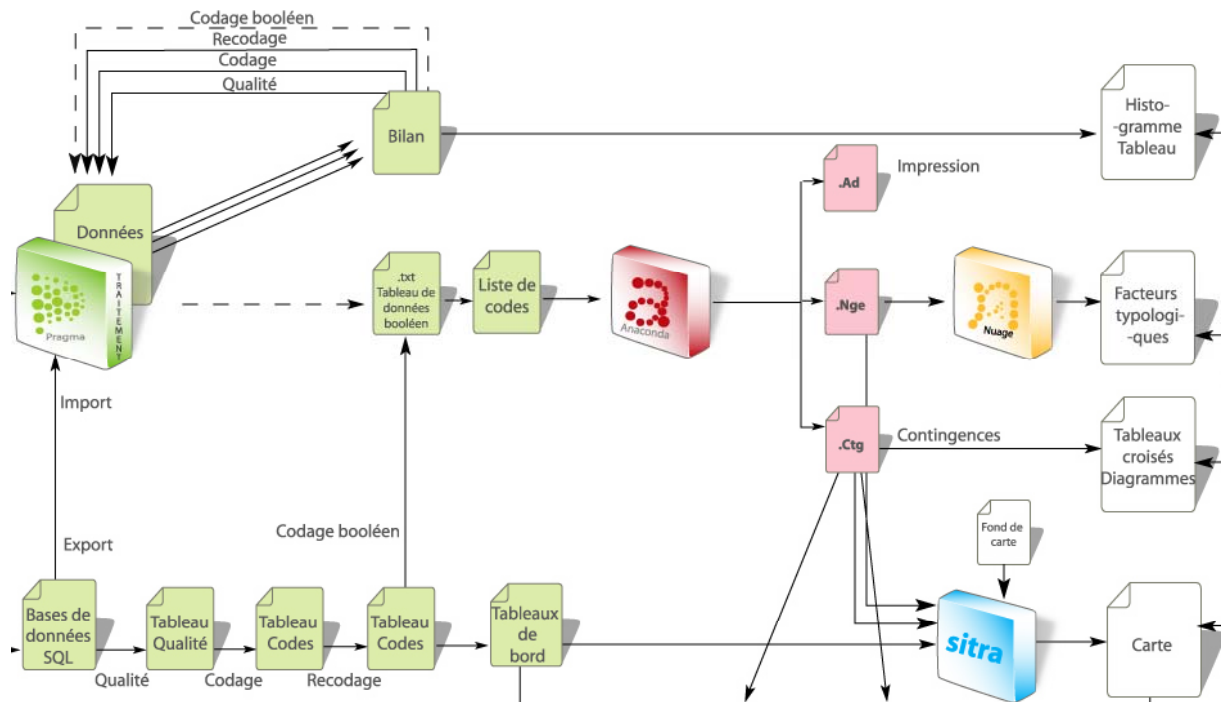
- From data to information: this formalization will be reached by the collection guide's structuring (for example questionnaire) and by the data gathering practical organization (process which will be necessary to analyze in a later research in order to incorporate internal and overlapped of communication process...). The collection procedures have largely gave place to research on the communication place like an improvement or disturbance vector of the sense production. A discussion which cannot be closed quickly and which remains open in the Territorial Intelligence (cf. on this subject, the research undertaken in Caenti, <http://www.territorial-intelligence.eu/>). The pragmatic need to obtain decision-making indicators help to act on the territories with the citizens obligates to work out a consensus on the sense creation process, validated by the produced information evaluation proving that they are usable with the Catalyse method. This validation stage gave a place to the Europeans' guide co-operative confection about diagnosis and evaluation, which consensus contents are mainly used to structure this sense creation process, the other elements make it possible to consolidate the comparison. Thus, we refer to the first part of the TICS diagram:

Diagram 7: From data to information.



- From data-processing to knowledge: the majority of the produced information from initial data gave place to new treatments, quantitative and qualitative, aiming to generate new knowledge starting from this information. Each descriptor can gave place to a quantitative statistical exploitation which result will be a figures table (the frequency, i.e. the number of times where such method was answered) with the percentages calculated on the population's and the given

answers' totality. This table can be decorated by a graph (with bars, histogram or circular according to cases). These results will give place to comments and interpretations. Starting from existing information, cross sorting will take place (for example the most known between them being the population's pyramid), encryption and re- encryption will create synthesis variables (for example age groups coming from dates of birth)... as many cases as new information is created coming from built information. Other surveys also took place: qualitatively, analysis known as data in statistics (in fact we should say information) utilized correspondences factorial analysis (CFA) and hierarchical ascending clustering (HAC): continuous sense production in "pummelling" raw information, which has its own existence, but which gives place to additional treatments. Let us not forget, even if we will speak about it thereafter that the outputs are explained and interpreted, confronted with the territorial resources and contextual indicators, as many acts, thus creating new information. Thus, we refer here to the second part of the TICS diagram:

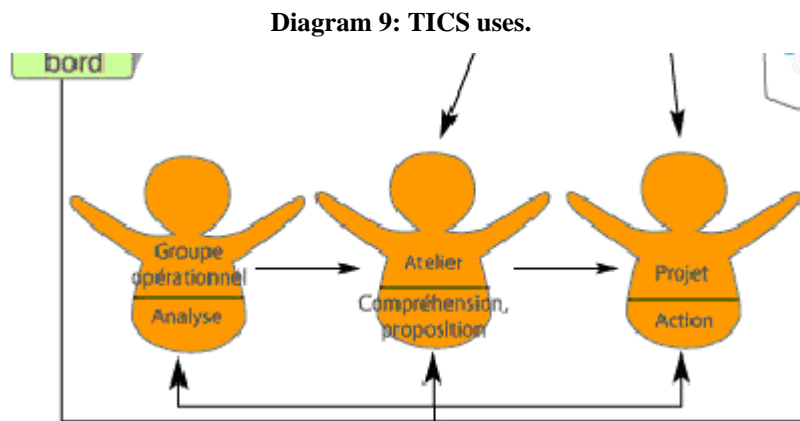


The relation creation's usages are the most complex and require a broader research, of which we draw up a rapid panorama:

- The information's creation process convene equally the communication, as we have suggested above , because by definition they are operated by actors and have often various internal communication objectives in the knowledge development.
- Thus, there is a first internal stage where the Catalyse method put into relation the information in different stages, with a restricted actors group, those which are

concretely in charge of the daily observation. Many exchanges take place, bound here in particular to the data treatment, where the interrelation exceeded the informational framework to modify and transform purely human relations.

- Usages known as “second circle” take place and then it is the question of widening the lead work during primary information productions into results’ interpretations. The first observatory’s restricted group executes several statistical task series, examined by the operational groups order: this test is built from a communication acts series where the information is one more time treated and especially interpreted. These communication instances are to be organized at the same time under the production protection of the new sense to the existing information and under the communication one’s, which issue control must support the professional act. The objective than lead to the workshops themes’ sets installation, which will decide concrete action projects, illustrated on the TICS diagram below:



- This diagram stops when we consider that the out of the observatory diffusion really intervenes (what is represented by “@”, covering the publication and results edition idea). However, the communication phases are not completely finished for the Catalyse observatory, because it left us to take into account uses that are going to be executed by other public categories, like political decision makers, sponsors and supports (territorial authorities, states, Europe ...), the social actors able to profit from the already worked themes about process, methods and existing tools, or simply from the general public. Here, various considerations get involved, which are linked to worked principles in communication with scientific, such as mediation and popularization, a concept already mentioned in the previous point, because the first Catalyse objective as we said is the territorial actions’ installation. The information treatment, such as the communication process, is consequently conceived as a service of this operational objective.

3.4. Sense materialization

The last part of the communication cycle intends to rebuild the sense of observed facts, data, built information and elaborated relations, backwards the diffused results and thus consumed. These observatories have one particular characteristic on the majority of traditional studies: their durability. This diagram has no sense if it is conceived into a poor temporality, i.e. in a purely linear and acyclic vision. The various stages take all the interest from the moment when the given results are confronted to a new data, new information, new relation establishment, which equally permits to evaluate carried actions.

Inner the observatory, we can say that the informational and communicational phenomena's comprehension gives a new actions sense and that knowing the territory permits to materialize these "facts" about which we spoke above.

For the operational team, the both dimensions' consumption allows a considerable retreat organizing a new territorial approach, identification actions, structuring the decision making and actions' evaluation help, which is equally useful for evoked decision makers and sponsors.

Finally, for the most distant recipients from the observatory, these surveys are many examples calling to self - reflection.

4. CONCLUSION

In term of computer science, the Internet introduces the tools' distant use but also one collaboration possibility much stronger between different territorial information systems' actors. This last possibility meets the user's wish to work together and to be associated at all process set which goes from the information's definition to the results publication on the Internet, through the analyze, interpretation and elaboration results' spaces.

This conjunction between the technology's evolution and the actors need lead to a fundamental evolution towards the TICS.

Various perspectives open in the computer science plan. The software's transfer of the mono-user mode to a multi-user mode introduced the data-processing problems by taking into account the security, data sharing and the applications' elaboration based on the multi-level architecture.

Currently, two principal system versions coexist, one online remote version and another local version. A modelling work is in process in order to define the unique database model allowing into the future a concerted development of both TICS versions.

In long term, the objective is to offer to users one remote TIS according to ASP (Application Service Provider) approach. Thus, via the Internet the user has the possibility to use the entire TIS functionalities without any local installation.

The TICS use will have as a consequence considerable documents' production number. These papers were provided to authorize the multi -user consultation, so a document

research problem appears. We consider proposing one document description for a meta-data set of type Dublin Core.

The TICS architecture will be still deeply modified by the information's treatment protocols' modelling. The led survey and the ACCEM migrants' observatories show that the protocol is refined with the analytic phases in order to converge towards stages in connection with the users' participation, in the analytic process and with the intermediate and final results communication.

It is consequently essential that various actors intervening into these stages are aware of the communication's systemic approach, seen like an interactive process.

Thus, a specific communication plan is set up, following the MUCCHIELLI diagram basis and the TICS one's, integrating at the same time various moments and communication levels (intern, widened intern, sponsors and general public), aiming a two dimension consumption (of use) : informational and communicational. Indeed, the method and results use is in the middle of the process and it will condition the transfer from one to another stage: here it is a question of evaluating each instance and each communication object in order to rebalance the following phases, from the data treatment point of view as well as from their consumption one's.

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WORKSHOP 3. SUSTAINABLE TERRITORIAL DEVELOPMENT STUDIES

“Demographic Characters and their Impacts in a Hungarian Region”

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URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Wilhelm>

Abstract: The major issues of Hungarian demography are the decreasing population and the increasing average age. The number and proportion of (potentially) active employees have been continuously decreasing. The number of school and higher education attendees is decreasing, while the number of retired people is increasing. Thus the education system, the retirement- fund system, as well as the elderly health care system needs to be reformed.

INTRODUCTION

The major issues of Hungarian demography are the decreasing population and the increasing average age. The number and proportion of (potentially) active employees have been continuously decreasing. The number of school and higher education attendees is decreasing, while the number of retired people is increasing. Thus the education system, the retirement- fund system, as well as the elderly health care system needs to be reformed.

Consequently, the entire socio-economic structure of Hungary needs to be re-organized.

We analyzed the population change of Hungary in this study by analyzing the impact of temporal population fluctuation on the education system. By itself, thorough understanding of such trends and impacts is fundamental as future employees are educated in elementary schools, high schools, colleges, universities and other educational institutions of today, and the present level of education obviously affects the socio-economic standards of the future. However, education and the subsequent employment mutually interact with each other; while at the same time spatial differences can be further exacerbated. To detect spatial differences of this type we selected a study area that appropriately represents the entire nation, namely the Southern Great Hungarian Plain Region (Dél-Alföld Region, SGHP Region hereafter).

MATERIALS AND METHODS

Two segments of the entire population were analyzed in our studies: primarily we focused on the population <18 years old, secondary we studied the age-class between 18 and 35 years old. From the viewpoint of this study and the entire education system the number of educated person has a principle importance. It is also essential to know the number of potential students of the future. Changes of the population over the past 20 to 30 years need to be studied and closely analyzed to draw appropriate conclusions.

The <18 years old group of individuals was further subdivided into three classes: (a) 0 to 5 years old age-class; (b) 6 to 14 years old age-class and (c) 15 to 18 years old age-class. By using the selected age-classes, children attending to various educational institutions (kindergarten, elementary school and high school) can be studied. The data was analyzed based on the 2001 demographic data, as this is the last comprehensive dataset of this type. Data was obtained from the URL of the National Statistical Agency. The original dataset was modified according to our statistical need and was organized accordingly with the spreadsheet manager of the OpenOffice 2.0 software. GIS analysis of the dataset was processed with Grass 6.0 spatial analyst software.

First, we analyzed the total population of the individual settlements, and its changes between 1970 and 2001. We also considered the population of the individual age-groups; however this latter segment was only studied on the basis of microregions. The population under the age of 18 was divided into three subclasses:

- (a) under age of 6: this age-group has not yet been exposed to school level educational processes

(b) age 6 to 11, i.e. grade 1 to 5 pupils

(c) age 12 to 17, grade 6 to 8 in elementary school and high school students

RESULTS

The number of 6 to 18 years old individuals has dramatically decreased lately, and any change in this tendency is unexpected in the near future. When we plan nationwide and comprehensive educational processes, we need to pay attention to the decreasing population of youngsters. However this decrease is uneven both temporally and spatially in Hungary and is usually differentiated according to the size of the settlement.

According to the data of the National Statistical agency, 283,526 <18 years old residents inhabited the SGHP Region. This accounts for about one fifth, precisely 20.5% of the total population (1,377,652) of the region.

The number of residents in the age-group of 6 to 18 years is 204,830, i.e. 14.9% of the entire population of the region. The most numerous age-class within this group are the 15 year old residents, they number 18,758 individuals, while the least numerous age-class was the 6 years old residents, they only numbered 15,115 individuals, i.e. 80% of the age-class of 15 year old residents (Figure 1.)

94,153 residents of the age-group of 18 years old individuals lived in rural areas; this number counts for 33.2% of the entire population of the region. This number was almost identical with the proportion of the rural population within the entire population of the region (34%) in 2001.

The temporal changes of the ratio of the <18 year old population in the SGHP Region is somewhat similar to the national tendency; the decrease is continuous, but uneven. According to the 2001 demographic data indicates that the younger the age-group is, the smaller its proportion among the age-group <18 year old. Figure 1 indicates the predicted data for the year 2006 if this tendency is assumed to continue after 2001. Rate of birth was 16‰ in 1970, while this number decreased to 12‰ by the early 1980s with a further decrease by the 1990s, when birthrate reached only 11‰. The decrease indicated a decreasing temporal change per unit time period. However this dataset has a low reliability as the number of residents in the individual age-classes varied greatly.

The age distribution of the individual age groups in the SGHP Region (similarly to the nationwide distribution) indicate a bimodal curve with two peaks being at the age-groups of 27 to 30 years old and 49 to 55 years old individuals, when data is projected to 2006. For future prediction we only considered the proportion of the women of the age-group of <35 years old. As one of the peaks of the age distribution curve falls into this age-group, a temporal increase in birthrate and proportion of <18 year old inhabitants is expected following the present decreasing tendency.

Table 1 indicates the predicted temporal change of the number of residents in the age-group of <18 years. The number of freshly enrolled students (age-group of 6 years old children) in 2006 counts about 12,000 children and those who are graduating from elementary school (age-class of 14 years old pupils) reaches 17,000 individuals. The

number of people in the age-class of 15 years old pupils counts slightly less than 17,000 individuals; a number is almost identical with those graduating from high school (age-class of 18 year old individuals). The age-classes of 20, 21, and 22 years old count about 18,000 individuals i.e. about 1,000 individuals more people than the younger age-classes.

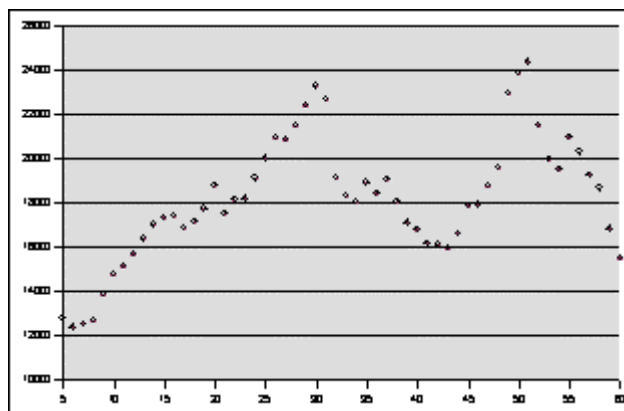
As the age-classes of higher proportion reached their peak reproductive period, the decrease of population ceased, and a slight increase was observed. In 2001, the number of individuals in the <1 year old age-class exceeded the number of 1, 2 and 3 year old children.

What can we expect in three years? Despite the decreasing number of women of highest reproductivity state, the rate of decrease is relatively small, as the majority of women still fall between 30 and 35 years old.

Similarly to the majority of Europe, the average age when women give birth to their first child increases. It is not uncommon, that women over 30 years old give birth to one or two children. Overall, this fact will increase the number of newly born babies, and the number of children freshly enrolling to elementary school (age-class of 6 years old children) will reach 13 to 14 thousand individuals. However, at the same time the number of 14 years old individuals will be slightly over 15,000, just a few hundred individuals less than in the age-class of 15 years old individuals. *Thus the number of schoolchildren enrolling to grades one to three will considerably increase over the next few years, while the number of grade 6 to 8 and high school students will decrease.*

By 2012, the number of children in the age-group of 6 years old children will be higher than formerly, presumably numbering 14,000 children. The number of 14 years old students will reach the historical minimum of the age group, with less than 13,000 individuals. The number of 15 years old individuals will be almost 14,000, while the 15 years old students will number slightly over 15,000. Consequently more students will enroll to elementary schools, and the number of grade 1 to 4 students will increase. This will require a higher number of teachers to teach this age-class, as compared to 2006, the number of individuals this age-class will increase by 16% that equals to 2,000 children. Simultaneously in higher grades a considerable decrease of the student population will be observed, as compared to 2006 the number of student population will fall by 23%, which equals to 4,000 students. In the case of high school students, the number pupils in the age-classes of 15-year-old and 18-year-old will decrease by 17% and 6%, respectively. This equals to 3,000 and 1,000 students, respectively. This population drop will trigger observable, but still manageable changes in the appropriate educational institutions.

Figure 1. Age distribution of 5 to 60 years old individuals in the studied area.



The number of 6 years old children will be much higher in 2015 than today, expectedly reaching 16,000 individuals. The number of 14 years old children will range between 12,000 and 13,000, but still exceeding the number in the age-group of 15 years old children. The number of students in the 18 years old age-group will drop by 17% compared to 2006, counting less than 14,000 individuals.

In summary, we can conclude the followings: The overall number of children in the age-group of between 6 and 18 years old will decrease by 2015, compared to their 223,000 population in 2001.

This age-group numbered only 198,000 in 2006, while only 185,000-190,000 individuals is predicted in this age group by 2009, and only 175,000 by 2012. Similar number, i.e. about 175,000 individual is predicted by 2015. The number of elementary school students numbered 150,000 in 2001, while by 2009 only 135,000 children are predicted, and by 2015 only 110,000 to 115,000 individuals is predicted. At the same time, the high school population will decrease from 72,000 to 66,000, and to 63,000 by 2015.

As we have seen on the above mentioned figures, the age-group of the 35 to 40 year old generation, and their children, the 15 to 20 year old generation has a low proportion compared to the overall population. The high proportion of the 20 to 25 years old age-group has a low reproductivity rate, much less than based on the earlier tendency. If earlier tendencies apply, then an increase of birthrate would be expected. In 2005, the 5-year-old age-class should have outnumbered the 6-year-old age-class; the <1 year old children would number twice as much as in reality (!). This phenomenon is partially explained by the higher average age of women giving birth to their first baby. The majority of the <25 year old students are full-time college or university student. While only 32 percent of that generation attended to higher-educational institutions over the 1990s, their proportion reached 45% by 2006, outnumbering the European average of 35%.

As their financial support is limited, their reproductivity rate is low. On the other hand, the economic structure of Hungary has been considerably reorganized. Employment is limited, commuting is more frequent, which counteracts with long-distance relationships.

Professional carrier enjoys priority compared to private life, resulting in postponed and shifted age of giving birth to the first child. It is often observed among individuals graduating from higher educational institutions that their first child is born when parents are over 30 years old. Simultaneously, the average number of children per family is two, dropping from the former average value of four children per family.

However, among the population of low education level, the average age when parents give birth to their first child is lower than in the case of population of more highly educated parents. Similarly, the average number of children per low-education level families is higher than in the case of more highly educated families. However, the proportion of the low-education families compared to the overall population is decreasing, and the number of children per family has been showing a decreasing tendency in the case of this group as well; with a value typically being fewer than four children per family.

CONSEQUENCES

On regional levels, teacher shortage and teacher excess can occur within a decade². However, this phenomenon will enable better teaching efficiency in the case of low-number classes. Demand will exist for better-trained and more qualified employees, as reduced number of employees will be employed, and the sustainability of the national economy will require a higher-value contribution from the employees. To achieve such far-reaching goals a more flexible, broadly qualified population needs to enter to the sphere of active employees.

Conflict will arise in those educational institutions where the number of students determines the amount of financial support and centrally issued subsidy. Infrastructural everyday utility costs will not be lessened in the case of lower number of students, thus specific (per capita) costs will increase. Such changes will financially impact elementary schools first, then, in the second part of the studied period, high schools will also be affected.

Settlement-specific impacts

In the SGHP Region three basic types of settlements can be distinguished:

- rural areas (farms, hamlets, villages)
- urban areas of secondary importance
- urban areas of primary importance

Age distributions considerably differ among the three types of settlements. This difference is caused by the difference in the socio-economic structure among the three settlement types, and especially in the case of rural areas, depends on the distance from the administrative and educational centers. Three cities of primary importance (county seats), 37 cities of secondary importance and 213 villages are located in the studied area.

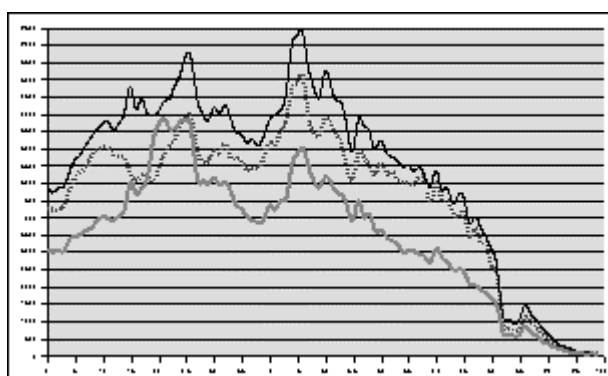
One third of the total population resides in villages and rural areas, 26% in the county seats, while 40% lives in towns. The average number of residents per village is 2,133 individuals, the average number of residents per county seats' is 114,663 and the average

population of the cities of secondary importance is 14,319. The most populated village counts 7,803 individuals, the smallest 131 residents, the most populated town (excluding county seats) has 49,382 inhabitants, and 5,472 people resides in the smallest town. The bimodal age distribution is detectable in all three types of settlements; however difference exists in the height of the individual peaks (Figure 2). The number of individuals in the young age-classes is smaller in the rural areas than in urban areas. The number of young people is significantly less than the number of elderly individuals in the villages, while slightly less in towns and small cities. In the county seats young people considerably outnumber elderly individuals. Consequently, towns and cities represent a significantly different age distribution structure compared to the rural areas. These differences are caused by the differing socio-economic development of the various settlements over the past decades.

Based on the proportion of the age-groups being in their highest reproductivity period, highest birth rates are expected in the county seats. However, as we mentioned above, no “baby boom” has been observed, as the age when women become to age of maternity is shifted towards the late 20s and early 30s. Such phenomena first occurred in the large cities, and have been spreading toward less urbanized areas; consequently its impact was first recognized in the largest cities.

The most mobile generation of the rural population, i.e. age-classes under 30, frequently moves to urban areas for permanent residence. For such reasons, the proportion of the the younger generations decreases in the rural areas and simultaneously increases in the county seats. Changes in lifestyle and everyday habit are also associated with change of permanent residence. As younger generation commutes to the urban centers primarily for educational purposes, they have ample time to get adjusted to the lifestyles of large cities. These lifestyle and attitude changes result in decreasing birthrate and decreasing number of children.

Figure 2. Population of the SGHP Region according to age-classes.



Thick gray line: population of county seats, thin black line: population of other cities, dashed gray line: population of villages.

As illustrated on Figure 2, the proportion of the age-group of 10 years old individuals is substantial in the rural areas. This age group comprises of the descendants of the age groups of 30 to 35 and 35 to 40 in 2001 and 2006, respectively. These reproductive age-

classes have not migrated to urban areas, while the 25 to 30 year old rural population has a considerably lower reproductivity rate than in the case of the older age-classes. These latter differences are, again, likely caused by changes in lifestyle. Despite the traditional agricultural lifestyle and the attachment to traditions, changes have been occurring nationwide since the 1990s and have strongly impacted rural lifestyle as well. Such changes include shifted reproductive age span, increasing educational fees and tuition, and the subsequent drop in average number of children per family.

Migration rate from towns is less than migration rate from rural areas toward urban hubs. Thus, the proportion of the age-groups being in active reproductivity state is decreasing compared to the overall population, producing a more non-adequate age distribution. Birth rates have been decreasing in this type of settlements; however, recently, population growth is higher in small cities and towns than in large cities. This phenomenon is likely explained by the lower average age of child-bearing generations. The majority of the population of the SGHP Region in every age-group resides in cities of secondary importance (i.e. excluding county seats).

In summary, we can conclude that the tendency of population decrease is obvious in all the three settlement types; however, regarding the rate and direction of tendencies, considerable differences are detectable among the various types. The proportion of age-groups of 18 to 60 years old individuals and women of highest reproductivity rate are highest in the county seats and lowest in the rural areas. The proportion of the <18 years old age-group is identical in all three types of settlement (22%); however age distribution within this age-group indicates considerable differences. The age-group of 9 to 11 years old individuals has the highest proportion in rural areas, while in urban areas the age-group of 18 years old individuals is the highest, with decreasing proportion toward the younger generations.

CONSEQUENCES

The absolute number of school-attendees will decrease in all three types of settlements in an unsteady way. Elementary schools will experience a significant drop as most children attends to such institutions at his/her place of local residence. This drop may result in 50% drop in the number of school-attendees in larger cities, which presents higher specific per capita costs for the educational institutions. This phenomenon may result in the coalescence of certain schools in order to reduce maintenance costs. However, an increase in the proportion of low grade (grades 1 to 4) is expected from 2012 on, when the generation of 30+ years old women will reach their reproductivity peak, due to shifted average child-bearing age. This fluctuation in children number per academic and fiscal years may further complicate long term planning of school maintenance and finance.

Such problems will be more crucial in settlements of low population where a single school functions as educational institution. In such cases, when local administration is unable to subsidize the increased per capita costs, schools will permanently cease their educational activities. Per capita costs will likely increase as the number of students per academic year will likely drop two – or even threefold, while total maintenance costs (e.g. public utilities) will be constant. To resolve this issue, establishment of regional schools is essential, into

which students can attend from the neighboring settlements. However, such commuting may raise ethical and personal right questions.

This program could only be solved in governmental level. To temporarily maintain schools and other educational institutions at higher per capita cost, the central government needs take over the issue of financial subsidization. In the case of lower number of children, however, the ratio of instructors to children is higher, indicating the possibility of higher-quality education standards.

As high schools are not located in every settlement, such schools will face the problem of fluctuating number of schoolchildren in a different way than elementary schools. Likely, the popularity of various schools will determine the rate of fluctuation in these institutions. Obviously low-popularity and low-reputation schools (such as in textile industry) will considerably suffer from loss of students. Similarly to most higher education institutions, high-popularity renowned high schools are unlikely to be impacted by student loss.

EMPLOYMENT

Recently, industrial segments of low educational requirements have lost popularity among employment seekers. This tendency is in a good correlation with the overall tendency of the EU.

This tendency is primarily affected the textile industry; however most heavy (e.g. metal production) industry and the production of the majority of the mass products have been also affected. This trend, similarly to the majority of developed countries, indicates an increasing demand for qualified and highly-trained employees. This venue has an extreme importance in a country like Hungary where, again similarly to the majority of the EU countries, total population has been decreasing. This decreasing population means lower proportion of the generation of active employment and simultaneously increasing proportion of elderly generations.

The average age of first employment has also shifted toward older ages, as education period of individuals has also expanded. Thus the proportion of the younger generation that is potentially active, but unproductive due to their educational obligations, has also increased. Thus shifting of retirement ages toward older age is insufficient to maintain the present productivity of the Hungarian economy; thus, as a consequence, productivity rate needs to be increased. To achieve higher productivity rates, higher quality of education and training are required. Thus significant investment to educational institutions is unavoidable in the near future. If the average number of schoolchildren and students will decrease, the number of employees employed by educational institutions should not be reduced accordingly, in order to increase the instructor:student ratio and to maintain high-quality education.

CONCLUSION

We studied the short-term effect of population fluctuation on the educational system and employment in the SGHP Region of Hungary.

We concluded that the total population of the studied region slowly, but steadily decreases. The decrease of birth rate is much higher than the decrease of the total population. This discrepancy is caused by the increasing proportion of elderly age-classes. The drop in the number of newly-born babies is caused by the altered lifestyles of the age-classes of high reproductivity rate. The lifestyle change was triggered due to the changes of the socio-economic structure of Hungary over the past decade and half. The average age when mothers give birth to their first baby has been shifted. This phenomenon is likely caused by the longer educational period of the individuals. The average number of children has also decreased, averaging two children per family today. Due to these factors, until 2015, the total number children will steadily decrease. However, meanwhile a delayed increase has begun; i.e. the number of newly-born babies has increased, but at a lower rate than it was expected based on the number of parents being at their active reproductivity years. These fluctuations will create nationwide social and economic tensions in the educational structure. Despite the overall drop of the number of schoolchildren and students, the number of low-grade schoolchildren (age-classes 6 to 10 years old children) will increase, while the proportion of the 14+ years old age-classes will considerably decrease.

As a result, the existence of schools of rural areas is jeopardized, if short-term inadequate financial decisions are made. In larger cities, where more than one schools are operated, coalescence of educational institutions is expected. Such decisions may cause ethical tensions in the society. High schools and secondary schools will be affected diversely by the population fluctuation, depending on their reputation and popularity. Popular and high-reputation grammar schools are unlikely to be short of students and financial subsidies; however the less popular (mainly rural and small town) institutions will face serious financial problems unless adequate governmental subsidence will be available.

Adequate decisions include temporary sustainability and operation of schools despite their increased per capita infrastructural costs. Such decisions would be of nationwide interest as the number of elderly people increase compared to the number of potentially employable, active generation. In such situation, only well-trained and highly-qualified employees could maintain, or perhaps increase the productivity of the national economy. To educate and develop such a social classes, education of higher level is required and unavoidable. To create a nationwide high-performance and vivid educational network system and to adjust to the altered demographic situations an adequate and adjustable maintenance and financial policy need to be adopted and elaborated in Hungary.

“Cultural Development Dimension”

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Abstract: What is the role played by territorial intelligence in sustainable development? What are the indicators that should be selected as main drivers of territorial sustainable development? Who will enhance what resources? Shall we focus on endogenous or exogenous factors in order to foster sustainable development?

These questions are just a sample of those we try to address.

In line with well-established sociological theories of sustainable territorial development, we wish to validate those hypotheses that, although centered on the economy as the system in which concrete growth opportunities can be observed, focus mainly on the cultural system and citizenship rights awareness as the essential correlates for a type of development that promotes socio-economic cohesion in a given territory.

Many times, especially in the South of Italy, policies mainly designed to give priority to economic resources have failed: economic interventions alone, if not supported by clever investment planning aimed at overall development, arouse conflicts and unrest, often fostering deviant interest groups.

1. INTRODUCTION

In the early years of the new millennium no idea of stability somehow inspiring security and certainties in citizens for the next future has emerged in the various social systems. At the political, economic and social level, the models built by modernity in the latest decades had no favourable and positive impact that may have fuelled hopes for the near or distant future. Signs of a new complexity in relations come from all over the developed societies, thus posing the challenge of a new responsible participation by all citizens for the solution of problems that are impending upon the future of mankind.

The solution to many problems that we face today is dependent upon the ways in which the intelligence of those who hold power gets rid of vested interests to come out with solutions that are good for all.

It is obvious that there are no big differences between the micro and macrosocial level as macrosocial problems can spread to the microsystems of small communities.

It is not a question of predominance of the *whole* upon its *parts*, of the *macro* over the *micro*; instead, we wish to point out that today more than in the past it is easy to bring to the fore those conditions of local communities that have a global bearing. This is the only way in which some emerging problems springing from general resource governance can be detected in some territorial areas, thus urging administrators to pinpoint differences and respect them. This implies that, unlike modernity social policies that depend upon centralized government power, today's post-industrial and post-modern societies are characterized by management decentralization and entrust territorially defined communities with full autonomy and resource governance. Such a phenomenon can be observed when social policies are slowing down their pace and the welfare state is inexorably losing ground in terms of the social scope of its interventions because of laws that cut welfare costs to redress the States' deficits.

The rationalization of public expenditure requires that the periphery becomes increasingly autonomous and self-reliant in managing public affairs, the local territory must become self-sufficient and its development depends upon the skills of its representatives, who must implement strategies and projects that will determine the future of their own community.

In this respect, the role of those who are directly in charge for sustainable development within a given social context takes on an extraordinary importance as everybody agrees that both the quality and the scope of territorial development is determined by them.

So, what is the role of territorial intelligence with a view to sustainable development? What are the indicators that can help to steer sustainable development in a territory? Who decides what resources should be enhanced? Should we privilege endogenous or exogenous factors in order to foster sustainable development?

In our paper we focus on the role of territorial intelligence, to give a definition of it; we also try to analyze the meanings assigned to the development of local societies and of governance.

2. TERRITORIAL INTELLIGENCE AND SUSTAINABLE DEVELOPMENT

The definition of territorial intelligence lies at the core of the work done in the last two years by all the partners that joined the CAENTI project in a thinking process that aims to share roles, strategies and projects even through different paths.

Territorial intelligence has been identified as the component that interprets, promotes and acts, taking stock of available and spendable resources in its own social context, in order to reach aims and objectives shared by the community, which takes part in such promoting actions.

The enhancement of territorial resources belongs to a new configuration embracing both the methods that are the end product of planning and the healthy part of the cultural tradition of a community that, taken as a whole, makes up social capital; in this sense the territory is not only seen from the economic viewpoint, as it happened in the industrial society, that is as an environment in which material resources were exploited without worrying too much both for the territorial impoverishment thus caused and for the wealth distribution that favoured just a few people.

The role of territorial intelligence today consists in the identification of pathways leading to objectives shared by the community and congruous with environmental policies; at the same time, the sustainability of a development model is measured by an observation targeted to the definition of plural, possible and multidimensional resource investments, enhancing and sometimes privileging the historical and cultural components. So the territory is viewed as the context in which the cultural, human and historical resources that make up the immaterial heritage become more prominent.

The concept of sustainable development interpreted in this way totally modifies the arrangements and process dynamics which characterized industrial societies.

The cultural component, in societies defined as post-modern, gets the upper hand of the logics that prevailed in modern societies, so the development of a territory is measured by sustainability that places human resources at the centre of territorial policies.

The promotion of such a development must set up a lasting process consistent with the guidelines of a far-reaching planning open to the social environment, which nevertheless does not sacrifice resources that are not reproducible.

Territorial intelligence develops the understanding of territorial structures and dynamics, and at the same time it provides guidance to social parties for choosing means and strategies that can be used by public and private actors to build and share common knowledge in order to fuel territorial lasting development.

According to this definition, territorial intelligence is practised as an action-research that takes part in changes by checking their functions and performances in targeting the planned objectives.

In this sense, by complying with the methodological principles that shape an action-research project, territorial intelligence promotes the political and economic action of territorial government and sustainable development.

So a congruous communicative interaction is established among the social parties operating in a territory, and territorial intelligence takes up a leading role, as it governs the direction taken by sustainable development.

As a matter of fact, the three definitions of the CAENTI project (territorial intelligence, governance and action-research) share the principle that promotes actual participation of the actors and the population of a given territory in enjoying the benefits obtained by the actions aimed at implementing the project.

Of course, we are aware that territorial intelligence has to reckon with large-scale socio-economic and cultural realities, to the extent that it assesses the resources available on a given territory, thus becoming able to promote and steer actors' actions. It is possible to think that the role of territorial intelligence has to work as "mediation structure" which acts as bridge between individual and society; it powers social capital that is at the basis of local development.

In line with well-established sociological theories concerning territorial sustainable development, we wish to corroborate the hypotheses that, on the one hand, still point to the economic system as the main standard for measuring concrete growth opportunities, but on the other hand place the main emphasis in their descriptions on the cultural system and citizens' awareness as the essential correlates for a development able to promote socio-economic cohesion in a given territory.

This cultural dimension of contemporary society, as compared to the guidelines for development culture in the industrial society, which was characterized by unilateral processes, opens up far-reaching perspectives, as the dialogue with other cultures is enriching and heightens the need for difference.

Diversity and difference constitute useful points of reference for differentiating the myriad sociocultural realities that can be reached by building bridges, connections and cooperations just because they are different. This allows to put forward a multitude of development hypotheses, without pretending to export and transplant somewhere else a model that has worked in a given territory.

We have witnessed so many times, especially in the South of Italy, in the 60'ies and 70'ies of the last century, the failures of government's policies that tried first and foremost to transplant an industrial economy there, neglecting the fact that there is a high risk for rejection if the implantation of a foreign body into a system is not supported locally, in fact good intentions were thwarted in that case, leaving back only the so-called "cathedrals erected in the desert".

The generalization and standardization of the industrial development guidelines typical of the modern society up to the 1970'ies in our country, and in other Western countries aswell, did not take territorial vocations in due account, nor did it care enough for the impoverishment and devastation of entire territories once they had run out of resources; modernity did not build a culture that respected and promoted the enhancement of alternative resources steering development in a different direction. Instead, we witnessed

the primacy of ideological theorization, that gave a one-sided definition of development, envisaging underdevelopment and backwardness as the only alternative.

We wish to state very clearly that, as regards Italy, we do not underestimate the benefits gained, in the aftermath of fascism, by the Nation State through industrialization and the wealth created in a country that was getting out of economic pre-modernity, with an illiteracy rate that in many areas of the national territory accounted for more than 50% of the population. Instead, we wish to emphasize that many of our present evils are deep-seated and the political establishment was not careful enough to prevent mistakes in planning sustainable development.

In the last few decades, post-modern culture, as it is called by many researchers, has advanced even in Italy, albeit with difficulties, as a post-industrial phase in which development models cannot necessarily be identified with industrial economy, but rather switch to a typology that puts a premium on the development of resources involving local communities, entrusting them with autonomous planning. For the first time ever in the history of modern societies, local communities are valued as those that can promote a development not necessarily linked to the dynamics of a market imposing rules and costs that do not always help to enhance the resources available on the territory.

The autonomous choice of a development model congruous with the territory, seen as a multi-dimensional value, must not suggest restrictive considerations, as if the territory, by withdrawing to itself, would refuse to build a relation with the world or would become unable to open itself to the relational dynamics entailed by globalization. We state that, on the contrary, withdrawal can, in this case, help to recover a reflexive capacity conducive to communication, by enhancing good original products that can be advertised as the expression of a socio-cultural heritage that deserves to be protected.

But this cannot be obtained without a cost (actually development can only be obtained at some cost) and the ability of territorial intelligence lies precisely in promoting sustainable development for all the components of a territory.

Thus we became aware that economic policies lacking the support of an all-inclusive intelligence that, by incorporating all territorial assets, becomes able to direct investment towards overall development are doomed to engender chaos and conflicts, often lobbying for deviant interest groups.

This perspective confirms the hypothesis that economic objectives are not always feasible in territorial development, if they are based on the importation of development models coming from other social realities, since development, as was demonstrated many times, consists primarily in the cohesion among citizens motivated by common interests, that can be indicated because they can be detected as sociocultural components in a territorially defined community.

In this sense we believe that development, hence change in a territorial reality depend upon, it needn't consider economical objectives above everything, because in a community the cohesion between citizens almost always depends on interests sharing and a way to be that draw out social and cultural factors.

Social objectives concern the possibility to live together in a cohesive and well-off society, where social groups benefit is guaranteed and supported. Cultural objectives concern one's historical identity and knowledge heritage affirmation in an atmosphere of an harmonic convenience between peoples and Nations (Battisti, 2007).

In addition to that, we need to clarify the meaning we assign to the development of a given territory in this paper coincides with the notion developed by the CAENTI group, namely of a territory as a complex whole that enhances all the available resources that can be defined and observed, both in terms of social capital generated by the third sector and of the benefits spreading from the centre to the periphery and vice versa. Hence, territorial development must be ascribed not only to the increase in goods produced individually, but also to the improvement in life standards of the whole community accruing to all residents. In this sense we talk about development of economic, human and social capitals.

A development that, in this way, doesn't betray territorial vocations, rather gives them value, a development that can fit and integrate innovative patterns, in a witting necessity of changes which keep and respect those resources that define territorial story in its articulation and vocation.

In this sense the territory is mainly viewed as a historical product, meaning that it is observed from the anthropical and social viewpoint as «a historical product of long-standing co-developmental processes intermingling human settlement and environment, nature and culture, thus as the outcome of the environment transformation by subsequent and stratified civilization cycles» (Magnaghi, 1998).

A territorial definition in a multidimensional sense regains values that weren't considered at all in the economics of full industrial development from 70s to 80s of last century.

In fact at that time industrial economy considered the territory only as nature from which any possible benefit should be extracted in order to gain economic benefits; the term that recurred most often was "exploitation" of resources, which encompassed human resources too, and could be traced back to the political domain, or better could be defined as ideological today.

Therefore the logic underlying industrial development was ultimately targeted for private accumulation of material goods, with the territory being instrumental for reaching such aims. Anyhow the dominant paradigm of traditional economy has proved to be quite insufficient, as it does not keep pace with the dynamics that characterize present day societies.

We think it is necessary to point the attention on productive structure change, that has influenced Italian society in these last decades. In particular, this observation describes the passage from an industrial economics to one based on technical-scientific plan.

Our special interest urges us to question ourselves about the impact of such changes upon local societies, small villages that were not directly involved in industrial production in the past, and we agree with Battisti when he argues: «In the Italian economy, it was precisely the "development model" based upon industrial production and the permanent job that went through a crisis, meaning that: *a*) it is more profitable to organize industrial

production in other countries where rules and regulations are more flexible; *b*) it is more profitable to create jobs where manpower costs less. In such post-industrial countries as Italy, we should talk about scientific and technical planning, rather than product replication, especially when the product can be unique, such as a nuclear particles accelerator» (Battisti, 2007: 32).

Furthermore, as to the dynamics characterizing territorially defined contexts, we may state that, if the economy is seen as being part and parcel of social relations, «even the concepts of place, space and territory cannot be defined on the basis of such individual variables as the geographical, physical or socio-cultural ones, but constitute complex configurations» (Giardiello, 2006: 22).

Hence development is not connected to the meaning assigned to the territory, it is not governed by linear and repetitive processes, but depends upon multiple variables such as the environment characteristics, places and human stratified settlements, relational and communicative modes; in one word it originates from a set of factors that make up the cultural world of a society's local system.

So, territory is defined in order to an economic pattern that depends on variables which, in their whole, constitute the institutional and local cultural world. Moreover new organization forms and plots appear between different factors of development and so it is possible to support, as Giardiello affirms, «1) the institutional vision of the economics as integral part of social structure; 2) the role of cultural factors as explicative variables of economical development; 3) territorial weight in productive processes; 4) the role of primary sociality as field of production of social capital and collective action incubator (entrepreneurial actions); 5) the role of local community as fundamental base for development» (Giardiello, 2006,23).

From the scheme described above it is possible to infer the emergence of the theory of social capital and the definition of the community as a collective actor; it also argues that sustainable development does not spring from economic processes only, but also from institutions or organizations that are functional for the development of the social system.

3. POSTMODERNITY AND GLOBALIZATION

Many researchers on social sciences, faced with these newly-emerging scenarios, argue that our society cannot be defined as an “industrial society” anymore and that, within a “post-industrial” social context that goes along with post-modern culture, the territory is re-discovered as a whole made up of a multiplicity of goods, most of which cannot be identified with material products, since the value of such non-material goods depends upon induced needs that can be met by means of the social relations constituting the human capital that makes the history of a given community.

We believe it is worthwhile stressing again that the meaning assigned to the territory takes on a multi-dimensional value, and we fully agree with Magnaghi's definition stating that the territory is identified as «the historical product of long-standing co-developmental processes between human settlements and the environment, nature and culture, hence as

the outcome of the transformation of the environment by consecutive and stratified civilization cycles» (Magnaghi, 1998: 3).

The territory, as it is defined by postmodern culture, is a whole in which human capital, in its myriad expressions, represents the main and primordial source all other values depend on.

The enhancement of this local social capital has also been made possible by globalization, which, above and beyond the negative effects ascribed to it by some scholars, allows for the first time an exchange of cultures that may be critical for overcoming traditional prejudices. We should interpret from this angle the definition of “socio-cultural dynamics” given by Appadurai, according to which they challenge the predominant models of modern culture that distinguish the centre from the periphery.

Today, therefore, the observatory can't use any of sociological theories which defined societies until 50s and 60s and since 70s information sciences revolution made possible globalization, a phenomenon that involved space and time in a present where center and outskirt and cardinal coordinates represent at the same time observable and different remarks.

This is neither, as many obstinately believe, a phenomenon that will definitely wipe out the autonomy of local communities, nor the triumph of economy that forcedly imposes worldwide homologation.

It is widely acknowledged that developed societies were the ones that enjoyed the economic benefits of globalization because, by means of new technologies, they succeeded in selling their products all over the world by targeted advertising systems and communications.

But in the same way it cannot be denied that globalization can bring enormous advantages to those communities that for centuries remained hidden and far removed from the history of the world, confined to a scarcely visible space and, for many aspects, poorly accessible, coming to the fore only when something sensational occurs. And it is precisely by information technology and the recent communication media and tools, which as a whole constitute the bearing structure of globalization, that we can easily observe many power games.

Contrary to critics' thought, globalization makes visible the local for the world; suburb zone looses its important links with the centre, because of globalization is itself the centre and the suburb. At the same way, “local-global” represents a dual reality ruled by messages, images and information, where the abasement it is not only identifiable to world suburbs, because globalization informs us that costs and rubbishes, coming from great industrial productions of advanced technologically societies, can't put into suburb territories.

In this case globalization can be defined as a “window overlooking the world” or “the world in the window”, meaning that both the centre and the periphery can be observed and distinguished at the same time as development and deterioration, poverty and wealth. The

visibility of the differences that can be observed by the act of perception allows for the first time to point to the many facets that make up the social.

In this way local communities can be revealed to the world, because globalization is precisely the phenomenon that comes into being through a comprehensive multiplicity that turns out to be a differentiated unity.

The meaning of this differentiated unity becomes comprehensible through the alternatives and the myriad expressions of development not necessarily reducible to the stereotyped models of a development that sticks to the recognizable patterns of industrial modernity.

The alternative is represented by immaterial development, which is nevertheless fraught with misunderstandings and not yet clearly defined.

As early as in the 1990'ies Inglehart pointed out that the most conspicuous values underlying changes in post-modern societies were rooted in a post-materialistic culture and could be observed mainly in youth's behaviours in high technological development societies: «The best example that bears witness to the advent of new values is the intergenerational shift from materialistic to post-materialistic value priorities which is apparently occurring in advanced industrial societies (Inglehart, 1971; 1977; 1990); but the advent of new values and lifestyles is affecting many other aspects of life, ranging from sexual behaviour to religion» (Inglehart, 1998: 44).

Sociological observation of this transition from the material to the immaterial tends to play an ambivalent role; in fact one cannot ignore that in technologically advanced societies citizens' life condition is certainly qualitatively different from that of developing societies, but it is also true that within developed societies themselves there are unresolved problems that mirror a contradictory infra-generational condition.

At any rate the reference made to the immaterial takes on the meaning of an emancipation from objects when we use it to point to liberation from material need, to a status in which the resources needed by the individual have already been ensured, therefore it is a status that allows to look up.

Nevertheless, the reference made to this life model alludes to a society that, having solved all the problems related to citizens' primary needs, allows and promotes a kind of training that places greater emphasis on spiritual growth and immaterial aspects.

We should admit that this does not hold good for societies in the world, not even for half of the existing societies; perhaps just one quarter of them allows to experience such a status.

The immaterial, as it was defined by Inglehart, applies only to the culture of a society that «is moving away from standardized functionalism and from the enthusiasm for science and economic growth that prevailed in the industrial society during the era of scarcity, shifting the emphasis back on aesthetic considerations and incorporating elements of the past into a new context» (ibid.: 26).

It is worthwhile stressing again that such a statement only applies to a low percentage of societies in the world, namely those that have been called “the affluent societies”. But in the newly-emerging societies the difference among people can be observed and defined as

a widening gap between a low percentage of rich people, destined to become even richer, and a growing number of poor people, doomed to increase inexorably.

In a society where these differences persist and seem impervious to any intervention, given the predominance of economy over politics, the word immaterial often points to a marginalized condition, mainly experienced by million young people unable to find a permanent, protected and attractive job and forced to erratic and low-paid jobs.

This experience engenders disenchantment in young-adults and a sense of detachment from a society that turns work into a necessary, but not necessarily motivating value. How can this condition be defined? Is it a condition that frees from materiality or allows to get out of precariousness, to get over it?

Actually a distinction must be made between the values of post-modern culture and people's social status; the responsibility for the precarious situation of million youths in the affluent society rests entirely with the political class and the economic system, since they set the standard measuring the maturity and quality of social policies.

The values of post-modern culture can be the finishing line for social policies that, by alleviating widespread social malaise, ensure greater stability and balance to the system.

Some people maintain that modernity has turned professional work into the key factor by which a person is assigned his status, so that his identity can be recognized through it, even at the cost of confining the person to the dimension of his working and professional activity.

On the contrary, post-modernity gives back to man his values and multiple dimensions, releasing him from the dimension that can only or mainly be identified with the working-economic sphere. Once again this condition reflects the possibility to go beyond the one-dimension man (Marcuse is so up-to-date!), that can be achieved only when, having met and fulfilled primary needs, the needs of the person's multiple dimensions of both the mind and the body can be satisfied.

In this respect, we agree with Rita Salvatore who, by interpreting Goldfinger's thought, argues: «That personalization set aside by industrial development comes to be reinstated in a sense. If in the course of industrial development the person was disappearing to give up his place and centrality to the machine and to the product, with the crisis of industry we witness the advent of the immaterial as a means to give voice to the individual and to the image of his own self. It is not a chance that all immaterial artifacts - from image streaming to a set of data, from symbolic objects to a happening, an event - do not cope directly with basic needs, therefore they are not indispensable articles. So their consumption is totally discretionary and driven by demands ranging from the mere desire for an escape to the will to pursue a specific lifestyle. Commodities free themselves from their close tie with materiality and, clothed in forms that convey meanings, turn into signs, employed for the construction of an identity, both of the individual and of the society» (Salvatore, 2007: 88).

From the viewpoint of economic science, a transformation seems to arise that defines the present social phase as post-industrial, meaning that the predominant culture points towards immaterial consumption patterns. For many social scientists it appears obvious

that post-modern culture restores the person back to his full multi-dimensional nature, recovering dignity and autonomy in their connection to a context that has reached its present state through changes and discontinuities marking the shift from mere subsistence, typical of agrarian societies, to the affluence of opulent societies.

«Post-modern values - writes Inglehart - are the outcome of the unprecedented mass prosperity of advanced industrial societies, in which for the first time ever in history large segments of the population took their survival for granted. These contrasting value systems branch out into politics, economics, sexual and family norms and religion» (Inglehart, 1998: 67).

The shift from modern to post-modern values is eroding, according to Inglehart, many strategic hubs of the industrial society, with repercussions on politics, sexuality and values. As a result of these changes, it becomes possible, by the observation of youth behaviours in contemporary societies carried out by social scientists, to define the cultural domain as post-modern because, regardless of their existential situation, young people bear values oriented towards quality life and multiple experiences that deserve to be lived.

4. GLOBALIZATION AND LOCAL CONTEXTS

In previous paragraphs we have outlined some components of post-modern culture to the sole aim of detecting observable differences vis-à-vis the complex system of modern society. The reference we made to some researchers just gives a faint idea of the vast literature that has been analyzing for some decades the social world through the changes and transformations emerging in the social scenario.

In many parts of this work we have showed processes characterizing local communities set free, through the use of new technologies, from homogeneous and sanctioning patterns of decision-making centres.

Furthermore we have showed how the local can assume its own visibility not necessarily in an “accessoriability” sense towards the centre, it can communicate stories and values of qualitative importance that can be useful to life of the centre.

This is really a novelty because, as Salvatore wrote, «thinking over the local does not mean to remain confined to the micro-dimension (an approach that would inevitably lead to change observed reality into one more “ism”), but must become a stimulus to “go global mentally”. As a matter of fact, the formulation of concepts related to the new approaches to the local must necessarily be referred to the macro-level theories» (ibid.: 86).

It is an interaction among actors who, albeit with different roles, play their part in a meaningful way on the stage of symbolic representations, without any predominance, rather mutually respecting their actions and competences.

Local development can be represented in this way, «seen as a dynamic process, in which the system opens and closes recurrently, thus re-interpreting and ritualizing tradition in innovative and original ways» (Giardiello, cit 73).

Arguing that the system opens and closes is meant to allude to the fact that each social system holds a capital of diverse and different resources that represent the structure of the

territory and distinguish the territory from social environment seen as a whole.

At the same time the territory opens up to other social contexts via communications that bear the signs of its origin and at the same time are different from other realities it gets in touch with.

This possibility to interact closes and opens the system and exposes it to the world, thus allowing it to capture the world itself. It is only through the lens of this dynamism that we can realize the way in which systems evolve, by initiating, changing and renewing within themselves the communications by which social systems reproduce themselves (Luhmann and De Giorgi, 1992; Maturana, 1993; Morin, 1983)²⁶.

If the basis of the reproduction of the society-system rests upon the structural and functional organization of communication, then the different social systems can be distinguished through communications that convey, describe and define differences by means of targeted observations.

This is a particularly significant aspect, as it opens up many perspectives, like that of considering each system as autonomous vis-à-vis the environment, which may already imply the loss of the center-periphery framework of reference, but can even determine changes at the economic and productive level by overturning or upsetting productive systems, by changing the time-space coordinates on which industrial societies development was focussed.

Finally we discover that the whole development of these societies rested upon a model that arranged within a time pattern the productive activity of enterprises, involving in these dynamics the organization of families' life and of society as a whole.

Following this model, it was possible to indicate the centre and the periphery, to enhance the centre decisions that also governed the life of peripheries.

Post-industrial society, by means of new technologies, discovers new labour markets and the possibility to relocate to other parts of the planet the new factories that are more cost-effective. This free choice in localization frees many local settings that can judge the sustainability of a development congruous with territorial resources, by which we mean that whole made up of values, territorial identity, local culture and governance.

In the same way, just because production processes do not cluster in places and spaces useful for economic development only, each and every territory can fully enhance its

²⁶ At the level of social theory, recent studies and research have shown that sociology must overcome the obstacles that have limited its theoretical capacity, preventing it from building a new paradigm apt to define its own capacity to produce communication within its own field and to describe its own operative space too, within and without its boundaries. In this sense we can share Luhmann's theoretical explanation of the science that studies social systems stating that "each system depends upon self-organization" and that "its own structures can be built and transformed only by its own operations", and then, and we quote again, «we may say that evolution almost necessarily leads systems to close, which in its turn contributes to establishing a general order in front of which operative closure and self-organization confirm their effectiveness». This means for Luhmann that «society is a closed communication system. It produces communication by means of communication» (Luhmann, 1992: 31, 32).

resources by implementing an integrated development model, embracing all its components.

In developed societies such components often constitute social capital, that involves human capital which, defined as resource, involves all the others, give them value. According to Putnam (1993), social capital constitutes a whole made up of norms, mutual trust, sense of belonging, civic advocacy, that all together build a common good conducive to the sense of solidarity among actors through which a more active and participatory citizenship can be achieved by society.

Paola Di Nicola (2006) writes: «Social capital is the product of social relations that offer advantages to the social actor, always within a regulatory and value context shared by a wider society; social capital is the product of social relations based on solidarity and reciprocity, deeply rooted in trust, meant as a system of expectations for regularity, continuity and stability of institutions, norms and roles and as expectations for cooperative and non-conflictual behaviours».

From the plot between territorial intelligence and human capital it is possible look at sustainable development of a territory in a global sense, as growth, that is, not only in its economic aspect, but as capital whom value is defined by ruling cultural system.

The territory, as it is defined by the configuration shaped by social sciences, cannot be represented anymore as being impervious to the challenge of time, sealed off in a decline that gradually eats up its history, totally annihilating itself.

Contrary to conventional wisdom, some sociological studies that have been recently completed have shown that in some Southern Italy territories a rebirth and a renovated sense of identity are emerging through the rediscovery of one's own roots, that are enhanced in the face of future challenges.

Such possibilities are verifiable, as we have stressed several times in this paper, in the communication society that allows interaction between the local and the global via the new technologies, while helping the local to preserve, foster and promote the development of its own resources that make it different from the other social realities.

Territorial intelligence role is called to push territorial development towards resources valorisation, the same resources through that the territory recognises itself, as well as, through the same resources, it is recognised and represented in other social realities. This possibility to come under the eyes of the world through communications that disseminate information about one's own original vocations can be enjoyed, for instance, in many cases to promote and advertise on a large scale local food tourism or a commodity market that constitute the assets of that territory.

Innovation is experienced while preserving continuity and enhancing existent resources that can be detected as an engine for development, yielding benefits for the community: innovation forms a continuum with the community history that keeps its roots as a distinctive identification mark that can keep off the danger of estrangement seen as an identity crisis.

In the same way, it was possible to check whether the function of tradition had stood in the way of the development models needed by a community that wants to reproduce itself by recovering the necessary resources for improving its own life standards.

We are not trying to bring back to life past theories based on the distinction between community and society, as such a distinction has no *raison d'être* anymore; in fact the community cannot be represented now in the classical way as being exclusively linked to its origin, without taking a look around; it cannot look ahead into its own future without establishing relations with other territorial realities.

The understanding of differences and diversities can spark off enriching interactive processes among all the components at play and the enhancement of such differences can produce a kind of knowledge that becomes a way to recognize one's own resources and origins. This means somehow to promote a certain kind of development among all those that can be achieved in the society and the multiple choices available are just what turns a territory into a differentiated unity that recognizes itself because it differs from multiplicity.

Governance of a territory, which aims to realize a full development of its available resources to promote an operative space, has completely modified its traditional arrangements thanks to new technologies.

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“Territorial Competitiveness and the Human Factors”

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Abstract: To approach the notion of competitiveness from a regional perspective has become productive in many ways recently. On the one hand, as a consequence of developing in a globalized environment, it has become necessary for theories relating to the region to introduce an umbrella term, and on the other hand, the previous use of the term on the macro- and micro-level lacked the intermediary level that, as a localised level, could refer to an economic field for developments and investments.

INTRODUCTION

To approach the notion of competitiveness from a regional perspective has become productive in many ways recently. On the one hand, as a consequence of developing in a globalized environment, it has become necessary for theories relating to the region to introduce an umbrella term, and on the other hand, the previous use of the term on the macro- and micro-level lacked the intermediary level that, as a localised level, could refer to an economic field for developments and investments.

COMPETITION, PRODUCTIVITY, COMPETITIVENESS – DEFINITIONS

The notion of *competition* has been defined by many in many ways. According to one of the most comprehensive approaches, competition is an activity where two or more players strive to gain advantage over one another within set rules.

Productivity means efficient use of all the available resources.

Competitiveness means acquiring and retaining position in the market, increasing market share and profitability and being commercially successful.

REGIONAL COMPETITIVENESS

Similarly to competition in the market of products, where specific product features are compared, regional competitiveness cannot be interpreted as a competition of the regions as such, rather, as a competition based on the comparison of certain regional conditions and segments. Naturally, these segments with all their positive and negative qualities make up the region, which is by no means homogeneous.

When examining the goal and object of competition, we can mention functions, institutions, investments, infrastructural developments, social, cultural, sport and other events or other factors with limited availability (such as resources for the development, information, valuable workforce), which all relate to the aim of reaching some more favourable position.

To distinguish between the supply and demand sides of regional competition, we can say that on the demand side there are the regions' goals, on the supply side there are the regions' conditions, and these two determine the produced goods and the standards of living through the general competitive position of the areas.

Regional competitiveness differs from company competitiveness, and accordingly we can make a distinction between two points of views. On the one hand, we can analyze the competitiveness of given regions by interpreting the regions as integral wholes. On the other hand, we can use the lower level of company competition as a starting point and examine what factors and conditions bring competitive advantage to a given region. In our studies we use this latter approach as a guiding line.

To be able to interpret the notions of competition and competitiveness on a regional level, we need to extend a micro-level approach to a macro and global level. Global competitiveness can be approached from various standpoints. We aim to integrate these

approaches and develop the definition of „territorial intelligence” relying upon these findings.

Naturally, a variety of changes in other conditions, such as unpredictability of economic environment, intensifying competition among companies, changes in company organisation or the process of social and political transformation, may also have contributed to the intensification of competition among regions.

Factors in regional competitiveness for an economic perspective:

- based on the total sum of adaptive skills of companies operating in the region (“practical” approach)
- based on the economic basis and economic environment (capital and labour market, quality of inputs, infrastructure) provided by the region for its dominant companies. (“environmental/system” approach)
- and based on the capacity of the region to attract investments, its accumulation of human and physical resources (the approach of “capital development”)

Various documents of the European Union attempt to specify the factors determining the competitiveness of a region with different degrees of elaboration. By looking at some of the documents it becomes evident that the idea of competitiveness has a key role in economic and social cohesion, in economic growth, in employment, that is, in the successful operation of the single market, not forgetting environmental protection and conservation either.

A more balanced competitiveness of the European area is one of the three main objectives defined by the *European Spatial Development Perspective*, besides economic and social cohesion and conservation of natural resources and cultural heritage. (EC 1999)

The *Sixth Periodic Report on the Social and Economic Situation and Development of Regions in the European Union* also deals with the notion of competitiveness, defining it as “the ability of companies, industries, regions, nations and supranational regions to generate, while being exposed to international competition, relatively high income and employment levels” (EC 1999, 75 pp.)

According to the sixth regional report, the main determinants influencing the competitiveness of regions are the following:

- research and technological development
- small and medium-sized enterprises
- direct foreign capital investments
- infrastructure and human capital
- institutions and social capital

The sixth regional report also includes the principal factors that usually characterize successful regions, namely, high rate of employment in business services and in the

processing industry, the extent of innovative activities, favourable conditions of regional accessibility, skills of the workforce and a high proportion of university/college graduates.

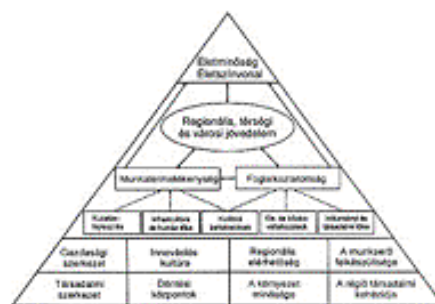
Broadening the notion of competitiveness, *successfulness* can also be a useful term in characterising regions.

Specifically, the presence of the following factors can make a region successful:

- the capacity for economic structural change, especially the emergence of value-adding industries with multiplicative effect
- high proportion of value-generating service sector (business services, research and development, higher education, culture)
- typically knowledge-based production
- strong innovative skills
- the decision-making takes place in the successful region
- a strong and thriving middle class
- valuable settlement environment, an urban policy of high standards, and the availability of good quality public utilities and municipal services
- successful conflict management
- significant external (international) relations, integration into the system of towns and relations of an international region
- increasing income and employment

Using the determining factors of the sixth regional report and incorporating the above-mentioned points about the successfulness of towns and regions, we get a “*pyramid-model*”

1. figure: Pyramid modell



1. ábra: A versenyképességet meghatározó jellemzők „piramis-modellje”
Forrás: Lengyel-Eckstein, 1993, 137-139.

The social and economic factors essential for long-term successfulness form the base of the model, the determining factors are in the middle and the ultimate goal of higher standards of living and better quality of life for the population of the region is at the top.

- *Economic structure*: in successful regions most of the people employed work in business services and the processing industry, which are characterised by high added value, intensive multiplicative effects and great flexibility.
- *Innovation culture*: successful regions are characterised by extensive innovative activities, the effective diffusion of innovation, a large number of patents. It should manifest itself not only in research and development institutions and universities; adequate business capacities and well-prepared, innovative small and medium-sized enterprises are equally important.
- *Regional accessibility*: successful regions are easy to access, with convenient transport connections and geographical location. Supplemented by the transport and communications infrastructure, these form an integral whole.
- *Skills of workforce*: in successful regions the proportion of qualified labour within the workforce is relatively high, which obviously requires an effective education system focussing on the actual demands of the labour market.
- *Social structure*: in successful regions a strong and thriving middle class emerges, which helps the region develop by virtue of its discerning demand and higher income.
- *Centres of decision*: successful regions are the regional bases of companies, they are units that undertake important activities of the enterprises operating there, and have decision-making competencies. New, innovative, strategic units are typically developed in the region or town where the company headquarters are found.
- *Quality of the environment*: successful regions possess high-standard settlement environment (public safety, pleasing urban architecture, good quality accommodation, efficient public transport etc.) and healthy natural environment.
- *Social cohesion of the region*: successful regions have an ability to manage conflicts, no matter whether they arise from economic structural change, dynamic economic growth or from inequalities among areas or communities within the region. The municipalities aim at cooperation and regional identity and local pride become stronger.

The indirect factors can be divided into two groups, one including those that determine short-term economic output (economic structure, innovation culture, regional accessibility, skills of work force) and the other including those that show their influence only in the long run (social structure, centres of decision, quality of environment, social cohesion of the region).

Following a different classification, we can put the indirect factors of the pyramid into five groups:

- a group of socio-economic activity (which includes the factors best expressing the economy and income potential of town): economic aspect, regional accessibility,
- a group of functional and organisational innovation: innovation culture,

- a group referring to employment, intellectual resources and skills of the work force: skills of work force,
- a group relating to demographic factors and to the traditional and new functions of centres: centres of decision, social structure, social cohesion,
- and treating quality of environment as a separate category, as it does not fit into any of the previous groups clearly.

Regional competition can be seen as a process in which certain groups try to influence the development of regional or local economy through local policies, in explicit or often implicit ways, in competition with other regions. Consequently, competitiveness of a region is made up of several components, which can be described with various indicators.

MEASURING REGIONAL COMPETITIVENESS

Quantitative measurement

In the most recent EU reports on cohesion and competitiveness, the drafters of the documents clearly opted for the *standard definition of competitiveness*. It has become evident that improving quality of life and increasing standards of living is the ultimate goal of Union and national interventions to promote competitiveness. That explains the position of this category at the top of the *pyramid-model* widely used in studies of competitiveness.

Regional income affects quality of life most directly, and this is the indicator generally used to measure regional competitiveness, so it is placed in the middle of the model, while we must accept that a variety of factors have an influence on the value of this indicator.

Competitiveness can be defined in several ways. As indicated previously, per capita GDP is the generally accepted and used indicator of regional competitiveness. This indicator can be broken down into further components.

In the latest EU report on competitiveness the following index factors were used

- Work productivity: GDP per one working hour.
- Choice between work/leisure: completed hours of work per employee.
- Rate of employment: the rate of people in employment within the working-age population.
- Demographic factor: the rate of working-age people within the whole population.

By breaking down per capita GDP into index factors, we reach the following formula.

$$\text{GDP/Working hours} = \text{Working hours/number of the employed} \times \text{GDP/Working-age population} \times \text{Working age population/Population}.$$

Qualitative measurement

In this approach indicators influencing competitiveness of human resources are included.

- the education level of the areas' population

- the supply and quality of institutions for human resource development in the area
- research activity
- access to cultural services and the nature of consumer habits
- quality of social care and services
- level of healthcare and its infrastructure
- quality of recreational facilities

TREND OF HUMAN RESOURCE-SURVEY IN HUNGARY

Human environmental

The definition of household: The living (dwelling) unit is the basic unit of survey or rather the non-institutional household found there. Household is the community of people sharing their living expenses partly or in gross together so the members of the same community considering income and consumption.

Those people belong to the members of a household, who live in the flat by their lifestyles on the regarded week and so those people, who:

- were away through holiday, visit or hospitalization on the regarded week
- work abroad or at another place but when coming home time to time they add their wages into the income of the household.
- are scholars living elsewhere (sublet, dormitory, at relatives) and getting their supplies primarily from the household, which provides data.
- are dependents with contract living with the household
- are tended by the state living with the household

Definitions of labour-survey

Economic activity: The population between the ages of 15-74 can be divided into two groups according to their activities on the regarded week:

- economically active population (available labour or labour supply)
- economically not active (inactive) population

Economically active population: The part of population that shows up as employee or place-hunter at the labour market, they belong to occupational or unemployed ones.

Economically inactive population: Those who do not belong neither to occupational nor unemployed.

Employment: Following the international recommendations by the trend of the labour-survey those can be considered as occupational who worked at least one hour on the

regarded week that guaranteed income or those who were just temporarily out of their regular work.

The reason of the one-hour criterion's usage:

- all the existing types of employment in a given country can be considered
- at the determination of a nationwide-level labour demand or the analysis that requires measuring the usage of the work quantity (competitiveness, productiveness) the connection can be created between the given value and the amount of work used (effectively achieved hours of work)
- unemployment can be defined by the full lack of having a job

Definition of income guaranteed by work: Work can be done by employee, joint venture or as a member of a co-operation, as casual or seasonal labourer, as private entrepreneur, outside worker, as a helping relative on a farm belonging to the household, or by an activity done in an enterprise, working with a contract of authorization or by an oral agreement.

At work that provides income, income can be:

- money income, wage, or profit resultant from an enterprise, independently from whether it has been realized immediately after doing the work or a bit later
- wage or premium in kind
- quota from the income of the farm belonging to the household, enterprise through doing work as a helping relative

Those who get anything from the list are qualified occupational, as well as independents who do an activity in the hope of profit from the enterprise.

Works that are not counted to insure income: (earning activities): any free help for anybody else's household or institutions, public work, work that is in relation with building an own house, flat, its renovations, or reparations, work done through scholar training.

Temporary absence from work: The group of occupational include those people who were temporarily absent from work at the regarded period. Temporary character means that a labourer has a job that has been started and not finished yet, but after the regarded week, he/she will return there.

Working hours: The definition of the regular (according to work order) working hours usually refers to the working hours of a whole week. Regular work time at an employee is the number of hours that is included in the contract for work and at an independent it is as much as needed for finishing work and to continue business. At an unbounded work time or seasonal labourer when their working hours is too fluctuating the answer: "too various" can be coded. At some professions on date(s) of readiness the regular working hours are significant.

Definition of unemployment: International recommendations say: unemployment can be declared when 3 criteria are coming true. Accordingly those people are unemployed

- did not work on the regarded week and do not have any job from where he/she was temporarily absent
- were seeking a job for four weeks before the regarded week
- could put on a job in two weeks time if the suitable work is found (availability)

There's a special group of unemployed people who weren't working on the regarded week but had already found a job that has to be started at last in 90 days (until 2000 – in 30 days)

Criterion of active place-hunting: Criterion of active place-hunting means, that the asked person made steps towards finding a job as an employee or to start a business on his own four weeks before the interrogation.

Active place-hunting is when the asked person:

- went in for a job at the Regional Labour Centre or at a private registry office
- got in contact with employers directly
- advertised or answered an advertisement
- read an advertisement
- made inquiries about a job at relatives or friends
- acquisition of the permissions and financial sources for private business

Durative unemployed people: Durative unemployment can be defined by the length of joblessness.

Economically not active population: The major part of population is made up from people who cannot or do not want to enter employment. They are not the members of labour-supply, not performed on the labour-market.

Passive unemployment: Looking at the situation of this special group (in the recommendations of ILO: "*discouraged workers*") it stands really close to unemployment. In overall they can be described being absent from labour market because of their compelling surroundings.

The basic showings of labour market balance:

- Unemployment rate: the ratio of unemployed people within economically active population.
- Durative unemployment rate: the ratio of durative (12 months or more) unemployment within total joblessness.
- Rate of economic activity: the rate of the sum of occupational and unemployed people within population.
- Employment ratio: the rate of employed people within population.

Main components of survey and questionnaire

3 important facts were considered during making the questionnaire:

- comparability (same content should be produced from which there is a longer period)
- demands of hungarian users
- recommendation of EUROSTADT, ILO and rules

1. General informations

Information gained by the questionnaire about total population of territory living in private households.

- day, month and year of birth
- place of birth
- if it is not Hungary the residency
- nationality
- sex marital status
- the head of household and the relation with him/her
- place of residency 1 year ago
- county of Hungary
- highest scholar qualification: **ISCED '99(Fields of education and training)**
- nivel
- speciality
- date of it
- social incoming
- maternity benefit/aid
- pension
- disability pension
- joint and survivor annuity
- orphan benefit
- medical attendance benefit

15-74 years old population

- Did he/she work the last week?
- If not: Has he/she job?
- Is he/she a registered unemployment?

If yes: Has got he/she attendance

- Had he/she job 1 year ago?
- Did he/she participate in education or training in last 4 weeks?

If yes: nivel of education

2. The factor of labour activity

Activity (active/inactive)

Employees

- Working time(full time or part time)
- Working time system of the last 4 weeks
- Sideline (yes or not)
- Parameter of working place
- Profession
- Scope of activities
- Employment status
- Kind of contract for work
- Wage employee

Unemployed (who search job)

- Cause of looking for job
- Previous activity
- Method of searching
- Type of request job

Unemployed (who not search job)

- Why does not he/she search job?
- Does want he/she work?
- Did he/she work beforehand?

Employee status:

International Classification of Status in Employment 1999

3.Territorial research activity

- Number of research institutes on the territorial unit
- Impact factors and degree of researchers
- Number of scientific projects issue in a year
- Number of international scientific projects issue in a year

4. Accessibility of human resource development institutes

- Number of elementary schools
- Number of high schools
- Number of faculties of university or college
- Availability of vocational education
- Lifelong learning policy on territorial unit

5. Accessibility of cultural services

- Institutes
- Specialists and animators
- Non-governmental Organisations

6. Social and well being network of territory

- Institutes
- Benefit system
- Health system
- Recreation availability

CONCLUSION

The successful and competitiveness regions have the high rate of qualify labour in the group of able to works. The education system is efficient because on the one part it fits for the creative and innovative activities the younges, on the other hand it follows the demand of labour market in flexibility. The successful and competitiveness regions have the nivel of knowledge base level and the labour culture, in additional the labor forces able to adapt pliantly to changes (in trainings and courses the active labor force retrainable), ambitious with their environment.

In successful and competitiveness regions the new economic structure the knowledge base economical activities and the recovery of economic services enhance the social cohesion. Unschoolds are crowded out from labour market and the local society polarizes. The active gentility animates the regional development with utilize of higher incoming.

To sum up we can enhance the regional development with complex human resource survey. We can open up the social disadvantages in additional can find solution to this problem if we can survey the complex problems.

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***“The Dynamics of a Territory: the Main Actors of Sustainable Development
in the Irno Valley”***

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Abstract: The Territorial Intelligence must involvement of local actors by means of guidelines for territorial development is crucial. The territorial planning must take on board the civil society in this process. The territory constitutes the space where action can be taken to implement development projects and to strike a balance among economic, social, cultural and scientific objectives. The transformation of a local system and its future prospects have to consider local specificities and local system identity, that permits to perceive community problems and find helpful solution possibilities. Identity anyway, have to look at and consider the external world if it doesn't want to fall down in parochialism. All these factors are crucial to detect a development pattern rooted in territory, so that they are not only the result of external decisional processes in which the community has a purely passive role.

1. INTRODUCTION

The matter of local development in Italy is become very important between the end of 70s and the beginnings of 80s when there was a different economic development in outskirts in comparison to the past (Bagnasco, 1977; Garofoli, 1978, Fuà e Zacchia, 1983).

The attention was mainly to the contexts where economic organization new patterns were developed, such as small enterprises that, and this is the new fact, was situated in rural contexts or in small areas; this trend was widespread in Central and South Italy. So, the territory becomes the place where Knowledge and devices of social interaction are produced, they are based on interpersonal relations networks, values, trust and fair-trading, that is on social capital. The attention is mainly focused on society-economy-territory relation, that is on the relations between enterprises economic sphere, social one that concerns the conditions set by the structure and the social cohesion and institutional governance sphere.

In the course of years, analytic elaboration have enriched the debate (Garofali, 1992) about the development patterns differentiation and the common elements in different local patterns. Endogenous development coincides with territory exploitation, giving a great importance to social capital.

A similar pattern warrants autonomy to territory transformation local process underlining the centrality of local social actors decisional process and their capacity to manage external knowledge and information, transforming them in internal ones.

Such transformation process is based on the production of social capability at community and institutions level that work in local field (Garofali, 1991).

An endogenous development of a setting doesn't mean a closure on itself as if the auto referentiality were sufficient for system life; endogenous development capacity gives to the context a recognition by social environment about products validity.

System auto-reflection capacity is also seen like a precaution as concern the external challenge that is observed through territorial intelligence.

2 TERRITORY, ACTORS AND LOCAL DEVELOPMENT

Territory and actors must carry out an active role in the local development, but also in relating it with the global one.

The Territorial Intelligence can also be fostered by joint research activity and local initiative. The involvement of local actors by means of guidelines for territorial development is crucial. The territorial planning must take on board the civil society in this process. The territory constitutes the space where action can be taken to implement development projects and to strike a balance among economic, social, cultural and scientific objectives.

The notion of territory can be interpreted in many different ways; it can be viewed as a physical space which is a geographically defined place, or as a symbolic space in which men shape their social relations and representations. Nevertheless the territory structure is

made of cultural, economic and social networks through which men establish their public and private relations, thus building their identity.

Therefore territorial governance is committed to responsible behaviour, which means devising development strategies aimed at balanced relations among territorial stakeholders.

The principle of responsibility that must be pursued by territorial governance is closely connected to the sustainable development of the territory itself. The territory is spurred to foster and build relations in order to promote interactive communication ways and means, favouring collaboration, participation and communication.

This paper takes this perspective, as it focuses on the Irno Valley, a territory that, due to its configuration, holds huge potentials that were not sufficiently enhanced by territorial governance. In the 70'ies plans were made that were fully implemented in the 80'ies.

The University of Salerno develops theories and tools to understand the territory, which is fundamental, but it is necessary to assess development potentials and limitations as they have changed starting from the 80'ies, when the campus moved from the city of Salerno to Fisciano. A new actor came to the fore bringing know-how and knowledge, but also raising potential rivalry at the political and cultural level.

Such a territory as the Fisciano territory (about 15000 inhabitants), where agriculture predominates, followed also by trade and craftsmanship, suddenly becomes at the same time the object and the subject of a sustainable development that deviates from its previous course. Faced with such a sudden and sweeping change, how will this territory respond? No doubt it will take up a defensive position, hardly understanding the perspectives for development available to it. And what is the final balance after twenty years?

We wish to probe into the changes occurred in the territory in less than twenty years, with special regard to the multiple forms taken by political, economic, social and cultural organizations in the territory that transformed their original set-up on the one hand, but opened up new perspectives more congruous with territorial needs on the other hand.

The methodology follows theoretical indications by a rigorous analysis of the actors leading the change, focussed observation tends mainly to capture the way in which social relations multiplied and developed their peculiar characteristics.

The Economic and social development always results a combination between different factors and actors. In a contest of territorial governance, originate the necessity of cooperation between the actors and the ability to acquire knowledges and competences.

To know a territory require the collaboration of expert and actors and when the scientific aspect reconcile itself with the concrete aspect of the structure can act on a concrete problem of the territory.

University/territory's relationship (Fisciano) is a very similar relationship to that auspicious; there is the presence of an agency legitimated to the knowledge that works and operates with own instruments on the territory.

It deals with a formally organized territory in the mean that has all the necessary elements to a good operation. Territorial intelligence is a social construction that depends of the

participation and from the public and private actors's will. According to Girardot is however necessary the active participation of all protagonist actors of the development, above all the citizens.

Is it a real or apparent development? Do the parts include the mutual opportunities? Does the athenaeum participate in the territory or it pursue the personal aspirations of internationalization.

You take the risk that an high potential of development for the territory set up itself majestic and impetuous as a medieval castle surrounded by a full moat of water unproved of bridges that consent to reach it.

What doesn't function in this process? It would be wrong to affirm there is not any feed back for the territory, but there are just a few respect of the potentialities especially if you compare that development with that of the neighboring municipality and not directly concernly in such process. Our hypothesis is that in the truth there is a will to protect and keep on independent own territory without confusing it with athenaeum. To consolidate own tradition beyond the future possibility.

An example in this mean can be represented by a particular event: the built of a kindergarten, that the university wants built inside own space and to make it personal, the municipality wants to build out it instead. (Kept in mind that speaks of meters of distance and not km).In many case it concerns only political managements.

Territory development process has to consider, beyond its own citizens, of a great number of actors who aspire to be co-protagonists of these transformations, from entrepreneurs to trade unions organizations, public companies, from University to Local Health Companies, and among these actors we find, more strengthen than in the past, new actors as cultural and no-profit associations. They have a strong capacity of action and pressure because they are specific interests delegates.

The involvement of all actors is necessary both to find economic resources which are added to those available, and to define social equity parameters that risk to be swept away by complex programs.

Economists use to distinguish between the stakeholders those who have got local interests, that is those who live territory as residents or as person who acts in social, economic, and cultural activities and the stockholders who have got capitals, they can invest in that territory as wherever they find convenience.

It can happen that the interests of parts are opposite and this happens above all when interests appear completely different, when the stockholders, for example, and local complying administrations, give importance to profits, to the detriment of inhabitants and environmental quality. In this case is necessary to bargain, negotiate, participate.

We have a lot of examples similar to this above in urban re qualification programs, urban recovery ones, territorial pacts, area contracts, in which bargain aspect among involved subjects assumes an important position. Social representance of local interests holders is entrusted to Trade Union Organizations (ex. for territorial pacts and area contracts concerned to waning industrial zones)or to citizens spontaneous organizations (suburbs

committees, no-profit associations) ad hoc which have as main fine to promote or contrast a development program.

In these cases we assist to a sort of territorial auto regulation; the common interests of the parts permit to draw a subjectively sub sustainable development scenary, that comes from a projectual participation work.

The fact to remain, in Public Administrations field, in managerial and/or bureaucratic method in developing practices of private subjects projectual competitions, didn't always permit to the plan to obtain positive and satisfactory results; in this way we favour projects that haven't well-defined strategies concerning that territory, possible synergies, sectorial integrations, social effects.

It is widely demonstrated that an approach to non-inclusive territorial development, that cuts off part of stakeholders and in particular those subjects who seem apparently weaker, produces negative results for promoters. One-sided decisions by institutions revealed themselves failure, both because they create hostile forms among the parts, fortifying in citizens the inkling that such decisions made without their participation among power parts worsen the actual conditions, and because the path is longer than if we use an inclusive and consensual approach.

Local development programs should be faced not only worrying to reduce citizens opposition factors, but they should be made starting from the bottom that is with the participation of all people who live there, give value to their different territorial knowledge. In this way we can join in a creative manner the past, the present and the future of territory, drawing out historical memory of places, promoting new projects in environmental vocation development field and in place social tradition, pointing up communitarian values.

It is clear that all local development patterns are different as concern their capabilities; different is the way to give value to local resources, different the role of local actors as well as the devised strategies.

So, it is impossible to develop good patterns in every environment and territory, but it is necessary to make specific projects that involve from one side territorial system and on the other one local community. A similar approach underlines the importance of local actors responsibility.

The transformation of a local system and its future prospects have to consider local specificities and local system identity, that permits to perceive community problems and find helpful solution possibilities. Identity anyway, have to look at and consider the external world if it doesn't want to fall down in parochialism.

All these factors are crucial to detect a development pattern rooted in territory, so that they are not only the result of external decisional processes in which the community has a purely passive role.

Mens adapt themselves at the surrounding environment through the social organization's mechanism, they organize own daily activities, their relationship, their report with the institutions, in short own social economic and politics activities to conform themselves to

the territory on which they reside and establishing particular forms of community.

The relationship between territory of affiliation and individual doesn't result so equilibrated; the subject in fact looks at the territory as to an element from which to make profit and maintenance through the cultivations, the use of water and geologic resources.

In short the man continues in the incessant exploitation of the territory, determining and operating at time irreversible changes of which he isn't able to foresee the results. Such relationship change itself when it occurs a natural disaster of ample dimensions as an earthquake or seaquake, that reorganizes the relationship and the reequilibrate this time for the environment²⁷.

People speak to this case of betrayal of the territory, the territory appears as it hadn't done before ever, hostile to the man, as if it reacted to the surprise until then passively suffered. Therefore change the collective perception of the territory and people take action that the counterpart isn't the weakest in this relationship. The reference to the territory is not therefore only geographical, but also symbolic.

The spatial references constitute a fundamental component for the individual identity but above all for that collective; it increases the tendency to study the social phenomena on the grounds of their location on the territory.

²⁷ The first reaction in front of these risks is that of the indifference. People are aware, that today many risks are diffused and they do by now part of the social foundation. Besides, around to every risk a controversy originates around its probability to come true itself. The risk by itself is not a new datum of the social life. But there is the appearance of new forms of risk, that they leave aside from the choice aware of the single one. They are phenomena, these, not easily perceivable, that are the result of a contest of different causes. Today the risks, according to Beck, have reached such a dimension to behave the show of a new logic that finds itself upon the interest of every to minimize own exposure to the environmental risks. The society of the risk differentiates itself from that preceding based on the problem of the distribution of the wealth; there is a new problem of distribution and social inequalities, but these concern the risks. In the society of the risk it is the knowledge of the expert that defines the nature of the dangers and it fixes the thresholds of tolerance. The increase of safety question towards the science and of the technique originates from the impossibility of the experience of the single one. But also these last, nevertheless, doesn't succeed in satisfying this demand. They, in fact, determines some thresholds of toxicity as in the case of the experiments for the toxin, more and more deepened, but they never can come to estimate the toxicity keeping in mind of all poisons to which us every day we are submitted. They in reality develops a social function of "symbolic disintoxication." That's why we cannot found the acceptability of the risks on the absence of the experience of the experts. Today the citizens don't accept more uncritically the judgment of the expert, considering that there is a sort of battle among the experts themselves, they are not sources of reassurance anymore. Then the society of the risk not only produces risks, but it also has a low degree of acceptability of the social risk and the scientific rationality. The scientific systems have also lost credibility following the different quality of the risks. Another dimension of the risk is tied up to cultural and biographical social transformations of the actors. The risk is also consequence of the crisis of the inside systems that have to assure and to reproduce in the traditional forms the world of the life, the formation of the identity. Beck includes the phenomenology of the risks and the personal insecurities under the index book of the individual subject, facing a theme that the classical ones of the sociology as Marx, Durkeim, Weber, Simmel had faced if also in different forms. Nevertheless Beck doesn't take as background the passage from the traditional societies to the modern societies, but also the same capitalistic society as tradition, whose cultural details of reference set out to the erosion. He is not the only one that this tendency diagnoses to identify, as a result of the liberation from ties of class and class, other authors have done /it (Lasch, Walzer).

For this reason the role of the territory and the function that it covers in the local development become object of the political debate. In Italy the different articulations on the territory have constituted motive for contrast, for example the north and the south or to the national and local context. Italian tradition is characterized by important trials; a plurality of historical traditions to urban level, the national unification and the differentiation socio-economic among north and south that are translated in the time in tendencies to the alternated to strong pushes toward the nationalism. To these stories tightly circumscribed to the national circle today another trial added some institution of the European union.

The place and the global one, deduce Robertson, are not excluded; contrarily the place has to be inclusive as an aspect of the global one. Globalization also means unite themselves, to meet themselves mutual of local cultures, that must be redefine in their contest, fir this Robertson proposes to replace the fundamental concept of cultural globalization with *glocalization*, a fusion among “globalization” and “location”. The universalization and the unification on it climbs word of institutions symbols and styles of behavior and the exploitation and the rediscovery of cultures and the local identities don ‘t constitute a contradiction (Beck 1999).

The place or rather the territory can be protagonist and artificer of its own development, nevertheless it doesn’t have to lose sight of the importance of the role that many other factors develop that compete to realize this trial. In the case that we talking about the university installation becomes the key element around which all the others rotate, equally appreciable and essential to the good course and the realization of the project.

3 THE PLAN INTERCITY REGULATOR

The new university installation in 1971, has been to the centre of a power and ample debate among those people who proposed to install it in the city of Salerno and those people that instead looked out upon the realization of it along the Salerno Avellino axle. The location of the new center was definete for the Irno’s Valley. The University area was more precisely, select inside of Fisciano and Baronissi municipality territories, a surface of notable dimensions (around 700 hectares) primarily to agricultural vocation.

The debate on the University, at the end of of the seventies grafted itself in the most general southern matter, on the idea that is that, for raise the fates of Mezzogiorno were had to intervene for poles of development. University campus idea well conjugated itself with a similar politics of great productive installation and great works; interventions, besides for which people weren’t accustomed to care the problem of the preventive consent for their recipients parts.

The region Campania within its own hypothesis of territorial order, assumed as back ground objective, a model of development that realized between inside zones and coastal urban agglomeration; in this sense the university installation was fit to develop a relief role in the link among the two aforesaid realities.

University installation so conceived in Irno’s Valley would certainly have determined effects, both positive and negative, for which the demand was warned to seek, from the

interested communes, a coordinated initiative and unitary on the ground the urbanistic planning.

University would have assumed, in social economic and cultural circle a remarkable and strategic role; allowing to prefigure results of notable impact and transformations of enormous interest in the spatial and territorial relationships both on provincial staircase and regional.

For sure it would inevitably have determined deep and radicals modifications in the economic mechanism of the area promoting development and the disbursement of a series of services: the improvement in the net of the transports, the increase of the number of the residences, the growth of the social tertiary, the increase of the turned activities to the leisure time, but also a greater propensity to the investment and an opening of the job market in terms of occupation.

In such sense the region Campania at the end of seventies, enforced formally the start to the process of formation of the plain intercity regulator(pri), defining the circle of it and substantially, decreeing the obligation of editing of the plain intercity regulator for the communes in it included. Such circle, besides including the three Communes of Mercato S. Severino, Fisciano and Baronissi it also included the Communes of Pellezzano, Calvanico (all in the Province of Salerno)and Montoro Inferiore (this last belonging to the Province of Avellino), whose town territories were adjoining to that in which the university installation was anticipated, and therefore, more directly from this influenceable ones. It is in this area that, presumably, the influence of the new pole would have been warned mostly strong urban and territorial centrality. It, in fact, is strongly interested by the flow of relationships existed among Avellino's pole that of Salerno's and the particularly active area of the sour nocerino sarnese.

The region, with a similar provision already takes action of a demand sort and matured in the preceding years and during a power on debate around the problems concerning the development of the city of Salerno that, since 1970, had seen committed all the political and social strengths. Otherwise, as it emerged really from some programmatic bases of political parties and democratic organizations of the epoch, the same *matter Salerno was* tightly held tied up to the fates of Irno's Valley (Fasolino, 2004).

3.1. The peculiar characteristics and the principal dynamics in action in the territory of the Valley of the Irno

In 2004, the scientific and technological Salerno's park and the inside areas of Campania has effected a feasibility study for the individualization of strategic areas of intervention in subject of research and development in the Irno's valley²⁸. The monitoring²⁹ has produced

²⁸ The study, developed by the PST on charge of the Region Campania and in collaboration with the Department of Economic Sciences and Statistics - DISES - of the university of the Studies of Salerno, has aimed to furnish indications and lines of direction profits to the realization of facilitated intervention about of research and development. Through activity of study and on the field, endowments, necessities and technological evolutionary potential of the present economic-productive realities are analyzed in the area in examination and calibrate some options of feasible policy to staircase local/regional.

very interesting results and made to emerge sprout of sure utility. The study affirms that we are essentially in face of a partner-economic system based on the installation of small and average enterprises that they manifest an increasing attention toward the demands of the market; they pursue growth strategies and they have a good propensity to the collaboration among small medium enterprise, mainly for connected purposes to the productive trials and the marketing of the products. Nevertheless analysis records a constant growth in the industrial sector, both in absolute terms, and towards the province of Salerno.

In general we are in presence of a system in which it is possible to find the existence of good availabilities insediative, of a young and qualified work force and an unusual availability of products of quality to which a qualified university system and a good propensity of the local Administrations and other partner-economic actors are placed side by side to the plan, with interesting politics of intervention in progress (es.: Plan Integrated Irno's Valley).

Otherwise, critical elements come out also: a low connection among the processes of formation, of search and of production; a low degree of opening toward the international markets (84% of the interviewed enterprises have a billing matured in foreign countries to the inferior to 5%); in perspective, the possibility of loss of competitiveness of the productive local system against of the processes of globalization in action and of increase of attraction of other areas.

The actors involved in such process of territorial development can apply and to use of public and private mechanisms of support to the local growth as the local agencies of development.

4. THE LOCAL AGENCIES OF DEVELOPMENT

Local development's agencies³⁰ have as exclusive or prevailing function the local socioeconomic development, nevertheless they also pursue tied up aspects to the quality of the life, to the diffusion of nets, to the exploitation of the cultural good. In other terms, the local agencies of development strengthening the local social capital, contribute to reduce the costs of transaction for the enterprises and to improve the social quality of the life.

With the job people was aspired, therefore, to furnish a methodological, informative and application patrimony starting, besides, the constitution of a first nucleus of Observatory of the consistencies and the technological evolutionary potential of the realities of interest. The work took place between December 2004 and April 2005.

²⁹ In the study people made reference to the official sources of information, to the knowledge of the PST and the DISES in comparison to the territory of intervention and through comparisons direct and material made available by Corporate body, Institutions, organizations, Associations and other opinion local leader.

³⁰ Formez, *Agenzie di sviluppo. Organizzazioni e attori per lo sviluppo locale*.

In this sense different types of agencies of local development exist: 1) “Formal” agencies; are the result of the application of national and community legislations. They are operational structures appointed to manage projects of development that make reference to the national legislation and financings (management companies of territorial Pacts, of contracts of area) and community; 2) “Territorial” agencies originate as off centre of the Public local Administration that acquires connected functions to the economic-territorial development, or they promote and they manage projects of local development promoted from Common, Mountain Community, Provinces; 3) “Informal” agencies, contrarily of the other two types, they are born “from the lower part” or their constitution is promoted by the action of institutional and social subjects whose objective are the promotion and the management of processes of growth of “smaller economies” or of functions of support for the local development, as, for instance, local banks, associations for the exploitation of the cultural and architectural good and the environmental patrimony, intercity consortia for the integrated development and the urban retraining, society and associations for the development of the new occupations.

The local agencies of development are structures that operate and act to sub-regional level, they originate within the structural politics, of the negotiated planning and of the social partnership with the intent to promote the local development for the maintenance and the exploitation of the environmental patrimony, the urban retraining, the maintenance and the exploitation of the cultural patrimony.

The subjects mostly involved in the agencies are the Local Bodies, in first place the Communes that, represent the typology of more frequent partner to general level. Nevertheless, it rarely deals with the presence of an only town Administration, the agencies often engrave on territorial circles to intercity character or interprovincial and therefore among their partners all the interested administrations show up both in partnership form and singly. A priority role is also developed from the Provinces and in some cases by the special Firms of the Chambers of Commerce, very active on the slope of the local development. Very numerous are also the associations and the consortia that include a very ample band of subjects: the entrepreneurial associations and of category, included the labor unions of the workers that however an extremely minority role, the cultural associations, tourist, religious and environmentalists, the consortia of production and services. The share is consistent, in the management of processes of development, also of Banking firms and of important local actors, represented by the Universities, still distant from the being subject active of the formation of local agencies for the development. In some cases they are the same agencies of development to participate, as partner, to busy analogous structures in sectors or greater or different territories. The elevated number of subjects that intervene in the creation of such realities and their different connotation public-private, shows as to local level gone affirming new forms of *governance*³¹ of the

³¹ With the concept of *governance people* intend a model of *decision making* that foresees the decisional coordination among public institutions, collective organizations and private actors, in which the resources of authority and hierarchical control of the first ones are balanced by concerning forms directed to promote the consent on the politics and the social cooperation.

territory, characterized by the diffused share of the different local actors, even if the share of some subjects still results residual.

5. THE TERRITORIAL PACTS

Among the instruments that operate in direction of the local development of a territory, the territorial pact is undoubtedly, in Italy, that more known and debated. The territorial Pact has operationally gone in with in Italy in 1998, with the intent to integrate interventions of incentive to the capital to compensate tied up local disadvantages to the territory and to favor interventions of context (material and immaterial infrastructures) to structurally remove such disadvantages.

Two are the principals objective of the territorial pact: 1) to promote the cooperation among public and private subjects of a specific territory so that delineate and realizes projects of improvement of the local context; 2) to favor and to increase through such projects and through the territorial and thematic concentration the number of the private investments able to produce also advantages for other enterprises and to promote new investments. The territorial Pacts³² have been object of analysis and polemics; the delay in the times of realization is seemed strong in a first moment, but also when the economic disbursements have started to accelerate the feeling of ineffectiveness has remained. The times of activation of a Pact, the rapidity of expense of the public funds to it assigned, the percentage of private initiatives programmed really established, the percentage of concluded initiatives and programmed occupation indeed realized: all these parameters of efficiency measure the least conditions of success of a territorial pact. Only if such conditions are satisfied it is possible that the private and public subjects that participate in the pact have the trust and the conviction to realize the planning cooperation necessary because the pact hit its objects. But such conditions are not at the same time enough because a territorial Pact hit the objects first suitable of improvement of the local context: the attainment or less of such objectives must autonomously be verified for judging some success of the Pacts.

5.1. The territorial Pact of the Valley of the Irno and the Picentini mountains

The global competitiveness, protagonist of the world scene of the last years, has unexpectedly accented the role of the local realities in the realization of development processt, through the rediscovery and the exploitation of the resources and the contextual saperis. Every territory, in its different peculiarities and characterizations, is depositary of extraordinary values in the time that, if sustained and confirmed, can translate them in decisive factors for the progress of the area, through their combination and establishment of territorial relationships on widened bases. Local wealths can represent the motor of the

³² “The lesson of the territorial Pacts for the territorial integrated planning of the Mezzogiorno”, Search commissioned by the Office of the economy and the Department of Internal Revenue, Department for the Politics of Development and Coesione,d'intesa with the Office of the productive Activities, General Direction for the coordination of the incentives to the enterprises, with CGIL, CISL and UIL and with Confindustria, within the PON "technical support and sistem's actions of Community Picture of Support 2000-2006.

socio-economic growth of a territory but they have necessarily to conjugate to the creation of a favorable environment to the exaltation of the endogenous factors and the attraction of the ectogenous strengths. The native endowment of resources, competences, ability and knowledges represents a sort of “starting” of the territory that must be valorized and constantly enriched with the purpose to hold back how much it already exists and to attract how much to it is functional.

The territorial Pact Irno’s Valley and the Picentini mountains, is the instruments through which 11 communes of Irno’s Valley and the Picentini Mountains, together to the Provincial administration of Salerno and the social and economic parts of the area, you/they have intended to give start to a moment of concerning, gathering the planning and the realization of the actions of support to every territory around an only objective of development and *overcoming* the elements of division proper of a confined logic to the single town circles. The Pact was not originated only as a mean to mobilize the available resources on the contrary a new methodology of intervention that doesn't limit it to realize initiatives defined by the highest degree but that, departing from the lower part, it plans the economic, occupational and social development of the area, hocking and binding all the resources, the energies and the contextual powers to the action. The politics of development so effect spring from the perception of the demands of every local reality and from the recognition of them specific elements of advantage, encircling in an only embrace the typically own of all the communities, transforming themselves from different factors in elements of harmonica union of the needs and the collective affairs. Because in the age of the global competitiveness the recovery of the local communities represents indeed the only practicable way for a lasting and sustainable development and it can come true only if the neighboring areas will be able how to activate relationships and to build supportive nets, they will be able how to recognize the differences that separate but they rejoin the wedges of an only mosaic and interpreting the local reality as the community of the communities.

The territorial Pact of Irno’s Valley and the Picentini Mountains has delineated and developed a program founded upon the elements that characterize the economy of the territory, suitable to address the whole area to the development. The attention to the vocations of the different contexts and the push to the development of connected reality to the traditions, like the agriculture, the craftsmanship or the industrial activities typical of every area conjugates itself with the intent to want to furnish its own contribution to the development of the local entrepreneurial sector. The interventions in such sense are addressed to the promotion of the technological innovation, to the diffusion of new and more evolved forms of business management and the sensitization toward new consequential opportunities from processes of internationalization.

One of the fundamental objectives, or even essential, for the territorial Pact, it is becoming the element of link between the academic world and that entrepreneurial, contributing to reduce so the problem often warned among the professional figures that the university system proposes and the demands expressed from the market of the job. The instrument of the Pact can represent the ideal circle for the information interchange between the local productive realities and the university of the Studies of Salerno.

Another important element of an advantage for the development of the industrial, handicraft and commercial activities, that is the geographical position of the territories that they realize the Pact for the initiatives of tourist nature; the presence of places of meaningful historical, religious and landscape value, both singly and altogether considered and the destinations proximity tourist of considerable interest, allow to compete to the growth of the efficiency of the territory and its degree of attraction toward the outside.

Idea to give life to the Pact Territorial the Irno's Valley and the Picentini Mountains trace again to the beginnings of the '95 when the possibility was realized to contribute more effectively to the development of the territory through don't orientated actions to the single town circles but widens to a most vast area, that it aggregates according to a series of common and shared elements. The observation of the own characteristics of every territory solicited the promoters of the Pact to start a dialogue turned to individualize a way of common development that had formal beginning the 5 May of 1995. In the following months, and actually at the end of the '95, a series of activity of territorial animation were realized for divulging the initiative and to acquire at the same time the necessary informations to its realization. Such activities allowed to receive numerous demonstrations of interest from the communes and of different enterprises.

Only after four years the Protocol³³ of agreement was initialed, then envoyed to the Department of the Treasury of the Budget and the economic Planning. The signature of the Protocol of agreement allowed to give start to the operational phase of the Pact and, after the analysis of the local socioeconomic context and the objectives places to base of the Pact, the fundamental elements of the Proclamation were delineated. 196 projects were introduced. In 2001³⁴, the Office of the productive Activities, finally verified the validity of the procedure of activation, it approved the Pact Territorial of the Irno's Valley and the Picentini Mountains which followed a fervent preparatory activity for the constitution of

³³ The protocol of agreement was undersigned from 48 subjects: the Province of Salerno, the Communes of Mercato San Severino, Baronissi, Fisciano, Pellezzano, Calvanico, Bracigliano, Salerno, Giffoni Sei Casali, St. Mango Piemonte, St. Cipriano Picentino, Castiglione Dei Genovesi, are, the bulletin-board Advisors of the Job, the ANICAV, the bees Salerno, the Assindustria Salerno, the House Artigiani, the C.C.I.A.A. of Salerno, the CNA Salerno, the Center for the Medieval archaeology, the CGIL Salerno, the CISL Salerno, the UIL Salerno, the UGL Salerno, the College Surveyors Salerno, the academy of Accounting, the College Provincial Industrial Experts, the Community Montana zone Irno, the Community Montana zone Monti on Picentini, the Confartigianato, the CON.FI.SA, the GE.SE.MA. S.p.A., the Consortium of Reclamation Sour-Nocerino-Sarnese, the Experimental institute for the Ortocoltura, the For Place Fiscianese, the For Place City of Market St. Severino, the For Place is, the Region Campania Assessorato to the Tourism, the SDOA, the Experimental Station Angri, the university of the Studies of Salerno, Italy Lavoro S.p.A., the Cooperative Credit of Fisciano, the Bank Monte of the Paschi di Siena S.p.A., the Box Mutuality two Principalities, the Cooperative Credit of Giffoni Valle Piana, the Bank CARIME S.p.A.

³⁴ The Office of the productive Activities, acquired the results of the inquiry completed by Europrogetti & Department of Internal Revenue as well as the opinion of the Region Campania, approved with decree n.58 the territorial Pact, and for the total amount of Liras 65.183.110 (European 33.664.266,86). Subsequently, the arrive unexpectedly of adjusting normative elements of the preceding discipline, as well as the acquisition of new inherent information the introduced projects, induced the Office, with decree 25.VI.2002 n.369, to modify the precedent decree n.58 approving the Pact for an equal total amount to European 32.357.042,15 (Liras 62.651.970).

the responsible subject. Since the first months of the year, in fact, a series of meetings among the promoters were followed for delineating the salient lines of the establishing society.

In realization than prescribed by the inherent discipline the Pacts Territoriali, the society was constituted Irno Picentino Sviluppo S.p.A., subject responsible of the pact, the transmission to the Office of a copy of stipulation exploit and of signature of the Pact so formally gave start to the activities with the consequent elapsed of the terms within which to realize the investments.

Nevertheless the economic resources, however they are conspicuous, alone are not enough to the realization of an articulated project of development of a determined territory, but they are necessary other resources that postpone to the relationships and the cooperation among the actors institutionally recognized and those privacies. It deals with the trust on which the human relations are founded; none social system can originate or to continue to exist if among its members a climate of mutual trust doesn't exist. The trust among the people allows them to establish together relationships that all they constitute that is a net the social capital. The social capital has a remarkable role in the construction of the essential conditions to effect and to practice politics of development to collective level.

A territory possesses a considerable social capital, if in it the whole the relationships conjugate themselves that activate themselves among the public administration, the enterprises, the organizations of representation and the civil society and where the trust, the mutual understanding, the shared values connect the actors of the community in a net that the cooperation makes possible. The relationships among the subjects that have to compare themselves in constructive way and to think to an interest that can become common, able to make to cohabit economy, environment and respect for the person feed the concept of social responsibility of the territory, they facilitate the management and damage of it organicity to the process of government of the territorial relationships for the definition of a way of sustainable development. The good practices (Peraro, F., Vecchiato, G., 2007) tell as this perspective of development is already practicable and can become more and more "*a possible utopia*." The social responsibility of the territory can be an opportunity of development and a new factor of competitiveness among the institutional, social and economic operators of the territory; but also for all those people that have nighty gifty own territorial community and that want to undertake themselves to make it to measure of person, careful to the environment and the future generations.

In front of the dangerous threats and to the effects from them produced of long duration, the traditional ethics are not enough; nevertheless it derives an obligation of it towards the maintenance of the life and its integrity. It becomes fundamental this that Hans Jonas (Jonas, H. 1993) defines *principle of responsibility*. He in the attempt to conjugate in an unitary model the universalistic ethical and the political realism looks out upon a responsibility as "ecological principle", that forces everyone towards the future generations, that can express itself in form of categorical imperative: "act you so that the consequences of your actions are compatible with the continuation of an authentic human life on the earth." The man has become for the nature most dangerous than once the nature was not for him; it is necessary to consider such relationship reflecting on the

consequences and on the unpredictable and unimaginable effects that the actions produced by the men today therefore can generate in the next future.

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***“Local Development Model applied to a Chocolate Industry in Pozoblanco
(Córdoba, Spain)”***

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Abstract: In this paper we propose to bring up the implications of a theoretical framework about local development model in relation to a chocolate industry located in Pozoblanco (Córdoba, Spain). Specifically we try to recover the activity of one of the oldest chocolate industry in Europe (dates back to 1815) designing a development model at different levels. First we will briefly describe the social, economical, labour and cultural context of Pozoblanco. Then we give details of our intervention that tries (1) To recover the principal activity of the industry and to promote its diversification as the only way to keep the business on the labour market; (2) To design a development model orientated to facilitate people under-represented in the local workforce or actually facing barriers to get into work; and (3) To place the industry in the economical, labour, social and cultural context of Pozoblanco. Finally we specify the key elements to achieve these aims.

1. CONCEPTUAL FRAMEWORK

It is important to tackle the employment and the territory from a dynamic and a complex perspective. Specifically from a labour point of view this matter demands an identification of the territory and a reconnaissance of its essentials characteristics by the actors. Furthermore it is mainly important the action and/or reaction of these actors in relation to those features of the territory. So where we can find dynamism we can also state that there is complexity³⁵ and consequently systemic thinking. A territorial approach always takes into account these interactions as different parts of a whole.

According to organisational recursiveness³⁶ (Morin, E., 1995), every territory it's a living entity. It can be considered as a reality that shapes and at the same time it is being shaped. This idea it's upheld by the ability of the territory to maintain itself. Different authors as Capra, F. (1998) and Maturana, H. and Varela, F.J. (1987) referred to this issue with the term *autopoiesis*. Literally means "auto (self)-creation" and they define it as a network of processes of production of components which through their interactions and transformations continuously regenerate and realize the network of processes (relations) that produced them (Capra, F., 1998). The self-production of the territory considered as a system brings up fluctuations of certainties and uncertainties, and evolutions and perturbations. And this is how the territory increases its complexity and finally gets more autonomy to make its own decisions and manage them.

At a first moment we must not see this increase from a positivist perspective. In fact we are talking about increase of knowledge but also about the ability to distinguish relevant knowledge from the other considered irrelevant. Learning must be always linked to the ability of discarding ideas and experiences that won't contribute to maturity.

In this reflection of territory, we can also state that every intention of development needs a certain level of development previously achieved. The development of a territory generates more autonomy to resolve situations and challenges. But new problems, situations and challenges emerge in the course of time and demand a new level of autonomy. In this paradoxical reality the territory tries to seize upon external opportunities and bring them in harmony with its own resources (Florio, M., 1996) to create new structures.

The self-production of the territory as a system it's also associated with the ability of reflecting about its organisational structures (self-organisation and self-regeneration). Finally with these actions we are able to obtain different strategies to facilitate the territorial development.

The territory as a *nonlinear system* (characterized by the elements adding up to more [or less] than the sum of the parts) reaches a state of self-regulation and therefore increases its self-management. In this point the territory is able to practice good governance.

³⁵ The term complexity refers to a network contingencies, actions, interactions, statements and chances that conforms our social reality (Morin, E., 1995).

³⁶ Following Morin, E. (1995) organisational recursiveness is a process where products and effects are at the same time causes and producers of what it been made.

Governance includes several forms of citizen participation. These come from different social and economical agents. In a partnership context previously established participation is promoted through decision making processes and this fact facilitates territorial intelligence and governance based on the rationality, coherence and appropriateness of every action.

Territorial governance implies changes in the way we afford the design, management and evaluation of a policy (employment policy in this case). It refers to a kind of social governance and it's usually described as a coordination process among networks of territorial agents (Kooiman, J., 2003; Jordan, A. and Scout, A., 2006). Specifically Benz, A. (2004)³⁷ identifies territorial governance with coordinated interactions of actors under an institutionalized system of rules. Therefore territory is the result of a co-construction of territorial agents. Rhodes, R.A.W. (1997) clarifies the character of these actors identifying territorial governance as a process where public actors share power with private actors (social and economical actors).

Miedes, B. (2007: 49) highlighted different strategies to improve territorial governance:

1. Establishment of a framework of responsibilities among different levels of governance and different territorial actors.
2. Institutionalization of guidelines of how actors could work in partnership context (specifically in the way of exchanging and sharing information).
3. Analysis of strategies taken and evaluation of decision making processes.
4. Development of instruments to facilitate coordination and the coherence of strategies.

According to all these reflections we conclude saying that territory and territorial actor are joined together as one entity and under the same policy in a common decision context.

The development of a territory is always preceded by the development of its actors. The decentralizing processes of the latest decades have strengthened this fact (OCDE, 2004).

Although local entities have stronger power (institutionalized power) than in the past decades it's finally the organized participation of territorial actors –and their interest in the design, management and evaluation of the project (Vázquez Barquero, A, 1992: 387)– the decisive elements that makes possible successfully local initiatives.

Consequently decentralizing processes are not guarantee by its own of the effectiveness and efficiency of public policies.

Aware of the important role of territorial agents it's also necessary within a local initiative to clarify a local development model.

As Pérez Ramírez, B. and Carrillo Benito, E. (2000: 48) have pointed we can define a local development model as a microeconomical planification model that makes possible to

³⁷ See Treib, O. et al (2007). "Modes of governance: towards a conceptual clarification". *Journal of European Public Policy*, 14 (1), 1–20.

create employment, incomes and wealth by taking into account the resources of the territory. The purpose is to increase social welfare and the quality of life of a territory.

These authors also highlighted the conditions that every territory needs to articulate a local development model. Briefly we describe them:

- (1) There must be an integration of all the economical sectors.
- (2) The employment policies must be aware of the territorial resources.
- (3) External resources are important elements for the territory as they are complementary for the local development model.
- (4) Small and medium companies are the entities that make possible the local development.
- (5) The environment is considered as a strategic element in the local development model.
- (6) Local development model implies decentralizing processes in relation to general policies.

Over the last decades new theories and strategies have appeared about local development to enrich the term (Mendez, R., 2002). They emphasize its different components: social (welfare), environmental (sustainability), political (governance and local participation), cultural (protection of the cultural heritage and the own identity) and geographical (territorial arrangement), with the purpose of achieving the highest heights of living.

Concerning this theoretical framework about local development we propose to bring up its implications in relation to a chocolate industry located in Pozoblanco (Córdoba, Spain). Specifically we try to recover the activity of one of the oldest chocolate industry in Europe, designing a development model at different levels.

First we will briefly describe the social, economical, labour and cultural context of Pozoblanco. Then we will give the details of our intervention.

2. THE CONTEXT OF POZOBLANCO

Pozoblanco is situated in a Valley called Pedroche at the north of the province of Córdoba (in the region of Andalusia, Spain). The valley is composed by 17 villages. Pozoblanco is the principal town of the valley.

It has 15.956 inhabitants. Nearly the 50% are men (48%) and most of the citizens are between 34 and 45 years old.

From a demographical point of view it's significant the percentage of people with disability supported and attended by a professional association located in the city (PRODE) in charge of the promotion of this collective and their families trying to offer a better quality of life through training and employment opportunities. This professional association also attends people coming from other areas of the valley.

From a labour point of view the 42,7% of the population is economically active. According to this population the 81,3% are employed and the 18,7% are unemployed.

The most extended qualification is the Secondary level (36%). Highest qualification is represented by the 10% of the citizens and the same rate represents the population with no qualification.

Occupational training is mainly related to the following occupations: electrician, mechanic, nursery and secretary. A better linking between supply and demand is necessary in this issue. In other words training must give answers to the labour market demands.

The most principal business in Pozoblanco refers to retail trade, estate agency, financial and business services, transport and storage, textile industry, cattle farming (Pozoblanco holds a guarantee of origin in pork), agriculture, manufacturing and construction. There is an important alimentary industry (COVAP).

Although there are three industrial areas, the city is demanding more spaces in this sense. Local administration is making an effort in this sense.

Referring to environmental initiatives the city is now tackling the renewable energy.

Malls and regional public services (hospital services and justice administration) conformed Pozoblanco's external resources.

As local resources we can distinguish the following ones:

1. **Natural resources:** the potential of Pozoblanco referring to its local environment needs to be discovered. Today there is not much tourist activity and leisure time initiatives.
2. **Human resources:** on the contrary to the first point, the population of Pozoblanco has much business initiative.
3. **Infrastructures:** although the city has improved in this issue, there is still much work to do.

The local administration's strategy in order to promote the economy of the city looks for the dialogue of the territorial actors in a partnership context. Through different workshops a local employment strategy has been actually programmed and now it's being developed.

Our proposal follows the path of the local administration. In fact we have already presented the principles ideas of this initiative and we are now trying to state the next step.

3. RECOVERING A CHOCOLATE INDUSTRY

The real value of the industry it's in his history. According to different documents the industry dates back to 1860. Nevertheless some evidences indicate that the industry appeared in 1815, but actually we cannot prove this fact with documents. From its origins this factory has never stopped his manufacturing for the Andalusian provinces of Sevilla, Granada, Huelva and Córdoba, and for other Spanish regions like Extremadura and Castilla la Mancha.

Four generations of the Cabrera family have run the industry. Although the actual owner (Hipólito Cabrera, 82 years old) actually makes chocolate with the illusion of the first time, he is aware that the industry needs a new impulse to answer today's competitive labour market. Located in the town centre, the three-storey building still conserves the original architecture.

Hipólito Cabrera's industry has its own registered trademark ("Bombolín"). His products have received many European and transnational awards. In the valley many people still remember the good times of the industry.

In our intention of activating the chocolate industry we propose:

1. To recover the principal activity of the industry and to promote its diversification as the only way to keep the business on the labour market. We based this state in five key elements within a local development model:
 - a. Organisational flexibility of the industry's human resources and of the production processes. In this last case there is still machinery that can be used, apart from some inversions that needs to be done in this sense.
 - b. The industry need to be move to another place. Specifically to one of the industrial areas that surrounds the city. Thus it makes more comfortable the manufacturing and the storing.
 - c. The particularity of being the only chocolate industry over the valley seems to be a business advantage.
 - d. It also important to bet for the sustainability of the environment (being aware of the environmental regulations) and to follow the health rules and contingency plans.
 - e. Finally in this point it's important to take part on the alimentary industry located in Pozoblanco because it could enrich one of the principal productive processes of the territory.
2. To design a development model orientated to facilitate people under-represented in the local workforce or actually facing barriers to get into work.
 - a. By hiring people with disabilities as local workforce. The Professional Association of the city in this issue (PRODE) has an important role in this point.
 - b. Hiring this collective as workforce could make possible the changing of the business form of the industry from a sole proprietor to what we call in Spanish employment policy a Special Employment Centre. This Centre offers training and work experience to people with disabilities. Following the actual employment law local business with more than 50 employees can hire the services of the Special Employment Centre, so this collective would have the opportunity to be directly in contact with the labour market.

3. To place the industry in the economical, labour, social and cultural context of Pozoblanco.
 - a. The development model above described is an example of generating employment, incomes and wealth in the territory.
 - b. From a cultural point of view the possibility of recovering the history of the industry could be a good opportunity to create a museum to show machinery and documents from the past century becoming a cultural offer of the territory. Part of the workforce to maintain the museum could be hired from the Special Employment Centre.
 - c. Being conscious of the lack of training referred to the alimentary manufacture we propose its inclusion on the local training offers.

To enhance this local development model governance and partnership must be present. We can state that local agents are aware of these proposals and they all have shown much interest.

At the moment we had some meetings with the local administration, the director of the Professional Association orientated to people with disabilities (PRODE) and with other key agents of the territory. We have already arranged new meetings.

Finally with this development model we are expecting to contribute to the local development of Pozoblanco by giving to the chocolate industry a new impulse.

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“Observation of Saharan Territorial Structures and Dynamics”

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Abstract: The authors deal with the best way to tackle the problem of mutations that affect Saharan spaces (environmental, economics) and their consequences on different scales. The final objective of this paper is to propose theoretical and more operational elements about the observation of those mutations (modeling, indicators) regarding heterogeneity and specificities of these territories. An observation structure of those territories (by territory we consider geographical space and actors) could permit to increase knowledge and support dialogue between Land settlement actors and researchers. Those reflections become integrated in Algerian government’s will to develop “the best synergies for the development”, by increasing “good governance” and participation (National Scheme of Land Planning).

1. INTRODUCTION

Sahara spreads over 2.000.000 square kilometers (which constitute the most part of the Algerian territory). Nevertheless, according to the 1998's census report's data, the Saharan population represented about 10 percent of the national one. Also Sahara space is very low populated, it's been subjected to important mutations during the 20th century. The increasing urbanization is one of the most important factor of these mutations, and has a lot of consequences (spatial, environmental, economic, politic). Indeed, 63% of Saharans were urban in 1998 (Côte, 1998), whereas the urbanization rate was about 10% in 1954.

Urbanization's processes and territorial mutations in Algerian Sahara are complex and depend on the interaction of several elements; such as national and international migrations, economic development generated by hydrocarbons and expansion of capitalistic agriculture (Bisson, 2003). The strong demographic pressure which characterizes Saharan territories generates problems not only in urban management, but also to a larger extent in landplanning processes. Those problems are economic, social, environmental and tends to reconsider development models and landplanning policies that have regulated the territorial dynamics until today.

Indeed, "territorial tenseness" constitutes a recurrent element in Algeria, especially in Sahara due to the specific environment and socio-spatial practices of populations. Nowadays, Algerian landplanning policies tend to respect principles of sustainable development, (integrated in landplanning and urbanism tools and laws).

In Europe, the diffusion of these concepts is going with the development of decision making tools. Indeed, the actual trends in geography research and territorial management tend to improve management and prospective tools, in coherence with the requirements of sustainable development. The development of these tools is a consequence of the diffusion of the concepts and computing and information technologies able to analyze and interpret geographical data. This evolution generates new capacities to understand, monitor and represent territorial dynamics. In Algeria, this kind of tools is still not being diffused. Nevertheless, the strong and fundamental specificities which characterize territorial mutations in Algerian Sahara (Kouzmine, 2005; 2007), invite us to develop a specific approach in the comprehension of Saharan territories. This approach is based on concepts of territorial intelligence define as "*the set of the multidisciplinary knowledge which in one hand contributes to the comprehension of spatial structures and dynamics and, in the other hand, wants to become a tool dedicated to the actors of sustainable development of territories*" (Girardot, 2002).

Beyond those general observations, we propose to develop elements about the elaboration of an observatory of territorial structures and dynamics in Algerian Sahara.

2. DEVELOPING COMPREHENSION OF SPATIAL DYNAMICS AND STRUCTURES

Nowadays, many researchers are developing tools able to participate to a more coherent spatial development. The Information System, the Geographical Information Systems (Pornon, 1997; Joliveau 2004) and more participative tools like the Public Participative

G.I.S. (Weiner *et al.*, 2002) belong to a new generation of instruments which is designated to increase (produce) and collect the knowledge about spatial dynamics, in preparation for propose some apposite elements in the making-decision process. These tools are some elements of the territorial intelligence processes. But, the territorial intelligence is not only an instrumented approach and needs firstly some modeling approaches of geographical reality (systemic approach of territory...) to generate appropriate tools depending on the objectives of researchers or territorial actors.

In the Algerian context, between the researchers and territorial actors exists a tacit agreement about the actual and problematic issue of the sustainable development. The Algerian government, in the future National Land planning Scheme, wants to develop instrumented approach of spatial development especially in the “*fragile spaces*” (Mountains, semi-arid spaces like the Algerian steppes, or arid spaces like Sahara). This project will result in the development of databases coupled with G.I.S., especially about the rural spaces (M.A.T.E., 2004c). About the Saharan territories, which are really specific, the scientific research in Algeria develops many research programs also based on instrumented approach about different topics: desertification, water-resources, management of pollutions or urban trashes...

These kinds of methods, or the political will to develop them, are often established on a thematic and/or fragmented approach of the territories. This dimension shaped whole the spatial planning processes and policies (instruments, institutions) in Algeria since the independence, as in Europe over decades. However, the recent political mutations invite to have a new perception of the Algerian spatial planning policies.

2.1. The territory, system and complexity

The territory constitutes a central object in the geographical research. The different evolutions of this concept tended to a more operational definition. The new theoretical perceptions of the territory are based different factors.

The first one is the political decentralization process which tended to create new levels of decision and action on spatial dynamics at national scales (regional, local) and global scale (regional integration, international organizations...). Temporally, this process was concomitant with the reemergence and mutations of the concept of governance (Hermet, 2005). This phenomenon is fundamental to understand the new actors' strategies that tend to make the territory dynamic.

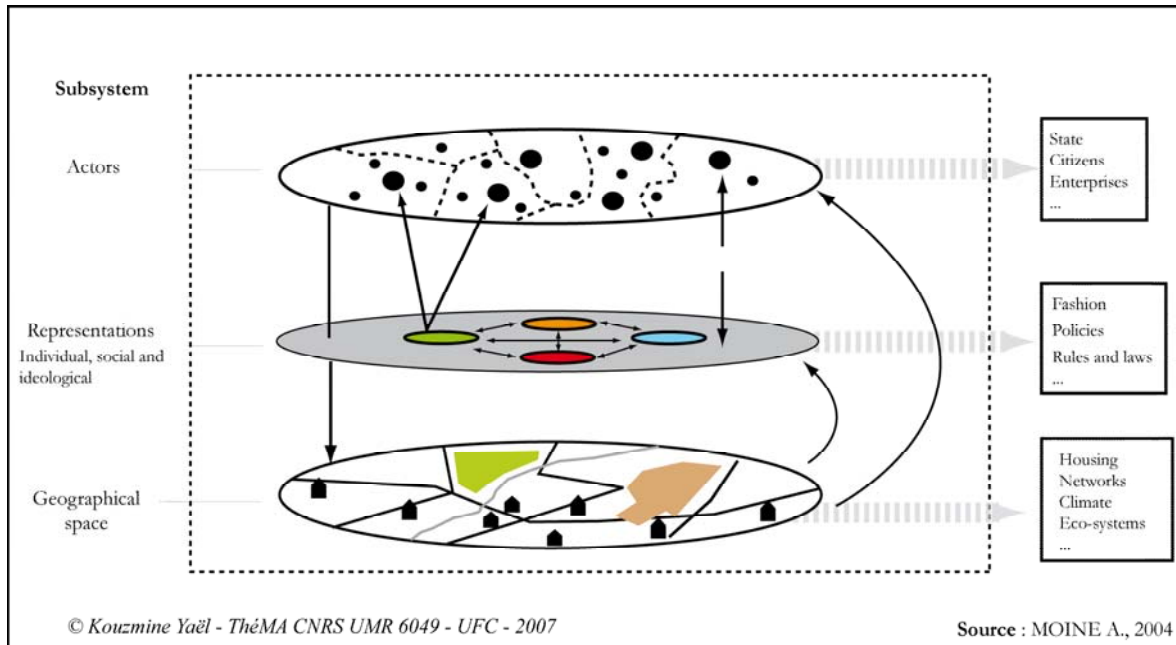
In the same way, the second factor was the come-back of the “actor” on the scene of the territory. He can be:

- Individual: politician, citizen or institutional actor...;
- Collective: grassroots movements, associations (cultural, religious...).

The third factor is linked to the scientific advancements about the issue of complexity of the human systems (Forrester, 1984; Le Moigne, 1990; Morin, 2007). More precisely, in geography, many researchers developed specific elements about the complexity and the systemic approach through their works (Cattan *et al.*, 1999; Dauphiné, 2003; Moine 2006).

Progressively, those scientific works changed the manner to perceive the human phenomenon and by extension the territory.

Fig. n° 1: The territory: a complex system.



The territory is considered as the human societies like a complex system. The systemic approach tends to define a system as a “group of elements in dynamic interactions, organized according to a goal”³⁸. Another definition invites to understand a system as a “group, forming a coherent and independent entity, of real or conceptual objects (peoples, actions...) organized according to a goal (or a set of goal, projects...) and based on a set of relations (interrelations, dynamic interactions); a system is integrated in a global environment”³⁹. Through these definitions, the territory may be perceived as a system.

Thus, A. Moine (2004, 2006) develops an original analysis of the territory based on the systemic approach. The author considers the territory “as a complex and scalable system which associate in one hand, a group of actors and, in the other hand, the geographical space that the actors use, fit out and manage”. A. Moine has determined three subsystems in constant interactions (fig. n° 1). The first one assemble the actors of the territory (State, Citizens, enterprises, associations...); the second one, “the geographical space”, is formed by the interactions between three subsystems (geosystem, oikumene, social space); the third one is the “representations system” (individual, social and ideological).

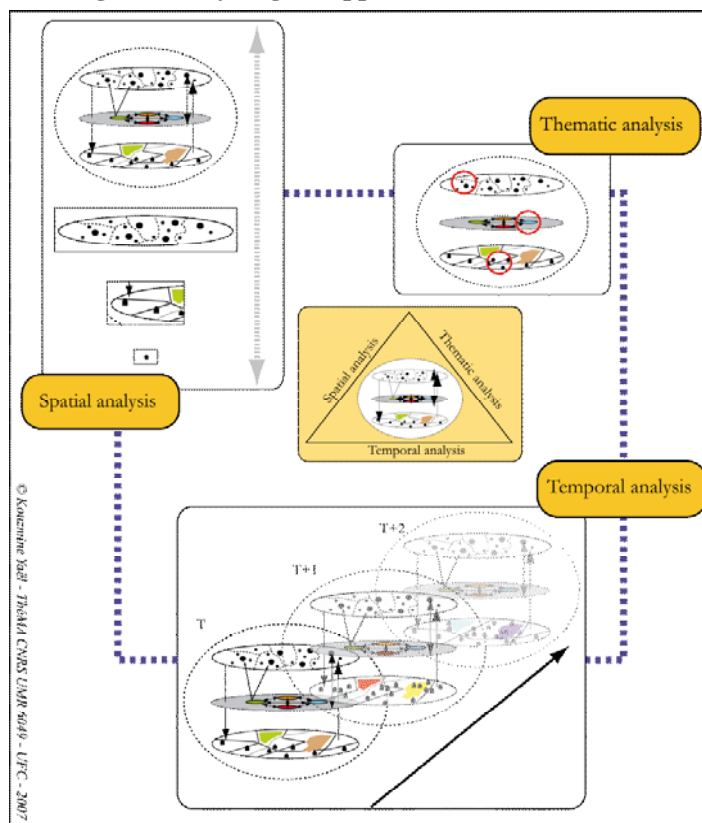
To comprehend the spatial structures and dynamics of the territories, describe as a system, researchers usually use a three level grid able to represent the complexity of the evolution of territories. This approach combines thematic, temporal and spatial dimensions (fig. n°

³⁸ Donnadiou et Karsky (2002) quote Joël De Rosnay.

³⁹ Donnadiou et Karsky (2002) quote Francis Le Gallou.

2). Many scientific research programs tend to develop a spatio-temporal approach in the tools dedicated to analyze the spatial mutations: G.I.S., P.P.G.I.S., territorial observatory...

Fig. n° 2: A synergetic approach of the territories.



The spatial dimension of the territory is fundamental, and refers to the issue of the choice of pertinent scales to analyze and understand phenomena. Nowadays, in geography exists a crucial debate about the interactions between different spatial scales (micro/macro) and more precisely about the form's emergence. The temporal analysis refers to the dynamic dimension of territories and the evaluation of spatial mutations implies to measure the evolutions at different temporal steps. Finally, the thematic dimension often constitutes the first objective of an instrumented approach of territories. To develop a pertinent comprehension of the territories, a synergetic approach seems to be more efficient than a fragmented approach which not considers the territories as a system based on the constant interactions of his elements.

The term synergetic may be a little bit fuzzy, that is why in this article we will use the term "integrated approach of territory". Four elements allow defining this "integrated approach":

- To consider the territory as a complex system, whereof the elements are in constant interactions;

- To consider the territory not as a separated entity, but as a component of a global environment (a subsystem in more global system);
- To have a transversal and multi-disciplinary vision of spatial problems;
- To integrate a participative dimension in the approach, integrating the different perceptions of partners.

In the large panel of tools which participate to generate a more coherent spatial development, we have chosen to have an approach based on the observation's tools. For us, it seems that the observatories are the most appropriate tool to measure and evaluate the Saharan spatial mutations, approach based on a cooperation with a network of Algerian researchers and institutional actors.

2.2. What is a territorial observatory?

In general, the term "observation" infers to "*the action to watch with attention the people, the things, the events, the phenomena to study and monitor them*"⁴⁰. The same dictionary define the verb "to observe" by a reference to the actions of monitoring and controlling the phenomenon and process. In geography and other sciences which aim to understand and generate best practices in spatial planning and territorial management, the term "observatory" refers to a specific definition. In that case, an observatory can be considered as an "*observation device create by one or several organisms, to follow the evolutions of a phenomena or a portion of a territory, in time and space*" (De Sède-Marceau *et al.*, 2005).

The development of this kind of tool in Europe increased since few years in the perspective to generate a more coherent territorial development. On one hand, this process is linked to the availability of a increasing volume of territorial data, and in the other hand to the development of informatics capacities to analyze geographical information.

Another element which tends to develop these tools is the political will, based on social needs, to respect the principles of sustainable development. These principles imply to be able to understand more precisely the territorial dynamics and structures, and their evolutions, and to monitor the impacts of public policies. "Observing and monitoring the territories is today one of the most important mission of the spatial planning organisms. To know the condition and the evolution mode of territories through the public policies [...] constitute fundamental politic and strategic objectives. The objective of spatial planning organisms is to dispose of elements able to define the orientation of politics and public investments" (De Sède-Marceau *et al.*, 2005). This kind of approach imply to create partnerships between organizations in charge of territorial management, to support the data cost and mostly to develop a multidisciplinary approach of territorial dynamics. The main objective is to go beyond sectorial approaches to build together what the institutional, thematic and disciplinary approaches not allow.

Except these organization aspects, an observatory must be able to deliver pertinent geographical information formalized by specific indicators. Thus, an observatory can be

⁴⁰ Dictionnaire Larousse (2004).

considered as an “*organization and communication tools of an indicators system allowing proposing a synthetic and communicative image of territories, to support territorial diagnosis*” (Repetti, 2004). These tools sometimes integrate database and G.I.S., as in the researches lead in Théma Laboratory about observation of territories. They participate to develop more “*supple management methods based on the articulation between global strategies and local management dynamics*” (Repetti, 2004).

The territorial observatories are built on different objectives and technical structures. In practice, it is possible to differentiate two kinds of observatories:

- The production of territorial indicators, the main objective of observation, implies to pool the data produced by different kind of organisms and the partners. This need impose to create structures and organizational mechanisms to allow the building of a device without specific technical tools dedicate to the territorial observation.
- Sometimes, the approach is based on an instrumented dimension. In this way, the observation concept makes reference to the technical tool able to produce information and to participate to making-decision process. The building of the tool firstly must be based on the definition of common objectives with the partners.

3. ONE APPROACH, TWO MAIN OBJECTIVES

3.1. Producing news knowledge about Saharan territories.

Algerian spatial planning policies are still not concretely put into practice tools of territorial management, despite political wills to emphasize that kind of tools. Spatial planning policies applied in Sahara are problematic because they lean upon a very thematic and sectorial vision that is not considering territorial systemic aspects of Saharan territories. Now, it seems that we can't understand Saharan dynamics without including those territorial aspects. That's the reason why we propose to develop a tool able to pool, compare and synthesize information about those territories, in an integrated approach.

The necessity to develop that kind of tool rest upon two other observations:

- First, it's important to note that Saharan territories stir up scientist's interest, not only in Algeria. Indeed, the increasing production of scientific writings demonstrate that gusto⁴¹. Despite that several research centers and universities work on these subjects, none structure is able to federate their researches and results.
- Secondly, observation structures are very few developed in Algeria. So, a lot of interesting studies and statistics about Saharan space are barely emphasized and exploited by researcher community and landplanners.

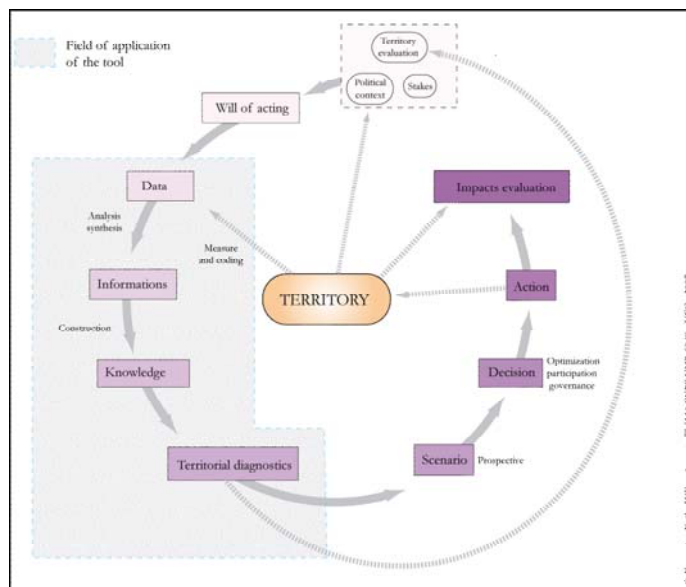
So, increasing knowledge, emphasizing data and information about Saharan territories needs to create a pluri-disciplinary approach, in order to federate the whole data concerning that part of Algerian's space.

⁴¹ The Research Network on Saharan spaces' web site (RRESA: resa.org) is inventorying those scientific writings on Saharan spaces.

3.2. Propose some elements in making – decision processes

Only information and data apposite and updated, responding to territorial actors' anticipations, can be used during a decision making process. That means that we have to identify and consider these anticipations in their spatial, temporal and thematic dimensions. Moreover, these aspects must be integrated upstream the tool realization process. Indeed, partners and users' needs determine the structure of the tool. Territorial diagnosis and scenarios constitute some of possible results offered by this observatory. It could help territorial actors to take a decision, based on apposite information available on different forms: maps, graphs, tables.

Fig. n° 3: Stakes of territorial evaluation.



4. METHODOLOGY

The technical structure of the tool rest upon two main aspects (see fig. n° 3):

- A resource-center and;
- A territorial observatory.

4.1. A resource-center

The resource-center rest on “*a strategy of organization, diffusion and valorization of geographical data, as documents concerning territory; based on the mutualization of resources*” (De Sède-Marceau et al., 2005). These resources are human, financial and technical. A such virtual space must be able to stock and make and inventory of the whole data and geographical information concerning Saharan territories. Those information could be heterogeneous, according to their nature (qualitative, quantitative), and their shape (maps, writings, statistics data, pictures).

As part of this project, we propose to elaborate an informatic structure online, in which each partner could unload and download data. This aspect must be got onto a participative approach, which would guarantee a permanent ceaseless improvement of the resource center.

According to De Sède-Marceau *et al.* (2005), a resource-center has to offer the following abilities:

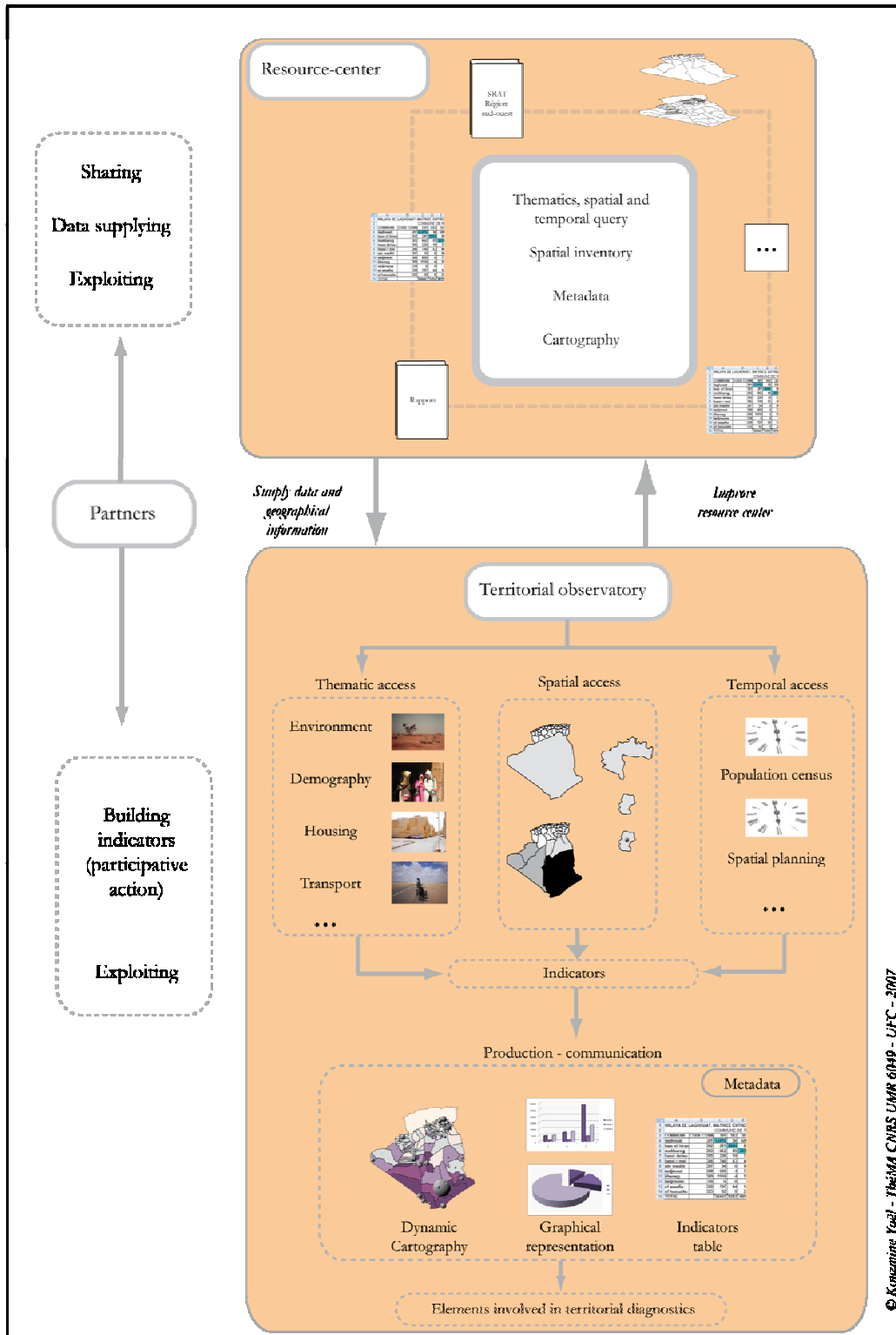
- *“Make an inventory concerning the whole data and documents available in the resource center;*
- *Query some thematic, temporal or spatial requests on the base, and allow the user to access data and documents;*
- *Update the set of data and documents by an user-friendly interface, attainable to everybody;*
- *Upload and download data and documents in order to use them in specific applications”.*

4.2. A territorial observatory

A territorial observatory is a component of a global information system, which is used to product apposite information about a specific theme or spatial entity. The information produced by the system have to respond to expectations of partners: researchers or territorial actors. The database is coupled here with specific Geographical Information System software, able to spatialize geographical information on different scales. The structure we propose rest on a set of geographical indicators, useable on several scales. Those indicators could give a general survey of Saharan territorial dynamics.

The user could access indicators by a thematic, a spatial or a temporal entrance. If the spatial entrance is chosen, the user will have to choose thematic, and then indicators; and conversely in case that the thematic entrance is in the first place chosen.

Fig. n° 4: Technical structure of the tool.



4.2.1. *The indicators and thematic*

Indicators constitute an important element of the observation structure. Joerin *et al.* (2001), define indicator like “*information deemed enough representative and synthetic*” and that aim to “*data and statistics into succinct information that could be easily understood and used by different groups of users*”. Desthieux (2005), specify their main functions:

- **Descriptive**: describe the state of a system, a phenomenon, or of its dynamic by comparing its situation at different times;
- **Illustrative**: implement understanding of interrelations between phenomenon, by measuring correlations between indicators;
- **Prescriptive**: replace the state of system in relation to finalities;
- **Simplification** of information in order to reduce the complexity of phenomenon;
- **Communication** of apposite information in order to interest a large public.

Developing an indicator can be more or less simple. Indeed, it can be «a simple selection of information deemed apposite and representative of a situation⁴²»; but can also recover from a more complex approach (Joerin *et al.* 2001). Composite indicators recover from this second option, since they represent an aggregate of individual indicators emphasized. That kind of indicator is often designed by the term of index.

The creation of indicators must consider the following elements:

- An analysis must be conducted on the relevance of indicators according to spatial scales: the context of data production must be known in case of aggregation of indicators to a bigger scale;
- The presence of data must be analyzed in order to make possible the production of the indicators. The conditions of data production must also be considered to be integrated to metadata (purposes, structure, producer...);
- The aims of territorial evaluation must be clearly defined in amount of analysis, before the construction of the indicator;
- The construction of indicators results from a common approach.

4.2.2. *The spatial scales*

Building a territorial observatory to Saharan scale means to think about apposite spatial scales to take into consideration. We have delimited five spatial level spatially interlocked:

- Three of these levels correspond to administrative levels that have territorial prerogatives (agglomeration, commune and wilaya).
- A second level is constituted by the three “*régions-programmes*”, made up of several wilayas. Those areas tend to assert themselves as a structure of reflection and partnership in terms of landplanning.

⁴² For Brunet *et al.* (1998), “*single statistic data is an indicator*”.

- To conclude, the final level considers the whole Algerian Sahara, as defined by J.-C. Brûlé (2004).

The two last levels fit in a perspective of scientific research, tending towards valuating relevance of “*regions-programmes*”, as the coherence of global Saharan space. Integrating those scales of analysis offer some interesting perspectives for researchers.

4.2.3. The temporalities

The temporal dimension is fundamental to evaluate the spatial mutations and will be include in the tool. The temporalities of the data depend on the kind of producer and their objectives. At a national scale, the population census statistics are produce on a long temporal scale (four general censuses since the independence: 1966, 1977, 1987 and 1998), but at a local scales, the actors of landplanning (*wilayas*, town’s department...) produce data more regularly. The Scientifics also produce data and geographical information but in a different temporalities and objectives by comparison with the institutional actors.

Therefore, the tool will not be characterized by temporal scales of reference, each user will can get the data and indicators based on the appropriate temporal scale in regards of his objectives.

4.2.4. Production and communication

In that kind of approach, experience had proved that the reactivity of the tool is very important. Indeed, according to De Sède-Marceau *et al.* (2005), “*the simultaneous acknowledgment of transactions made in the database*” is very important in a context of territorial observation. Reactivity permits a better monitoring of territories’ evolution. It supposes on the one hand a ceaseless updating of data base, and on the other hand the updating of elements produced by the observatory.

The results expected with the observatory are:

- Interactive and dynamic cartography of indicators;
- Data / indicators tables.

The role of maps, based upon indicators, is fundamental in order to build a tool concern with territorial dynamics. The interactive and dynamic cartography allows including the temporal dimension of geographical information. Antoni *et al.* (2004) consider that the most interactive kind of map is the map calculate and built in real-time.

In the tool we propose, the user can generate in real-time his map, based on a spatial scale (five levels) and thematic indicator that he choose. The map on-line allows to get the specific information of the spatial units, as in a classical geographic information system.

The user can also get detailed thematic indicator tables without cartography. These two kinds of elements could integrate a making-decision process by means of territorial diagnostics. In fact, these diagnostics always rest upon cartographic and data elements.

5. PARTNERSHIPS

This project is included in one international research program. The “Partenariat Hubert Curien Tassili” (n° 07-MDU-710) started in 2007 in cooperation between the Théma laboratory (UMR 6049 CNRS – University of Franche-Comté) and the Research center in cultural and social anthropology (C.R.A.S.C. – Oran, Algeria). This project deals with the territorial dynamics in the south-western Sahara. One of the scientific actions is the development of a territorial observatory in this region. The region is considered as a first case study, before to develop the tool to a larger spatial scale. In this cooperation action, we work with researchers from the C.R.A.S.C. and from the “Geographic space and spatial planning Laboratory” (E.G.E.A.T.) at the Es-Senia University (Oran).

In the future, we will try to create a partnership with the United Nations Development Program (P.N.U.D.) which develops programs about local development in Algeria.

CONCLUSION

This original project in Algeria involves developing partnerships between researchers and institutional actors of the Saharan territories. The first steps describe in this article constitute the theoretical bases of the future development of the tool in collaboration with the Algerian universities and local actors of territorial development. The first action is engaged to create the territorial indicator system specifically dedicated to the Saharan territories in Algeria. The second approach need to assemble whole the data which are produced by researchers and territorial actors to define the ability of the indicators to describe the reality of Saharan territorial dynamics.

Our instrumented approach is based on the concept of territorial intelligence applied to territories which are characterized by strong mutations and specificities. Our researches tend to transfer the methods of territorial intelligence based on observation tool in a different territorial context than they are usually applied.

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**“Territorial Governance and Residential Welfare: Experiences from
Taiwan”**

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Abstract: With the prevailing concepts of public participation and social inclusion, and citizen’s cry for high quality and efficient public services, local governments have faced new challenges in their territorial governance and in sustaining residential welfare. This paper discusses impacts of industrial changes on local territorial governance. Specifically, this paper reports the establishment of a newly-established science park in Taiwan, and its effects on the environment and residents’ perception towards their welfare and actors influencing their welfare. The findings show that, although literature suggests modern governance is networked by various stakeholders of the territory, in Taiwan residents’ mind, the most influential actor that affect their welfare during a time of change is still the public authority – local governments. The other actors have various influences and contributions.

1. INTRODUCTION

In the era of globalization, industrial change and development has brought a variance of unforeseen challenges to territorial governance. This phenomenon is especially evident in the context of regional development related to the establishment and operation of science parks. With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficient public services, local governments have faced new challenges in governance and public management.

This paper examines the impacts a newly-established science park has on the governance of its surrounding areas, in terms of local economic development, transportation, infrastructure, crime control, and political and social settings. It also inquires into citizen participation in the local governance, and how various stakeholders from different sectors are involved in the governing process to contribute to sustainable local development.

More importantly, this paper will report preliminary findings of a large-scale study of the impacts from a science park development in central Taiwan. With Shitun District in Taichung City and Daya District in Taichung County, Taiwan, as a research target area, this research investigates how globalizing and industrial change processes have affected and resulted aspects of local territorial governance.

This research conducted a large-scale questionnaire survey that interviewed hundreds of residents surrounding the science park in Taichung. This paper thus reports survey results that are related to residents' participation in territorial governance and their perception of their welfare as an outcome of local governance.

2. BACKGROUND

2.1. Globalization and Industrial Change

Near the end of the 20th century has seen the tide of globalization affecting almost every corner on the earth. Increasingly unrestricted and accelerated circulation of people, commodities, capital, money, identities and images flows, with near instantaneous means of communication, through global space. These accelerated, globally circulating flows are said to embody processes of deterritorialization, a process which reconfigures and re-scales forms of territorial organizations such as cities and states (Brenner, 1999). Through reterritorialization, social relations are being increasingly detached and disembedded from places and territories on sub-global geographical scales. Globalization is thus conceived as a reterritorialization of both socioeconomic and political-institutional spaces that unfolds simultaneously upon multiple, superimposed geographical scales.

From the experiences of Latin American, Roberts (2005) found that the impact of globalization on cities is both ambiguous and contradictory. The impact of economic globalization on labor markets and on the configuration of urban space accentuates economic insecurity and urban inequalities. It isolates low-income populations, reducing the public spaces in which they interact with the better-off population as private facilities for health, education and recreation spring up around the city. At the same time,

globalization has promoted the spread of information of their rights among low-income populations (Roberts, 2005: 121-122). Public control is now more likely to depend on citizen participation as an essential ingredient.

Globalization describes a world that is smaller and more interconnected due to many intersecting trends and conditions — communication and transportation; economics; war, terrorism, violence, and ethnic conflict; environmental pollution, natural disasters, epidemics, and climate change; and global migrations. Control over outcomes affects perceptions of globalization. In developed countries with both effective markets and high government capacity, globalization usually equates with opportunities to travel, communicate, tap markets, or influence events. In others, it may mean more uncertainty and risk—economic, social, cultural, environmental, and political (Klingner, 2004). As a result, governing bodies of the localities often face challenges unseen before and have to manage to not only ride the wave of globalization but also to avert and remedy its negative impacts.

2.2. Science Parks in Industrial Development

Since the end of the 1980s, development of the knowledge-based economy, globalization, and international competitive pressure has increased the importance of innovation in local economies. Simultaneously, globalization increasingly differentiates local distinctions arising from respective capabilities and environments. Contemporary neo-liberalism emphasizes place-specific economic policies. In riding the wave of globalization, and in becoming global cities, regional and urban areas have put significant efforts in planning industrial development to revive their economies. Their strategies often involve large-scale urban development projects in order to harness global capital flows (Roman, 2005). One of such projects is to set up industrial and/or science and technology zones, districts and parks to take advantage of resulted economic benefits.

Early conceptualizations of innovation diffusion and growth-pole theory point to a direct relationship between R&D activities and regional development. Recent economic theories of agglomeration and clustering advantages show how clusters are economically advantageous. In an industrial district such as a science and technology park, high-tech and innovative firms generally remain concentrated in specific locations, use shared facilities, and enjoy common economic advantages. These specific characteristics can be transformed into regional development. From this perspective, a science and technology park is seen as an effective tool for integrating industrial and regional development (Hu, Lin, and Chang, 2005).

Science parks seem to embody a vision of economic development. In particular they focus on the importance of cooperation between public, private, and academic interests (Shearmur and Doloreux, 2000). Science parks are thus often seen as, or are hoped to be, the solution to complex political and economic issues in society, for example regional industry problems, the under-commercialization of publicly financed research, a shortage of new product development, and unemployment. At the core of these expectations lies the belief that science is a catalyst to economic growth through its contribution to innovation and further development of high-tech firms, and this belief was further fuelled in the 1980s

and 1990s by the explosive growth and added-value creation in high-tech industries such as information technologies (IT), communication technologies and biotechnologies (Hansson, Husted, and Vestergaard, 2005). With incubators and technology centers, science parks have thus been an alternative in the set of political instruments that ideally cater for reindustrialization and regional development.

In the last few decades, countries have set up science parks in order to boost regional as well as national economies. After the successful experience of Silicon Valley in the United States, authorities of different nations selected domestic areas, built up infrastructure, and put incentives up to attract high-tech research and manufacturing firms to locate in the selected areas. According to International Association of Science Parks, in 2002 there were at least 250 science/technology parks around the world⁴³. These parks and specially planned industrial changes are found to be a significant contribution to a nation's industrial development and its economy.

In Taiwan, the government-led projects have successfully stimulated the regional, and even national, emergence of innovation systems and economic development. After successful economic experiences of Hsinchu Science Park (HSP) since the 1970's, Taiwan established two other science parks. Southern Taiwan Science Park (STSP) was established in 1995 in Tainan County. STSP is comprised of two bases, Shinshi Base and Luchu Base, both near Kaohsiung International Airport and Kaohsiung International Harbour. STSP has set its goal to boost the population of employment to 40,000 people with a turnover of US\$9.6 billion (approximately ECU 7.9 billion) in 2005. The Central Taiwan Science Park (CTSP) was established in 2002 in the greater Taichung area.

3. LOCAL TERRITORIAL GOVERNANCE IN INDUSTRIAL CHANGE

Contemporary discussions of regional governance increasingly emphasize the need for administrative flexibility, regionally coordinated economic development strategies and the problem of intensified global interspatial competition (Brenner, 1999). For science parks to be more than a form of glorified property development, Shearmur and Doloreux (2000) also argue that there is an urgent need for a fundamental transformation in the prevailing thinking of economic planning and urban development. In the course of industrial change, local territorial governance has to modify and adapt to the ever-changing environment.

3.1. Governance

“Governance,” defined narrowly, is the authoritative responses by which governments meet demands and manage resources. It may also refer to a change in the meaning of government, with new processes which focus on “self-organizing, inter-organizational networks characterized by interdependence, resource exchange, rules of the game and significant autonomy from the state.”(Rhodes, 1997: 15) Beside networks, governance structures also include hierarchies, markets and communities (Bovaird and Löffler, 2002: 16).

⁴³ <http://www.iasp.ws/>, accessed 2005/8/25.

There have been three trends in the change of modern governance (Jacob, 2004: 8). First of all, a variety of actors involved in the policy making process is enlarged. More democracy and new forms of participation are called to safeguard the affected stakeholders' participation in the policy making process. Second, more policy instruments are applied. New instruments are of less command and control, and more economic, flexible, and cooperative between government and target groups. Third, the importance of the level of national policy making is decreasing. International as well as sub-national levels are gaining more importance. Authority of the central government towards non-state actors is also declined.

Networks avoid many of the problems of hierarchical co-ordination, providing a framework for efficient horizontal co-ordination of the interests and actions of various actors (Luckin and Sharp, 2004: 1488). Therefore, governance is a form of network management and shows itself to be a way of assigning collective resources, which contrasts with the other two main ways of carrying out this task: market or hierarchies. Governance regulates and designates collective resources through relations with both the civilian population and with the other levels of government (Brugué and Vallès, 2005: 198). Shift from government to governance may result in opportunities for dissenting voices to be heard within policy-making processes, a need for public authorities to justify their performance and to increase possibilities in innovation and responsiveness (Luckin and Sharp, 2004: 1489).

Government capacity affects perceptions of governance. In developed countries, governance usually means maintaining government's ability to coordinate policy, gather information, deliver services through multiple (often nongovernmental) partners, and replace hierarchical bureaucracies with more flexible mechanisms for managing indirect government. In developing countries, it probably means establishing government's ability to deliver vital public services (through core administrative functions like budgeting, human resource management, and program evaluation) while also focusing on the more fundamental changes (for instance, citizen participation, decentralization, innovation, and entrepreneurial leadership) necessary for effective political systems (Klingner, 2004).

3.2. Local Governance

The past decade has seen a strong international trend towards the improvement of local service delivery. Conventional local management strategies need to be widened to include "local governance" aspects (Bovaird and Löffler, 2002). At the beginning of the 21st century, local communities are facing new challenges. These challenges imply that local authorities (Bovaird and Löffler 2002: 11):

- need more collaboration with other agencies in policy-making and implementation, involving private firms, the voluntary sector and higher levels of government;
- need to engage all partners in issues of local strategy, planning and resource mobilization, as well as in service delivery;

- need more intensive and widely spread knowledge management, not only within local public agencies but also in the networks of stakeholders within the local area; and
- need to maintain sustainability, taking into account the needs of future generations and the strategic knock-on effects of local decisions on other stakeholders and other areas.

The modernizing local governance debate has challenged conventional boundaries between managerialism and public governance theory, and new models are required to conceptualize this mixture (McLaughlin, 2002: 405). Hence, there has been a movement from traditional local government to contemporary local governance. A significant part of European Union (EU) literature uses the concept of governance to explain the experience of governing Europe without traditional nation-states formal power. Also, some managerial literature uses the term governance as a way to move from either a hierarchical or competitive organization to new forms of relational administration. At the same time, traditional literature on intergovernmental relations has also included the concept of governance as a way to improve the understanding of complex public policies. Finally, the governance debate has been placed in the specific domain of local government.

Stoker (1998) refers local governance as an inter-organizational network characterized by interdependence between organizations, continuous interaction between network members, game-like interactions, and a significant degree of autonomy from the state. Governance is about how social resources are assigned and distributed, a form of regulation that is more collective than individualistic. It blends together the concepts of bureaucratic style of administration operating by means of authority and power, and of the new public management on government via influence and negotiation. Local governance is therefore populated with various agents (public, private, and voluntary, and citizens and public agencies) connected to one another (by a network) in which they negotiate and get involved in making policies and in their implementation (Brugué and Vallès 2005: 197-198).

Bovaird and Löffler (2002: 16) formally define “local governance” *as the set of formal and informal rules, structures and processes which determine the ways in which individuals and organizations can exercise power over the decisions (by other stakeholders) which affect their welfare at local levels.* (original emphasis). With this definition, local governance requires the cooperation between and among public authorities and other stakeholders. It involves setting of formal and informal rules and the negotiation between stakeholders seeking to alter these rules. Local governance relies on market structures, hierarchical authority and cooperative networks at the same time.

Local governance refers not only to the role and functions of local government, but also the manifold interactions between local government, local citizens and other groups. Purpose of these interactions is to create sustainable local development in term of service delivery, infrastructure development and spatial planning. The emphasis on governance relationships implies emphasis on citizen or stakeholder participation in decision-making and planning (Hamann et al., 2005: 63). Among the stakeholders, community sector organizations are

widely seen as making significant contributions to the localities by increasing community capacity or boosting local social capital. Community sector organizations involving in local governance networks ensures community views are represented in policy process (Luckin and Sharp, 2004: 1485).

4. CHALLENGES FROM SCIENCE PARKS TO LOCALITIES

According to the UK Science Park Association's definition, a science park is a property-based activity configured around the following (Massey et al., 1992: 14): formal operational links with a university or other higher educational or research institution, the formation and growth of knowledge-based business and other organizations normally resident on site, and a management function which is actively engaged in the transfer of technology and business skills to on-site organizations. For localities, objectives of science parks include creating new jobs for the region and improving performance of local economy (Massey et al., 1992: 21).

However, science parks not only bring about positive consequences but sometimes also negative ones. In the 1960s, Japan's central government moved industrial and R&D establishments to local cities and rural areas to activate local economies. Although initially welcomed by related local governments, local citizens began to blame pollution from the industries (Eto, 2005). Studying Canadian science parks, Shearmur and Doloreux (2000) have found that there is no link between the opening of a science park and employment growth in high-tech sectors. Science parks do not appear to have any distinguishable effect upon regional industrial structure, and in particular they have no discernible effect upon high-tech employment – whether in the manufacturing or in the service sectors.

As a matter of fact, in the experiences of the 1st science park in Taiwan established more than two decades ago, numerous social, economic, political and environmental effects from the park have made local governance of the surrounding areas a much more difficult mission, if not mission impossible.

Establishment and functioning of a science park usually brings in enormous amount of population. All the needs of the residents and workers influence local economy, industries, culture, living, environments, etc. Hsinchu Science Park (HSP) development in Taiwan has indeed brought a variety of impacts on its localities and local governance, in terms of transformation of social structure, local culture, living and natural environment. HSP has thus exerted great influences on local development, including industrial shifting, consumption changes, and urban landscape transformation (Leu, 1997). These impacts did improve demographic quality and quantity of population and stimulate local development.

However, in the course of the HSP development, local residents felt more negative impacts than positive ones. Leu (1997) concluded that the major effect of the science park development lies in promoting national economic development, while marginalizing the local economic and social effects. The planned industrial change and development not only dramatically altered local community life, it even threatened their living spaces. In this era of democracy, residents' dissatisfaction and local needs usually feed back to local authorities. Local governments always have to struggle to meet the needs of the residents

as well as the Park, which is extremely challenging. While businesses in the Park and national economy may enjoy all the benefits of the industrial development, local communities, residents and authorities were actually strenuously bearing its costs.

5. RESEARCH CONTEXT AND QUESTIONS

Industrial change and globalization has brought positive as well as negative impacts to Taiwan's economy. They bring up an overall increase in averages of income, living quality, etc. However, they also create local problems due to regional varieties. Effects of the interaction between global community and local communities has lead to contradictions and controversial issues in national development, regional and urban development, social development, and functioning of communities. This contrast of and conflict in globalization versus national development and globalization versus localization undoubtedly is very much worth attention from social scientists and researchers. It is related to macro, global phenomenon as well as micro, day-to-day living. Therefore, observation from a community/regional point of view as a research focus will provide a more direct and profound interpretation of how local territorial governance in Taiwan have experienced the impacts and challenges of globalization and industrial development, and how it has continuously adapted and evolved in industrial composition, social structure and community life.

With Shitun District in Taichung City, located in central Taiwan, as a primary research target area, as well as adjacent Daya district in Taichung County, a research is conducted to investigate how globalizing and industrial change process has affected and resulted aspects of its local territorial governance. Shitun District and Daya District are located in the north-western part of Taichung City. Central Taiwan Science Park (CTSP), established in 2002 and surrounded by Shitun District and Daya District, is located in the Taichung City and Taichung County neighboring area, with its major part inside Taichung City limits. Its primary tenants includes optoelectronics, integrated circuits, computer and peripherals, telecommunication, biotechnology, and precision machinery industries. It has thus far attracted famous companies, like ProMOS Technologies (ProMOS), a leading advanced semiconductor memory producer, AU Optronics, the world's third largest manufacturer of large-sized thin-film transistor liquid crystal display panels (TFT-LCD), and Corning, located or even operating in the park. The CTSP expects, in the short run, to expand to 1,765 acres in area, a yearly turnover reaching NT\$1,000 billion dollars (approximately ECU 21.5 billion), and 150 on-park companies hiring 80,000 employees⁴⁴.

What has been witnessed is that in the past half century Shitun District and Daya District have experienced agriculture, industrialization, de-industrialization, and re-industrialization. Population mobilization in and out was regional and domestic, and has now been more and more internationalized and globalized. All these changes and shifts have been manifest in spatial structure, social structure, social lives, and urban and local governance.

⁴⁴ <http://www.ctsp.gov.tw/chinese/02intro/07future.aspx?v=1&fr=2&no=173>>, accessed 2007/10/08.

This research investigates the aspects of local territorial governance in the target area. The primary subjects of investigation are one the two major groups of actors involved in the establishment and functioning of a science park (Shearmur and Doloreux, 2000). Non-local actors are various cross-national or even global stakeholders who have access to strategic resources and assets that crosscut differentiated networks and will potentially benefit from science park formation in different urban and regional economies. Local actors, as the subject of this research, generally comprise businesses in the host urban and/or regional economies, government institutions and research organizations.

Rapid urbanization, industrialization, and industrial development in the past few decades has made metropolitan areas in Taiwan over-populated, and has put pressure on its environmental sustainability. Thus, to satisfy spatial needs in various kinds of development and to increase land use efficiency in order to lessen negative environmental impacts, central and local governments in Taiwan have utilized policies, developmental planning, and land use regulations in order to effectively lead to healthy development in metropolitan areas. Numerous models of urban planning and governance have been suggested, including merging of local governments, metropolitan governments, regional governmental council, metropolitan service management agency, etc. However, with dramatic changes in the social, economic and political contexts, existing systems of territorial planning and related regulations and policies do not satisfy the needs of modern planning and spatial development.

Taichung is a newly developed and continuously growing city. During the last decades Shitun District and Daya District experienced expansion and growth unseen before. In the past few years, set-up and operation of large enterprises in the CTSP has unpredictable impacts and influences on the development and community lives of both districts.

From the community organization network point of view, take Shitun District as an example, Taichung City government is the converging point of all kinds of institutes in Shitun. Shitun District Office is the node of local community developmental affairs, connecting sub-district neighborhood administrative offices, community development associations, and other community organizations. Therefore, in the governance and development of Shitun District, actors include central government, Taichung City government, Shitun District Office, 39 sub-district neighborhood administrative offices, residents and citizens, community organizations, non-profit organizations, community development associations, local businesses and local politicians. Territorial governance is an outcome of these actors' networking, interaction, collaboration and confrontation.

With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficiency public services, governments have faced new challenges in local governance and public management. What is more, governance and local governance is to be grounded in dialogue, discourse and engagement (Bingham, 2006; Davies, 2007; Sintomer and De Maillard, 2007), that is, the basics of participation. This study thus examines what role the above-mentioned multiple actors play in maintaining local living quality. More specifically, this study surveys local residents to find out their expectations and perceptions of the roles these actors play and contributions they have. What effects do the residents feel about from the establishment of CTSP? What actors do the residents

perceive as the responsible ones for their welfare? What actors do the residents perceive as the most influential ones for their welfare? How capable are the various actors of maintaining and improving local environment? How much have the actors fulfilled their duties? Are the perceptions of residents corresponding to the argued statement of local governance, i.e., stakeholders have roughly equal impacts in shaping welfare of local residents? More importantly, how have residents themselves acted for and contributed to maintaining and improving living quality?

6. RESEARCH METHODS AND FINDINGS

To fully answer its research questions, this study conducted a large scale face-to-face interview survey. The interviews were conducted from October of 2006 through July of 2007. A total number of 2,600 households were randomly sampled from 89,294 households (281,362 population) in the targeted two districts. When a household is selected, interviewers were sent to the household, and an interviewee was then randomly sampled from that household. Each interview took approximately 30 minutes. At the end, a total of 613 valid interviews were conducted.

The findings show that, although most of the residents of the surrounding areas of CTSP are concerned for their communities, very few of them take actual, regular actions. Eighty-five percent of the respondents (n=613) report that they do put attention to local and community affairs, and that they care about happenings in and around their neighborhoods. However, only ten percent of them are members of their community organizations. Approximately the same portion of the residents participate in the activities, meetings and discussions of their community organizations.

Nearly fifty percents of the respondents express that, in the past five years, neighborhood traffic conditions have worsened. More than half of them indicate that in the same period neighborhood security has deteriorated. Furthermore, even more residents, 56 percent of them conceive that area economic prosperity went down in the meanwhile.

However, perhaps due to increased related demands from the CTSP, nearly 70% of the residents claim that supplies that support their living necessities have increased during the past five years. Forty-two percent report that sanitary conditions of their communities have improved, while about the same portion believe they remain unchanged. In general, forty percent of the residents agree that living quality of their communities have ameliorated, while only fourteen percent hold an opposite view.

When asked whether governmental agencies are responsible for maintaining and improving living quality of their communities, more than eighty percent of the respondents agree. As displayed in Table 1, seventy percent agree that governmental agencies are capable of maintaining and improving living quality of their communities, but only fifty percent confirm that governmental agencies have fulfilled such duties. Therefore, about half (53%) of the respondents approve governmental agencies' contribution to their living quality.

When asked whether community/neighborhood organizations are responsible for maintaining and improving living quality of their communities, sixty-six percent of the

respondents agree. Sixty percent agree that community/neighborhood organizations are capable of maintaining and improving living quality of their communities, but only forty-five percent confirm that such organizations have fulfilled such duties. Therefore, about the same portion (45%) of the respondents approve community/neighborhood organizations' contribution to their living quality.

When asked whether general non-profit organizations are responsible for maintaining and improving living quality of their communities, only thirty-two percent of the respondents agree. Even fewer, 30%, agree that non-profit organizations are capable of maintaining and improving living quality of their communities, but only 16% confirm that such organizations have fulfilled such duties. Therefore, about the same portion (16%) of the respondents approve non-profit organizations' contribution to their living quality.

When asked whether residents themselves are responsible for maintaining and improving living quality of their communities, 91 percent of the respondents agree. Nearly eighty percent agree that governmental residents are capable of maintaining and improving living quality of their communities, and 81 percent confirm that residents themselves have fulfilled such duties. However, fewer respondents (74%) of the respondents approve residents' contribution to their living quality.

Comparing various entities, most, 44%, of survey respondents agree that governmental agencies are the most influential one that influence their neighborhood living quality. 28% of the respondents name community/neighborhood organizations as the most influential entities, while about the same portion (27%) indicate residents themselves as the most influential. Only nearly one percent conceive non-profit organizations in this case.

Table 1: Various Actors' Role in Maintaining and Improving Living Quality, as Perceived by Survey Respondents (n=613).

Actor \ Role	Governmental agencies	Community/ neighborhood organizations	Non-profit organizations	Residents
Are responsible for	80.8%	66.1%	31.5%	90.7%
Are capable of	70.2%	60.0%	29.4%	79.7%
Have fulfilled such duties	51.0%	45.2%	16.2%	80.7%
Made contribution to living quality	53.7%	44.9%	16.0%	74.0%
Most influential	44.0%	27.6%	0.8%	27.2%

How do residents perceive their participation in local governmental decision-making related to their living quality? 38% agree that they are allowed to take a part in the process, while 61% do not perceive that they have opportunities to participate. Thirty-five percent indicate that local residents do take these opportunities to have a say on the policies, while

65% hold a negative view. Only forty percent of the respondents believe that residents' participation in the policy making process will influence local government's final decisions, while more, 60% are pessimistic of the impact.

7. CONCLUSION

With the prevailing concepts of public participation and social inclusion, and citizen's cry for high quality and efficient public services, local governments have faced new challenges in their territorial governance and in sustaining residential welfare. This paper discusses impacts of industrial changes on local territorial governance. Specifically, this paper reports the establishment of a newly-established science park in Taiwan, and its effects on the environment and residents' perception towards their welfare and actors influencing their welfare.

The findings show that, although literature suggests modern governance is networked by various stakeholders of the territory, in Taiwan residents' mind, the most influential actor that affect their welfare during a time of change is still the public authority – local governments. Community organizations play a minor role in keeping local living quality, while non-profit organizations are deemed almost insignificant. Residents see themselves as important actor in sustaining their own welfare, but feel less influential in doing so.

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“Territorial Identity and Geographical Mobility Projects”

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Abstract: Presently, geographical mobility strongly influences professional insertion. Although, when we ask pupils from rural environments about their future life and work environments, they appear to prefer countryside in their present life region and to be strongly reluctant to live in a big city, and even more in a foreign country. It makes wondering about the possibilities: precocious entry in the local labour market or migration towards more qualified jobs.

Many factors can affect these future choices: what is the part of the origin family socio-professional environment, the personal history of these young people who are or not from the region where they presently live, the regular or occasional frequency of their family travels, the representations they have of anchorage and territorial identity.

The follow-up, from the so-called “CM2”(which corresponds to 5th grade) to the so-called “Seconde” (which corresponds to the second year at the Senior school) of a cohort of more than 2000 pupils who belong to various types of rural environments and who are interrogated five times, allows giving some answers to the question of territorial identity and geographical mobility projects among the pupils from rural environments.

Keywords: école rurale, identité territoriale, mobilité géographique.

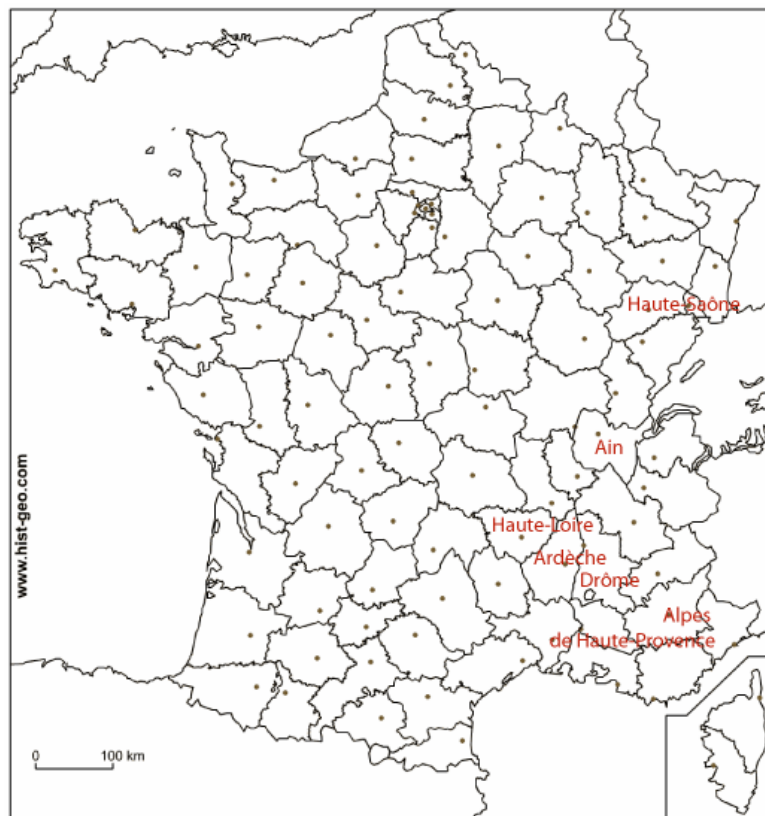
The geographical mobility of people presently broadly conditions their professional inclusion. Furthermore, the recent mutations of the French rural spaces show deep changes in the employments offer that is available in these territories. Thus, the geographical mobility will impose itself to some active people native to the rural world, who are nevertheless very attached to their original territory.

However, at which moment people plan this possible geographical mobility? If their mobility project is inscribed in an actual looking for a job, does it necessarily mean that they contemplated this mobility during their childhood or during their adolescence?

This article concerns their knowledge of the factors that are likely to influence the determination of the children's and adolescents' future mobility choices. It allows understanding the impact of the family environment and of the living place, in this case the rural territory, on the mobility planned desire.

The research action that is presented here comes from a work that has been led since 1999 in six French rural departments with pupils and their family who have been regularly surveyed since this date. This work is made by researchers of the Observatory of Rural School who work in various disciplines (sociology, education sciences, geography), with the help of many local partnerships that are indispensable to gather and key-in data.

Figure 1: The study area: Ain, Ardèche, Alpes de Haute-Provence, Drôme, Haute-Loire, Haute-Saône.



Surveys are made in an iterative way with a two thousand three hundred ninety-four pupils cohort; they are native to the rural territories that were chosen for this study. The surveys include some questions that are asked both to the pupils and to their parents, it was made several times all the observation period long. The questions concern various fields that are for example linked to the perception of school and of its environment, to the desired and lived school trajectories, to the self esteem, to their territory representations...

The questionnaire addressed to their pupils and to their family is one of the main chosen survey techniques; nevertheless, interviews with the surveyed people were made so as to detail the gathered information and to open the field of the started study.

Thus, we examined the results of the 1999 survey, when the pupils were in the so-called CM2 (10-11 years), of the 2001 survey, when they were in the so-called "Cinquième de collège" (12-13 years), of the 2003 one, when they were in the so-called "Troisième de collège" (14-15 years), and we closed this diachronic study with the analyse of the surveys that were made in 2004. We took into account the pupils who had a normal itinerary (college then high school without lateness) and those who had a different curriculum, either because of a repeating either because of a reorientation (family rural houses, apprenticeship...)

The parallel analysis of the surveys directed to the parents allowed us completing our study.

Among the numerous fields that were studied in the survey, we selected several parameters that are likely to give information in our survey field, according to the hypotheses we made. Thus, we paid interest to the socio-professional origin of the pupils' parents, to the pupils' birth place to know their parents' mobility, to the regular or episodic practice of family travels because it could provoke a "elsewhere desire", and lastly to the representations of anchorage and national identity in the determination of their future life choices. From the statistic treatment of the data coming from the questionnaires, we could extract some information linked to the observation of factors that are likely to influence the pupils' choice as regards their possible mobility project; they allowed us measuring the evolution of their project in long duration.

In this article, we will try to firstly understand the nature of the geographic mobilities of the rural pupils' parents, we will observe the vision the pupils have of their life environment and we will measure if it evolves when the children grow up. We will wonder about the nature of the mobility projects that are evoked through the expression of the wished life places. Lastly, we will identify the family factors that are likely to influence the determination of the mobility project.

1. THE WEAK GEOGRAPHIC MOBILITY OF THE RURAL PUPILS' PARENTS

The students and their family constitute a population that is relatively geographically stable, as the recent movements had a low amplitude (83, 4% of the pupils were born in the department or in the Region where they presently go to school). There are some newcomers among the families; they are from other French regions, and rarely from the so-

called “DOM” (Ultramarine departments) and “TOM” (Ultramarine territories). Only, 2% of the children were born abroad.

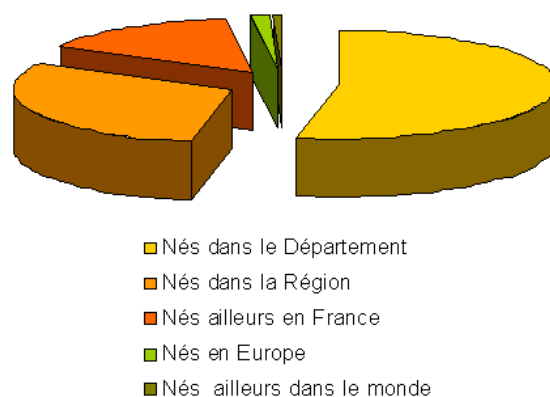
These figures that show a good geographical stability of the rural populations hide many disparities.

1.1. The territorial disparities

The repartition study of the pupils who were born somewhere else than in the schooling department or Region show that it mostly takes places in an isolated rural environment.

As a consequence, we can notice the pupils’ birth place has an impact on the place of residence. The newcomers can be distinguished into two categories. Some graduate families that belong to a high socio-professional category and that wilfully decide to settle in the countryside. Here, we can find the attraction of some geographic areas of Mid-range Mountain. Some families that have more or less important difficulties may expatriate to the countryside where the housing costs are cheaper, for financial reasons. This phenomenon which is amplifying modifies the life within the village: mentalities and cultures mixing, new requirements of the new rural inhabitants who want to find in the countryside the service they had at their disposal in the town, stimulation of the associative networks that are linked to school, it is sometimes accompanied by a genuine unbalance of the local social life that questions the traditional municipal majorities...

Figure 2: The weak geographical mobility of parents living in rural areas.



1.2. Strong family disparities

The study of the fathers’ socio-professional categories allows detailing the social characters of the new populations. Indeed, the pupils that were born somewhere else than in the schooling department are part of families which father belongs to a higher socio-professional category than the pupils born in the department’s ones. The mothers’ diploma degree notably follows these variations.

These figures illustrate the re-urbanisation phenomenon we already evoked, where we notice the families with a high socio-professional level are usually those that move to rural

environments.

It is possible to distinguish attractive departments for executive people (Alpes de Haute-Provence, Drôme) and department that are rather attractive for families that have a low diploma and qualification level (Ain, Haute-Saône, Haute-Loire).

These differences can be explained by the inter-departmental contrasts of the economic structure that are confirmed by the gaps between the other families' socio-professional categories. Thus, the rural sectors of Ain, Haute-Saône, Haute-Loire appear to be territories where the industries, especially the small-businesses/small-industries give more importance to the workmen employments with a low qualification level. On the other hand, the rural areas of Alpes de Haute-Provence and Drôme offer higher qualification level employments, which are often linked to the service sector and also both to the rural local structures of the economic base and to the daily migrations towards the urban intra-department or extra-department poles.

2. THE PUPILS' DEEP ATTACHMENT TO THE ORIGINAL RURAL TERRITORY

During the surveys, the pupils were asked about the contemplated living place to practise their professional activity. They had to estimate the attractivity or push-up of some given places.

The diachronic observation of the surveys results show wills of places of occupational practise at the time similar and contrasted, according to the surveyed departments.

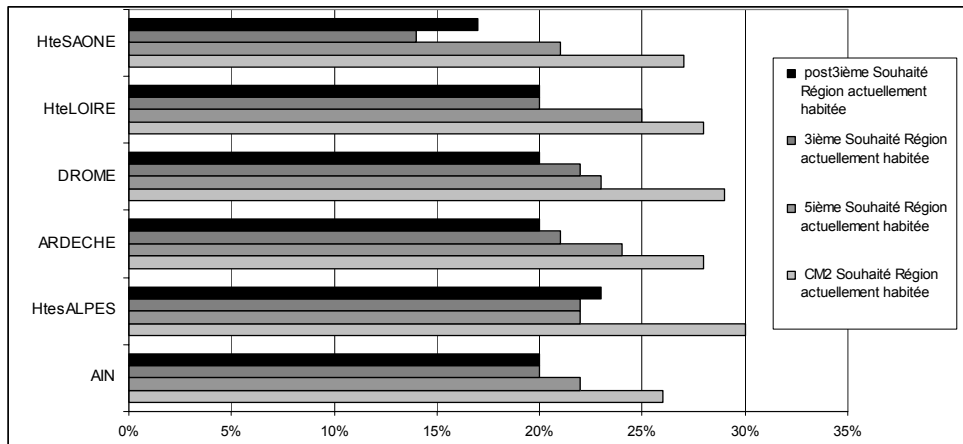
The recurring trends mainly concern an attachment to the life territory that decreases as the pupils grow up and an increasing interest in the foreign countries.

2.1. A perennial will to stay and live in the same environment that decreases whilst growing-up

During the so-called CM2 (10-11 year), the surveyed pupils want more to stay and live in the region where they presently live, and it is true whatever the origin department is (and even in an almost equivalent way, with only 4% gaps). The countryside is their second priority living place consequently a space that is closed to their present housing territory.

Between the end of primary school (11 years) and the end of the college (15 years), the interest in the region where the pupils live decreases, whatever the analysed department is. It is in Haute-Saône where the pupils of the so-called "Troisième de college" (14-15 years) less positively consider staying and working in their department and in a more sharp way (14% against 27% during the so-called "CM2" (10-11 years), whereas the pupils who are from Drôme or Hautes-Alpes express more interest in this territory (22% during the "Troisième"). Nevertheless, when they were surveyed after the college, the young people from Haute-Saône and Hautes-Alpes quoted more their region as a wished place to practise their occupation than they did in "Troisième", whilst the interest diminution was confirmed for all the other pupils.

Figure 3: A deep feeling for the native rural territory, decreasing while the pupil is growing up.



The answers of the Haute-Saône pupils to the latest two surveys make us wonder about the reasons of these life wills. Which representations do they have of their department as a potential employment territory? Do they have representations that are linked to unemployment? The observation of the unemployment figures show a rate that is lower than in Drôme and Ardèche and that is always inferior to the national average. These figures express an economic reality and the perceptions the pupils can have about the employment world and its social environment could be extremely different.

Besides, can not they imagine a few diversified employments offer on this territory and think that somewhere else they will find a more exhaustive one? The most numerous students who want to locate in another region or another country are the Haute-Saône ones (“Troisième” and “post-Troisième” surveys). At the same time, the urban environment attracts them, and they prefer the small and middle-size towns.

The push-up of the region when they live increase with time, in particular between the “CM2” (10-11 years) and the “Troisième” (14-15 years) and it continues beyond the college only for the Ardèche pupils. The year of “Troisième” seems to constitute for many pupils a will to break with their living place, whatever their original department is. The orientation choices they contemplate surely participate to the elaboration of their representations on their future professional life places.

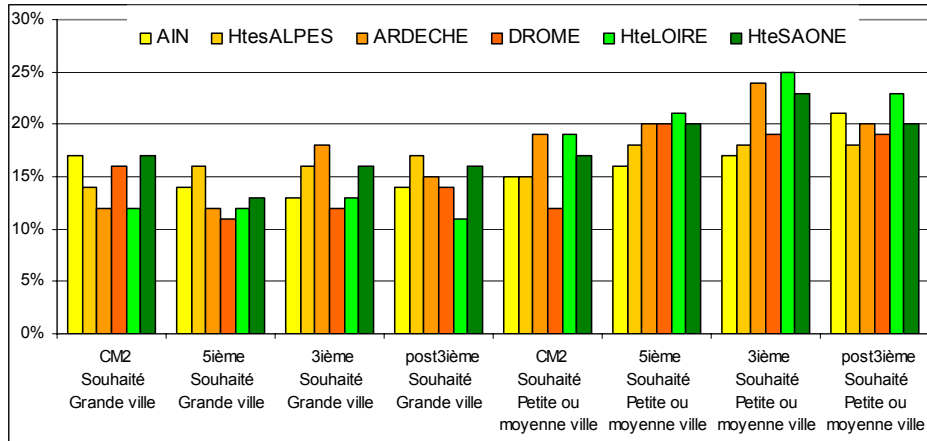
The attachment to the countryside is obvious at the end of the primary school (11 years) but it tends to decrease when the surveyed pupils grow up. At the end of the college (15 years), the disinterest for the rural environment clearly initiates.

2.2. A permanent push-up towards the large towns

In “CM2” (10-11 years), the differentiation between the surveyed departments depends on the towns attractiveness, whatever their size is. Indeed; between the Haute-Loire and Ardèche pupils who are little eager to live in an urban environment (12%) and the Ain and Haute-Saône pupils (17%) who are more eager to live in this kind of environment, the gap

is quite important. Nevertheless, the small and average town seems more and more welcoming for all the pupils in the course of years. The pupils express a more important interest in the towns when they enter the college (11 years). The discovery and the appropriation of a new territory, in some cases more urbanised than the one where they live, can modify their initial representation when they enter the secondary school (15 years).

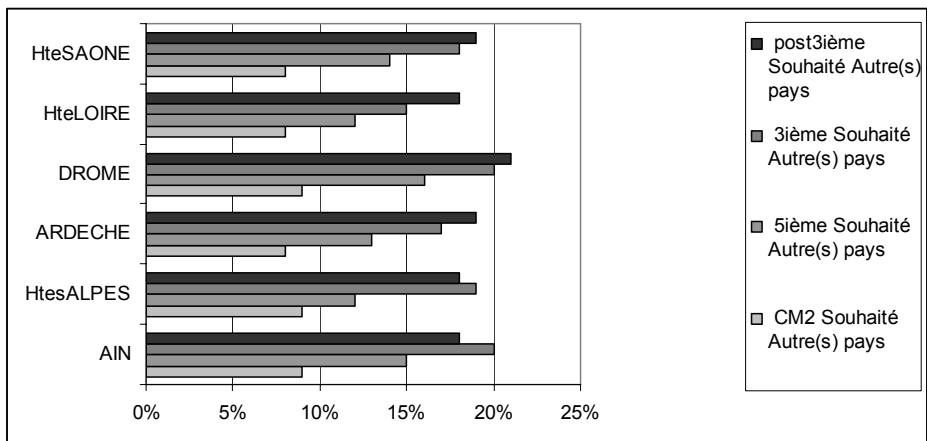
Figure 4: A moderate attraction for urban life.



2.3. A desire to discover the other countries whilst growing-up

The surveys diachronic analysis makes observe an evolution of some pupils' representations about the interest in the foreign countries that could potentially receive them to work there. In "CM2" (10-12 years), settling in another country that theirs does not seem possible to the pupils, particularly to those from Hautes-Alpes and Drôme. Nevertheless, the pupils' opinion changes at the end of the college (11 years). However, among them, an average between 8% and 9% contemplated this possibility at the end of primary school (11 years) when the question about their wished living place was asked. They will be between 15% and 20% to think about this option in "Troisième" (15 years).

Figure 5: A desire to discover other countries which increases while growing.



Percentage of pupils who declare they want to dwell in a foreign country.

The pupils have a benevolent look on their own living environment, within which they want to practise their professional activity. Their representations testify a feeling of belonging to a lived territory and consequently underline the identity character to which they refer to contemplate a project of professional and geographic mobility.

Which implicit or explicit role the family can play in their child's project?

3. THE FAMILY IMPACT IN THE DETERMINATION OF THE MOBILITY PROJECT

3.1. The birth place influences the project of professional life

The pupils' birth place, geographic origin has an indisputable influence on their life projects. Among the pupils, the ones who were not born in the department and the region feel less attachment to their region of present residence than the others and they more easily contemplate to go to live and work somewhere else in France. In the same way, they feel fewer push-ups to live in a large town, like Paris, Lyon or Marseille...

On the other hand, all of them prefer the life in the countryside rather than in a town, whatever the size of the latter is.

3.2. The territorial factors seem to be discriminatory in a variable way

The crossing of the future places of professional life that are wished and not wished by the surveyed pupils four year after the "CM2" allows noticing that:

- the wills of pupils from an isolated rural environment and under a low urban influence are closed, they are more attached to the countryside and to their region than the other pupils.
- the pupils who go to school in a rural pole are less reluctant to the idea to live in a large town or to go abroad.

3.3. The influence of the belonging social-professional environment

The father's social-professional category and the mother's diploma distinguish neither the relish for countryside nor for town (that can be large, middle-size or small). On the other hand, the gaps are more important as regards the idea of mobility in another French region and above all abroad: the children of the upper social-professional categories are more open to the mobility idea, even of international mobility, as regards the future professional entry.

CONCLUSION

The main results of this study were expected but we could verify and establish them through a quantitative approach as it was done here.

The role of the social context is confirmed showing different attitudes towards mobility.

For the future, complementary investigations would need to take into account the representation features related to mobility in the mind of pupils.

For instance:

- How they can define the characteristics of their future environment if they have to move there?
- What they like or worry about in a big city, in a given foreign country etc...?
- In that way, it would be possible to see not only if they would accept to move or not for finding jobs but also why.

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“Sustainability of Territorial Projects. A Proposal”

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Abstract: This paper review efforts devoted to sustainability over the last years from different points of view. First of all, a conceptualisation and modelling of the concept is presented from a “macro” perspective. Next, some ideas of how sustainability could be implemented in a territory are given. This could be considered the “meso” vision. Finally, the “micro” perspective from the project level is tackled. In this sense, we propose a *check list* to select projects contributing to sustainability. This proposal is only one aspect for the beginning of a long way.

1. SUSTAINABLE DEVELOPMENT CONCEPTUALISATION

Conceptualisation of Sustainable Development is not an easy process. This broad term could lead to several interpretations. The concept was created within a changing context at the international level. A general awareness was raised about the two main problems generated by capitalism: poverty and environmental degradation. Natural resources were not included in economic analysis up until the second half of XX Century.

Sustainability implies “maintain through time”. From an economic point of view welfare is what should be hold. There are several definitions for welfare concept, but all of them include economic aspects as economic development; social aspects as quality of life not only for present generations but also for future generations; and environmental aspects as lack of pollution.

Sustainability theory focuses on two main criteria. First one concerns to natural resources. They are considered natural capital and economic analysis should treat them as any other type of capital. Natural capital should be kept to be passed on to future generations. Equity is the second aspect in Sustainability theory, both inter- and intra- generational equity.

Sustainable development is raised from two dimensions. A territorial one, focused on needs’ satisfaction of present generations living in different territories. On the other hand, a temporal dimension which regards to needs’ satisfaction of future generations. Universalism should be the starting point of intragenerational equity. In this sense, human development should achieve people generating by themselves opportunities to produce resources to live “worthy lives”, guarantying at the same time similar opportunities for future generations.

Assuming Sustainable Development is influenced by economic growth models and focused on human needs’ satisfaction; we could say it is: i) anthropocentric (natural resources preservation is subordinated to human welfare); ii) based on interterritorial solidarity (it should contribute to satisfaction of needs in every territory); iii) based in intergenerational solidarity (it should allow needs’ satisfaction of future generations). This development model is limited by the Biosphere carrying capacity. It means that sustainable development should improve human quality of life without exceeding ecosystems’ equilibrium. Ecological limits should be defined, but also criteria to preserve natural capital. Concepts integrating sustainable development could be made operational in two ways: strong sustainability and weak sustainability.

Weak sustainability assumes substitution among natural capital and manufactured capital and gives credit to technological possibilities to replace natural resources functions within the production process. On the other hand, strong sustainability presumes complementarity between natural and manufactured capital, therefore technology cannot substitute different kind of capitals. As weak sustainability cannot guarantee constant welfare through generations; strong sustainability seems to be the desirable option. In this model, thermodynamic laws are considered in production processes and in economic exchanges. Uncertainty is the main driver; therefore “precautionary principle” should guide natural capital preservation considering security margins; that is because operating in the optimum

levels of capital does not guarantee ecosystems' stability. Strong sustainability should guarantee species preservation, minimum standards for impacts on environmental quality and sustainable use of renewable resources.

Conceptualisation of sustainable development results on a specific model and moving to action means materialising it into a specific territory through sustainable policy. This should respect global environmental limits and interconnect objectives of several policies—economic, social, environmental policies and others— within the framework of institutions and actors operating in the same territory. Sustainability policy may establish goals in terms of sustainability and resources to achieve them. In other words, the aim should be rectifying the unsustainable aspects of development through policy intervention. Generally speaking, every policy should establish limits to natural resources exploitation to keep i) life functions, ii) specific level of natural resources to maintain production of manufactured goods, iii) economic welfare in terms of utility derived from the environment, and iv) equity (inter- and intra- generational) in access to natural resources.

Sustainability policy design depends on the theoretical conceptualisation of sustainable development and its derived models. It will differ if the reference is weak sustainability or if it is strong sustainability.

In order to meet environmental sustainability criteria, a global sustainability policy is needed. Local sustainability policies should not only focus on preserving natural capital located on the territory but also consider global environmental sustainability. How social and global environmental limits are materialised in a specific territory? Sustainable development actions have been led by “Think Global, Act Local” premise over the last few years. Some questions could arise in its implementation, for instance what is the “local” scale? How do we include global limits in local dynamics? What actors could make sustainable development operational? Answers are behind the concepts of governance and territory.

Active Democracy or Good Governance could give solutions considering global limits, both in environmental and human terms, but also to implement at the local level solutions achieved at the global level. Institutional framework—set of norms and rules performed by territorial actors and its organisation— is decisive to implement sustainability values in territorial development. Two levels of governance are required. On one hand, the international level at which alternatives to respect biosphere global limits should be established. On the other hand, the territory as a key level for inhabitants' needs satisfaction. It shapes dynamics of relationships among public and private actors, and those have influence on production and consumption processes of any society and on how social relationships are structured.

Local level is the territory where policies designed at national or regional levels are implemented. Territory is conceived as a complex dynamic system, an open space socially built interchanging networks, strategies and interdependences among actors operating in that specific territory (Leloup, Moyart and Pecqueur, 2004). This complex system evolves and regulates itself. Its autonomy depends on its identity, its history and its specific dynamics. The evolution of territories should be coherent with sustainable development

principles. In addition to global environmental limits, the key to achieve global sustainable development is the sustainability of every territory and their population.

2. MODELLING: APPLICATION TO A TERRITORY

Conceiving the territory in this way, next question to arise is: What elements need to be considered to guarantee sustainability in a territory?

Key factors highlighted by the theory of sustainable development are natural capital maintenance and equity. In this sense, what is the natural capital to be preserved at the local level? How to achieve equity? How do they relate at the local level? Answer to the first question could be given by studying ecosystems, not only those located in the municipal territory, but also the ones located in surrounding areas. Identification of ecosystems and their interconnections give us an idea about capital to preserve and its functions. Basic indicators are critical natural capital, ecosystems carrying capacity and minimum security standards.

Besides this, policies with impact on territory should be studied and the model guiding local development determined. Our choice is strong sustainability, in which sustainability principles should lead local decision making. Reality becomes complex when numerous administrations have different competences managing sustainability principles. Moreover, actors (enterprises, associations, scientific community, etc.) not always operating in the same territory are also involved in their implementation. Institutional dimension plays a key role in territorial management.

One of the problems of restricting the analysis to a local area is that it is not an autonomous system in terms of resource use, since most of the consumed resources come from outside. Furthermore, when human settlement is not big, it is neither autonomous in terms of generated resources and it does not usually constitute an employment basin; therefore inter- and intra-municipal transport system is decisive for sustainable development. In this sense, the study of policies and actors with territorial influence is one of the keystones for sustainable territorial management. It would also shape the structure of the territorial information system supporting policy making, including indicators for municipal sustainable development.

Equity application as second sustainability key factor has a twofold dimension. Intergenerational equity is raised by preserving natural capital, among others, as a bequest to future generations. Intragenerational equity is suggested from universalism, focusing on people's ability to generate opportunities to "live worthy lives". At a global scale, consumption decisions and development aid influence global consequences of local decisions, from the social sustainability point of view. At a local scale, attention must be put on satisfactors. Culture by values, environmental and sustainability education and transparency in information induce responsibility in consumption and production patterns; which could be fostered by administration.

Educational level given to population and the typology of employment (mainly job posts) created in the territory will have great influence on inhabitants' ability to generate quality

of life opportunities. Balance between human capital and employment opportunities generated should be achieved. From this point of view, two types of studies are required to build a sustainable local development model. On the one hand, social policies with local impact; on the other hand, institutional framework and actors networks.

Relationship between natural capital and equity in local area is based on policy coordination and the sustainability policy design —or introducing sustainability as a transversal factor in every policy implemented in the territory. Agreement among territorial actors on sustainability policy or sustainability of territorial policies is the successful factor, but we are aware of the difficulties of implementing it in reality.

Studying territorial policies and sustainability policy requires a broad and detailed information system to analyse real policy effects on territory, their contradictions, incentives or behaviours they promote in the long run. Local information system should be connected somehow to information systems of superior levels: regional, national, European, etc. It should feed decision making regarding to policies territorially implemented with results and side effects, not only in local territory, but also at the global level.

Territorial information system should be the common framework to include information regarding to the progress made by a territory in sustainability terms, but it is not always possible to design or maintain such system. A policy counts on indicators, sources, methodologies and objectives; different from the ones of another policy implemented in the same territory. Despite of existing important information groundwork in almost every territory, it should be fitted in a model integrating all sustainability dimensions.

3. OPERATIVISATION: SOME GUIDELINES FOR PROJECTS

Considerable efforts have been done in theoretical conceptualisation and modelisation of sustainable development since the sixties— twenty years before the term was coined. Those progresses have been mainly developed from a “macro” point of view, for instance, sustainability modelisation based on general models of optimum consumption paths to find “sustainable yields”, although other models have also been elaborated from individual welfare maximisation (micro view).

However, studies to implement sustainability modelisation to a territory are less abundant. Works produced in this sense are related to modelling dynamics with influence on regional or local sustainability. Design of sustainability strategies and policies at international, national, regional, and even local scales; is another example of works developed over last years.

Fewer efforts have been given to the “micro” scale. From the business point of view, there have been elaborating sustainability reports and stock-exchange indices; both representing somehow the business’ sustainable management. Resources have also been assigned to environmental education of families and citizens. But, tools to analyse sustainability of territorial projects have not been elaborated so far. In our opinion, this field is very likely to restrain unsustainable trends of territorial development.

Assuming development as a broader term than economic growth, community development is not only boosted by business activities, but also by changes in institutions, norms and citizens' attitudes; achieving integral welfare of population. In this sense, a great variety of actors actively work in the development of social projects resulting in a common welfare increase. Those actors implement projects within territory directly or indirectly influencing community development, not only growth.

Their actions change institutions, creating entities or infrastructures to achieve social goals; for instance, building hostels or refuges. They also stimulate changes in customs through education and training; ease insertion through inclusion projects; fight for Human Rights; defend justice and equal opportunities in resources access; etc. All those projects contribute to the social dimension of sustainable development from the intragenerational solidarity angle. But actors do not usually count on tools to assess their actions from an integral conception of sustainability.

Other actors modify customs through environmental education promoting respect to the environment; or customs related to public health through nutritional campaigns; or develop actions focused on the preservation of natural resources located within a territory (spaces, flora or fauna); or modify society consumption or production patterns. Those entities work in favour of environmental dimension of sustainability; but they do not always take into account in their projects the other sustainability dimensions.

It may be appropriate to reckon on tools to integrate all sustainability dimensions through every phase integrating a project: needs diagnosis, project design, implementation and assessment of results. In this paper, we will focus on emphasizing the importance of developing tools to ease project selection process considering sustainable development from a holistic view.

Due to complexity and multidimensionality, sustainable development cannot be conceived from only one discipline or field. In the same way, the sustainability of a project or a strategy, cannot be defined exclusively by a type of actor: neither scientific community vision, not social entities or environmental organisations vision. Common work is needed to provide for every aspect included in all dimensions of sustainability: technical, conceptual, administrative, community or strategic features. Real effective participation of actors operating in the same territory at different levels with different visions and interests is an essential requirement to set solid basis to build projects favouring territorial sustainable development, or at least, not diminishing it.

We are referring to participation that drives a consensus on materialising basic pillar of sustainable development in the shared territory. That is, natural capital maintenance and equity. Common objective should be development sustainability, recognizing different paths from which achieving it. Results of this common work may have positive consequences on actions developed by every territorial actor.

Form this premise, and descending to a project baseline, it is necessary to consider the great variety of needs and projects identified by every actor and the scarce resources to face them. Elements considered for prioritising projects to be finally implemented depend on manifold factors, interests and people. At this point, considering one more element in

the selection of resources and projects to implement will be necessary. That is, the contribution of the project to sustainable development, at a territorial and/or global level.

It is not our aim to develop this tool because our vision is biased by our profession and our activities. We pretend to state the need of generating tools to support sustainable management of territorial projects. A tool to test the contribution or reduction of the project to the main elements of sustainability would be desirable. Every project implemented by each actor has specific nature, different objectives and diverse strategies to achieve them. In spite of this, basis for a common check list could be settled for projects with economic nature, or social objectives, or environmental character, or even institutionally focused.

In terms of sustainability, there are common aspects to any kind of project: transversal features. In this sense, questions could be raised related to the following aspects: project consequences in other sustainability dimensions, trade-offs among different capitals influenced by the project (human, natural, manufactured or social capital), or the participation of other territorial actors in the project. For instance, we could ask: how does the project consider its effects on the environment (natural resources exploitation, pollution generation, territorial pressure, etc)? and, its effects on customs and behaviours of local population?

Another questions set of the check list could be oriented to the way in which the project contributes or decreases preservation of the natural capital located with the territory where the project is implemented. Questions as: do we enter in books the energy expenditure by the project?, and the energy consumption by the organisation we belong to?, what are the products we recycle?, how is our policy related to materials reduction?, are non-renewable resources taking into account in decision making?

As is to be expected, we cannot forget questions related to the social dimension of development, as inter- and intra-generational solidarity. Some examples could be: what kind of jobs are generated or promoted by the project?, are all dimensions quality of life of project beneficiaries considered?, and the ones for other inhabitants?, how are interests of other generations included in the project?

Those questions are just few examples to conjure up a mental picture of some transversal aspects of sustainability for any kind of project implemented in a territory. Our suggestion is to build a questionnaire to select projects based on sustainable development conceptualisation and modelling in a territory by actors operating in it. Once reached a consensus on the themes and questions to be included in the questionnaire, punctuations, intervals and diagrams could be established to show how close or far away is the contribution of the project to any dimension of what all actors have understood by sustainability of their territory.

As a tool, its use by the greatest number of actors would be desirable. This is why its development cannot be conceived without a real participatory process targeting a real increase in quality of life of people staying or that will stay in a territory.

4. CONCLUSIONS

There is a need to conceptualise sustainable development before its implementation due to its holistic nature and it should be tackled from a multidimensional perspective. Two are the main criteria of sustainability theory: preservation of natural capital and inter- and intra-generational equity. Both aspects could be understood differently depending on who, how and when is interpreting, therefore features and consequences of the interpretations of both criteria should be made explicit.

Sustainability policy —or the sustainability of every policy— depends on its conceptualisation and implies moving to action in a specific territory. In this context, territory is conceived as a complex dynamic system, an open space socially built interchanging networks, strategies and interdependences among actors operating in it. A great variety of actors implement their actions in a specific territory and they have not always a guide to assess their contributions to sustainable development, in its multiple dimensions. A check list at the project level could be a suitable tool to integrate various dimensions of sustainable development within projects only focused on one sector or dimension of sustainable development.

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WORKSHOP 4. REFLECTIONS ON ACTION-RESEARCH

“Systemic Approach and Modelling of the Socio-Spatial Segregation Phenomenon of Cities in the East of France”

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URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Najib>

Abstract: Territorial sustainable development must be regarded as a mutual enrichment of participatory research-action activity, which improves the utility and the accessibility of territorial knowledge and conventional research, which guarantees quality in the long-term. Territorial intelligence, which integrates the concepts of locality, knowledge based society and sustainable development is strongly orientated towards action: its ambition is to respect the ethical principles of territorial sustainable development which are participation, global and balanced approach to territories and partnership. The idea is to improve a territory by increasing the connection between research and action and between scientific rigour and the participation of actors and citizens. The complementarity of the participatory approach and individualized approach, the added value of the contribution of communities to the quality of scientific research and the interdisciplinary character of territorial sciences will emerge from this paper. Our research looks into the functioning of cities in the east of France, which have always experienced territorial, social, economic and demographic inequalities and disparities in terms of housing and residential migration, and whether this functioning has led to socio-spatial segregation. Indeed, this phenomenon is reinforced by the departure of wealthy families to more pleasant districts, the fact that certain families remain by choice or obligation, and the arrival of new families in difficulty. This dynamic explains an urban dysfunction of French cities and a heterogeneous spatial pattern.

Keywords: Sustainable development, territorial intelligence, socio-spatial segregation, actors, participation.

1. INTRODUCTION

Our physical environment, defined as a geographical space, evolves constantly. Starting in the sixties, French geographers appropriated the word “territory”. Until the eighties, they perceived the territory only as a geographical space. Today, however, geographers recognise the importance of men and their actions since space has always been appropriated, exploited, lived, exchanged and managed by men. “The territory is not perceived anymore as a more or less constraining natural framework, a more or less valuable historical heritage, but like an actor’s construction” [Daumas, 2003]. It is about a space of communities, projects and actions. Whatever its nature, the geographical space is based on the knowledge of both natural and anthropogenic sub-processes and their various interactions. Space, situated between the public institution and the market, the amateur and the professional, dynamically links the various aspects of human experiences. Thus, three elements seem to be essential in the apprehension of territories: space, actors and time.

The scientific knowledge of our territory is ambiguous. Here, the linkage between scientific research and the real life of social groups is focused on. Therefore, it is of interest to reconcile the requirements of participatory research-action activity and conventional research. The territory is characterised by large inequalities, even segregation. For many years, cities have developed social and economic imbalances leading to forms of social and spatial segregation. This is geographically observable. Many trends reinforce the segregation between areas with a rich population and areas with a poor population. The division of urban space into areas of different habitat strata produces a classification at the resident’s level of life. Urban space is neither neutral nor homogeneous; it has a strong hierarchical structure. The hierarchy of urban space changes over time, but the hierarchy also changes in the perception of social classes: for example, a residential district will be valued suitable by members of the middle class whereas the same district will be perceived too “bourgeois” by members of the working class. A dominant image exists associating the position of households in the social hierarchy to their dwelling’s situation in the hierarchy of urban space and vice versa; the interaction between these two positions is a complementary phenomenon. Moreover, the rich population will increasingly get richer and the poor population will get poorer, which is believed to contribute to the emergence of social conflicts. We see an increase in socio-spatial inequalities and fragmentations of socio space. The redistribution of the society in rich and poor segments raises concern over the sustainable city.

It seems obvious that the specific characteristics of a given physical space have an impact on the people living there.

2. CONTEXT AND PROBLEM DEFINITION

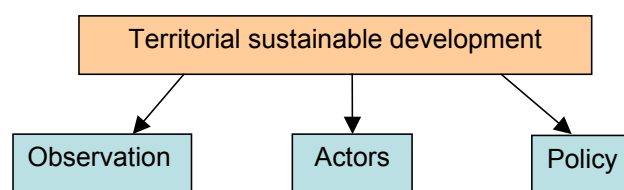
Science changes. Henceforth, there exists the need to radically break with the existing research system. Participatory research-action implies that a distribution of the knowledge leads to a distribution of power. Those with the power and responsibility to take decisions base decisions not only on territorial legislation, but also extensively map and investigate actions and reflections in various fields, implying decision makers are influenced by others. Thus, it is necessary to develop an approach which delegates more responsibilities

to the actors, the researchers and the society. This process should lead to the democratisation of research and various kinds of action of participatory research activity based on the knowledge of all participants. Every protagonist must find the action-research area which reflects their need for change. They determine not only the framework and the problem definition of their research but also the set-up of the experiments and the verification tools.

Research-action activity creates a relationship between scientists and non-scientists. Reflection and action leads to a high quality and quantity of knowledge. Modifying social reality in order to acquire more knowledge about it is probably the fundamental principle which gives research-action its strength and its originality. The visualisation of territorial resources is closely related to mapping popular spaces according to a different geography of human relations in a global territorial intelligence. This consists of the systemic approach of a territory by networking actors for its sustainable development. Territorial intelligence stresses the importance of the way in which the members of a society generate and apprehend the knowledge available and how they apply it to solve their problems. It especially helps territorial actors through the creation of territorial development projects.

The notion of individual needs is crucial to the evaluation of the relevance and the effectiveness of the territorial sustainable development activities. This principle implies a deployment of territorial resources. The actors unite to work out action plans relating the sustainable development. The conclusions of Rio and Johannesburg summits stress that *“within the framework of sustainable development, everyone is both user and provider of information, in the broad sense. This means data, information, experience presented in an appropriate way and knowledge. The need for information is felt at every level, by the decision makers at the national and international level and at the local level it is felt by the individual...”*. Among the ethical principles of sustainable development, we distinguish participation, global and balanced approach to territories and partnership. Participation is a method allowing the formulation of concrete proposals of action in concrete contexts. The sustainable development requires the participation of local actors in the decision, the design, the administration and the evaluation of actions. Sustainable development tends towards a harmonisation of economic, ecological, social, and cultural objectives. The partnership rises from the integrated approach which requires not only participation but also the cooperation of operators of the territorial action [Girardot, 2004]. Other principles are to be taken into account, like the territory as a space of action, the management of projects and the evaluation of the action and the accessibility to information and technologies of information society. Moreover, the concept of sustainable development, according to the Brundtland Report, must meet the needs of the present generations without compromising the ability of the future generations to meet their own needs. Today, observing, anticipating, collaborating with actors, elaborating projects and planning on a relevant scale consist in order to understand the functioning of a territory by information, databases, knowledge and information, and communication technologies. Territorial sustainable development requires an observation, a communication between actors and a policy that is to say management and planning.

Figure 1: The steps of sustainable development.



Source: K. NAJIB.

Figure 1 explains different elements composing the steps of territorial sustainable development.

- Observation is the first phase of the scientific step; it is what is perceptible by the eye. The interpretation of events will identify scientific methods and techniques. It is a tool that compiles data. To observe means to understand the reality. Hence, we notice the union between applied research and fundamental research.
- The communication between actors will depend on the relationship between actors and the adhesion to a process of change. It is what we call territorial animation.
- Policy will be defined by mechanisms of evolution. Its goal is to re-introduce spatial cohesion which is essential to the stabilisation of every society. Policy will ensure a balanced development of space and will respond to the needs of the population. The participatory democracy occupies an innovative place.

2.1. Socio-spatial segregation, a complex notion

Segregation is a fuzzy, polysemous and complex notion that is necessary to define. It is the action of separating. At the same time it is an observation at a given time and a process to put apart accompanied by flows of people who move. Segregation corresponds to phenomena which seem to question the “equality” between citizens and territories. The inequalities are real, various and cross all fields and territorial scales [Houssay-Holzschuch, 1999]. To sum up, it is a chosen or forced separation of persons, social groups... more or less visible in space. Associated with the ecological ideas of the Chicago School of urban sociology, the concept of segregation refers both to processes of social differentiation and to the spatial patterns that result from such processes.

The comprehension of this phenomenon can be found in several disciplines (geography, sociology, demography, economy, politics science, and others) from which habitat and urban planning are the most impregnating. Participatory research-action is not an autonomous science but dependent on other disciplines. Geography needs to know the communities and their behaviors to understand how the action functions in an area. This multidimensional approach, essential for this research supposes an accessibility of information and an integral implication of actors. The added value of this approach offers an improved understanding of the complexity of social facts in the considered territory and an improved knowledge of existing actor networks. Additionally, insofar as the territorial knowledge required is comprehensive, the research must not only involve researchers from different disciplines, but actors from different sectors should also take part [Girardot, 2005].

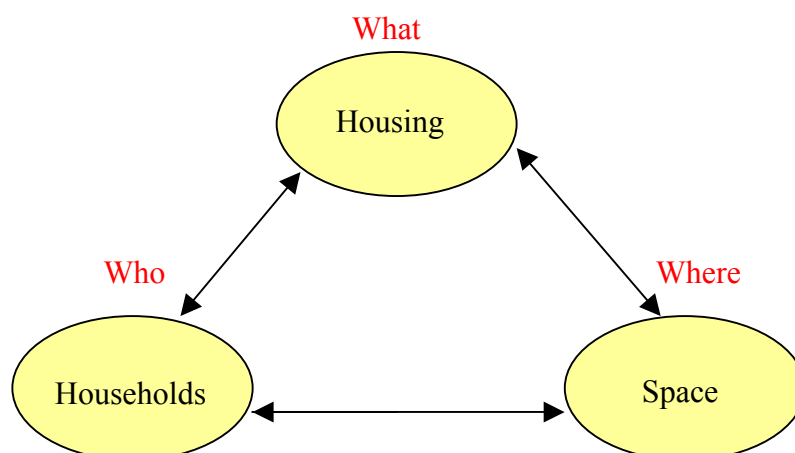
The approach of management system is primarily based on the study of the mode of coordination between the components of the studied system. The behaviors of the actors and the mode of functionality of a system or a situation appear like objectivables in theory and like being able to be studied on the mode of social sciences. Hence, we evoke the fact that the simulation of dynamic systems were connected with an experimental step and that the reflection could be regarded as a kind of work of laboratory. Within the framework of the systemic approach, the problems of functioning imply to take explicitly into account the time and the dynamics of the studied system that is to say to find “how does it work?”. The dynamics of a system is expressed in the direction of the interactions which explain the behavior of a phenomenon and its evolution in time. As to the complexity, it is subject to the judgement of the researcher who constructs the model on his studied object. This study is complex if the model which presents it integrates several phenomena of various natures. From the 19th century, the word “system” in the scientific world has indicated an organized set of elements and interactions between these intellectual and theoretical elements [Lacoste, 2003].

At the beginning, the participatory research-action always starts with a range of problems: a major dissatisfaction, a questioning which does not find answers in classic sciences, an ignorance of fundamental processes, a desire to go further. It is the case of the problem of socio-spatial segregation which raises many questions: Which spatial disparities appear? How do they organize themselves? What kinds of habitat forms exist? What are their attributes and characteristics? Who lives there? Does a transformation of urban space exist? How does the re-balancing work out?... These questions concern housing which is creates action in socio-economic dimension and in terms of territorial structure and dynamism. The question of housing appears like one of the keys of comprehension and action in the field of territorial planning. Segregation is defined compared to the housing which is a good essential to a decent existence, a sustainable good, a localized and motionless good and finally a good in connection with a series of participation networks in social life. Indeed, other criteria seem to influence the phenomenon of socio-spatial segregation like health care system, education, commercial services...

2.2. Analysis of the socio-spatial segregation phenomenon

The problem definition is a place of meeting, a basis for then acting on the studied area. Mobilising territorial policy and planning is essential to ensure a consistent and sustainable development of our physical environment. Urban space witnessed and is still witnessing considerable spatial transformations. In this context, three components appear as fundamental in the observation, the comprehension and the analysis of the use of space: households, housing and space.

Figure 2: Who lives in what and where?.



Source: K. NAJIB, inspired by local markets of housing, ADIL 25.

Figure 2 shows the linkage between the “habitat” (housing and space) and the “residents” (households). This relationship is found in the description of the occupation profiles of habitat strata. It results from the grouping of several descriptive elements of the population concerned, the housing and the place of residence.

The language of the research-action can establish a link between situations of life and a scientific approach to a certain topic in question. It makes knowledge and social transformations inseparable. Individual or social situations are the basis of the participatory research-action work as an elementary unit of measure of human reality. The situations, delimited in time and space, are concrete and complex places where a series of events, actions and interactions between people take place. It is a space of reality where persons and social groups define their positions concerning each other. In our example, the situation shows a space heterogeneously occupied, which has the quality to be attractive or repellent. The problem of socio-spatial segregation is a crossroads for acting on reality, posing hypotheses and experiencing situations which will produce new knowledge, will bring answers and will return to general issues. The segregation can rise from individual or collective actions aiming deliberately a spatial separation. These segregative strategies can completely appear in societies with democratic foundation, in legal, illegal or tolerated form, emanating from groups or institutions.

2.3. Comparative study of segregative processes

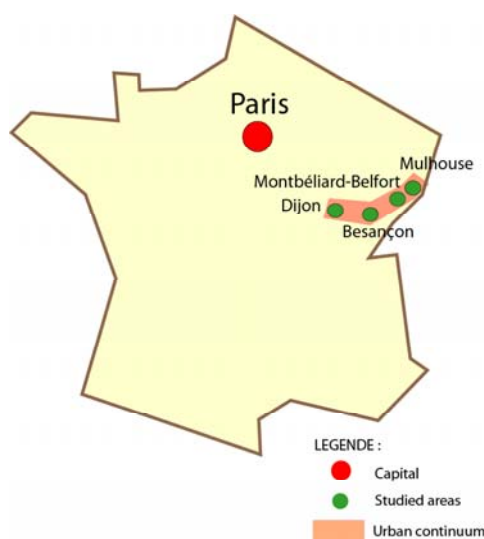
This problem, seen in all media and political and cultural debates, differs from one country to another, from one city to another by its genesis, its intensity, its way of division and its urban forms. Urban segregation has undeniably an impact on the functioning of society, the individual or collective well-being and the effectiveness of the socio-economic system.

The city is the privileged place for changes. In the city, exclusion, urban relegation and socio-spatial segregation phenomena develop. Morphological, human, social, economic and functional specificities of cities will be stressed through maps describing social

marking. Spatial inequalities in the city are linked to structural evolutions, migratory dynamics and overall processes of social division of urban space. Moreover, a city is not a simple projection of social relations on space; it also has relative advantages for a smaller population. Spatial segregation is a corollary of the fragmentation of society.

To go beyond a monographic approach, several cities will be analysed for a comparative study on different agglomerations in the east of France: Besançon, Montbéliard-Belfort, Mulhouse and Dijon (figure 3).

Figure 3: Location of Besançon, Montbéliard-Belfort, Dijon and Mulhouse.



Source: K. NAJIB.

This choice is influenced by following factors:

- Size of cities: they are average-sized cities. Segregation within urban areas is stronger if the considered urban area is big. The more populated the urban area is, the stronger the segregation is.
- Proximity: cities form a territorial quasi-continuity of urban areas, called urban continuum which was identified recently by a cooperation project called “metropolitan network Rhin-Rhône”.

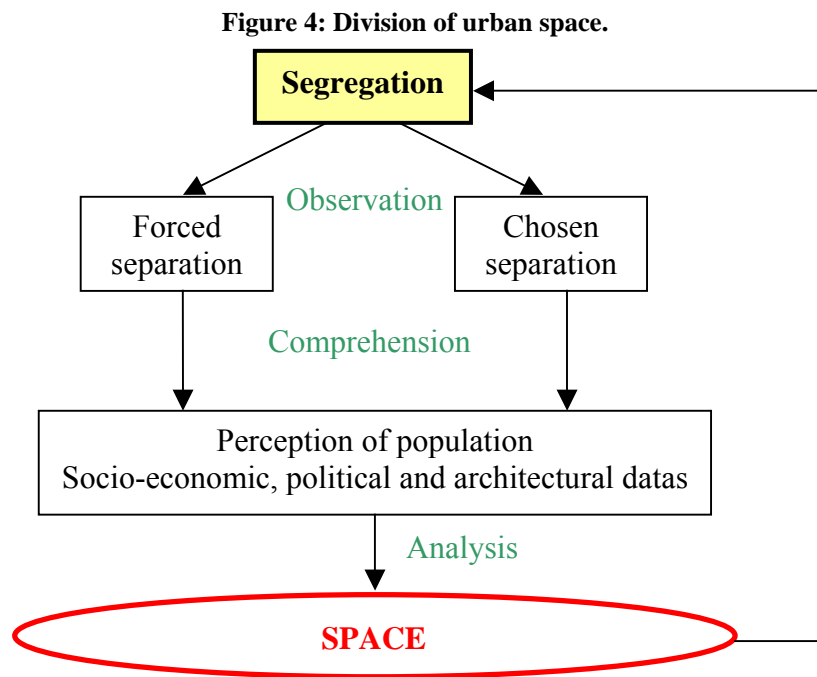
The comparison of these cities will enable the study of the various public actions, the urban transformations and their impacts on social and political change. There will be some talk of confronting the strategies of research and the categories used in the analysis, with the intent to find in the comparative approach a different way to build an object of analysis which can give a greater intelligibility to the framework of action of people and social groups.

3. OBJECTIVES OF WORK

The objective is to study the complexity of territorial realities by an observation and a proximity on the considered area. Thus, we propose within the framework of this

presentation, a systemic analysis of spatial relations between the social groups identified in the area under scrutiny. The idea is to get towards modelling the interactions between dynamics of social and spatial systems. Designing one or several models will enable analysing the real phenomenon of segregation and visualizing results. The built model must necessarily represent the interactions between the elements composing the system. Whatever the aim, a model must be a representative of the essential characteristics of the object of study.

The division of urban space is expressed in several ways, from demonstrations to mechanisms: the distribution of the person, the social groups and the activities in space and the construction and the interpretation of the spatial forms. The location on urban space of the habitat of the social groups allows defining the segregation degree of these groups, which develop representation towards urban space and other social categories. Thus, the segregation is based on the perception which is following often preconceived ideas of space.



Source: K. NAJIB.

Figure 4 presents the complexity of territorial realities. Segregation can be defined like a process of social and spatial division of a society in distinct units consisting of similar aggregates of persons. The notion of segregation refers to an imposed exclusion whereas the aggregation is an action of free choice. Inequalities show a forced or a chosen separation:

- On the one hand, we notice the preservation of identity for the upper class, here we talk about gentrification. It is a process by which the sociological and social profile of a district changes for the benefit of the higher social class. The gentrification starts

when upper people discover a district offering an interesting quality of life and decide to migrate there.

- On the other hand, the working class settles where they can afford. The social exclusion does not consist only of a limited accessibility to space but also of an involuntarily partial lived of the whole of social space. It is possible to observe and measure the heterogeneity of the structure of the population across an area.

These two extreme cases of socio-spatial segregation lead to the appearance of very characteristic urban forms. But the reality in space of the distribution of social groups is more complex because there exist several intermediate situations. That is why we need, for a better comprehension, socio-economic, political and architectural data and especially to have an idea of the perception by the population. The idea is to know the actual experience that is to say the real life of the considered population; we need to know if they feel segregated or not.

The participatory approach, highlighting the complementarity between scientific world and territorial action, defines participatory research-action activity as a kind of research activity in which researchers and territorial actors are involved. Concretely, a double objective emerges: a scientific objective, which consists in improving the knowledge of the territorial structure and dynamics, and a practical objective which aims to respond to local problem.

Participatory research-action is relevant and efficient when it is about working on complexity of experimental situations, process dynamics, globality and the social and spatial systemic forms. Research-action quality, in the example of the socio-spatial segregation phenomenon improves as far as its solutions suit the local problems linked to sustainable development, its methodology increases the territorial actor's capacity for action and finally its process shows a more significant democratisation of decision-taking in the territory. Finally, we need a research-action which reinforces the participation of the territorial actors in the evaluation of local analysis, solution proposals and the development of action in order to solve their problems.

Our research tries to identify several variables allowing the study of the existence of the segregation in studied cities. The measure of the degree of segregation, partly due to the heterogeneity of the population within each considered category of space, appears possible only when regarding the city as a system. Various social indicators approaching the topic of employment, households, incomes, housing, transport... are connected to the valorization of a district and have confirmed that the duality of poverty/wealth is too simplistic. Nevertheless, this duality can be understood only in its relationship with the complex structures and the overall processes of the social division of urban space. In this sens, economic geography is considered more and more like social geography. The urban space hierarchy can be based on a classification (triptych working class, middle class and upper class) and it is not indifferent to live in one type of area, rather than another. Impoverishment or gentrification of the population will thus be visible. Our goal is to draw segregation precisely, showing inconsistencies and competition between areas, by expressing certain reserves on boundaries zones.

Through several indicators, the analysis of segregation requires a measure of imbalance of social groups which live in certain territories. These groups of indicators will bring information on social, economic and spatial specialization. The choice of indicators was determined according to the goal of the analysis and the nature of data.

a) Employment

- Socio-professional categories: the location of job vacancy influences the spatial distribution of social groups and leads to segregative processes. Do we notice a spatial opposition between white collar and blue collar groups that is to say the higher and lower occupational social classes?
- Unemployment: The unemployed lives where they can afford to live. This indicator of poverty shows, for the people concerned, great difficulties finding work and integrating into society, that is to say finding a certain personal equilibrium.

b) Transport

- Mobility: A person must be able to move effectively to feel included in society;
- Network: A space poorly served can reinforce the segregative processes;
- Accessibility: If it is poor from the outskirts into the center for certain persons, we can talk about exclusion;

c) Households

- Size and composition of households: Each household is characterized by a propensity to migrate, its social aspirations and its behavior of flight or segregation. Each household has a system of preferences and the households which have the same characteristics constitute a social group.

d) Income

- Level of income: The income which controls the life appears as one of the most significant dimensions in the variation or the residential segregation in the ecology of the city.
- Taxed households: Where do the people paying high taxes live?

e) Housing

- Type of occupation: Are they owners or tenants of private or social sectors?
- Rent: It is a good indicator of social marking. The rent follows the logic of supply and demand and confirms the social geography. The division of the urban space in areas occupied by habitat strata reproduces the stratification of income and rent.

f) Immigration

- Foreigner population. This study will be able to reveal housing discrimination of the immigrants and their descendants. The concentration of people in difficulty in a certain space leads to the reproduction of the inequalities.

Socio-spatial segregation is a dynamic phenomenon. Thus, the interest is to be able to follow the evolution of the socio-spatial state of the studied districts.

4. ADAPTED METHODOLOGY

In order to analyse the comparison between participatory research-action and conventional research, it is initially necessary to define research and action. This comparison of these epistemological definitions looks into research objectives (context, specificity and details). Conventional researchers worry about objectivity, distance, and controls. Action researchers worry about relevance, social change, and validity tested in action by the most at-risk stakeholders [Brydon-Miller, 2003]. In the case of socio-spatial segregation, research becomes action, hence the definitions merge. However, everything tends to separate research from action. Our Cartesian minded culture does not seem to be able to comprehend something expressed as different other than in terms of radical opposition. Actors reproach research-action as not being operational enough and researchers as not being scientific enough. Here, the solution seems impossible. But the importance of research-action lies neither with the research nor with the action but with the link between them. This link reveals that one should be more than an actor or than a researcher, but one should also be a creator [Bazin, 2003]. It is in the experiment where the oscillating movement between research and action finds its equilibrium. The theory is really only useful insofar as it is put in the service of a practice focused on achieving positive social change [Brydon-Miller, 2003]. Participatory research-action can handle the complexity of the social dynamics using the mode of experiment because the emergence of public problems and the priorities of society appears on the popular place and the role of creation. This kind of research is an intelligence of situations and practices which comes from the processes allowing the attainment of knowledge and understanding which could not be conceived differently. Its evolutive richness and its free way to rebuild scientific paradigms will enable to understand the contemporary reality.

Research-action is not a simple method but a process that requires its own tools. In a defined geographical space, research-action shows an obvious interaction between researchers and residents and implies the acknowledgement that everyone knows their own environment and that this knowledge constitutes a force of change. Thus, in collaboration with the researchers, the local population defines the problem and the methods. Knowledge of participatory research-action must be considered within the framework of a communicative and a collaboration system which is not the same as that used in conventional research.

The need to associate ways of thinking and acting still seem to have an effect. The idea is to:

- Go from measuring people in their surrounding, towards placing them in dynamic relations with society;
- Think and act in terms of space to visualise a different geography of human relations;
- Restore the process of the creation of dynamics, social transformation, training and production of knowledge, while being untied from simple project logic;

- Open the research zone to a true cultural democracy.

It is necessary to include more direct citizen participation and a diversity of interests in decisions concerning the choice of strategic research. Thus, knowledge must remain accessible to everyone as a basic condition of local democracy. Legal instruments, which stimulate a culture of participation and an application within research institutes and universities, are needed.

In our study, surveys will be carried out in order to get to meet face to face the population concerned. The problem of socio-spatial segregation is a human phenomenon pushing people, naturally gregarious, to group with their equals. As a consequence, it is necessary to comprehend this phenomenon beyond housing by a qualitative approach, informing us about the perception of segregation and a quantitative approach informing us about the state of socio-economic characterization of neighbourhoods. Participatory research-action, a free and voluntary step, is a realisation of research with people and for people. In this definition, surveys can be considered as a distinct contribution to the state of knowledge of a problem and an instrument of aiding decision-making by public and private actors during spatial co-development.

For example, we wonder why some people refuse to live or to cross a troubled district? The underprivileged social groups concentrate in certain districts from which the upper classes keep their distance. In France, it concerns ZUS, (in French, zones urbaines sensibles), troubled urban zones, which are characterized by the presence of social housing or districts of decayed habitat and by an accentuated imbalance between habitat and employment.

Figure 5: Typical social housing in the district of Planoise in Besançon.



Source: K. NAJIB.

This reinforces the feeling of exclusion of part of the population of these districts. The image and the reputation of a district will influence the choice to visit a place or not by mental representations. Today, in geography, the study of the spatial representations is a “classic” step. Without careless handling of the concept of the segregation can intensify the deskilling of a district insofar as it makes illegitimate self-representations based on a complex dialectic between a tendency to live in a closed-community which is perhaps lived positively and an acute perception of micro-differences between social groups [Maurin, 2004]. D. Lowenthal evokes a division of geography into three parts:

- The nature of the environment;
- The perception and the representation of the social environment;
- The human action which modifies the landscapes according to our lived and our mental representations.

Individual action is part of the social system. There is a constant interaction between man and his environment. If the space is a social product, its mental representation becomes essential. From the 19th century, we have evoked mental images in a materialist and realist way in order to explain human behaviors. Geography, concerned by the analysis of the organization of the space needed to understand how people saw territories. Societal action can be conceived only according to this subjective, partial, vivid representation which is full of cultural meanings. People attach importance to places and they project on the environment what they are. Each person has a spatial field in which he or she moves and that he or she perceives through a system of filter generating factors of selection such as the real distance of the landscape, mobility, personality, educational level, cultural models, and knowledge of the space. He or she imagines the territories which have never been visited, feeling of belonging and a need for spatial embeddedness in a district, a village, a city, a country develops. Thus, societies make their identity. The diffusion of the concept of representation comes from data collection. Surveys also bringing information on knowledge of the places make essential the motivation or the degree of satisfaction of a social group. It will be necessary to transform individual answers into collective results, to compare perceived images with reality and to map the results. The goal is to represent a space knowledge of such as it is perceived and vivid. The need to know the life, the needs, and the practices of the residents becomes an obligation. Understanding the sense and the value of places aims to improve well-being. The information obtained will have to lead to the action which supposes the study of the structures of the human sensory system. Facing a landscape or a situation, a person will behave in a certain manner. His action explains his view of the world. Thus, each person has his or her way of “seeing”. Consequently, we understand better why similar populations, living in identical environment, built different systems [Paulet, 2002].

Moreover, a synthetic indicator of segregation, which can be used in the comparison of urban spaces, can be generated in order to grade, in a statistical way, the factors explaining segregation and allow a spatial decomposition of segregation between different areas. The index will enable the comparison of the social structure of the whole of the basic spatial units and will enable the generation of an aggregated overview of their heterogeneity and/or homogeneity in terms of spatial structures. The index will, therefore, indicate the degree of social mixing.

5. RESULTS ENVISAGED

Segregation can be only an effect resulting from inequalities induced by social differentiation. Thus, accessibility to housing is determined by economic constraints which reduce or widen possibilities of choices. The observation of the spatial distribution of different types of employment, income, rent, etc. shows that population from certain social

strata concentrate in certain areas. Accordingly, the territory, place of research and action, appears at the same time to be a factor, a priority and an accelerator of separation of social categories. The inconsistencies and the competitions in terms of territory and place must be exceeded. The principal criterion is to support maximum mobility and not to be restrained to planning tools that could reinforce disintegration and stigmatisation.

This analysis of the spatial distribution of social groups originates from a view focused on the concept of segregation to a reading supported by the concept of urban fragmentation. Spatial fragmentation is not expressed anymore in terms of opposition but rather in terms of the juxtaposition of parts of the city.

Furthermore, the elaboration of an adequate tool to aid decision-making will allow the presentation of various scenarios of territorial evolution and to simulate their harmful consequences on social cohesion. All involved actors take part in all work phases and adapt progressively knowledge producing elements. The lack of the social and spatial cohesion constitutes an obstacle to the functioning of global organizations.

The finality of participatory research-action is not operational but experimental. The intention is to learn through the implementation of a process which fundamentally changes the manners of reasoning, perceiving, acting, positioning in social and spatial reports... Thus, there are a transformation of individual or social situations, a production of knowledge and a capacity to analyse a context and identify priorities.

A participatory step orientated toward action tends to transform the users and the members of the community, not only as actors but especially as authors of the community project. The community is not an entity but a permanent conflict. In this step, the results and the answers matter less than the processes emerging from a democratic commitment in the production of knowledge where the distance is reduced with the diffusion of knowledge. However, the studies which are part of the participatory research are assured of success because they make it possible to carry out objectives and obtain results. The principle of participation integrates the action of actors i.e. the final user in research (for example, users who consume the public services, experts who bring their technological support...). To sum up, the participatory research-action implies human as a whole and thus, the principle of subsidiarity will enable the organization of polycentric and free society. It is a new way to order society and human actions. One of the principles of subsidiarity is that civil society should be equipped to solve most of problems of life in society.

6. CONCLUSION

To acquire knowledge that promotes governance, the participation of actors and the population under consideration is necessary. Policy formulation turns increasingly to the participatory system of society. Participation is defined through an active notion of citizenship and an implication of residents. With its universal values, participation is strongly orientated towards a commitment of proximity and a conscientisation and appropriation of the framework of analysis. The various applied policies become more consistent with complete data collection on the environment and a comparison of the opinions of local actors. In our example, the political dimension is significant. The notions of urban equilibrium, territorial equity, social and urban integration of the districts,

homogenisation of the sectors, territorial solidarity... are increasingly present in the documents, procedures and laws. The issue of social, economic and spatial inequalities is evidently political because the principal causes are spatial planning and the lack of “anti-segregative legislation” within the legal framework. This socio-spatial segregation challenges local authorities, which will have to find effective solutions in a short time span. The PLH, (in French programme local de l’habitat), local housing program follows up the general objectives registered in the LOV (in French, loi d’orientation de la ville), guidance law of the town like social melting pot, the diversity of the functions, settlement equilibrium on space and housing parks. In the context of the SRU law (in French, solidarité et renouvellement urbain), solidarity and urban renewal aims of coherence between the local housing policies and the urban policies. The rehabilitation of social housing and urban space tries to improve the image and the attractiveness of the troubled zones. Urban renewal indicates the set of interventions conducted in districts in order to improve their functioning and lead to their integration in the city. Nevertheless, we have to wait many years to talk about results. Certain social groups according to their economic resource live in social housing. Thus, social housing is essentially segregative. It plays a considerable role in social integration. The fight against poverty and inequalities is ongoing. The government must manage its problems and develop a relevant capacity of action like for example the equality of opportunities. Actually, improving the quality of the housing estates needs to be the main concern of the sustainable development. There is no economically effective development, which is socially equitable and ecologically tolerable, without levelling the national housing heritage.

Some political attempts developed perverse effects (closed-community, exclusion...) and were qualified as mistakes of the past. The past is a known fact on which we do not have power whereas the future is uncertain and random but people try to anticipate risks and plan space as well as possible. In order to fight the downward spiral in which certain neighbourhoods find themselves (unsafety, unemployment, school drop out...) it is essential to “renew” objectives, methods and means of public actions in these areas. The differences and the inequalities belong to the nature and characterize the human societies, it is necessary to accept them but especially try to limit them. The problem of socio-spatial segregation is a long term issue and today’s urban policies tend to lower inequalities in order to ensure social cohesion.

The territory does not allow us to understand the mechanisms of escape and classification of social groups. If it is not a relevant tool then it is necessary to aim our research at residents of the territory since there is a relationship between the social question and the territory. The social groups are geographically and socially separated. The rigidities that are most difficult to overcome are neither found in government texts, nor in dwellings, they exist in our heads.

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“The Restoring of Inquiry Results in Action Research and the Community Development Founding”

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Abstract: The study presents the restoring of the survey’s results both as a moment and as an instrument of the action research. After retaining one definition of restoring proposed by Bergier (2000), some aspects of the action research are presented: definition (Juan, 1999; Small, 1995), characterization (Baskerville, 1999; Paillé, 2002; Somekh, 1995), and typology (Fox, 2003; Tripp, 1990). Some research in which the restoring is involved as a moment or as an instrument of the action research is described briefly (Lundy & McGovern, 2006; Parrado, McQuiston, & Flippen, 2005). The study goes on by presenting some recent research in Romania, connected to the problem of sustaining the territorial development through research. The aim of this presentation is to reveal that, beyond its heuristic valances, the restoring of the results may be successfully used in the action research, which is useful for the community development. In the end, the restoring can be used not only in stakeholders’ identification, but also in their actions’ founding destined for the community development.

1. INTRODUCTION

Among the different sociological disciplines, in particular in the sociology of community development, the need to construct methodological frames, which involve the social actor more in his or her knowledge, has represented an increasing reason of academic research and investigational-practice. Within such a context, complex and exciting at the same time, the restitution of inquiry results has its own place.

References to the concept of restoring are to be found even in the 7th and 8th decades of the last century, in a France that made considerable efforts in the support of rural renovation. The more the importance of a previous well-done rural questionnaire increases, said the French psycho-sociologist Mucchielli, the more the feedback of a questionnaire (i.e. the restoring of the conclusions to the community upon the questionnaire was made) under the conditions in which the community accepted the questionnaire in its turn. From this point of view, the rural questionnaire represents the decisive moment. If the scientists know how to get people to cooperate and to make the questionnaire be accepted from the very beginning, to make the informal and the local leaders get involved, if they restore the results, and if the villagers recognize themselves in this image, there is already an impulse to be able to catalyse the change (Mucchielli, 1976).

Our study presents the restoring of the survey's results both as a moment and as an instrument of the action research. After retaining one definition of restoring proposed by Bergier (2000), some aspects of the action research are presented: definition (Juan, 1999; Small, 1995), characterization (Baskerville, 1999; Paillé, 2002; Somekh, 1995) and typology (Fox, 2003; Tripp, 1990). Some research in which the restoring is involved as a moment or as an instrument of the action research is described briefly (Lundy & McGovern, 2006; Parrado, McQuiston, & Flippen, 2005). The study goes on by presenting some recent research in Romania, connected to the problem of sustaining the territorial development through research. The aim of this presentation is to reveal that, beyond its heuristic valances, the restoring of the results may be successfully used in the action research, which is useful for the lasting community development. In the end, the restoring can be used not only in stakeholders' identification, but also in their actions' founding used for the community development.

2. RESTORING OF THE INQUIRY RESULTS, COMMUNITY DEVELOPMENT, AND ACTION RESEARCH

Bergier noticed that the more the research manuals and other methodological guides speak about tools and offer advice for the settlement and organisation of data collection, the more the relation with the beneficiary and its impact upon the sociologist and the ethnologist. The beneficiary focused on by the restoring is represented by the researcher's interlocutors in the field.

Bergier will propose the following definition for restoring:

"...Act or dynamics through which the researcher shares the provisory and/or definitive results of the worked collected data with the aim of their analysis, to his interlocutors in the field" (Bergier, 2000, p. 8)

From the definition of restoring proposed by Bergier, we retain the ethical and the heuristic objectives. We could go on talking about *a gift restoring*, or *an ethical restoring* or *a heuristic restoring*, according to these objectives. We believe, however, that restoring is also related to the action research.

Actually, Bergier himself suggests us this thing in his theoretical approach regarding the restoring, although, at one given moment, he appears to sustain more the heuristic restoring.

Bergier sustains an integrated restoring in the researchers' activities, integration which means the fact that the restoring may participate in certain conditions to producing knowledge and to validating the scientific statement. Bergier considers that this kind of restoring supposes that the subject should be recognized as the object and the subject of the survey.

Bergier concludes that the reflection on the restoring appears in the context of the intervention actions. Bergier recognizes that psycho-sociological intervention, social consulting, and action research were the subject of a rich literature in the Anglican countries, before developing very well in France, in the 70's. In such contexts, the problem of restoring was taken into account and treated systematically, without being mentioned very explicitly. The restoring is an answer of the practitioner to the calling of whom it is addressed, no matter its form (collaboration with the actors, or underlining the value of the researcher). In spite of being non-obligatory in the general research work, the restoring becomes obligatory in intervention and in action research.

Bergier recommends the oral restoring which acclaims the presence of the practitioner and of local social system's actors. Their presence makes possible their confrontation. Thus, the restoring does not share only the academic knowledge of the practitioner, but it produces an identification of the actors' disposals, reasons, intentions, aspirations, fears and hopes.

In Bergier' point of view, the information have to be restored to the different representative groups for the population from the area. These information do not adress only to the local leaders. The restoring is programmed to generate conflict and transformation. The tensions between the antagonistic interests of the different groups have to be underlined.

This kind of situation was created in Romania, in the restoring from the micro-region Livezile- Rimetea (Pascaru, 2003). We will discuss about this in the next part of our study.

Coming back to Bergier, we should keep in mind his discussing about three types of restoring in other classification mentioned in the quoted work: 1) *academic restoring*, 2) *clarifying restoring* and 3) *militant restoring*. In the clarifying restoring or in the militant one, the transformational orientation of the action is assumed. The restoring is not strictly informative, but it is formative (clarifying the origins of the identified problems) and cohesive (developing collective ways of action). Bergier concludes that in both cases the restoring is not closed anymore, dominated by the norms of the order of the research, but it is opened and centred on the research and on the aimed processes. We appreciate that the

militant restoring is surely a certain form of action research, or, at least, an essential moment of this type of research.

After presenting these aspects regarding the restoring, we will stop in some lines on the community development.

Being extremely synthetic, Sandu writes that community development is:

“...means voluntary changes in, through and for the community” (Sandu, 2005, p. 15).

The community development is based on projects. In the language of planning projects, those who identify the problem as a priority, belong to the stakeholders' category (Chen, 2005; Lodzinski, Michiko, & Schneider, 2005). These could also be the direct beneficiaries of a possible project, in the way in which they assume directly a social responsibility (Harrison & Freeman, 1999). We will come back to this subject in the final part of our study.

Taking into account these considerations, we could say that *the participation* is the concept which connects the restoring of the results and the community development. As we will see participation, explicitly or implicitly, is the notion which connects farther the restoring, the community development and the action research.

In order to establish more clearly the place of the action research in the area of the scientific methods, on one hand, Juan starts with *the opposition comprehension-explanation*, and on the other hand, he discusses *the opposition observation-experimentation* (Juan, 1999).

In Juan's point of view, the opposition comprehension-explanation shows the manner in which the researcher considers what he studies: the subject/object status of the research. The studied individuals, groups, phenomenon are actors-subjects (fr. *acteurs-sujets*) in the comprehension, or in the mechanisms-objects (fr. *mecaniques-objets*) in explanation. The opposition observation/experimentation shows the researcher's status in connection with his object (individuals, groups, studied phenomena). In his observation, the researcher did not produce the material of the research. He studies the natural situations or the objects created by the others. On the contrary, the experimentation makes sense, modifying itself the object of the research.

Juan's observations render a complete image of the fundamental methodological components in the social research, as they are synthesized in Table 1.

Table 1: Techniques of Comprehensive Experimentation (Juan, 1999, p. 106).

The researcher's involvement	Types of actors	
	Individuals	Social groups or movements
Positive knowledge	Interviews	Group experimentation
Intervention	Therapy	Action research

In Juan's view, action research has as derivatives the *intervention* and the *counselling*. Juan implies that a special form of the action research is the *social development*. The ambitious

objective of the social development is connected to *the understanding* of the discussed social problem, through the analysis of the individual situations and of the logic of the action, and of *the actioning*, through fighting against the social exclusion and urging the local actors. It is tended during the diagnosis to create a partnership between the local actors, in order to act adequately by putting into practice the projects.

In a study consacrated to the models and methods of the action-oriented research, Small (1995) describes four models: 1) action research, 2) participatory research, 3) empowerment research, and 4) feminist research. Small considers that of the four above mentioned action research is perhaps the most widely used form.

Historically, Small observes, action research has been most often associated with private industry and organizational development, yet more recently this approach has been employed by scholars from a diverse array of social science disciplines including education, agriculture and human development.

Kurt Lewin is the one who pencilled the term “action research”, as Small (1995) and Smith (2001).

But what really is *action research*?

Noticing the fact that in the humanities and social sciences no type of research was probably very much disputed, Paillé (2002) considers the action research as being its exact quadruple essence: 1) *applied research* (this is for the humanities and social sciences what applied research is for natural sciences); 2) *involved research* (the positivist bet of the neutral and external observation of the social phenomena proved impossible to win, as we cannot but stand up to it, if not ideologically, at least pragmatically); 3) *combined research* (the actor is himself an emitting subject, a potential theoretician of his life and of the events that affect him); and 4) *research engaged in an action*, and not estranged from it or noticing it from the distance, and this engagement can take both the form of practical experiment and that of the social or political intervention, becoming thus an engagement for action.

One of the most important theoretical problems may be the one of the relations between the *intervention method* and *the action research*.

Bunker and Gundelach (2001) appreciated that the intervention method (developed by Alain Touraine in his studies on the sociology of the social movements) differs from the integrative type of the action research through the stress on the conflict and on the social change. The first one is closer to the critical action research. The intervention method supposes a critical action research, but the projects using the intervention method belong to the civil society rather to the work sphere, developing, thus, the potential of the social change in the civil society. Another important difference between the action research and the intervention method, as Benedikte Bunker and Peter Gundelach notice, refers to the role of the social actors. The role of the action research is to create a social change, but the intervention method does not tend to generate the social change in itself. Its aim is to create the collective actors' comprehension of their potential and role in the social change.

Somekh characterizes the action research, in a study from 1995, in the following way:

“Action research methodology bridges the divide between research and practice. It directly addresses the knotty problem of the persistent failure or research in the social sciences to make a difference in terms of bringing about actual improvement in practice” (Somekh, 1995, p. 340)

Then, there are underlined the main differences between the action research and other forms of research: 1) it is carried out by people directly concerned with the social situation that is being researched, started from the practical questions arising from concerns in the everyday work of practitioner researches; 2) the findings of actions research are fed back directly into practice with the aim of bringing about change; 3) action research has a highly pragmatic orientation; 4) action research is grounded in the culture and values of the social group whose members are both participants in the research field and researchers; 5) action research raises particularly knotty ethical questions, especially when the researcher studies his workplace and, implicitly, his mates' behaviour.

After examining the philosophical and scientific context that guided the action research, Baskerville (1999) highlights three characteristics of this approach: 1) adopting an interpretative view on the data (fact which allows social intervention within the research, the researcher becoming a part of the study); 2) adopting an idiographic view on the research (which postulates that every social framework implies a unique set of interacting human subjects); and 3) capitalizing data and the qualitative analysis (due to the necessity to reveal the significance of the action and the set of values that guide the actor's action).

Other debated theme is the one connected to *the dimensions* of the action research. For example, Noffke identified three dimensions: *profesional*, *personal* and *political* (Noffke, 1999). These three dimensions, as Noffke considered, make us understand better the potential of the action research.

A set of teoretical problems are generated by the typology of the action research. Various terms are associated to the „action research” in order to show its types taking into account the diverse contexts and practises. Thus, David H. Tripp wrote about *the socially critical action research*, in a study from 1990. For this type of action research, specific to the educational area, Tripp proposed the following definition:

“Strategic critical pedagogic action on the part of classroom teachers, aimed as increasing social justice” (Tripp, 1990, 161)

Tripp considered that this definition could be expanded in terms of five characteristics: participation, direction, consciousness, constraints, and outcomes.

Wadsworth is one of the most famous names in the theory and the practice of the action research in Australia. The researcher has recently confessed that he faced for the first time the term “participatory action research” in London, in 1972. Returning in his country, he used this type of research in the study of the suburban communities (Wadsworth, 2005).

Connected to this topic, Small remarked:

“In participatory research, the citizen participants are primarily responsible for the design of the study, including deciding how the data will be collected, analyzed, and eventually disseminated” (Small, 1995, p. 994)

More recently, Fox in one of his study retains the categories of action research established by Car and Kemmins in 1986⁴⁵:

“- technical (in which an outside expert undertakes the research within a practice settings); practical (in which the researched are encouraged to participate in the research process); and emancipatory (in which the researcher takes on the role of a ‘process moderator’ assisting participants to undertake the research themselves.” (Fox, 2003, 88).

Now, we present some recent research in which the action research is used and the results’ restoring is involved, implicitly or explicitly. A research situated at the border between intervention and participatory action research is the one accomplished by a group of researchers in Northern Ireland (Lundy & McGovern, 2006).

In Ardoyne Commemoration Project, through the participatory action research, it was aimed the truth-telling at the communitary level in the conditions in which the target community (Ardoyne, Belfast, Northern Ireland) was violently divided by previous conflicts which determined many victims. The work group was constituted from successors of those victims. Firstly, the authors began from the existence of some important benefits in solving the conflict by training the community in telling the truth. In building the project, the participatory action research was considered an action research which involves participation and a participatory research which involves action. The beginning point reflected also the development of the action and its aims, the diminishing of the conflicts, the sustaining of some democratical actions, and not the last one, the telling of truth. The democratization of the research process is connected to the legitimation of the produced knowledge, as specialists sustain. This democratization supposes a change of paradigm in the way in which the traditional relation subject-researcher is understood. The researcher tends to become more a facilitator, adopting a catalytic role and a supportive one. Taking these into account, the authors focused during the whole project on looking for some opinions connected to the 99 victims of the conflicts in Northern Ireland. The collected data were gathered from 300 interviews, the aim being the publishing of a book. But before the publishing, those interviewed had the opportunity to comment on the data and to complete where necessary. This was a key element, oriented towards the diminishing of the existent conflicts at the community level and towards the enrichment and the validation of the information belonging to the commemorative work. The book appeared in 2002, entitled “Ardoyne - the untold truth”. The previous process of the publication was more important, a funded process on the participatory action research and, on what, we call the restoring of the survey’s results.

⁴⁵ Car, W., & Kemmins, S (1986). *Becoming critical: Knowing through action research*. Victoria: Deakin University Press.

A group of American researchers, whose leaders were Parrado, McQuiston and Flippen, developed the *community-based participatory research* methodology (i.e. CBPR) in order to study the risks involved by HIV in the hispanic migrants' communities from Durham, North Carolina, USA. In CBPR, from the very beginning, the coordinators targeted towards the involvement of the community. This involvement was the key to gain access in the middle of a difficult-to-reach population, to develop a flexible survey instrument, to assure data quality, to align the survey to the cultural realities of the Durham migrants. CBPR assured taking into account of the perspectives and of the points of view of the community as a working principle, adopting the ethnographic aim of rendering a cultural interpretation of a social process based on the insider's point of view. At the same time, CBPR proposed an oriented action, as the community's members were directly involved in collecting and analysing the data, and in generating the recommendations for change. The collaboration with the community members served primarily to bringing local specific information in the survey design background, and it also determined the members of the community to feel involved in the survey process. The community's members were involved in elaborating the questionnaire. CBPR focused also on the analysis and on the interpretation of the surveyed data. CBPR members registered the observations, describing the local conditions, the respondents' attitudes and any other material which was not registered in the questionnaire. After collecting the data, CBPR-members presented the observations to encourage the analysis of the data, using regular presentations and quantitative findings. The collective discussions on the survey's results allowed the community and the academical members to evaluate the study's results, to reconsider the preliminary expectations, to render a cultural understanding of the specific results and to identify new points in research. (Parrado *et al.*, 2005)

Quoting Small, we mentioned the feminist action research (i.e. FAR). A recent example of FAR is to be found at Reid and Tom (2006). This study renders that Reid initiated and organized more meetings as a forum with women from *Women Organizing Activities for Women* from Canada. These meetings gave her the opportunity to discuss her doctoral work on the relation between poverty and women' health, and the way in which women could gather in order to action together. During the two years of collecting data, more than 30 women with low income participated at these meetings. Twenty of these became active participants and declared that they came to the meetings to discuss common problems and interests of women. During the first four meetings the participants were given an honorarium, after which no sum was necessary.

The reviewing from the previous pages allows us to identify directions towards two faces of the results' restoring: 1) the results' restoring as a succession of moments in the action research (Paille, 2000; Parrado *et al.*, 2005; Someck, 1995); and 2) the results' restoring as an instrument in the action research (Bergier, 2000; Lundy & McGovern, 2006). Even if, as Bergier remarked, the direction towards the results' restoring are not always explicit, one thing seems to be sure: *the action research without restoring cannot exist*. A community development based on an scientifically evaluation of the problems cannot exist either.

3. SEVERAL RECENT EXPERIMENTS IN THE ROMANIAN COMMUNITY DEVELOPMENT

We will go on by presenting briefly a research from 2001-2002, after which we will show in detail our research from 2004-2006.

The research from 2001-2002 developed in an European project of territorial development, named EUGENIA⁴⁶. The surveys with an exploratory character were done in the micro-region Livezile-Rimetea, in the center of Transylvania, Romania. In the research in the micro-region Livezile-Rimetea, several items were meant to describe the local resources at the level of the household (available rooms, renovations, available food resources etc.) from the perspective of the valorisation of the natural and anthropic patrimony by means of tourist development. But, the interest was especially focused on the identification of the local needs. Two types of problems were identified: *personal and family problems* and *problems which should be solved in the commune*. As for the problems that should be solved within the village and commune, the hierarchy looks as follows: 1) bad roads: 43% of options, 2) the water supply: 18% of options, and 3) the lack of phone: 16% of options.

The restoring of the sociological survey's results was made through an interview guide (i.e. individual restoring) and through a public gathering (i.e. group restoring). As for the group restoring in Rimetea (June, 2002), in the seminar attended by villagers of the researched micro-region, local authorities, representatives of the county authorities, internal experts and the coordinators of the project at European level, analysed the data taken from the quantitative analysis of the inquiry results (presented as tables and graphics), where the stress was laid on the following dimensions: 1) personal and family problems; 2) problems specific for the entire micro-region; 3) ecological problems (difficulties related to the water supply and the place where dirty water and domestic waste were thrown); and 4) the main activity domains which could develop in the micro-region. The next debates placed the following pairs of territorial actors into a confrontational situation: 1) citizens versus local council; 2) local council versus county council; and 3) county council versus European experts in the territorial development. The debates brought new information about the history of the local problems, originated in the communist period. It could be identified a different vision on the development belonging to the citizens and of the local authorities, and also a weak knowledge of the law which sustains the territorial development and the citizens' participation during the post-communist period. From the action point of view, possible projects of development, sustained by the government, were identified in order to solve the existent problems. The chances of collaboration between the different communities became clear at the micro-region level. Another restoring seminar was organised in Valisoara (a village in micro-region) on August 25th, 2002. On this occasion, the solution of the inter-communal cooperation was more clearly shaped. It also relied on the tensions existing at commune level in Livezile. The villages which promoted certain dissidence towards the centre village were exactly Izvoarele and Valisoara – the two villages the experiments focused on as well. The deontological aspects of the action

⁴⁶ EUGENIA - Observatoire Interrégional de Diagnostic et d'Action Territoriale/Inter-regional Observatory of Diagnosis and of Territorial Action.

research, promoted in the micro-region, had to be already taken into account by this unpredictable consequence.

The research from 2004-2006 were accomplished in the micro-region Albac-Scarisoara-Horea. This micro-region is situated in the North-West of the Alba County, Romania (see Map 1, in ANNEX). The three communes that make up the micro-region (Albac, Scarisoara, & Horea) have several common major problems of infrastructure (transport and telecommunication means, water supply etc.), poverty rates close to one another from a valuable point of view, a lot above the county average and a large number of people of more than 15 years old who graduated primary school at most, consequently with a low education level (Butiu, 2006). The differences shown by indicators of human capital (larger amount of population with a lower education level in Scarisoara, a higher amount of unemployment in Albac, a larger percentage of children in Albac) are the specific characteristics of every commune, as Butiu notices, but also suggest a certain complementarity in a possible project of micro-regional development (Butiu, 2006). Although the natural capital is similar (a mountainous region favourable for tourism, animal raising, and wood exploitation), Scarisoara was considered as one of the poorest communes in Romania (Sandu, 1999), without achieving remarkable progress in the latest years, while Albac (the centre village) was declared a *touristic village* (in 2005), on the grounds of human, natural and touristic infrastructure potential. This could be the development pole of the micro-region, according to Butiu.

The investigations in the micro-region were organised in two stages: 1) the making of a sociological inquiry based on a questionnaire (144 of questioned subjects at the level of micro-region); and 2) the restoring of the results of the sociological inquiry in the shape of the individualised restoring (in all the three communes: 25 subjects).

Villagers' representations, and implicitly, their opinions were taken by us with the means of a question from the questionnaire of the sociological inquiry: *In your opinion, what are the main problems which should be solved in this village?* The received answers are synthesised in the data of Table 2.

Table 2: Representations of the Studied Territory.

The problem	Options	%
Bad roads	125	89.3
Difficult water supply	48	34.3
Lack of phone	20	14.3
Difficult reception of TV programs	53	37.9
Other problems (the lack of foreign investment, flood danger, lack of jobs, lack of a garbage pit)	45	32.1

The identification of the representations went on with the representations of what could be better developed in each locality in future. The received answers are synthesised in the data of Table 3.

The data given by our inquiry prove a quasi-unanimous agreement regarding tourism as the main economic activity that can develop in the micro-region. The wood industry is an

exception, which is on first place for the subjects in Horea (where the exploitation and wood manufacturing is the most consistent source of income). Consequently, for them, the chances of development are related to an economic activity problematic from the point of view of sustainable development.

Table 3: Representations Regarding the Development Opportunities in the Micro-region Albac-Scarisoara-Horea.

The development opportunity	Options	%
Tourism	130	92.9
Animal raising	121	86.4
Wood industry	117	83.6
Milk work	99	70.7
Commerce	81	57.9
Crafts	80	57.1
Meat work	73	52.1
Fruit growing	59	42.1
Field plant culture	48	34.3
Another economic activity (the exploitation of the stone and non-ferrous ores resources, fish breeding, picking and work of wood fruit, dressmaking, bee culture).	16	11.4

In the restoring process, the used instrument was the interview guide, a specific instrument to the qualitative methodology (Agabrian, 2004). In this instrument, the hierarchy of micro-regional problems were presented to our interlocutors, and were followed by the next questions: *Do you agree with this hierarchy? What would be the solutions to each problem?*

Most of the questioned believe that the hierarchy rendered by our inquiry is correct. Those who would change something in the proposed hierarchy would put the water supply on second place or would simply change the hierarchy completely:

“I believe that the water supply problem is on first place, then the TV programs reception and on third place the roads.” (B. P., Scarisoara)

When it is about solutions, first the completion of the begun works is suggested:

“The European Community built some roads, but not all of them are finished, they also intend to set one or two cars to take the milk to Albac. Those who started the task should finish the roads.” (H. G., Albac)

Other references are made to the responsibilities of the department and state authorities:

“If we refer to the county roads, we can notice that they are very bad and the State should get involved in order to solve these problems. The State should also involve in renovating the road to Huedin, which crosses our commune.” (C. O., mayor, Horea)⁴⁷

⁴⁷ The road Horea-Huedin links the counties Alba and Cluj and would pave the way for tourists coming from Hungary and other European countries.

The restoring of the results to the question related to the community-territorial problems allowed us to identify the level of responsibility corresponding to every problem. See also Table 4.

Table 4: Problems and Levels of responsibility.

Problems	Levels of responsibility
Bad roads	<i>State and departmental level</i>
Water supply	Community and family level
TV reception	Family level

As for the development opportunities in the micro-region, during the restoring process the presentation of the results of the sociological inquiry and of the resulted hierarchy: *Do you agree to this classification? What do you think prevents households now from earning enough money out of tourism, animal raising and wood industry?*

As for tourism and its development, the interviewed persons considered that many changes were highly necessary.

Now, according to somebody, the quality of service is doubtful:

"I believe that people are not ready for tourism, as you simply can't send people to a toilet outside or have them sleep in the same room with you. You must have a good room, and a bathroom with a shower and hot water. If you do something, you should do it well." (P. I., Albac).

The micro-region needs another promotion as well:

"In our region there are no tourists as the region is not promoted, if there were some better defined touristic objectives, there would be a chance." (P. G., Albac)

In spite of the position it has in our hierarchy, animal raising is not regarded with too much optimism. The numerous stops brought about, such as the quality of the fodder and the lack of market for the products, are the most signalized:

"Animal raising would not develop as one cannot raise a cow with the fodders we have here, as they are wild⁴⁸ and do not give enough milk." (F. C., Horea)

"The villagers raise their animals in their own households, without having the possibility to verify the milk and the milk products, the pork and chicken meat. Centres to collect these products would be necessary, through investment of the state." (D. E., Scarisoara)

The commentaries regarding the wood industry reflect the complexity of the processes related to this domain, which are ecologic, economic, and social. Thus, we notice first the total dependence of the villagers to the wood industry in the region:

"With us, if we run out of wood, it's disastrous!" (P. H., Albac)

⁴⁸ Poor nutritive substances.

The exhaustion of wood resources is also signalised:

“In wood industry, how can there be wood if it was all cut down?” (A. B., Albac)

Hence the emergency signal regarding the impact of wood cutting upon sustainable development:

“...They almost finished with wood cutting. They should let the forests grow again so that our grandchildren should also benefit from it.” (F. C., Horea)

Tourism could succeed the wood industry, according to some opinions:

“At present, everybody lives out of wood, and they do what they can do as long as they can do. Then, when the wood is over, tourism can develop.” (F. D., Horea)

4. CONCLUSIONS AND DEBATES

We should keep in mind the fact that when it was discussed about hierarchies of the community-territorial problems, through the restoring of results, some of these hierarchies were confirmed and some were infirmed. The possible lack of concordance at this level can be valued in the direction of the deep analysis of the researches, possibly through an improvement of the questionnaire as main instrument of investigation.

The restoring of results seems to be a proper method to identify the solutions to the major problems shown by the inquiry. The settling of the responsibility level, as it is shown in the dialogues with the local actors can represent the main gain of the restoring of results as a deep knowledge instrument of the community-territorial problems. The restoring of results brought forward some community-territorial problems not intended in our inquiry, such as the problem of medicine supply or the problem of general medical assistance. We must mention the fact that although our research focused on the villages in the centre of the commune, many recorded commentaries along the restoring of results made reference to the specific problem of the other villages: isolation, traditional mentality, reduced infrastructure and a necessary continuous high effort to survive.

A certain critical opinion resulted from the restoring of results, especially when the development opportunities of the micro-region were brought to discussion. The intensity of the critics, translated through voice modulations, gestures and other elements of behaviour visible with the interviewed people during the restoring process, can only be caught with difficulty during the application of the questionnaire. This observation available for other types of attitudes as well, such as the attachment or the enthusiasm towards a certain solution or projection.

We can now conclude that the valences of the restoring of results of our inquiry in the micro-region Albac-Scarisoara-Horea, were edificatory in these three directions: 1) the development and deep analysis of opinion and attitude knowledge of the local actors; and 2) the revealing of the citizens' opinions by the local authorities, a citizens' participation sociologically induced; 3) the contributions to the stakeholders' identification and to the evaluation' foundation of the local problems.

We would like to stop a little at the last direction.

Stakeholders are not only the direct beneficiaries of a possible project but also investors, administrators, managers and implementation organizations etc. The problems' evaluation may have an informal character, based on experience and intuition, and an a formal one, more trustful, as it uses the scientifically research method. (Pascaru & Butiu, 2006). The importance of the action research in general, of the results' restoring moment, in particular, is more than evident in this area. Through the results' restoring it may be assured the passing from informal to formal in the evaluation of a community problem. But, at the end of the study, we would like to underline the hypothesis of the use of restoring as an instrument in the identification of the potential stakeholders in a given community and territorial area. Some indicators may be used in this way: 1) the interest of the restoring beneficiaries in the restored data and the consistency of the commentaries referring to these data; 2) the agreement with the hierarchy of the described problems, which reveals specific interests; and 3) the identification of solutions to the revealed problems and the expressing of the will in putting into practice these solutions.

The building of a flexible instrument, but with a sure accuracy represents for us one of the fundamental objectives in our approaches on the results' restoring theme in the context of the action research destined for the community development.

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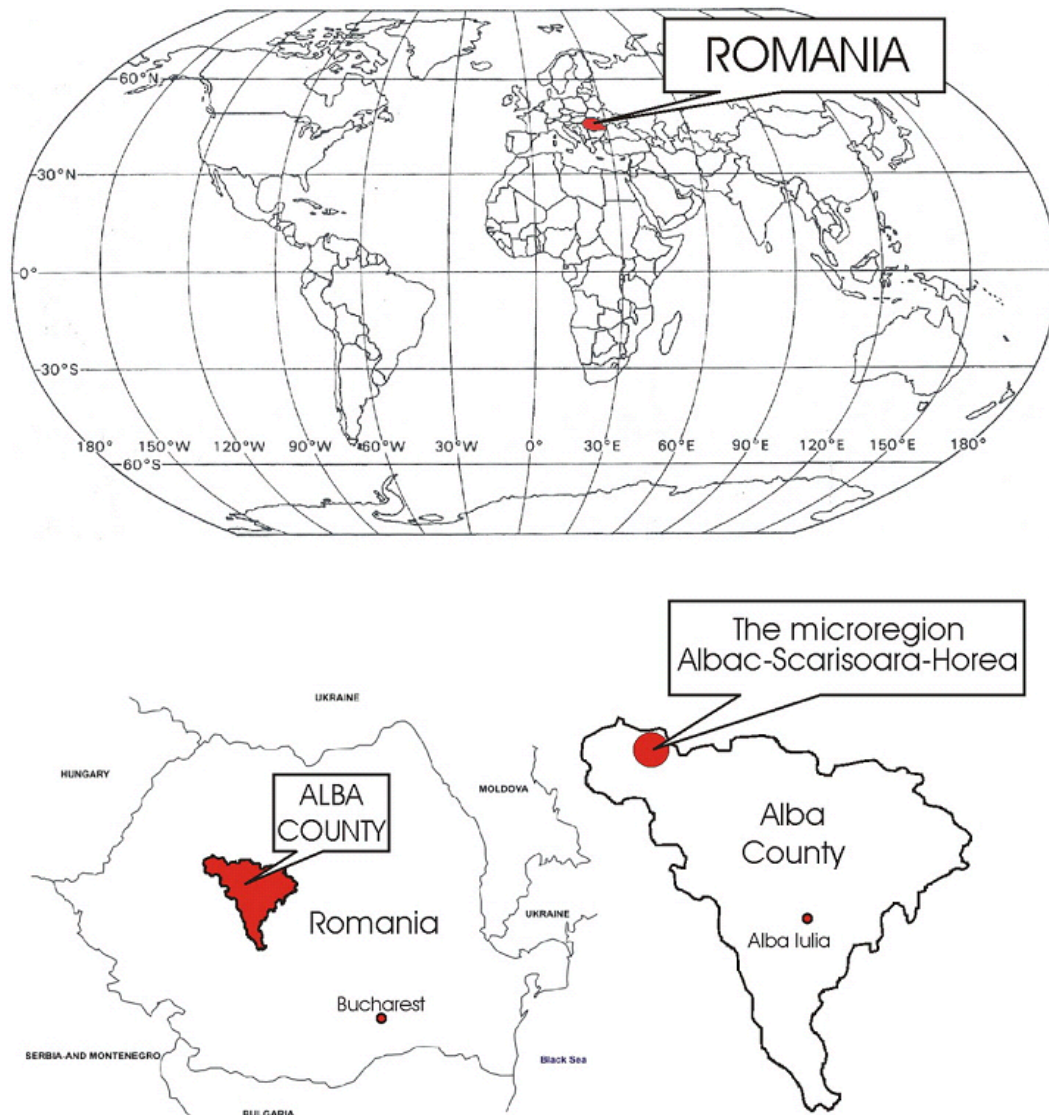
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ANNEX: Map 1 - The Micro-region Albac-Scarisoara-Horea. The Place on the Earth.



“Methodologies for Generalising from the Unique: Knowledge Transfer in Territorial Governance Investigations and Evaluations”

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Abstract: Investigations and evaluations of territorial practices and programmes are case-based. But investigations conducted in case-based spatial settings generate knowledge that often has only very specific applicability. Practice-oriented investigations and evaluations aspire to derive policy and/or action lessons beyond the boundaries of the case with which it is concerned. They strive for generalisability, in order to make it possible for lessons to be transferred to different settings. Mechanisms are therefore needed to mediate between different loci and levels of applicability for the results of investigations and evaluations. The mediation between the local knowledge and transferable knowledge in territorial programmes can be managed as a communicative and interactive process. This involves creating network contexts in which key actors have a transaction forum in which transferable knowledge can be generated in a dialogical procedures. This paper gives two examples illustrating investigation/evaluation strategies appropriate for programmes in case-based spatial settings: 1) a national 'EXWOST' programme of the German Federal Office for Building and Regional Planning on 'Potentials of Housing Cooperatives' in which the author was a member of the evaluation team, responsible for inter-project transfer and synthesis evaluation and 2) a transnational project entitled 'ENTRUST' on neighbourhood regeneration in the Framework RTD Program in which the author was a member of the coordination team with responsibility for promoting transnational learning.

INTRODUCTION: INVESTIGATION AND EVALUATION IN CASE-BASED SETTINGS

Territorial governance – per definitionem – always takes place in specific spatial settings. Investigations and evaluations of territorial practices and programmes are correspondingly case-based. However, investigations conducted in case-based spatial settings generate knowledge that often has only very specific applicability with little potential for generalization. This is the dilemma of the unique case.

Practice-oriented investigations and evaluations aspire to derive policy and/or action lessons beyond the boundaries of the case with which it is concerned. They strive for generalisability, in order to make it possible for lessons to be transferred to different settings. Mechanisms are therefore needed to mediate between different loci and levels of applicability for the results of investigations and evaluations.

How can this done? It is often attempted to enhance generalisability through the aggregation of data from different settings. Territorial projects – case-based, neighbourhood-based – supply data to a central data bank which generates a data set which transcends the specificities of locality. Aggregation, though, presupposes definitional stability in the categories used in different territorial settings – something which cannot be guaranteed, since the same term can mean different things in different territories or cultures. Furthermore, it can only function with standardized categories – and therefore is reductionist and cannot capture uniqueness and complexity. The monitoring and evaluation of EU programmes often takes this reductionist, aggregating form. This leads to disquiet and dissatisfaction amongst researchers and practitioners working in case-based local territorial contexts, who fear that the key characteristics of their experience will not be captured by such investigative methods.

How can one generate territorially and transnationally transferable lessons for urban policy from the evidence of single cases in unique settings embedded in local policy and planning cultures? There are alternative strategies, avoiding the reductionism of quantitative aggregation: the mediation between the local knowledge and transferable knowledge in territorial programmes needs to be a communicative and interactive process, which takes place through negotiation between specific and general interests. This involves creating network contexts in which key actors have a transaction forum in which transferable knowledge can be generated in a dialogical procedure.

In the following, I give two examples illustrating investigation/evaluation strategies appropriate for programmes in case-based spatial settings:

- 1) a national 'EXWOST' programme of the German Federal Office for Building and Regional Planning on 'Potentials of Housing Cooperatives' in which the author was a member of the evaluation team, responsible for inter-project transfer and synthesis evaluation. This project involved the development and implementation of an *evaluation methodology* for application in network architectures, which have flat power relations, in which practice innovation is intended to drive policy innovation, and are aimed towards learning and knowledge transfer.

- 2) a transnational project entitled 'ENTRUST' on neighbourhood regeneration in the Framework RTD Program in which the author was a member of the coordination team with responsibility for promoting transnational transfer. This project involved the development and implementation of a *transnational learning methodology* for knowledge generation and transfer in transnational research/practice partnerships aiming at informing change at governance, organisational and professional levels.

EXWOST: A NATIONAL NETWORK OF MODEL PROJECTS ON COOPERATIVE HOUSING

The programme 'Potentials of Housing Cooperatives' (Genossenschaftspotenziale) within the Federal German Experimental Housing and Urban Design programme (Experimenteller Wohnungs- und Städtebau – EXWOST) was a two year programme 2004-2006 promoting and testing innovative approaches in cooperative housing provision. The methodological approach we applied as programme evaluators is a form of 'cluster evaluation' (Worthen / Schmitz 1997, Potter P 2004b, Potter 2005), a methodology for knowledge management, policy development and practice transfer in heterogeneous programs, generating transferable knowledge from unique cases.

In the EXWOST programs, the Federal Transport Ministry has funded since the end of the 1980s some 400 individual projects within some 30 thematic research programs. A wealth of experience has been collected over time regarding methodological and organizational issues connected to the evaluation of programmes of experimental projects. Each programme consists ideally of ten to twenty projects and runs for two/three years. Some EXWOST programmes have covered technical issues in urban planning and architecture: urban conservation, urban ecology, cost reduced housing construction. Others have tackled interdisciplinary issues: elderly-friendly neighbourhoods, housing for lone parent families, mixed use in urban design, neighbourhood renewal (on the history, see Wollmann 1990; Bundesministerium für Verkehr, Bau- und Wohnungswesen 2000).

Our programme on housing cooperatives aimed to promote cooperation and information exchange among various actors in policy, research and practice. It was a multi-level evaluation in the sense that each local project has its own evaluation/technical assistance capability, which collaborated with the central evaluation team (in which I was a member) at the network level (Maron / Potter / Simbriger 2007).

PROGRAMME ARCHITECTURE: LOCAL PRACTICE, CENTRAL EVALUATION

Our network comprised 21 local case studies of local innovations in cooperative housing provision. These projects are oriented towards urban planning practice, they are intended to have a pilot function, addressing current problems and providing innovative solutions. The cases are sponsored as model projects with Federal funding in the form of local case studies, each of which had their own project evaluator.

The *local evaluators* had complex roles: technical assistance, development, implementation, documentation, and evaluation. The local projects functioned relatively

autonomously provided that they participated in the process, carried out the contractually agreed tasks (which were framed in quite broad terms to allow flexibility), addressed the research questions and delivered their reports. Given that the local teams were generally not researchers but urban planning professionals, we offered the local evaluators at the beginning of the programme a special seminar on methodological issues in evaluation, which was an innovation, not having been attempted in other EXWOST programmes (Potter 2005b).

Our role in the *central evaluation team* was also complex: initially, we had a programme planning role, which then became a monitoring role during the course of the program. We undertook visits to the projects, organized internal workshops at different locations (as guests of one of the projects throughout the country). We received the interim reports of the projects and prepared interim synthesis reports. Finally, at the end of the two-year programme we in the central team made a synthesis of the results of the local projects and organized a final conference for presentation of the results to audiences of policy-makers, practitioners and researchers, with theme-based workshops within which local projects reported on their work.

The funding allocations favour the pilot project level rather than the overall programme level, which militates against unitary research design. But at the same time, this decentralized emphasis opens up the programmes for a diversity of different approaches at the project level. Facilitating the internal learning and external transfer from a group of relatively heterogeneous projects addressing the same overall research questions is the task of the central evaluation team. This team has the following tasks:

- setting up the model project programmes, defining themes and research questions,
- inviting proposals for model projects and choosing the candidates,
- negotiating the specific funded activities (terms of contract),
- monitoring activities,
- promoting inter-project learning through regular internal workshops,
- disseminating interim results in expert seminars and serial publications,
- synthesizing the transferable lessons from project results and finally,
- organizing a final conference and writing a final report.

That is to say, the central evaluation teams have programme planning, technical assistance, programme monitoring roles as well as programme synthesis and documentation roles. These are complex roles corresponding in German to the term 'wissenschaftliche Begleitung', which refers often to a combination of monitoring, documentation, technical assistance, and evaluation roles.

METHODOLOGICAL IMPLICATIONS

The social science and evaluation methodology of the EXWOST has not been the subject of focused methodological discussion during its course since the late 1980s.

With regard to social science methodology: The theoretical and methodological literature (cf. Hellstern / Wollmann 1978) associated with EXWOST at the time of its inception privileged positivist and post-positivist social research paradigms - quasi-experimental methods, hypothesis testing in controlled settings. The title of the programme "EXWOST – Experimental Housing and Urban Design" indicates the kind of paradigm underlying the thinking of the programme initiators. The label 'experiment' recurs in the texts presenting the programme (Fuhrich / Gatzweiler 1990, 523). The pay-off from EXWOST, though, is not gained through 'experiment' in the strict sense, for the conventional notion of 'experiment' is rarely appropriate in the research areas of EXWOST – or, indeed, in other human service situations. The experimental method is strictly speaking characterized by a hypothesis which is posed initially, and where in a stable and replicable situation a limited number of relevant variables are controlled and manipulated, results are obtained which are then recorded and communicated. The experimenter is a researcher whose job is then done, the results are handed over to a policy-maker who decides on the basis of recommendations and then to a practitioner who applies the knowledge generated in the settings of his or her work.

With regard to evaluation methodology: The official rationale has been traditional impact assessment (cf Rossi / Freeman 1993): delivering answers to pre-set questions set by the funding agency. The Federal guidelines have not been formally challenged:

(Die) Reichweite und Grenzen (von EXWOST) ergeben sich aus der Aufgabenstellung von Ressortforschung, die "darauf gerichtet ist, Entscheidungshilfen zur sachgemäßen Erfüllung der Fachaufgaben" des BMBau zu gewinnen, und damit aus der "Orientierung des Programms ausschließlich auf den politischen Erkenntnisbedarf des Bundes" (Wollmann 1990, 565)

This proposition is in tune with linear models of learning, decision-making and management (collect information, test hypotheses, apply into general practice of the basis of tested procedures). That is, an instrumental view of evaluation with the ministry posing the questions and paying projects to answer the questions, with a vertical flow of knowledge, upwards to the Federal ministry. But if that were the case, there would be no particular rationale for sponsoring horizontal, inter-project communication.

This posited distinction between those asking and those answering questions was in practice untenable and did not correspond to what actually happened. This tension was particularly evident in the transnational studies commissioned within the programmes (see, for example, Brech / Potter 1991, Potter / Zill 1994, Potter 1996). The formal model of the transnational studies was one of *one-way information flows*, meeting the knowledge needs of the Federal Government. In practice, in the implementation of the projects we strove to achieve a paradigm of *reciprocity*, affirming that all participants are in a learning situation and that all have a wish for receiving as well as delivering information - returning favours, giving and receiving. That is, we did not espouse the principles of technical rationality – with its strict divisions of responsibilities, institutional separation of practice from evaluation, separation of knowing from doing, evaluators applying a different set of procedures which are 'outside' the practice sphere of the practitioners.

The conventional notion of scientific learning and of the dichotomy between research and practice does not correspond to the reality of people's behaviour in these working contexts of EXWOST. Nor is an evaluation model based on technical rationality (focus on summative evaluation, impact assessment, leading to recommendations reported to the commissioning client, etc.) appropriate to describe the kind of learning processes generated in the EXWOST evaluation approach. In practice over the years the programme participants have (intuitively) generally made use of naturalistic paradigms - heuristic, inductive approaches in field settings. This disjunction between methodological discourse ('espoused theories') and empirical practice ('theories in use') has remained largely unarticulated (on this disjunction, see the seminal work by Schön 1983).

EVALUATION FOR LEARNING

Our style of cluster evaluation placed a strong emphasis on learning through inter-project networking and through regular and timely dissemination of interim results. Case-based interim results and communicative, interactive learning situations have been the strengths of the program, benefiting the practitioner and decision-making community probably more than synthesized results produced at the end of the program.

What we see here is the adoption of a learning paradigm of 'communicative action' (Forester 1989, Forester 1999) in the cluster evaluation of unique case studies: processes of learning (drawing on organizational theory), which are no longer seen as linear and unidirectional transfers of knowledge from evaluators to funders (and secondarily to practitioners), and no longer having clear divisions of labour and discrete role allocation - positions associated with the work of Argyris and Schön (cf. Argyris 1990; Argyris 1999; Argyris / Schön 1996).

Moreover, the emphasis on communication between actors, implicitly, though not explicitly, calls into question conventional paradigms of the profession of planning, still closely linked to traditional models of physical planning, with its focus on the construction of the built environment, rather our conception of living environments as complexes of services to be delivered. In other words, instead of physical 'planning' as a practice of construction of a built environment, we think more of participatory planning as bringing networks of lay and professional experts together in negotiated learning about society and space (cf. Forester 1989, Forester 1999, Selle 1996, Innes 1995, Healey 1992).

Our intention was to establish favourable conditions for learning, and it is in this softer sense that we wanted the programme to have impact. Learning is achieved through the mechanisms of targeting funding towards innovative practice, continuing programmes over several years, involving a large number of key actors, involving different levels of government, intensive networking of key specialists, employing various channels for information (internal and external), securing timely production of interim results, dissemination of provisional information, which is confirmed or reviewed over time. These elements serve towards maximizing the indirect learning benefits from evaluations, in line with the principle that evaluations infrequently have an unmediated impact on the specific policies or programmes which they investigate, but instead have a more diffuse and indirect learning effect (cf. Weiss 1990).

While the field of professional practice of EXWOST has been urban planning, the model of theme-related networks of experimental projects characteristic of EXWOST is relevant for many multi-level human service programmes with practice-oriented interventions in area-based settings. In such complex and innovative networks, the generation and management of knowledge at different organizational levels (local, programme, transnational), and the articulation of transfer between these levels, is of central importance, and is a central *evaluative* activity.

ENTRUST: A TRANSNATIONAL PARTNERSHIP IN NEIGHBOURHOOD REGENERATION

The second example presented in this paper is the ENTRUST thematic network in the Fifth Framework RTD Program, Key Action 4; ‘City of Tomorrow and Cultural Heritage’ within the Energy, Environment and Sustainable Development thematic programme. This was a network of researchers and practitioners, universities and city authorities in eight locations (Berlin, Copenhagen, Dublin, Glasgow, Hamburg, Lisbon, Valetta and Vilnius) and had the objective of involving partnerships in the betterment of deprived neighbourhoods whilst producing and making use of the transnational knowledge base (Corcoran et al. 2004).

In the last section I attempted to show how evaluation methodology can be a suitable *organizational frame* for the management of learning processes in urban research and practice networks. In this second section I wish to consider the *methodological principles* which are appropriate in such networks, and in this case in particular in multi-site European thematic partnerships, outlining the requirements for utilizable qualitative and ethnographic instruments in such research/practice contexts. I am concerned here with the application of evaluation approaches for knowledge generation and management in transnational investigations of urban regeneration policies.

In this ENTRUST project I was brought in as a consultant to the coordination team to strengthen the base for transnational learning in the central team – half way through the project – and found my task to be one of making sense of the activities undertaken and identifying the pay-offs of transnational exchange for the partners. This was an evaluative agenda, though not conducted in a traditionally evaluative manner (no interviews, no benchmarks) and did not result in a classical evaluator’s report but in a theoretical paper setting out post-hoc the methodology employed. My objective in this project was to find ways of meeting the requirements of the two facets of transferability (across actors and across settings) when managing heterogeneous evidence and heterogeneous addressees. That is: techniques for transferring knowledge to audiences at different levels of territorial governance.

The methodology was developed in an inductive way during the course of the project. ENTRUST, as a network of practitioners and researchers engaged in urban regeneration in eight European cities, laid a strong emphasis on presence and reciprocity in transnational communication. The methodology had to facilitate this. The ENTRUST work process was a methodology developed in an emergent rather than pre-ordinate manner, seeking to

compose the appropriate investigation design during the course of the project through exploration instead of pre-programming.

THE WORK PROCESS

The network process involved the following steps, which were not pre-programmed but emerged through the process itself:

- 1) Field visits and reports. The work of the network began with an intensive series of cross-visits, with members of each of the participating cities meeting in all eight cities for a case study visit in the period to November 2002. Without defining the research questions in advance, each city team documented their perceptions of and insights into the case study neighborhoods. These cross-visit reports generated some 50 brief texts.
- 2) Defining and agreeing on research issues. During the final city cross-visit (Valletta, November 2002); the network members worked in cross-city groups to derive common research issues from the cross-visits, and to decide on priorities among the research issues.
- 3) Identifying interests for bilateral learning. At the subsequent meeting (Lisbon, January 2003) we returned to the subjective interests of the city teams, supplementing decontextualised issues with situated knowledge interests. This was intended as a way of operationalising what network members had earlier proposed as a “twinning” work process, in which bilateral exchanges were to be strengthened.
- 4) Writing one’s own case study. From the beginning, there had been a consensus that a major element of the empirical evidence for the ENTRUST project would be the case studies of neighbourhood renewal in each of the participating cities. These texts had been begun at different times in different cities, but we had not decided on form the text should take until a joint meeting in January 2003. It was agreed that the case study was to be written as a narrative, without a prescribed format.
- 5) Reviewing others’ case studies. At the next meeting in Dublin (April 2003) the case studies were presented not by the authors of the texts but by reviewers from other ENTRUST cities. This review process reinforced a bilateral dialogue and stressed to participants the creative potential of subjective interpretation.
- 6) Agreeing on thematic focuses. At the same meeting, the group discussed, developed and agreed four cross cutting themes (aims of regeneration, involving the private sector, community participation, mainstreaming and anchoring). Four editorial teams (two people in each, with all cities represented), backed up by cross-city teams, were set up to draft a paper on each of the themes.
- 7) Writing thematic analyses. This process had two stages. First of all, the editors of the thematic papers collated data and analytical interpretations from the experience of each city. From the material collected the editors derived the key messages, supported by empirical evidence. The first drafts of these thematic papers were presented and discussed in Brussels in July 2003, and presented in final form in Berlin in September 2003.

- 8) Assembling recommendations and guidelines. In Glasgow in December 2003, the members of the cross-city teams met to sort through the recommendations contained in the thematic papers, to select those concerned with policy and those concerned with practice, and to determine priorities in the messages chosen. The results of the process were reworked by editors into final texts.
- 9) Communicating final products. The summary report, policy recommendations and practitioner guidelines were drafted by the responsible editors; presented in draft form at the final network meeting in Vilnius in April 2004; and, following incorporation of feedback, completed for publication and presentation at the final public conference in Hamburg in June 2004.

ITERATIVE PRACTICE AND LINEAR DOCUMENTATION

During ENTRUST's two and a half years, the process was un-programmed, meandering, even 'messy'. This was a consequence of the methodological approach: qualitative investigation instruments have to mould themselves to their objects; communicative methods may only be semi-structured if they are to promote creative interaction; iterative principles involve – by definition – returning to examine the same object or issue again, but with wiser eyes; and finally, taking participatory values seriously means decisions will be reconsidered and changes made to a project “design” in mid-course. Nonetheless, the principal documentary products generated by the ENTRUST work process exhibit a surprising and ironic linearity which give the appearance of clear and direct route:

- Stage one: 56 cross-visit reports. on-site analyses of the practices in the neighbourhoods of the partners.
- Stage two: 8 case studies. empirical evidence of the partners' cases in each of the eight participating cities.
- Stage three: 4 thematic analyses. key themes as thematic evidence on a comparative basis.
- Stage four: 2 recommendations/guidelines. recommendations for policy-makers and guidelines for practitioners in urban regeneration.

IMPLICATIONS FOR INVESTIGATION METHODOLOGIES

What does this disjunction between an untidy, iterative activities process and the structured, linear documentary product signify? That the promotion of learning is facilitated by an emergent structure, not by pre-programming. We derived from our practice an understanding of the key investigative paradigms for promoting transnational learning in partnerships composed of among diverse people from heterogeneous projects, but with a common agenda:

- 1) Qualitative: A qualitative investigation methodology is appropriate which takes into account the nature of the empirical interventions, which are subjective and cannot be understood independently of the perspective and interest of the actors, context-bounded and cannot be abstracted from locational relevance, and are finally narrative practices

which cannot be reduced to taxonomies. This draws particularly on methodological debates within ethnography (cf Denzin / Lincoln 2005).

- 2) Communicative: Data collection and knowledge generation is a process of communication and reciprocity, and therefore the management and facilitation of group interaction and appropriate forms of recording and processing verbal information are of key importance. This means that the methodology is dialogical, negating the traditional role division of investigator and object and, instead, stressing mutual investigation and exploration. Here one can draw particularly on sources in planning theory (cf Healey 1992, 1997).
- 3) Iterative: This approach stresses the importance of iterative processes in the generation of knowledge. The route from particular, context-bounded learning to the transferable message is not a single, unidirectional step, but rather a process which involves an interplay between the unique and the general, enhanced in a recurrent procedure involving different actors and different techniques. Here group facilitation techniques of organizational development are instructive (Beywl / Potter 1998, Preskill / Torres 1999).
- 4) Participative: Furthermore, this methodology has to recognize that a project's organizational form (a network of peers) cannot make use of hierarchical direction, but must secure acceptance and motivation. Participation becomes not an add-on but an integral component of the project architecture in a partnership. Here we can gain understanding from social network theory (Kickert et al 1997, Geddes / Benington 2001, Berry et al 2004).
- 5) Open-ended: Acceptance and motivation can be best achieved by employing a heuristic-inductive approach by which key evaluative issues are developed jointly and 'owned' by the participants instead of being laid down pre-ordinately in a hypothetical-deductive approach. The principle of participation requires an open-ended, emergent process, to go back to the terminology of Stake, whose approach of "responsive evaluation" is specifically instructive here (Greene / Abma 2001, Abma 2006).
- 6) Structured: Nonetheless, this is not to negate the possibility or desirability of an evaluation 'design', for there needs to be an agreement on the parameters of a project in advance, there needs to be a mission and a work program, in such a way as to secure internal consensus among partners and – last but not least – to make a convincing submission to a funding agency with a proposal having a clear content, procedure and product, and to give guidelines for its evaluability. This means understanding project design and contractual procedures as a 'scaffolding' (drawing on the educational psychology of Wygotski) within which to build the project (cf Rogers / Williams 2006).

CONCLUSION: INVESTIGATION, EVALUATION AND KNOWLEDGE TRANSFER

The two examples set out in this paper of empirical practice in linking investigation, evaluation and knowledge transfer have benefited from theoretical and methodological

developments not only in the field of programme evaluation, but also of organisational learning and planning theory. Moreover, they draw on practical experience in a number of territorial governance programmes, which have had the goal of generating transferable knowledge from thematic programmes of heterogeneous innovative projects with diverse objectives and interests, in the planning and implementation of territorial interventions in the European Union.

These methodological approaches are appropriate for tasks of investigation, evaluation and knowledge management in practice contexts. Indeed, in such contexts the distinction between practice, investigation, evaluation and transfer activities becomes blurred. These become overlapping activities with reflecting on practice being a learning activity. Not just these practices of participants overlap and merge, but their roles do likewise. The evaluator may also be coordinator, a consultant for transnational learning, or a researcher. The evaluator role intersects with roles of project coordination, knowledge management, capacity building, organizational development or even motivation and leadership. While this is seen by some as an ambiguity compromising professional identity, this complexity can also create creative opportunities for learning: achieving new knowledge and new skills in transnational networks of territorial governance.

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“Landscape and Participation: Construction of a PhD Research Problem and an Analysis Method. Towards the Comparative Analysis of Participatory Processes of Landscape Management Projects Design on a Local Scale in the Walloon Region (Belgium)”

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Abstract: A preliminary reflection to the definition of a PhD research problem on the concepts of participation, landscape and project, led the student to be interested in the participatory processes of landscape management projects design, and in the inhabitants landscapes representations. The method includes the comparative analysis of local processes of projects design, and the direct observation of two Walloon landscape management projects design (investigation conducted with stakeholders implied in the project design and among inhabitants, direct observation, organisation of participative meeting-debates. Fitting her research approach within the field of the territorial participative research-action, the PhD student assumes that the participation of the territorial actors and the population can “feed” the scientific research as well as territorial action. She reconsiders moreover some difficulties encountered in her research.

Key words: Participation, landscape management project, stakeholders’ involvement, landscape representations, participatory research-action.

1. BACKGROUND

Largely discussed in the scientific and institutional spheres as well as within the civil society, landscape is nowadays considered as an essential component of people's surroundings (Council of Europe, 2000) but also as an operational instrument of territorial development (Joliveau, 1994). Moreover, the partisans of the landscape consider it as a federator object avoided of multiple qualities (Guisepelli et Fleury, 2005): accessibility, transversality, support of identity, animation and participation tool.

However, each actor or user –i.e. officials, administrators, farmers, foresters, contractors, tourists, defenders of nature, local residents or researchers – has his own perception of landscape. Therefore expectations and priorities for land use may differ and conflicts of interests and disagreements may appear about the management of landscape (Bell, 2001).

If establishing a better dialogue with the local populations and integrating their visions, needs and aspirations into the propositions of landscapes protection, management and planning are new priorities, then taking these various perceptions into account seems fundamental. In that respect, we join the growing number of authors and experts in the field of the landscape who estimate that a sustainable, consensual and democratic management of the landscapes and quality of populations' surroundings should ideally be based on the participation of all interested parties and populations. Moreover this participation is especially mentioned in the 5c and 6D articles of the European Landscape Convention (Florence, 2000).

On a more practical point of view, this participation can hardly be made real since; in addition to a political good will, it requires appropriate methodologies and tools to be built, developed and diffused.

Participation in Walloon Region is more considered as an information or consultation process (public hearings, advisory committees) than as a real opportunity to work together for the search for the best solutions.

However, one should not neglect the existence of informal or occasional participative process: many local initiatives taken in recent years to promote landscapes valorisation and management were based on dialogue and partnership between various actors (local authorities, public servants, associations, private citizens) brought together in follow-up committees and work groups.

2. CONSTRUCTION OF A PHD RESEARCH PROBLEM

A preliminary reflection on the concepts of participation, landscape and project, like on the manner of articulating these three entries led us to formulate the following: we assume that participatory design of landscape management projects associating all concerned parties constitutes a privileged way to take into account of the stakeholders' representations, needs and constraints and to implement participation.

Therefore the aim of our PhD research is to identify the significant components for a design process of a project adapted to the landscape (carrying structure, stages sequence,

concerned actors, participatory actions...). We will particularly evaluate the specific contributions of the participation to the landscape management project.

3. CONSTRUCTION OF AN ANALYSIS METHOD

3.1 Comparative analysis of participatory processes of landscape management projects design on a local scale

First our work will be based on the comparative analysis of concrete local experiences of participatory design processes of landscapes management projects integrating a participatory investment.

A rapid inventory of operations carried out in Wallonia led us to list a dozen projects (Local Action Group, Natural Parks, River Contract...). In order to collect information on those processes, we chose to make the projects managers speak, privileging the direct meeting and the individual interview technique.

3.2. Direct observation of two landscape management projects design

In the second time, our research is fed by the direct involvement in the action.

We retained two operations that, beginning from common objective and methodology, developed their own project:

- the *Culturalité en Hesbaye brabançonne* Local Action Group (LAG) (municipalities of Beauvechain, Hélécinne, Incourt, Jodoigne, Orp-Jauche et Ramillies; 270 km²; 37376 inhabitants) and
- the *Entre-Sambre-et-Meuse* LAG (municipalities of Cerfontaine, Florennes, Gerpennes et Walcourt; 387 km²; 43940 inhabitants).

These two structures gather Walloon rural municipalities joined together within the framework of the Community Initiative Leader+ (2000-2006) around the priority theme of making the best use of natural and cultural resources. They made valorisation of their landscape heritage one their priorities. On the basis of a jointly worked out schedule of conditions, each LAG charged a research department charged to carry out a landscape diagnosis as a basis for the definition of an operational "Landscapes" actions program.

We were associated with the drafting of the schedule of conditions of the landscape study and then we accompany the projects evolution while taking part in the meetings of the follow-up committees.

Also, it seemed logical to us to exploit this participative investment and the trust relationship that gradually settled with the coordinators and privileged actors of these projects.

On these two cases, our experimental approach will include:

- 1) The examination and analysis of the produced documents:** reports, maps, activities to awareness-raising papers, newsletters, and minutes;

2) An investigation by individual interviews conducted with a sample of stakeholders implied in the project design but also among inhabitants

A first part of the interview address to people who were directly involved in the project and focus on factual data about the process (genesis of the project, different stages of the process, involved actors, held discussions). The second part of the interview intends more to reveal the landscape mental representations of the actors and the inhabitants.

The investigation is not limited to the only people directly implied in the project and thus makes it possible to be addressed to those who spontaneously do not take part in these projects or that are held by it distant.

3) The direct observation of on-going projects

Participating in follow-up committee meetings, in information seminars, in work sessions relating to landscapes seems to us fundamental to observe the actors' practises.

The direct observation constitutes a complementary approach to the interviews that moreover makes it possible to establish certain proximity and to gradually build a trust relationship with the actors.

4) The confrontation of the various landscape representations

The confrontation of the various landscape representations of the local actors with those of the inhabitants and the analyses resulting from the diagnosis of the expert landscape designer and our own diagnosis should reveal probable similarities and variations. This operation will make it possible to highlight the divergences or conflict zones but also the converging foresees that can be mobilised to overcome differences and make the landscape management "manageable".

5) The organisation of participative meeting-debates

According to us, the investigation alone is not enough. Admittedly, it brings information, it widens the range of touched people and is a first step towards landscape sensitising, but it does not constitute a participative process since the inhabitants - except a very restricted group already implied - do not have a say in decisions. Moreover, questioned people do not know how the results of the investigation are used.

Also, according to us, the representations must be brought, not as a single truth, but as a debate subject.

Consequently, we intend to directly intervene in the territorial action by the organisation of meeting-debates between the different parties. Those meetings will give us the opportunity:

- to initiate a dialogue between the various actors (and also researcher) and bring them closer together;
- to help the participants to gradually specify their point of view and to gradually move from concerns expression to problems formulation;
- to bring a scientific expertise and to debunk misunderstandings but also, with the participation of the actors, to validate how the collected data will be interpreted;

- to gradually build (by the debate) a collective - not obligatorily consensual - reading of the landscape which acknowledge the diversity of perceptions, analyses, positions and interests... and lead to common problems that will found the management orientations and recommendations;
- to evaluate how relevant, operational and acceptable the considered actions are.

The precise methods of this meeting were not considered yet.

4. DISCUSSION

Fitting our research approach within the field of the participative research-action, we assume that the participation of the territorial actors and the population can “feed” the scientific research as well as territorial action.

We have thus a double objective: a scientific one (that is improving the fundamental knowledge of a concrete aspect of a territorial process, here the building of a landscape management project) and another practical one (that is raising the awareness and empowering local actors and inhabitants by involving them – trough the investigation then the meeting and the debate – in the development of a landscape diagnosis, orientations and recommendations proposal and finally the development of actions in favour of the landscapes.

However this posture may meet some obstacles:

- the difficulty of finding a willing experimentation field and the necessity to install a ethical frame negotiated and accepted by everyone;
- the fact that the research does not concern a, “experimentation field” but takes place in the frame of a project whose temporalities are different from the one of the PhD research and a project from which several elements - however structuring the research – are not under control;
- the fact that participatory involvement takes time and lengthen the duration of the protocol of data acquisition and validation.

Moreover, this posture requires particular aptitudes such as the insertion in the existing networks and the capacity of negotiation, mediation and animation... Persuaded of the interest of this approach, we assume this risk taking and will try to overpass these difficulties.

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WORKSHOP 5. PARTICIPATION AND GOVERNANCE (GENERAL ISSUES)

“Territorial Development and Governance: Third Sector Organizations”

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Abstract: The object of this paper is to go deeper into some aspects related to the relationships between the Third Sector and the Public sector, to underline the open problems related to the implementation of the Governance process and the effective participation of Third Sector organizations in this process, in planning and implementing actions for a territorial sustainable development. The problem about the Third Sector's development as a form of social capital of a specific territory is understanding if these Third Sector organizations are looking for a “role” or a “responsibility”, or if they are rather looking for an integration between these two aspects. The interaction between Public and Third Sector, which is an expression of participation, can't be considered an “arena of dispute”, serving to represent things to “say” and not to “do”, because of the gap between politics and the civil society; therefore, regardless of the representative level of different subjects, participation, as it is viewed today, should close with actions of external relevance supported by transparent procedures and visible positions, in which roles and responsibilities and the behaviour of all the actors involved are clear, in such a way that their behaviour will be considered “reliable” by the community.

1. INTRODUCTION

Whenever we talk about development, we usually make reference to economics, but, as is well known, the notion of development is not confined to economic paradigms at all: today when we speak about development we mean *sustainable development* seen as a development process aimed at providing basic environmental, social and economic services to all the members of a community, without impairing the environmental and social setting in which such services are provided.

Sustainability is a mode by which development forms that are not invasive or damaging for the social, environmental and cultural characteristics of a given territory are designed; more specifically, development policies cannot disregard the social capital of a territory, if they are to be sustainable.

Both theoretical thinking and the planning of government economic policies have been focussing on the issue of territorial development in Italy for quite a long time (Garofali, 1992); there are many different theories about local development, which gave rise to a highly complex debate, characterized by diversified and clashing approaches, on the need to change the rationale of some public policies, with special regard to the South of Italy, due to the often poor results obtained by national policies (Bagnasco, 1977; Fuà, Zacchia, 1983). In the light of these analyses, it is absolutely necessary to combine national policies with a bottom-up action for local development, in order to support the processes that make demand explicit and identify intervention priorities.

The issue of development is evolving today in the direction of *sustainable development*, commonly defined as the development process in which, despite the presence of many diversified interests, environmental, social and economic needs are coped with by matching and integrating three macro-objectives:

- *economic competitiveness*: to reach this aim the territory must emerge as a leader in certain specific economic activities: interventions need to be planned depending on the *availability* of some specific factors, such as specialized production, *know how* and human resources. In agreement with these principles, local governments must take action to enhance the assets of the territory and to steer economic development towards activities that have gained a competitive edge on the market;
- *environmental sustainability*: since economic aspects do not constitute the only strengths and weaknesses of a territory to be taken into account when talking about local development, we need to look also at other aspects related to citizens' everyday life, accessibility and physical and psychical liveability of spaces: the territory must be interpreted not only as the space where productive activities are carried out, but also as a space endowed with a peculiar "cultural identity";
- *social cohesion and balance*, since, as we have stressed above, a local development strategy must be aimed at raising the "feeling of belonging to a territory" by building and strengthening consensus and social balance: to this

end, the majority of social groups, that carry different material interests, demands and needs, must share values related to fundamental aspects of society in order to promote law and order, thus avoiding conflicts.

These three objectives must be put on the same footing: the last two objectives should not only be seen as obstacles in the way of territorial development; instead, they may act as remarkable boosters. Therefore a development strategy must be based on an “integrated logic” able to embrace in a non contradictory way the three objectives that determine territorial sustainable development. It is certainly difficult to get an overall view of these objectives because of resistance and overlappings, therefore local governments must act as political intermediaries, by involving all the stakeholders of territorial sustainable development: the process of sustainable development does not come without conflicts between objectives and stakeholders, which should induce us to define and share standards suitable for managing and overcoming such conflicts.

Within the present cultural and political context, participatory citizenship flows from those aspects of territorial government policies that allow citizens to take part in the life of government and/or to strengthen his sense of belonging to a community. The new modes of government based upon *governance* must not only highlight citizens’ actions as they convey their needs, but will also acknowledge the role that they and their associations (both formal and informal) can play as partners in a development process rather than as passive recipients of benefits and services. In the last decades the participatory process has been expanded to increase the number of subjects who somehow and for different reasons participate in the *decision-making* and planning process in a given territory. *Participatory citizenship* is both an objective of government policies in a territory and a methodological approach that characterizes decision-making and planning. So different modes of participatory citizenship can be envisaged from different and complementary perspectives: a) a mode that helps to develop and implement policies designed for preserving and protecting a *common good*; b) a mode enforcing the right to influence in a democratic manner decision-making processes affecting individual and collective life in a territory; c) a mode that is shaped by the right to be included, to be assigned duties and responsibilities in daily life at the local level, as participation begins to take place in each individual’s daily life: everyday life is the place of our *being there* (Jedlowski, Leccardi, 2003).

The development of a territory cannot neglect the dynamics of identity and belonging that spring from the practice of *participatory citizenship* which is embodied by a partnership model: «in fact it requires an agreement based upon social understanding of the complementary role of institutions and citizens in building plans. The processes that give rise to partnership can be seen as procedures of dialogue-oriented or deliberative democracy: procedures that by the term “democracy” mean the substantial equality of participants *regardless of* the role and status of individual actors, while by the term “deliberative” they mean the commitment to comparing one’s own reasons with those of other people and, if necessary, to change their essence and contents on the basis of more compelling arguments» (Antoniacomì *et al.*, 2002: 52). *Participatory citizenship*, through the protection of rights and the fulfilment of duties, contributes to the conservation, the enhancement and the production of common goods and to the consolidation of the sense of

belonging and identity, turning the citizens into main actors together with the territory as a whole.

The cultural processes described above confirm and support the need to launch initiatives and mobilize resources intended for participatory citizenship, via the increasingly widespread introduction of planning and programming procedures, along with joint management of interventions aimed at territorial development wherever it is possible. Such process is based upon the principle of subsidiarity, that must be seen as a support to widely shared responsibilities and not as a lack of will on the part of the government to shoulder its own responsibility connected to fostering territorial development and citizens' welfare.

At this point there is a need to clarify the principle of subsidiarity: its etymon takes us back to the Latin word *subsidiu(m)* which belonged, to be precise, to the military terminology and stood for the reserves. The word could already be found in ancient Greece (in Plato and Aristotle), but was mostly used with reference to the social sphere by the Church social doctrine. In other words, we might say that the principle of subsidiarity «forbids the state to take action whenever citizens or social aggregations (families, associations, etc.) can act on their own freely and autonomously with democracy and responsibility. Whenever individuals or groups are not able to act, institutions must intervene in a subsidiary manner, but their intervention will have to be temporary inasmuch as it must tend to restore conditions that are conducive to a renewed autonomous action by individual or collective subjects» (Mangone, 2005: 42).

Utilizing subsidiarity as the main governing principle of the new local development policies demands as a prerequisite that municipalities turn themselves into the promoters of people's growth as active subjects and productive members of society. Not only will the new development policies have to strengthen and guarantee the "participatory citizenship" of all the community's members first by taking stock of all their needs, but then they must also understand the role they can play as active partners rather than as passive recipients of benefits and services.

A correct application of vertical subsidiarity (among public agencies) and of horizontal subsidiarity (between public agencies and the civil society seen as a whole made up of both individual and collective subjects) preserves and enhances the role of the territory, on the one hand when it acts as a guarantor for the principles of solidarity among all citizens and, on the other hand, when it monitors and checks adequately the whole range of offers, by assuring fairness and a seamless network of interventions and services covering the whole territory. Hence the role of local government will have to be built upon the management of different subjects, with specific and special interests, interplaying with territorial needs and demand, for the purpose of carving out a comprehensive sustainable development policy.

But what is the local dimension that may allow an adequate implementation of development policies in the territory? Is it possible to reach a single definition of the local that allows a perception shared by all disciplines taking part in territorial development planning?

Certainly it is not possible anymore to equate the local with the administrative boundaries of a territory, especially after the progress of the «process of European integration, that

appears or is increasingly perceived as the place at which two structures intersect: a formal one, resulting from the vertical and horizontal relations among institutional subjects, that is legitimate but slow in acting, and an informal and spontaneous one, made up of open relations networks that offers the advantage of swiftness and flexibility, but is limited by absence or lack of legitimacy. So recognizing each other beyond the boundaries means, for those who choose to venture onto the path of shared administration, to approach complex relations that on the one hand, at the informal level, posit the existence of a community of destiny that can be actively involved in new opportunities for movement and reciprocity, and on the other hand reaffirm the conditions resulting from the legitimate administrative territorial jurisdiction, its allocating power, the distribution of goods, the positioning of its government and representative powers» (Mangone, 2001: 26).

The debate is still open to discussion; nevertheless, from the various stances some common aspects start to emerge that seem useful for us to make a few points:

- the identification of the local dimension will be crucial for the future community coalitions in order to devise shared development strategies;
- the local dimension actually represents the geographic encoding of the social, cultural and economic relations that connect neighbouring communities;
- the local dimension means, although this aspect is threatened by globalization processes, self-determination of territories; but government bodies often fail to consider the right to self-determination;
- the definition of the local dimension and of alliances for development must, together with all their contents, be implemented through agreement processes that must involve all the institutional actors and those who are not present in a given territory.

From the elements stressed above it follows that a true “local dimension” fit for promotion, planning and implementation of development interventions must be a “median dimension”: a Municipality is usually too small, except for the cities, for it to be able to perform all these functions, whereas a Province coordinates many territories different from each other, Therefore it cannot represent their actual peculiarities and demands. So the “median dimension” stands in between the Municipality and the Province. Actually, when we talk local this term does not certainly identify a single municipality, let alone a province, but rather a territory usually encompassing neighbouring municipalities that can be considered as aggregated in a whole not only because of their geographical proximity but also and mostly because of the characteristics and resources they share: a logic of territorial aggregation occasionally that meets criteria of economic, social, cultural or environmental homogeneity.

In actual reality the local-global dichotomy melts into what Robertson (1992) called *glocalization*, or what Ammaturo (2004) calls *localization* and *relocalization*, or what most people call *glocal*: that is to say, the process by which a local community tries to ward off homologation and globalization, but at the same time does not see globalization as

something that thwarts specificity at particular places or as a totally negative process, but rather as something that allows it to remain open to the global system.

Therefore *Glocalization* results from the application of a *de-hierarchizing* logic that «inspires the globalization processes and gives back to local territories the major role denied to them by the system balance hinged on the “centre/periphery” dichotomy. Glocalization takes place as the loss of efficacy by that intermediate level in between *supra-national instances* and *regional instances* occupied by the *nation state*. In terms of the system balance, the role played by the centre weakens, while peripheries are given (or take on their own initiative) a new status as “local” that changes deeply their action patterns. The shift of a territory from the status of “periphery” to that of “local” is not a mere terminology issue; in fact a breakthrough occurs through which the territory gains (or regains) an *identity* and claims it vis-à-vis other actors (political, economic, territorial, institutional)» (Magnier, Russo, 2002: 129-130). So a new identity is claimed by the territory that leads to an “appropriation of identity by the territory” (Badie, 1995): the local culture and population assert themselves as protagonists, the territory has the autonomous capacity to select intervention strategies and to implement them directly by mobilizing all the resources of the territory itself, in order to build development strategies whose benefits accrue to that area only (expansive glocalism)⁴⁹.

“Expansive glocalism” is certainly favoured by those countries in which laissez-faire and deregulation policies have already reached their maturity, but in Italy, where this has not yet happened, territories can only become main actors by enforcing the subsidiarity principle.

In the light of what we have argued above, we acknowledge that development processes, as active and integrated plan making, hold a strategic value within the more complex framework of global sustainable development, in which quite a number of problems in terms of relation and integration between the public sector and the social parties do arise.

2. OPEN PROBLEMS REGARDING THE INTERACTION BETWEEN PUBLIC AND THIRD SECTOR

Development policies must try to make the most of territorial resources, by directly choosing the most suitable strategies and the management of their output: the territory must behave like a private actor within a market-driven logic, becoming a competitive actor able to grasp the best opportunities and the most adequate resources, without impairing local characteristics and peculiarities. In line with this logic, local government bodies must play a key role as “helmsmen” steering development, placing the emphasis on

⁴⁹ We may distinguish several “glocalisms”, but in the case of the arguments related to development two forms of localism have been identified: a “defensive” one (Mander, Goldsmith, 1996) and an “expansive” one (Ohmae, 1995). The former was born to preserve the specific features of the territory that are threatened economically, socially and also demographically by the globalization processes: the territory erects a sort of protection barrier; instead the latter mobilizes the specifics of the territory as they are seen as fundamental assets, and it is precisely from them that the territory can start to design those development strategies whose benefits accrue to that area only.

growth and enhancement of some aspects that are crucial for effective implementation of interventions (Mangone, 2001):

- *interventions integration and coordination*: territorial government bodies must carry out the concerted planning of interventions and resources too, in compliance with principles of coordination and integration of actions affecting different areas (social, cultural, economic, etc.);
- *networking* through the development of operative links (supported by fora for the exchange of views and thoughts on the one hand, and common memoranda of agreement and action plans on the other hand) with the different territorial organizations (both institutional and non institutional) that carry out activities aimed at territorial development;
- *stimulating role*: government agencies must urge to action, especially where research activities probing into the transformations of reality emerge, be they conducted in or out of the territory;
- *advocacy and consciousness-raising activities*: it is necessary to build public and collective support (sharing) around action and intervention plans, often accompanied by territorial awareness and reviving campaigns.

The public government role will be performed by putting together different subjects holding specific and particular interests that interplay with the needs and demand for the development of the territory, in pursuit of a comprehensive *community policy*. Such policy will be realized through the enhancement of the community as a resource and as a representation of the territory: starting up a community work means not only putting the citizen in touch with both formal and informal networks that operate in the territory, but also supporting all those solidarity and reciprocity networks that spontaneously arise in a community. «Promoting a close cooperation between formal and informal networks (networking) is a very difficult undertaking, but community policy is characterized precisely by a new role and concept of the “public”, and in particular of the Local Body, which is increasingly oriented towards an activity performed by the coordination and mobilization of subjects in the community, in the civil society, in social formations, through extended action less bound by the government authority» (Mangone, 2001: 33).

New local development paths cannot be paved unless the different decision-making and institutional levels back up the entities springing from the territory. In other words, this is a *bottom-up concerted* development pattern, centred on territorial regeneration and enhancement of available human and social resources. In the last decades, development patterns originating from within the territory (endogenous development) have come to the fore, drawing attention by politics and economics to bottom-up concerted development that often takes place spontaneously and is regulated by *best practices*, rather than by standardized norms, moulded by local territorial reality. So concerted development takes on a less “centralized” dimension in favour of a range of tools more connected to experience, culture, identity of individual places and aimed at creating *opportunities* and *synergies* rather than constraints and norms. The positive outcomes of many concerted processes are visible: they created a cooperative climate conducive to an effective

management of the European community, national and regional intervention tools and enhanced the role of local and social realities in implementing regional policies.

It is therefore necessary to put in place a territorial governance method aimed at a constant utilization and consolidation of social capital (even though such methodology may seem exhausting and inconclusive) as this will ensure a relative effectiveness not only in case a decision must be made, but also, above all when the processes and interventions to be implemented require a strong interaction among different social and/or territorial actors. Development processes and their peculiarities involve a multiplicity of private and public, collective and individual subjects: such specific aspects require instruments fit for systematic concerted efforts and institutional, economic and social partnership. Hence the priority given to instruments for active citizenship that go along with negotiated planning, which, as is well known, is the regulation agreed upon by public subjects or between the public subject involved and the public and private party or the parties interested in implementing different interventions connected to a single development aim, that require an overall evaluation of specific activities.

Any reasoning about development cannot disregard the value of cohesion among different viewpoints and interests, and integration among different instruments and behaviours. Therefore renewed commitment and skill and, above all, the will of subjects involved in development processes not to dodge the responsibility that these entail for local representatives and communities.

In development dynamics resources are crucial; there is no doubt that by this word we do not make exclusive reference to financial resources, but we also indicate territorial capacities and intelligence that must be preserved, promoted and accumulated: to this end it is necessary to define structural and service actions to direct and channel resources, thus matching demand with supply in the territory, with a view to increasing the number of subjects who possess all the necessary information and have a chance to profit from present and future opportunities.

Local development policies cannot leave out interaction and widespread understanding among the different actors involved in the development process; this axiom implies the need to cooperate at the territorial level, and this operation often brings about a cultural “leap forward” that is matched by some specific changes in collective behaviours, such as: a greater capacity for dialogue in subjects belonging to the same context and the decreased number of micro-conflictual initiatives. It follows from all this that those in charge of management must get ready to take up future challenges by setting up new organizational structures and, with respect to that, cooperation constitutes the prime tool for triggering the development process effectively.

From this perspective, the tools of participatory citizenship and negotiated planning allow to implement the subsidiarity principle more effectively, and consequently to strengthen stable forms of partnership between local government and social parties, taking into account realistic feasibility elements that can gear cooperation work to objectives that are actually important. Strong participation and cooperation must be fuelled not only at the institutional level; such modes of action must not be seen only as new instruments for

legitimizing representation, but also and mainly as preconditions for a new start in local development policies that takes its moves from the territory.

However, the administrative decentralization process in Italy, active since decades, hasn't defined yet the role of the territories, related to citizens' rights/duties, to the relationship between central and local Governments, and between local governments and social components. The approbation of recent laws represented a step more towards the clarification of the role of both institutional local bodies and non institutional Third Sector bodies⁵⁰, regarding an idea of sustainable territorial development that is centred upon that field of action ensuring security and welfare for society as a whole. This basic tenet becomes stronger by the end of the last century, when «the idea of a new vision of composition and combination of subjects concurring in the planning and management of activities aimed at citizens' welfare starts to gain momentum. That is how the role of service cooperation in the processes reforming welfare public systems starts to be discovered» (Donati, 1996: 147).

As stated in my previous essay, «the introduction of complexity in the planning and in the decision-making process acted in a way that the recent generation of advanced planning tools reflect a weak rationality, and assume a dimension of complexity and incertitude, including plural interests as values to protect and opportunity to set common objectives. In Public Administrations there's an evolution from the dimension of *government*, as unilateral objectives definition, to the dimension of *governance*, as interests' participated regulation, with the *consensus building* as essential to the programmatic process» (Mangone, 2001: 30-31).

There isn't yet a common use or definition for *governance*, as for many other words which refer to “new generation” methodologies of negotiation and cooperation. This is because Italian language, as the majority of other languages, doesn't distinguish between government activity (*governance*) and Government as institution (*government*), such Anglophone countries do. In Italian, *governance* indicates the government process, even if the meaning is different from the Anglo-Saxon one. The word *governance* indicates the step from programming systems based on hierarchical models and *policy making* direction, to programming systems based on the principle of subsidiarity (vertical and horizontal) and cooperation between public and private sector (Mayntz, 1999).

For the sake of brevity, we cannot present all the stances that emerged and are still emerging on this issue, so we will try to propose a synthesis of the concept of *governance* with the help of a few authors. The first synthesis defines *governance* as «the sum total of the multiple ways in which individuals and public and private institutions deal with their

⁵⁰ As Third Sector, without entering in the debate on its definition, we generally mean «a set of private *organizations*, acting for social and collective needs, which create profit without distributing it between the members, or produce an income without having disposal on it, because it's used for statutory purposes» (Lazzarini, 2003: 43). Therefore the Third Sector includes «all *private organizations* which are different from commercial companies because *they lack of profit purpose*. They better have social or cultural aims [...] They spread from cultural associations “sons” of social centers to big banking foundation, parochial groups and recovery centers for drug addicts etc.» (Zanini, Fadini, 2001: 313).

common problems. It is a continuous process by which different or conflicting interests can be harmonized through cooperative action. The system of *governance* includes formal institutions and informal initiatives, resulting from the population's decisions or an agreement between them and the institutions for the purpose of a better management of common interests [...] viewed as an innovative mode of policy making implementation, in which some elements are given priority: «the decision-making process is the outcome of interaction among different subjects sharing government responsibilities with the same intensity; decisions are made by the same subjects having direct responsibility in the implementation phase; the subjects concerned in the policy making process fully participate in it» (Moro, 1998: 31-32). A recent interpretation of the concept, based upon a new awareness of citizenship, views *governance* as «a form of *partnership* between public administration and the social subjects seen as citizens, aimed at co-producing social policies. By this approach, the citizen cannot be reduced to a client whose scope for action is limited to free choice», he can and must have something to say, in fact he has «also the right to ask for greater *fairness* in the terms of purchase, and also he claims to be listened to [...] That is why the *partnership* model based on citizenship also copes with the need for humanized and personalized social services considered as *ad personam* services and for a stronger position of the citizen as an active actor in public life following the *empowerment* logic. From this standpoint, *governance* becomes mostly an opportunity to rethink the *Welfare State* from the angle of community participation in concerted planning processes of social services» (Giarelli, 2002: 23).

In other words, «territorial governance presents the challenge of seeing that “territorial engineering” (coordination of plans, programmes and projects in the territori) takes advantage of and effectively stimulates the “organisational capacity of the whole of the social organisation” in order to manage to provide appropriate answers to the democratically expressed needs of the citizens» (Amiotte-Suchet, Miedes Ugarte, Redondo Toronjo 2007: 5-6).

Therefore a new era has come for territorial development policies, with the advent of new planning modes that have forced the public and the social private to co-programming and co-planning⁵¹ which includes an innovation on policies' contents and an indication of new operational models of participation and organization to be adopted by local bodies in the elaboration of such policies.

Anyway, there's a paradox in participation: citizens can't participate if they aren't represented in an official organization, and in particular in an organizations of the so-called Third Sector who are the link between citizens and Public sector.

This kind of organizations stand as links in the chain binding the citizen to public institutions (the State and local administrations in general) but in terms of service production dynamics they come between the Market and the State. On the other hand that part of the third sector or co-sector (Cipolla, 2002) that along with volunteer work includes

⁵¹ “Co” must be understood as «contribution that reinforces action, that brings to completion. Existing that happens simultaneously and accepts any contrast [...] common work that is tantamount to help, integration, availability, complementarity, collaboration» Cipolla, 1997: 401 e ss, I vol).

paid work progressively takes up the middle position in a system made up of two poles: the formal one, the State (institutions in general) and the Market, and the informal one, volunteering and primary networks⁵² (Di Nicola, 1986; 1998; Donati, 2003; Donati and Colozzi, 2004). The third sector appears to be «a multi-dimensional crossroads, qualified to provide co-relational services with external solidarity, able to be empathic in its effort to reduce inequality, well trained from the professional and organizational viewpoint, efficiently oriented to targets (social balance), legitimized, despite the asymmetrical difference, by trust, sharing, adhesion (and not out of love) in the place of human affection (primary networks), for law in the place of procedure correctness (local bodies), for profit in the place of the right motivation (pro-social private)» (Cipolla, 2002: 70-71).

The relationship between Public and Third Sector is still changing: the principle of subsidiarity and new forms of solidarity in the society (Ammaturo, 2004) consequently cause that the Public sector adopt a control function, assuring the interaction between individual freedoms and general guarantees, and increasing stakeholders involved in the decisional process on welfare objectives. Because of this feature peculiar to Italy, the relation between the Third Sector and public institutions does not follow any model: «it does not fall into the liberal model due to the scarce independence of non-profit organizations in our country; it is not in line with the social democratic model because of the weak regulation enforced by the state; finally, it does not follow the corporative model owing to the lack of common values and to the poor coordination among sectors. The Italian case seems to be characterized only by contradictory elements: a strong functional interdependence in the absence of an effective coordination; a highly autonomous management in non-profit organizations in the absence of a final piece of legislation that separates them from the state sphere and prevents them from being affected by commercial interests; the tendency to delegate public liabilities in a polity characterized by patronage systems and particularism» (Ranci, 1999: 246).

The problem concerns the type of representativeness that Third Sector organizations, guided by an instrumental rationality, can guarantee to the collectivity. Can the collective interest be represented and guaranteed by organizations whose aim is to increase their competitiveness to survive in a territory with an insufficient application of the principle of subsidiarity and insufficient actions of *governance*?

3. THIRD SECTOR, DEVELOPMENT AND SOCIAL CAPITAL

The Third Sector found a space for the autonomous initiative to protect its own interests and collectivity's ones related to welfare and development, moreover after the crisis of political parties.

The Third Sector, in general, has the task to produce a new model of sociality orientated to the creation of “relational goods” characterized by trust and reciprocity (Pasquinelli, 1998:

⁵² *Integration* among different worlds (public/private, social/health care, bodies/practitioners, etc.) becomes necessary for the purpose of building a real system network that puts together the formal and the informal, thus obtaining through a single methodology a social planning addressed to those citizens who do need it.

27). However, while these functions are “latent” (Merton, 1968), those concerning the relations with the Public sector are “manifest”:

- the first one is *service providing*, to increase the competition in a double direction: between Third Sector *organisations*, and between them and privates. In order to face competition, Third Sector organizations must specialize, by devising cutting-edge communication and marketing strategies to preserve their image and activity (Martelli, 2006), and must clearly identify the target for their services;
- the second one is related to *rights protection and denunciation* (in the sense to make individual problems collective ones) to change the political agenda, with the risk to cause a site-specific territorial defense: on the one hand «action taken by advocacy groups can contribute to modify the political agenda, to denounce specific situations, to voice the problems of those who have no say. The role they have come to play- at times unsuccessfully of course – is that of translating into public discourse issues and demands which would otherwise remain hidden between the folds of civil society [...] this is pushed two main drives: progressive specialization of objectives and convergence of energies». But on the other hand such positioning may result in particularism; in fact, if «the particularist logic prevails, so that the organization does nothing but protecting its own territory (be it a social problem, or a certain population group or other), by an approach that clearly separates one’s own (rights that must be preserved and claimed) from the other (the rest of society), a few battles might be won, but no progress towards a greater solidarity would be made in our society» (Pasquinelli, 1998: 28-29);
- the last function is to promote *and produce new employment*: the Third Sector is a container and a promoter of “social capital”, that is to say «networks of reliable and cooperative relations that support the full human development of individuals and social groups by creating the common public space increasingly needed by a multicultural society» (Donati, Colozzi, 2006: 12) and represents an important potential of employment. Delors’ White Paper⁵³ pointed to the Third Sector as one of the main areas of job creation which should have created several million new jobs by the end of the last century. Without tackling economic matters, we have to underline the risk that the “occupational growth” becomes an aim itself to let such organizations survive in the “market”. In other words the risk inherent in the present Italian situation is that the legitimation of the Third Sector’s work for territorial development starting from the social is motivated mainly by its

⁵³ *Delors’ White Paper* (1993) concerning growth, competitiveness and employment was the first step towards fostering true cooperation among European countries. In fact, on the basis of this report, the European Council at Essen identified five key objectives that would have been pursued by member states in the following years: developing human resources by means of vocational training; supporting productive investments with moderate wage policies; improving the effectiveness of labour market institutions; identifying new employment resources through local initiatives and promoting access to the labour market for some specific categories, such as young people, the long term unemployed and women.

capacity to create jobs, rather than by the provision of effective services, permeated with humanity and responsive to the territory and community demand.

This new model to govern and manage the territory in order to realize a sustainable process of local development can be put into effect only through a mobilization of social resources, relations and opportunities: in other words the effectiveness of territorial development policies depends on and needs the *social capital* of such territory.

The term *social capital* was introduced by Loury (1977; 1987) who meant by it all the resources existing within family relations and the community social organization that come to be useful for individuals' development- even Bourdieu (1979) saw it from this perspective. Despite that, we should stress that we owe the most important contribution to the definition of the concept of social capital to Coleman (2005), who argues that it «is created when relations among people change in ways that facilitate action» and it is not tangible «as it is incorporated into *relations* among people» (Ibidem: 390). Such relations can be seen as forms of capital because like other capitals they produce material and symbolical value; in fact, the value of social capital is inherent in the fact that it «identifies certain aspects of the social structure depending on its function [...] The function identified by the concept of “social capital” is the value that these aspects of the social structure hold for actors, being resources that they can use to achieve their interests» (Ibidem: 391).

In the last decades analyses of territorial economic development have relied mainly on the explanation based upon the concept of social capital; this is due to the fact that such concept has no clear-cut boundaries, so to spell it out we will refer to Mutti who argues that «social capital, more precisely, is made up of trust relations (strong and weak, extended and interconnected in many ways) apt to give participants the ability to recognize and understand each other, to exchange information, to help each other and to cooperate for common purposes. Such formal and informal reciprocity relations are anyhow regulated by norms that define the form, contents and boundaries of exchanges in a more or less flexible way, and are made effective by sanctions for the individual that are either inner or outer. This relations network is the intentional or unintentional product of social investment strategies oriented towards the establishment and reproduction of social relations that can be used over time, namely lasting and useful relations able to yield material and symbolical profits. Such relations improve the capacity for action of the individual and collective actor and, if extended enough, even the social system's capacity for action» (Mutti, 1998: 13).

The concept of social capital disproves the view according to which it is the market that creates stable relations in the territory; according to Granovetter (1973; 1974; 1987; 1992) the opposite is true: stable relations in the territory determine market structures with their peculiarities. Social capital inherently contains a view of development that is not confined to economic aspects, but is linked to the degree of *civiness* (Putnam, 1992) and community freedom and above all to adopting correct behaviours based on trust (Gambetta, 1990; Fukuyama, 1995), which are all elements that refer to belonging and reciprocity. In development processes social capital, by involving directly social actors, elicits leadership in the territory by means of actions that lead to share the local

development path towards a common objective. Social capital actually appears to be a “multiplier of the possible”, it has a meaning only provided that «it is aimed at ‘multiplying’ its own potential, that is at producing and reproducing itself. We may state that social capital has a meaning when it can differentiate endlessly and continuously from the objectives it pursues and reaches. Hence it holds a value only when it moves (dynamically) in the ceaseless search of well-being in a “conscience” perspective [...] We may briefly point out that the social, value-related, cultural, relational component can represent the multiplier of well-being without which any piece of work, structure, service and so on can be sterile or can be perceived as unimportant. Within this perspective, doing as conscience tells us, feeling first of all part and parcel of a process (in progress), becomes an essential component» (Petricciolla, 2002: 15).

The territory is not something abstract, it's a place of production: it assumes its own identity through the social capital built thanks also to Third Sector organizations, which constitute a new reciprocity between individuals and their territory. Social capital undoubtedly lies at the core of territorial development processes, as it is the main pillar supporting an adequate local development strategy that not only exploits resources, but above all builds and increases them, enhances and accumulates them in order to take account of social and territorial peculiarities in the implementation of local development planning, even to prevent huge migration flows, such as those we are witnessing in some geographical areas, which in the long run would undermine the development process itself. As a matter of fact, being social capital based upon relations, migration of a certain number of actors from a given territory diminishes the potential of that territory.

The social capital for its intangibility and it is generating of collective benefits it hasn't to be considered a property of actors, but it has to be considered as a “public good” (Coleman, 1990) and therefore it must be protected as such: in order to build up social capital instead of wasting it one path only must be followed to strengthen social ties through trust and empowerment; this is the only way in which even territories that may seem, at a superficial glance, “hopeless” would become productive locations and producers themselves of development processes allowing the community to survive and to improve its own quality of life.

The reform of Italian *welfare*, including a new idea of citizenship (Colozzi, 2002), represents both a development tool and a great bond: if Third Sector organizations are responsible with public institutions of social needs' satisfaction, they also risk to be involved in management and bureaucratic responsibilities, going away from their general function of creating new forms of sociality, solidarity and social capital.

Therefore, a definition of territorial development policies needs a great interaction between public and private, and a large understanding between all components involved in the *decision making* process. Shared responsibilities, planning and managing together are necessary but not sufficient to make actions really effective. The cooperation between Public and Third Sector, and between Third Sector organizations (Manfredi, 2003a; 2003b) needs a cultural “revolution”, including changes in collective behaviours, and a better dialogue between actors involved in the same context without micro-conflicts (De Conno, 2004). This means that social actors have to face the future through new organization

models focusing on two key factors: *innovation* and *experimentation*. The first one is based on three strategic factors (Manfredi, 2003a): capacity of *involvement* in the surrounding environment; orientation to internal and external interests; ability to create relationships for a strong and long-lasting collaboration. On the other hand, the *experimentation* has to build new development processes, such as activities, projects and actions with a high management flexibility and a correspondence of programmes to the real needs of the citizens, in order to guarantee the creation of a new sociality and solidarity.

4. CONCLUSIONS

The main question about Third Sector as expression of the social capital of a territory is to understand if such organizations are looking for a “role” or a “responsibility”, or an integration between both aspects.

Problems in the interaction between public and private and the peculiarities themselves, let us say that Third Sector is looking for an executive role, more than a responsibility one: the participation doesn't happen in *governance* processes, but in the phase of project and realization of events, not only for a lack of a common based orientation, but also because these organizations couldn't find and value two important resources: *trust*, that can be defined as «the actor's expectation for positive experience, built under conditions of uncertainty, but in the presence of a cognitive and/or emotional burden that allows to go beyond the threshold of mere hope» (Mutti, 1994) and *knowledge*, seen as «the whole made up of meanings and interpretations worked out and assigned to data and information grasped by the individual within a given context [...] “Knowing” does not mean to record mechanically information coming from the outside, but rather reorganize, rework out, represent and interpret such information [...] knowledge issues from a constructive process, meaning that the individual works out knowledge in an *active* way. That is to say he produces knowledge, as he is able to learn and to work out acquired information, instead of internalizing it passively, as if his mind were a *tabula rasa*» (Livolsi, 2004: 67 e ss.)

Such a status is due to lack of *involvement* in the setting he lives in, which would have allowed instead «the establishment and intensification of relationships with the main supporters of social and institutional change, with those “social actors”, who are able to provide innovative contributions in the form of new organizational and behavioural dynamics» (Manfredi, 2003a: 19).

The risk we face is that Third Sector organizations orient themselves towards a logic of “appropriation” (of spaces and positions) covered by solidarity and participation matters.

The problems discussed can be synthesized as follows: a) lack of inter-organizational cooperation and common action with many micro-conflictual situations; b) excessive search of a role focused on the organizations' surviving; c) Scanty use and improving of the trust and knowledge resources.

It is clear that when we talk about the Third Sector we do not refer to it as a negative element in the chain of *governance* or focus only on the negative aspects that characterize it, on the contrary we think that the Third Sector is potentially the social party that can still

contribute a lot to building a new sociality and new participatory forms conducive to *governance* processes. In fact, it has not yet taken the lead as a promoter and actor of change the way it could. While in the next few years we will witness highly competitive dynamics because of the progressive growth of social enterprises, the Third Sector needs to adopt a strategy to occupy centre stage within *governance* and subsidiarity principle implementation processes. But in order for them to achieve this aim, the Third Sector organizations must take a direction that points to:

- the shift from “appropriation logic” to “solidarity logic”, being fully aware of the limitations of an individual action fighting against the feelings of insecurity and fear elicited by contemporary society, thus giving rise to new cooperation and social solidarity forms, viewed as joint and organized risk offsetting (Zoll, 2000);
- the integration between the role that Third Sector organizations have already been able to design for themselves, and the responsibility they have as a form of expression of collective needs that can have an impact, being a social force, upon the political agenda and the new alliances based on autonomous subjectivities and specific parties (public and Third Sector) at play on the political and social level;
- enhancement of knowledge and trust as resources that allow a full and widespread involvement with the surrounding environment, starting from the stimulus provided by the latter to the improvement of individual organizational and collective knowledge, to deeper trust relations and above all to the increment of social capital.

Interactions between Public and Third Sector, which are expression of participation, can't simply become an “arena for fighting”, used to “say” and not to decide or “do”, because the trust relationship between politicians (institutional *decision makers*) and civil society is eroded. Therefore the participation has to be concluded with external orientated action, with transparent procedures and visible positions, in which it's clear the actors' role, responsibilities and behaviour, in order to let them considered “reliable” by the collectivity.

The challenge Third Sector has to face is to grant the plural voice of citizens who want to express their needs in the political arenas, where they can't be directly considered because under or bad represented or deprived of a relationship based on trust with their representatives. Third Sector organizations have not only to play a role in providing services, but also to undertake action of promotion and qualification of activities aiming to protect *common goods*⁵⁴ and collective rights.

⁵⁴ The “common good” is different from “public good”: the first one is related to individuals as members of a State and can be pursued on a base of solidarity; the second one is related to the collectivity. The concept of “common good” has a catholic origin and it's typical of the Church social doctrine, such as the subsidiarity as solidarity cooperation; it was elaborated for rural and religious communities, but it's used today with reference to economic theories related to *new contractualism*: this term includes each good generating undivided advantages for the collectivity, trying a social integration based on consensus.

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“Territorial Intelligence and Equity in Health”

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Abstract: What do we mean by effectiveness in health care planning? What and whom does it affect? What methodology should it apply? Such questions refer to methodological (and political) issues that do matter for the purpose of ensuring equal rights to health to everybody. In fact, not only do they “raise the methodological issue”, but also they turn the “methodological discourse” into something that has an impact on reality both in terms of governance and in terms of sustainable action.

All along the last century we have witnessed:

- a) a continuous devaluation of territorial knowledge,
- b) a planning process predominantly targeted to emergency situations,
- c) a series of processes based upon the dual problem-solution methodology.

The immediate involvement of stakeholders in the planning process becomes an ethical principle of planning and governance for health: such method requires the enhancement of knowledge and the continuous exchange of “hands-on” experience among the different groups involved in the planning-acting process, that look at reality from different angles and possess different types of know-how. Only where these two modes and levels of knowledge overlap can we implement health governance as a product of territorial expertise and as a tool for promoting equality.

INTRODUCTION⁵⁵

Territorial planning projects raise some issues as to:

- what is the kind of policy that can change reality?
- what are the right tools for disseminating such changes?
- what are the strategies that can be implemented to increase participation by interested parties?

The obstacles we can identify can be described by these three points⁵⁶:

- there is no communication among the different sectors of territorial reality,
- there is no cooperation among the technical, political and social spheres,
- it's difficult to eliminate the top-down approach that has governed interventions so far.

At this point some questions arise:

- what do we mean by effectiveness in health care planning?
- what and who is the health planning process targeted for?
- what kind of methodology can we apply to organize new more equitable services or interventions within a given territorial and social setting?

Such questions refer to methodological (and political) issues that do matter for the purpose of ensuring equal rights to health to everybody. In fact, not only do they “raise the methodological issue”, but also they turn the “methodological discourse” into something that has an impact on reality both in terms of governance and in terms of sustainable and lasting action.

1. SOME INTRODUCTORY OBSERVATIONS

During the second half of the 20th century we have witnessed a dramatic drop in the general mortality rate and an increase in average life duration and life expectancy; nonetheless statistics tell that the infant mortality rate remains high, as it reaches unacceptable thresholds, while morbidity and mortality of some diseases are going up; moreover occupational morbidity, work accidents and diseases are growing, as well as the disabled at birth or in the earliest years of life.

⁵⁵ Our paper is mainly focused on some problematic areas connected to territorial intelligence, health and governance. It marked the beginning of our participation in the CAENTI (Coordination Action of the European Network of Territorial Intelligence) group, but it also originated from it, as it is based on a number of definitions of territorial intelligence and other more specific notions that emerged during the WP5 meetings.

⁵⁶ In this case we refer to UNISA team work, particularly to the document developed for WP5 meeting, in Liège on 18-20th January 2007.

Furthermore, for many years epidemiology has been searching for explanations of social inequalities related to health, trying in particular to account for the disease social gradient by which «each level has a worse health status and a higher mortality rate as compared to the next higher level. (...) Such social gradient of mortality is suggestive of cross-cutting factors at play in the society as a whole. Be it relative deprivation or relative lack of access to wealth in affluent society, it is clear that explanations of socio-economic differentials [of mortality] (...) must go beyond the notion of poverty formulated at the beginning of the century» (Marmot, 1994: 305-6).

Finally, the question arises as to why «health-related investments and results, albeit huge, always appear insufficient. (...) Is it possible that despite all the progress we have gradually made, aspirations eventually make them appear perpetually incapable of meeting "needs", - needs that are progressively redefined and updated precisely by the progress made by health care and medicine?» [Callahan, 2000: 13).

In spite of all that, in the course of the last century in Italy there has been a steady erosion of territorial knowledge and intelligence connected to different community cultures and tempers: planning has been mainly targeted for emergency, so services and interventions have been certainly managed successfully in terms of efficiency and delivery, but focus on the implementation of a techno-political planning following top-down provision logics. This kind of intervention has strengthened a task-oriented vision focused on a product that bestows immediate visibility upon decision-makers in the short or very short run and builds political consensus through appreciation by the electorate.

A series of processes shaped by the dual approach of problem-solving methodology have prevented Italian social and health services from being considered today as true "producers of well-being" and "health promoters": «The full achievement of prevention requires remarkable maturity on the part of physicians and politicians as well, but above all on the part of the entire population of a country. (...) Today medicine is becoming a mix of advanced technology and "performance" (inasmuch as it elicits emotions), so why on earth should we privilege (...) prevention, which is not sensational at all and makes little use of technology? (...) *Prevention is not spectacular.* (...) Preventing deaths due to measles complications for one year in Italy would cost much less than saving an equal number of lives by heart transplantation (...), but who is going to be able to make the list of those who benefit from it? *Prevention does not make use of advanced technologies.* (...) Preventing infectious enteric disease involves an obscure work to build an adequate sewage system that will not glorify anybody» (Fara, 1991: 10-11).

It is worthwhile noting here that the generally accepted definition of health, according to the WHO criteria, states that it is a status of total physical, psychological and social well-being and every day we keep in mind its determinants whenever we wish to design health promoting plans.

Health determinants.

Individual	Socio-economic	Environmental	Lifestyles	Access to services
Genetic make-up	Poverty	Air	Nutrition	School system
Sex	Employment	Water and food	Exercise	Health care system
Age	Exclusion	Residence	Volunteerism	Social services
Birthplace	Social and cultural environment	Housing typology	Alcohol consumption Smoking	Transportation
			Sexual activity	Recreational activities
			Drugs	

If we look at them, it appears very clearly that just three or four of them can be considered as independent variables, whereas all the others, that we may call “dependent” variables, can be strongly affected by different approaches to local government and planning. Studies of social medicine, epidemiology, ecology have identified socially and historically determined health and disease factors that can hardly be neglected: today man and the society he has built determine the conditions for environmental health-threatening deterioration; diseases are caused by artificial factors that did not exist in nature before, but were created or elicited or enhanced by man, as they appear and disappear not as a product of natural elements, but as the outcome of factors connected to the environment, to nutrition, to the habitat and to hygiene that are not related to, or sometimes clash with scientific and technological discoveries or can be at times caused by them.

In such a diversified scenario we cannot speak about social context transformations as if they were separate elements, shaping our reflection on health as an analysis of technological, organizational and scientific development: understanding health transformations also implies the analysis of the transformations inherent in territorial social organizations, the enhancement of ongoing changes in trust and mistrust relations, in litigation and in the organizations-citizens relationship, the identification of the widening gap between the need to constrain interventions and the population's demand and/or needs. This kind of vision also compels to stress the contradiction between the urge to constrain and justify expenditure in terms of cost-benefit analysis and the need to pursue policies promoting equity in health in compliance with international directives.

The question we are putting asks what is the ultimate goal of research aimed at promoting people’s health in Europe today and, more generally, what is the perspective from which efficient, yes, but also effective interventions may be planned to meet the population’s real needs in terms of health and of equity in health.

2. HEALTH DETERMINANTS AND PARTICIPATION

2.1. Culture and health

If disease must be observed in the light of processes arising from the interaction between man and the environment, then the individual approach that has historically characterized

the relations between the man of medicine and the man of the street must be revised (and perhaps supplemented with other strategies), since doctors cannot promote public health on their own, by their individual, single-handed daily activity.

The *concept of health* is exquisitely cultural, as it is characterized by traits that can be referred to the physicality of the individual, but are anyhow shaped by the cultural values and patterns shared by a given society at a given historical time. Therefore the concept of health must encompass many issues:

- first, the general behavioural patterns related to health and treatment of disease spread among both decision-makers and different social groups;
- second, the socially and culturally determined images of health and disease do not always coincide with the definitions and acquisitions of biology and medicine;
- third, the modes of relationships among citizens, facilities-practitioners and decision-makers are almost invariably determined by the history of services rather than by public health;
- fourth, the models underlying individual and collective perception of the so-called “states of well-being and malaise”;
- finally, the possibility and capacity for access and communication modes allowing to express malaise, be it real, perceived or objective.

Care for the real health of a population will then have to take into account the need to give voice to that specific group, to that specific population in order to identify social areas that we can involve in the planning and implementation of activities for sharing problems, health promotion and primary prevention: «There is an anti-participatory way belonging to whoever - be it an agency or a person, but more often the former than the latter - believes to be entrusted with the task and capacity to anticipate social demand for health, to forebode it before it has even been expressed, to figure it out before it has been conceived of, finally to meet it when nobody is yet aware of it. The usual word for it is "paternalism", but I would rather call it "providential disposition" as this term better indicates that way of getting in touch with reality without listening to it, that inclination to prepare prefabricated answers without waiting for questions, that interpretation of the administrative mandate that eventually engenders a demand that can only conform to supply» (Maccacaro, 1976: 1).

By paraphrasing Ardigò (1997: 193), who links his phenomenologically-oriented reasoning to aspects of the patient-doctor relationship, we wish to state that the interpretive scheme of the shift from "transcendental subjectivity" to "intersubjective subjectivity" should be applied to decision-makers and citizens: there can be no good health care and health protection unless there is an agreement of some kind between the assessment of planners, coordinators, practitioners and the perception of citizens, between decision-makers' plans and communications valued as important by citizens.

Public opinion is not influenced by information only, in the same way that behaviours related to health and disease are not the outcome of scientific knowledge only; and

especially in the health care field, public opinion is not the sum total of many opinions: instead, it springs from knowledge, beliefs, values, behavioural patterns acquired and expressed by public awareness, and groups usually judge and adopt their behaviours according to such standards.

Citizens' demand is often seen as "generic" rather than specifically originating from:

- collective subjects working for change in the different societies and communities;
- institutional collective subjects, that is to say those institutions that convey demand oriented to institutional or organizational change;
- individual subjects' demand, which may be detected, it is true, but only when it is codified and can be codified by procedures that may and may not be standardized;
- individual subjects' demand that remains unattended by an agency that lacks codifying ability, or because of crowding, lack of quietness or skill.

2.2. Participatory planning and subjectivity

Those who deal with health promoting strategies state that projects must be implemented within clearly described and demarcated territories, that become the natural partners of those who plan and take action, not only because they constitute a "system" but also because they become "areas of negotiation" providing the settings where planning is developed, checked and carried out. Seen from this angle, they are not only communication areas, but also complex (or I would rather say "complicated") areas, in which policies can only be feasible if they are geared to relatedness originating from the new modes by which "social subjectivities", subjects of communication express themselves, and also from all-embracing social phenomena asking for a project covering the whole societal system.

It is worthwhile remembering that health does not coincide with the health care system, which in turn is not the sum total of the bodies and structures providing health care in the strict sense of the word. Therefore planning processes must use indicators to assess the relations and ways in which the multiplicity of activities and of economic, political, environmental, cultural, health factors impact upon the so-called "quality of life", in particular upon aspects related to health and disease. In terms of implementation, this means that we should not deny the specific cultural vocations of a territory, that we should devise integrated activities that do not waste the cultural heritage, but rather recycle and retrieve experience, by carving out appropriate participatory measures tailored to the different socio-economic and environmental situations, and so on.

Pushing away from center stage "hard technologies" to give priority to participatory logics in planning would mean to undertake a democratization (or sustainability) process with multiple unpredictable ramifications unlike those shaped by traditional dualisms based on the disease *vs* health opposition that evolved into other oppositions such as doctor *vs* patient, health care *vs* health, technology *vs* subjectivity, organizations *vs* society, which may point to a new direction in research embracing the different possibilities to overcome barriers between the "North and South" of treatment and disease. In this respect, we wish to refer to Touraine's thinking (1991) by arguing that the newly-emerging society compels

us to reckon with the shift from an exclusively "vertical" to a "horizontal" society, in which understanding whether they are central or marginal is one of the main priorities for citizens.

Now the question to be asked is whether it is possible to pursue a logic of social integration by means of projects based on interaction with population groups, thus considering even health organizations not only as commodities but also as communities.

Having specified this, we need now to focus on the other element of the participatory process, communication, keeping in mind that knowledge obtained through information is not sufficient to approach activities that strongly challenge cultures and behavioural patterns of the populations involved. The communication process implies a comprehensive revision of knowledge, attitudes and prejudices related to health and disease that are deeply entrenched in the individual and in the society he is embedded in; in fact, each individual and each group utilizes a set of rules, pieces of information, habits that make up the framework of reference in which communicated data are interpreted. Furthermore, the various situations giving rise to such habits contain non homogeneous and often conflictual ways of meaning and pursuing well-being (consumption patterns linked to status symbols, to the myth of physical efficiency, to aesthetic models). As a result of that, conveying scientifically correct news can become useless if they are not accompanied by interventions emphasizing the health and disease models circulating within the group involved and the relation between such models and the knowledge available to the group. Such interventions should also bestow a more significant form upon experiences, knowledge, phenomena, raising the need for more information. Only in this way can we overcome the resistance to change we inevitably encounter whenever we try to modify a behaviour by merely overlapping different systems. As Ongaro Basaglia (1986) argued, «believing that the medical-clinical model is superseded is certainly dangerous, since the WHO variables are actually systematically superseded by the medical-clinical model. (...) The professional culture that has concealed inequality of access, opportunity, culture is still in place, even though the WHO suggests to take an unprofessional approach to health».

The utmost subjectivity is to be found in individuals, who also possess a kind of information that directly depends upon their experience, nevertheless such subjectivity must always be referred and compared to the subjectivities of the group members those individuals belong to. The so-called "non technical experts" hold information that from the qualitative standpoint is richer than information available to single individuals, as it is partially organized, or is gained via the position held by the experts themselves within the community or the profession they practice or the role they play. Both social subjects take part in the production of information originating both from organized groups in the population and from further knowledge accumulated through dialogue and the exchange of individual experience and individual understanding. In the history of the civic battle for health that stands as a peculiarity of the Italian tradition, some of the physicians and epidemiologists involved agreed to define the homogeneous group described as the group of people "exposed" to the same risk situation and characterized by the same lived experience as the subject producing collective information (Oddone, 1974, 1975; Biocca and Schirripa, 1981].

Therefore it is not so much a question of persuading or feeding back the results of research in the field, but rather of analyzing, of discovering correlations, of agreeing upon modes, even taking account of feasibility that can only be assessed by those who take action. In order to do this, it is necessary to share objectives that go beyond the "health promotion" formula: «This requires parties and political institutions that respond more to the influences of organized social forces and movements and at the same time are keen to foster greater participation of the disadvantaged in public life, which can only be obtained by increasing social protection and welfare» (Touraine, 1997: 281). It also requires a change of mind overcoming the feeling that perceives expressions of subjectivity as often colliding with established rules because they are "disturbing".

It requires also a high degree of accountability both for procedures and the utilization of results.

Finally it demands circulation of knowledge and organization of activities.

2.3. Research and participation

Today most accurate researchers can state that the idea of medicine as being able to save population's health on its own is an illusion, since conditions of malaise and disease cannot be really solved away from the social context, preserving the same organization that produces inequality, that again engenders malaise and disease. In this respect, the debate on methodology envisages two approaches at present: the first one has been developed within the health care system, whereas the second one has been worked out over time by health sociologists and psychologists, so it is external to health care and aims to grasp the connections among economic, demographic, macro- and micro-social variables, the changes in attitudes toward health and disease and their influence upon unequal relations between population and services.

If governance is «the sum total of the numerous ways in which individuals and public and private institutions deal with their common problems. It is a steady process, by which different or conflictual interests can form a harmonious whole thanks to cooperative action» (Moro, 1998: 31), so the main target becomes that of redesigning the tasks of all those who manage disease or health by creating new pathways to revise everyday experience through the capacity to match the technical and scientific aspects with the social and communicative ones: «The researcher's will is not the element that elicits dialogue, which instead depends upon the possibility of mutual encounter among the subjects involved, that is to say upon the interconnection of elements difficult to predict a priori: motivations, perceptions, assignment of a status, self-presentation, etc. (...) The sociology of the subject as a being capable of meaningfulness must be defended by taking not the short way of immediate comprehension (...) but the long and mediated way of symbols interpretation» (Corradi, 1993: 51).

A sort of desirable cultural and structural "revolution" should be hinged on some pivots: planning geared to priorities, that is to say planned interventions that can be tested in terms of their effectiveness, costs and, last but not most important, participation, as it is the specific element of knowledge, control, selection, search for solutions eliminating risk and damage

that is focused on validating solutions, even in relation to costs, not only as a device for gaining consensus, but ultimately as a concrete possibility to utilize experience accumulated by million people. So action research means above all, in the case of health, to design and implement projects that go beyond service provision by referring to autonomous ethical value systems and knowledge paradigms and by using an “operative imagination” that is capable to call into play all the actors, involving them in a pluralistic game based on mutual “intelligence”, hence on “tolerance”, so as to allow an effective ego-alter action via co-actions that allow the actors’ social being to unfold.

The word "ethical" fits into this context for the reasons explained by Giovanni Berlinguer, who argues (1991) that a lot has been said about bioethics, forgetting about the distinction between "frontier bioethics" and "daily life bioethics", drawing the attention of citizens, patients, consumers to exceptional problems and thoughts and studies "of excellence", instead of working on what affects "the behaviours and ideas of everybody": «Such a focused concern [for the "frontier areas"] certainly gets out of proportion vis-à-vis present implications» (ibid.: 17); true prevention and promotion of equal health requires hard work, continuous checking while in progress, commitment to processes of change that do not happen without pain: «Daily life in the human territory appears rough and difficult to the observer, in contrast with the progress of science, conflictual for those who distinguish, albeit inadvertently, between morals as they are preached and morals as they are practiced. This is probably the main reason, inherent in the issue of bioethics, why the frontier areas and the implications of the most amazing discoveries get the upper hand over everyday reality in terms of the interest they raise. The other reasons are common to other fields: predominance of the entertainment society, search for the sensational, ruthless race to success» (ibid.: 16).

3. OBSERVING IN A PARTICIPATORY MODE: WHAT KIND OF RESEARCH?

3.1. Effectiveness and efficacy

In a paper written for the WP5 group, Laurent Amiotte-Suchet (2007) proposes to envisage three types of observatories: diagnosis-oriented, applied, participatory. As far as health is concerned, we believe we can safely state that in the mainstream culture (of epidemiology and health planning in general, for example) observatories have performed mainly a “diagnosis-oriented” function.

In addition to that, projects were often mistaken for programs. While on the one hand projects are, and must be projected into the future, even the years to come, and if they feature, and they must feature hypotheses, also driven by an ethical component brought by those who design the project, that allow to see and imagine something beyond present reality, on the other hand programs trace and delineate a work pathway. In this sense the image of many interventions is an image lacking the tools necessary for "walking", that is for changing and really eliminating risk situations, if they have ever been identified.

Finally, efficiency was mistaken for efficacy. It looked as though the amount of activities carried out or the amount of services provided could be the functional response to the need for health protection and risk elimination, and risk elimination in the form of early

diagnosis and ex post intervention could be tantamount to a proactive activity. Only recently were "Health Plans" designed in Italy with a view to building "applied observatories" specially designed for feeding back to actors the analyses and assessments carried out by experts as a guidance for redesigning territorial policies.

From the operative viewpoint, what we have argued so far means that we can make some points that cannot be disregarded:

- taking account of the context-related indications (the issue of the territory and the environment);
- defining and interpreting the images of damage, on the one hand, as an indication of the mistakes made and, on the other hand, as an indirect reconstruction of risks;
- constructing and representing directly the images of risk, their dynamics, their diffusion (by surveying and enhancing widely known facts, that are nevertheless often consciously ignored);
- analyzing the forms of health protection and promotion that can be shared and approved (which also means being able, having prepared a mechanism designed for this purpose, to assess the intermediate and final results).

Everybody agrees that the horizon of the relations with different and diverse territorial realities encompasses all the areas in which health care services are involved; nonetheless the responses given by the central and local planning of their activities fall (by a simplification of course for cases that would deserve a much deeper analysis) into three categories:

- *passive*: territorial social reality is only seen as a constraint compelling to case-by-case reparative interventions. This is the vision that counters each statistically proven health or social problem with an activity of the service involved, placing the emphasis on related costs: «Disqualification and chronicity constitute conspicuous abnormalities in the clinical paradigm. (...) The problem-solving approach, the diagnostic/causal approach following from it, the logical and operative dualism comes to be incongruous and, in its turn, pathogenic» (De Leonadis, 1994: 313);
- *active*: territorial social reality is also seen as an opportunity opening up new space for action by the services. This is the vision that aims at prevention in addition to treatment, without losing sight of the centralized decision-making trends of the system: «Abnormalities occur even where the medical system grows (...), providing clues for interpretation and intervention in the life worlds that have not been yet identified as "social problems". (...) Such abnormalities are connected to the pathogenic effects of the so-called medicalization of these social problems» (ibid.: 310);
- *integrated*: the problems of social realities are seen as fitting into a much bigger picture, based on the need to "internalize" the social spheres into the service general behaviour. This is the vision that does not turn the solution to the health/society/services problem into something special, but rather into the product of

a management that takes special care of the relation between health and society, even with a view to the organization of services themselves: «[Institutions] are healthy when they work to identify, mobilize, combine social resources for health in the local settings and to capitalize on them. (...) Healthy institutions are "social enterprises" that promote health inasmuch as they invest on human and material resources, yielding social added value, adding quality to the social habitat in the contexts they work for» (ibid.).

3.2. The territory as a dimension of health

In other words, territorial reality must become a dimension of the concept of health that must be internalized systematically by all the decision-making processes. And both communities and services can do it by establishing a "knowledge technology" that, in the face of a society offering plenty of alternatives, can enrich the subjects, while at the same time undermining the idea of the big institutional body that historically pursues generic purposes in a sectoral manner, thus identifying the data output by providers with the knowledge of those realities that are peripheral to the data collecting and processing centers, which ultimately means to perpetuate a mystifying logic, that mixes up the quantitative tools measuring the efficiency solely pertaining to the inner management system with the tools (that are totally distinct from them) capable of processing the most complete (as much as possible) understanding of the real territorial situations and of the health/disease, well-being/malaise concrete status of the population. This engenders a demand for and production of im-mediate data, their transmission and the re-distribution (when this happens) of their quantitative and numerical processing.

Of course it may well be that the widespread use of a thoroughly democratic planning and data processing method makes the work more "time-consuming" and involves a number of people higher than the one that was deemed "necessary". But we must stress that, whenever such a method has been practiced, despite the so-called "loss of productivity" (efficiency), such a huge wealth of creative capacities was released that the loss of efficiency appeared highly productive from the viewpoint of efficacy, and therefore also profitable under the strictly technical and economic profile. So health promotion becomes part of the development of labour that implies a close relation between needs and action, prioritization and participation, the latter being seen as something that arises and progresses to the extent that those who are asked to participate, be they providers or users, are adequately informed and therefore possess knowledge and are sufficiently motivated. Therefore only by a steady and permanent contact with the territory is it possible to pinpoint risk factors, to analyze the socio-cultural features of the community, to intervene by primary prevention and health promotion.

Building upon ideas (which then turn into reality) that are so simple but also so complex, such as the ideas of community, territory, teams working not on people, but with people, means structuring interventions that can be defined as a whole but can also be identified as interventions specific to that territory, and not to others, and also as activities that do not split up the population into many "individual objects" that each practitioner observes on his own, then facing big (and obvious) difficulties when they must chart out "what to do". A

health promotion project can only be implemented by envisaging a participatory, negotiated, concerted action research: that is why both technical and political choices for the use of data and information and work models and methodology become crucial, together with the awareness that any technical or planning action, if correctly and ethically conducted in this sense, also becomes a promotional performance. «Today's society makes two clear demands concerning the way in which research is carried out: in the first place, there is a demand for participatory research (...). Secondly, society is also asking for greater transparency in the dissemination of the results, especially for aspects that have both a substantial impact upon human life and ethical implications, so that the best informed public debate can be produced» (Miedes Ugarte, 2007).

At the operative level, the pursuit of the planned modes of action is hampered not only by the widening gap between the potential planning capacity and the ability to systematize interventions, but also by other factors:

- first of all the lack of a common language and/or the lack of effective communication between decision-makers and practitioners, between practitioners and citizens: between "descending vertical" communication flows, that grow stronger, and "ascending vertical" flows that become weaker, it gets increasingly difficult to let decisions coming from the top of the system be accepted, whatever they are. Communication channels through which citizens and social groups may make their contribution appear increasingly hindered, full of obstacles (and sometimes the techno-political power itself determines the interruption of the communication flow;
- secondly, the consequent problem of the management of power and decision-making processes;
- finally, the complexity of the different territorial realities.

3.3. Social compatibility

These elements and the previous pathway suggest to add a new element to our discourse; we will call this element "social compatibility", by which we make reference not so much to an intervention program, but rather to an attitude of "dialogue-oriented responsibility" towards the social, not towards individual users and citizens, taken by those in charge of health and well-being protection policies. In order to clarify this point, we will take into consideration two possible attitudes:

- if those who should design health promotion projects still intend to take into account only the user/service, patient/physician relation and so on, then a "compatible" project will have to restrict its contents to these relation typologies only, even when the addressees of their action are neither users nor patients;
- if, on the contrary, they intend to deal with (and be concerned about) the way in which promotional activity can establish relations rooted in the environment and situation it fits in, then such promotional activity will be included into that category of thought that we call "socially compatible project", characterized by a close correlation between territorial organizations and territorial intelligence.

One of the first difficulties we encounter when shifting from a vision of research as aimed to reparative interventions to a proactive perspective lies in the need to include socially driven variables into the methodology, if they are not sufficiently internalized at the operative level: instead of belonging to an "esoteric", specialistic language confined to the medical and scientific or welfare and social communities, such variables will have to be "double" like those terminologies shared by experts' communities and non professional people who often use them in their everyday and mainstream meanings, that have nothing to do with the meanings applied in the technical and scientific fields. Hence it seems indispensable to reach a sort of homogenization of languages and a consensus on the different meanings that allow intra-organizational communication to take place, in order to plan in the most effective inter-organizational form that it is possible to obtain.

The second point that flows from this idea of plan-making is that a participatory policy for health thus conceived aims at ensuring intra and inter-organizational interventions that are adequate to the construction of knowledge, evaluating skills, guidance and control on the part of the citizens and of providers, so as to avoid an excess of information within the organization and a lack of it among the project target population: «The fundamental contribution of participatory dynamics is that, when it achieves the complete involvement of territorial actors in the process of converting information into knowledge» (CAENTI WP5, 2007: 5-6).

The third point, stemming from the previous one, concerns the need for "accountability", that cannot be disregarded with disdain as unsuitable for daily professional activity: it is necessary to build information systems connected to the different projects that are "pertinent" to, that is to say "account for" the decisions made and the results eventually achieved to the different parties involved, thus allowing them at the same time to make other decisions concerning social choices and the targets of actions and resources: «The action-research processes must have as their objective an increase in the transparency of the results, both of the research and the action, facilitating decision-making and contributing to this becoming more democratic» (CAENTI WP5, 2007: 9).

4. AN EXAMPLE

In the last decade in Italy some regions have started a series of experiments based on the principle of "participatory planning"; the official and well-established experiences of Tuscany, Emilia-Romagna, an area of Basilicata (Venosa), of the Zonal Plan for the area of the Salerno Province called "agro nocerino-sarnese" (main cities Nocera and Sarno). We will not describe all these experiences in detail, but we would like to highlight the key words and the consequent actions that unify the different experimentation settings, that differ a lot as to their geographic position, territory social history, cultural roots and connection capacity of services and of health and social services providers. On the other hand the regional Plan for prevention of the Emilia-Romagna Regional Government is the outcome of a strategy carried on for several years that has implemented health promotion policies along with disease control and prevention services.

A Plan For Health (PFH) is defined as a «pluriennial action plan developed and implemented by a plurality of actors, coordinated by local government, investing human

and material resources for the purpose of improving the population's health even by upgrading health care» (Biocca, 2003). PFH's represent a break with the past, since they operate on health determinants, rather than by a reparative health care intervention. Furthermore, they are deeply rooted in the territory and supported by a strong involvement of citizens, so that "participating" does not mean "being listened to", but rather playing an influential role during the planning, implementation and project evaluation phases (Altieri, 2002; 2004).

PFH's hinge on three concepts: knowledge, social strategy, political will, where knowing means identifying priorities, which requires the acquisition of documentation concerning the socio-demographic, economic characteristics of the population's morbidity (health profile). Political will regards the construction of a vision of reality through the development of participatory actions and plans: «In the territories cultures and lifestyles mature and develop: services (...) risk, because of their extraneousness, to start up interventions that may become a disturbance. For this reason they must develop the ability to tune in with reality, (...) which is not a mere backdrop, but a domain of actors, resources, early natural response processes» (Ferrario, 1996).

So the Plan For Health introduces a new concept vis-à-vis the previous planning forms: participation as a strategy for reaching the objective of health and of a planning that includes all actors, both technical and non technical. Communities express their needs, claim the citizens' right to participate in the decisions that affect them, in close contact with political decision-makers, influencing and directing the monitoring of many factors that must be considered over time. The stage of needs detection gives voice to the population of interest for the purpose of taking stock of problems. The general picture emerges both from social, health care and epidemiological statistics and from the public's perception. Even the phase of priority selection is participatory and foresees moments of more or less extended consultation to identify the agenda of a "Social and Health Care Territorial Conference".

If participation can be experienced at different levels (of the citizen/provider relation, of the reticular level of the citizen's life worlds), in this case the level of participation concerns the moment when interested citizens discuss and try to affect decisions about interventions and resources allocation. But above all, a "global level" of participation develops and establishes a correlation between the issue of health and the wider ecological-environmental issue, which redefines, as a consequence, the role that each citizen plays within his own community. So, a particular outcome of social participation stemming from PFH's is represented by "competent citizens" strongly committed to their community, institutions, social organizations, who do not hold any decision-making position but have developed guidance and stimulating capacities; moreover they showed interest in acquiring cultural competence. They represent a possible example of "active citizenship" taking part in discussions and decisions over various issues, expressing opinions in a democratic way, helping to define priorities for action and, probably, to assess health care policies (Biocca, 2006).

In other words, the primacy of an approach based on prevention and health promotion rather than on treatment has been acknowledged (Saccheri, 2000 and 2003): «Participating directly in devising actions aimed at improving health has a twofold value. On the one

hand it gives you a sense of personal commitment that positively affects health. (...) On the other hand it allows to check even in this field the efficacy of the decision-making processes that political scientists call “inclusive”» (Biocca 2003). A series of activities developed according to these characteristics certainly raise some problems for administrators (Corposanto, 2006). *First* of all, there is a problem in terms of applying the code of ethics to behaviours: all too often the pretended participation in the end just consisted of a series of formal consultations in which decisions were not agreed upon with the citizens concerned. *Secondly*, there is a problem concerning the visibility of planning: a high level of participation also entails a high level of verifiability of the organization's effectiveness and efficacy. *Finally*, there are some issues at stake in the concept of trust, that in the case of PFH's must necessarily be a "critical trust": more direct communication channels imply the possibility to bring criticisms and observations that cannot be ignored owing to the principles enunciated above.

5. OPEN-ENDED CONCLUSIONS

Following this reasoning we became convinced that a new public government cannot meet people's need for health only by revising administrative rationalization objectives, since governance and culture are inextricably connected by a network of meanings through which men and women interpret experience and orient action. Therefore the only possible type of observers are the “participating observers” who aim to make knowledge and expertise mutual by putting together in a collaborative structure the “technical” expert and the expert “layman”.

Understanding

- the social and territorial distribution of diseases,
- the makeup and functioning of the social context within which specific risk factors are at work,
- the dynamics of communicative interaction,
- the cultural dynamics of special social groups,
- mass media processes,
- (professional and non-professional) concepts of health and disease,
- objective and subjective matrices of lifestyles,

Builds a process corroborated and supported by many influential studies that demonstrate how the environment and lifestyle affect health as much as other determinants.

But for this same reason, once we acknowledge that multiple elements and factors concur in determining the health status of a community, even the question that must be answered by the methodological model does change, so the initial formulation: “how to...” becomes: “how to...taking account that...”. Today health does not only depend upon the type of drug or techniques that are prescribed, but also upon the relations established with citizens, upon the modes of relations with health, with disease, with complex life-worlds: there is an accumulated knowledge that settles down in those realities where more room is made for

thinking (and more people claim to have a say). Nonetheless a paradoxical situation is emerging in which the increased awareness by groups and realities that health must be ecologically managed via proactive attitudes and thinking is accompanied by an enhanced managerial approach to health care and by a move away from the settings in which malaise arises.

Health policies today cannot bypass the debate on technical specialized sectors and public consensus: the problem was raised by the increased trust in “media” (technological, diagnostic, for quality assessment and analysis and so on) that are seen as “absolutized”, free from any constraint, for the most part neglectful of the anthropological, ethical and symbolical universe. Transferring these elements from the analysis of inter-individual relationships to social analysis means working, for example, on the levels of internalization achieved by services to “subjectivities” and to “world experiences” carried by population groups with whom (and not on whom) they must work.

The public health that we imagine is based upon a kind of research that does not necessarily draw upon the official and functional categories of medical and epidemiological disciplines: we place it at the level of “life communication”, of experiential exchange and it gives voice to life-worlds’ needs, not as side effects of physical and psychical components, but as inherent elements of the processes of “getting well” and “getting ill”. We need to figure out unstable balances, coexisting spontaneous and/or subjective factors, emerging non-organized trends in research on treatments: a shift from the dual medicine-patients relation to a medicine-citizens-society relation.

So a project targeted “for health” cannot be seen as something based upon disciplines and modes of behaviour “to be taught”; instead, it implies a lifelong communication pathway, aimed at rearranging not so much the structures, but rather the disciplines. Therefore it requires a different organizational management that plans to change the operational dynamics and to shift from risk-analysis-oriented activities (that can be, from many viewpoints, objectified, hence even more easily “subjectified” by the actors involved in them) to a work focused on activities and projects, shifting from aspects of relevance, spreading, etc., to a target-oriented model. A promotion policy forces each project to come to grips with the assessment not only of economic resources, but also of human resources able to build results that can spread to the whole framework of reference. As a matter of fact, the achievement of wellbeing and health objectives depends very much upon the way in which they are pursued by the individual operative units in their strategies.

We should ask ourselves: do the strategies and practices of different institutions influence and modify either directly or indirectly the resources and bargaining power of individuals, communities, social groups, generations? Are they compatible with the social priorities widely accepted and officially stated? And with citizens’ aspirations? Only when a project meets such prerequisites can it be called “socially compatible” and from certain viewpoints, following this path, we should go back to the notion of “discussion of the social budget” of interventions, rather than pursuing evaluation as exclusively based on efficacy and effectiveness criteria issued by the same agency that builds projects and interventions and then assesses them (often validating them).

Hence

- change,
- sustainability,
- transparency,
- co-responsibility,
- co-learning

Are the principles for a good political project for health and also the principles for action-research stated in the “Letter of Quality” proposed by CAENTI.

A voluntary technical and scientific action can provide information, but the illusion that planning means preparing refined technical, technological, organizational, legislative grids, thus optimizing projects and ensuring their implementation and development has been denied by reality, as is proved by so many projects that fail, and they almost invariably failed because they lacked social compatibility. The immediate involvement of stakeholders in the planning process becomes an ethical principle of health planning and governance: such method requires the enhancement of knowledge and the continuous exchange of “hands-on” experience among the different groups involved in the planning-acting process, that look at reality from different angles and possess different types of know-how. Only where these two modes and levels of knowledge overlap can we implement health governance as a product of territorial intelligence and as a tool for governing and promoting equity.

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“Territorial Intelligence and Governance”

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HEADING: IMPLICATION OF ACTORS, PEDAGOGY OF GOUVERNANCE

Summary: As with European experiments, in various regions in France, territorial intelligence projects have been initiated since 2003. (see the regions of Lower Normandy, Lorraine, Réunion Island, the Aquitaine region, etc.). The objective of these is to gather and exploit information which is not confined to particular sectors and the collective processing of which can contribute to durable development. Apart from institutions, civil society and the inhabitants of the territory, it is observed that companies and in particular small and medium sized enterprises are natural partners who show interest in such initiatives. Both the different economic chains and the participating organizations thus derive considerable benefit in terms of the anticipation of threats and in the reaffirmation of the territory as a common resource worth defending. Above and beyond the information processing systems operating within these organizations or economic chains, the articulation of internal actions to generate informational capital in terms of local territorial intelligence, produces a leverage effect with visibility of European or even worldwide visibility (Herbaux, 2007)⁵⁷. Nonetheless these experiments lead to widely differing results, of which the progressive abandonment of the project by the companies involved is one of the most commonly observed.

To support a theoretical contribution as a thread for this communication, we report on the results of a Delphi type survey completed in 2006 and covering 53 companies in the Nord-Pas de Calais region involved in a process of territorial intelligence since 2003. This revealed that 43 companies out of the 53 concerned had not followed through on their

⁵⁷ Herbaux Ph., *Intelligence territoriale, repères théoriques*. Editions Lharmattan 2007.

internal information sharing project and contented themselves, by default, with the results by economic sector derived from public regional surveillance.

Beyond this apparent disengagement from the process initiated, we may be curious about this apparent discretion of a group of actors concerning local government. This work nonetheless did generate a consensus around certain observations among the actors questioned, particularly as regards an initiative for which they did not deny the final utility but for which the requirements necessitated a significant modification to their internal culture. After the initial conventional responses: «*security of patrimonial data, new choices in investment of time, lack of means, different priorities, etc.*», repeated and differentiated questioning of those concerned revealed that the progressive abandonment of these practices and commitments bore a relationship with a number of human factors of relational and cognitive nature, thus depriving the project of its founding principles. This observation echoed that of the implication suggested by Girardot en 2005⁵⁸ on the theme of multi-level governance. Although the financial aspect is a factor in the long term survival of regular investments of man-hours, this criterion appeared progressively more marginal to the general project among the actors surveyed, as against several positions cited as pre-requisites. Based on a synthesis of the results of the study, we propose five key success factors to promote within organizations to promote the logic of information sharing. To this effect, our proposal for a model named in French «CADIE» (Communication, Appui, Durée, Implication, Ecoute – or, in English, Communication, Support, Duration, Attentiveness) suggests several attitudes to which organizations must adhere to develop long-term integration in a territorial intelligence network.

The limitations of our proposal arise from the small size of the sample at our disposal and the regional limits of our data gathering. This experimentation, duplicated in various European regions would benefit from a multi-cultural gloss and thus would provide the template for a preliminary European approach to the logic of territorial intelligence.

Keywords: CADIE, territorial intelligence, sustainable territorial development, SME, mutualisation.

⁵⁸ Girardot J. J., «intelligence territoriale et participation» 5^o colloque TIC et territoire, Besançon 2006.

1. INTRODUCTION

The setting-up of a logic of information mutualisation and treatment within an organisation is a long and perilous exercise. This undertaking is one of the pillars of an anticipative vision on risks and breaches within countries and organisations.

Here are the results of a survey linked with the economic aspect of an experimental regional territorial intelligence plan within a political territory (the Nord-Pas de Calais region in France). This enquiry questions the permanence of practices of information treatment enforced as part of the regional plan. Among other things, it highlights the difficulties SMEs have to keep mutualised information systems animated. In short, it offers a few preliminary postures to be developed in order to make an action of collecting and treating information within SMEs inside a territorial intelligence logic last.

2. TERRITORIAL INTELLIGENCE

2.1. Intelligence?

If intelligence is considered an individual attribute in most cases, its collective aspect – which can express itself within a territory – is often disregarded. Each inhabitant's implicit adherence to common resources, as a political space, encourages him or her to participate in its preservation. In the case of territory, intelligence – from Latin *inter* (between) and *ligare* (to link with), becomes a collective posture of management of knowledge whose aim is to preserve – if not to develop – existing resources.

This aim seems to be the thread and the very reason for territorial intelligence logics. One of the aspects of this posture is naturally linked to the anticipation of risks and breaches capable of reaching the existing capital, especially in its relationship to employment – employment being a major preoccupation in the eyes of the resident (Herbaux, 2006).

Yet, this conclusion must not submit territorial intelligence to the 'all economic', which would be a bit simplistic; if employment, by and large economy, is one of the keys to multiple awareness a systemic vision is required here. It was developed by Girardot (2004), among others, in his multi-level governance concept. To back up this statement, it is to be noted that the treatment of information in economics – and especially so within competitiveness poles – undergoes a structure pressure, that of its participants' cultural heterogeneity. Strategic cursors do not lie at the same level; regional or almost Europeans for some, and *de facto* worldwide in the case of international firms' branches.

Hence the necessity for a preliminary conclusion:

Within these organisations, the spreading of information oscillates between the landmarks of local polarisation of worldwide diffusion.

2.2. A double movement

2.2.1. Local polarisation

The initiated movement of cognitive concentration within the territorial intelligence collective logics is now being amplified in France through the existence of competitiveness

poles⁵⁹. Nevertheless and according to Musso (2005), one should differentiate between the aspect of knowledge management dealing with cognitive capacities and knowledge management dealing with the field of applied knowledge, which generates a capacity for apprenticeship. In this last instance, the tacit (individual capitalisation) turns into explicit (formalisation of knowledge) and allows what we call 'individual unformulated' (Herbaux, *ibid*) to become shared knowledge. This is what network adherence implicitly benefits.

The territory or *country* is where informal communication per se and combined with unspoken things gives a rhythm to exchanges between humans. Somehow, this equates a capitalisation of culture in the best possible scenarii by placing itself within the development project. At a local level, rites, heroes, symbols and values which make up its genesis, create the stage for signs and postures (Bourdieu's *habitus*, 1994), thus establishing some grammar for communication which founds the local group's identity. Therefore, the combination of scientific, experiment, empiric and industrial inputs turn the local into a place of generation of rare resources (Bertacchini, 2005).

2.2.2. Worldwide diffusion

Indigenous traditional undertakings, a few spin-offs and quite often branches of worldwide firms which like to immerse their research and development services blossom on this concentrated knowledge soil. The outcome of that research then feeds a worldwide spreading of processes into established networks, in a logic of globalisation.

It can be then considered that local resources (or the management of knowledge) is perceived and these majors' branches take part in it before they spread them throughout the world in order to conquer new markets. This conclusion is linked with what Polanyi (1983) observed: 'the expression of the tacit is linked with geographical proximity; its scattering is tied to the progressive codification of unformulated knowledge which progressively turns it into explicit knowledge⁶⁰'.

2.3. Elaboration of local construction

A paradox lies in the fact that the building up of explicit knowledge within a territory may eventually be used by those whose power allows them to access worldwide network diffusion. Concretely and among other things, the existing nuances of culture between big and small businesses translate into a relationship which is different from information systems.

The *majors* established their network on the basis of an interactive system where information lies at the heart of strategic survival. Thus, the capacity a decision centre takes

⁵⁹ Initiated in France as soon as 2004, competitiveness poles make a few of Porter's statements – from his June 1998 publication, *The Competitive Advantage of Nations* – theirs. In short, This is about taking the global strategy for a territory so as to enforce a common strategy of economic development into account.. The latter aims at gaining a critical mass in order to bring some high added value technology to markets with a serious potential for development.

⁶⁰ Therefore, tacit knowledge is more difficult to manage and to exploit. Its explicit knowledge valuability then is transferable and explainable through a code, i.e. a scientific or technical language.

to react live conditions its access and its duration on new high added value markets. There, the mutualisation of information through a substantial use of ICT (Information and Communication Technology) is of a structural nature.

The local SME, sometimes involved in a competitiveness pole, more seldom has expertise in this culture of mutualisation and if technical tools do exist, practices are not in accordance with expected uses. Obstacles seem to be of a more cultural nature (power and information) rather than technological. 'Language and writing are two distinct sign systems: the second one's sole reason for being is to represent the first one', de Saussure said. Wouldn't the difficulty to overcome the 'coffee machine' transmission phase be linked with lived deals? And for some structures: limited to SME confinement?

3. THE DELPHI SURVEY

3.1. Expérimental scheme

Since 2001, the research-action endeavour led on the regional environment Nord-Pas de Calais was part of a survey on the treatment of information at a territorial level. The aim was to back up enforcement on territorial intelligence scheme and question its efficiency.

Backing up a regional programme funded accordingly to State guidelines had allowed this research-action in a programme which had made many actors from institutional, economic and academic background sectors involved⁶¹. Within this regional plan, 53 companies were thus helped in their enforcing an integrated information system and this is the object of the survey dealt with here.

3.2. Interest

When having to express themselves publicly on a personal position, some individuals taking part in a workshop do not always give their genuine opinion. Pressure coming from the group and from the expressed or tacit majority creates self-censorship limiting some participants to silent agreement. Therefore, it is important to address what Neumann⁶² named *a spiral of silent*, i.e. the growing pressure individuals within a group undergo to preserve their opinions whereas feeling they are a minority.

The choice of investigation method must allow all opinions to spring while minimising active and implicit pressures. Anonymity is part of this expression. In a context of SMEs involved in a quality survey, it is important that each actor has a good understanding of the project, of the analysis mechanism and of the aims sought by the initiator. This is an essential factor for the success of a quality survey. Among the few existing quality survey techniques (individual interview, experience investigation, projective case study etc.), the Delphi method appeared to be the most compatible with the sought goal: use the

⁶¹ 534 companies were made aware, 134 individuals representing institutions 400 or so students. Training for 104 SME actors and 80 consultants. Initiation and follow-up for 53 companies and 162 executives and managers.

⁶² Elisabeth-Noelle Neumann, sociologist and professor emeritus from the University of Mainz.

experience feedback from a population initiated to territorial and economic intelligence processes.

Initially, the Delphi method was elaborated by RAND Corporation as soon as 1969 and it is a process of group decision following a classical thesis, antithesis and synthesis structure. It is led via successive – and if possible anonymous – questions asked by a group of actors, in most cases experts in the specific field. Used among other things in the field of human sciences, it allows to find better consensus answers to a controversy complex topic or offers a debated alternative to the issue studied. A final meeting physically gathering participants validates a collective opinion on each topic tackled.

3.3. Methodology

The classical Delphi methodology was adapted to the context. Some aspects were adapted or rehandled.

The survey led during the last three months of 2005 benefited from three Master 1 students' implication. It was about a group of companies who had taken part in the 2001-2005 experimental regional plan. Out of the 53 companies involved in this regional action, only 47 (their spoke-persons) did effectively take part in this survey. The typology of these structures, designated as employing between 2 and 200 people, was established in sectors of metal undertaking, biochemistry, printing, services, food industry and manufacture.

In order to escape group pressure, and thanks to an individual number, each actor anonymously and electronically⁶³ replied to the conclusion proposed by collective thoughts. The use of electronic work group may be perceived as a 'facilitator' for that type of survey. Yet, it does not prevent physical gatherings between all the experts when discussing its synthesis.

Progressive agreements reshape the answers which are then processed with each occurrence⁶⁴. Extreme views are mentioned during general debates until a consensus is possibly come to. Nonetheless, the latter is not always reached and it must end up on two detailed positions.

The three survey themes were put to participants in the form of a questionnaire made up of 18 propositions, i.e. six for each theme.

Procedure: following an individual phone interview during which the participant agrees to be part of the survey, a message of explanation is sent by e-mail bearing the campus and survey address. Answers are continuously recorded under an electronic Adobe file. Data are filed automatically then put into a chart on Excel.

Graphic results after each occurrence (Delphi1, 2,3...) are then sent to each participant and simultaneously capitalised on the campus. Thus, experts can appreciate the evolution of

⁶³ Questionnaire electronically treated as Adobe Reader file

⁶⁴ Repetitive process represents between 2 and 4 minutes for each occurrence and allows each expert to refine his or her opinion as exchanges go by.

agreements and disagreements on the discussed issues progressively thanks to the synthesis graphic changes and thanks to the capitalised footprints of respective opinions.

4. THE CSDIL SYSTEM

4.1. Introduction

In the context of this summary, the reader is spared the whole survey process for the benefit of a synthesis on the three aspects of questions.

The analysis of exchanges and their being put into perspective allowed to suggest a few recommendations – gathered together under the acronym 'CSDIL' (CADIE in French) – to the operators involved in the territorial intelligence logics.

This acronym, CSDIL, sums up the five aspects of recommendations born from the analysis the group of experts consulted came up with, namely:

- Communication
- Support
- Duration
- Implications
- Listening

It does not pretend to be an unchangeable rule but it expresses the return of experience of a group of actors having taken part in a regional experimental territorial intelligence scheme. For each item, a few conclusions and suggestions agreed to by experts, executives or officials from partner SMEs were presented.

4.2. Communication

- a) The communication plan for territorial intelligence grounds must insert itself in time; without being continuous it still must provide support for key phases of the operation.
- b) Institutional communication tends to swallow the part of actors or reduce them to a mere witness function.
- c) The managing of the communication budget is most often secured by the project manager; partners too ought to be associated to it.

4.3. Support

- a) Institutional financial support to organisations participating should last several years.
- b) There can be two types of technical support:
 - endogenous support by a qualified and competent consultant.

- exogenous support by a benchmarking of practices within a company club that gathers monthly.

4.4. Duration

The enforcement of an information treatment system must comply with existing information systems within the administrative Region as well as the State. This action bearing a systemic feature cannot be subjected to precipitation.

- a) The lay-out of a territorial intelligence scheme over 7 or 8 years allows non-continuous interventions, be they technical or of a financial support nature. Globally, this does not increase the cost.
- b) The preparation of a territorial intelligence plan often depends on State and regional services. An agency effect⁶⁵ occurs in that the initiator and the beneficiary naturally have different visions of the future programme (e.g.: set over time for involved organisation and short-term aims for the project management).

4.5. Implications

Experts recognised the existence of considerable dynamics for enforcement between SMEs and the whole of partners within experimentation. But this tie needs to be fuelled, animated and valued throughout time on the basis of a few pre-requisites:

- a) Check prior aware adherence of SMEs wishing to get involved in a regional territorial intelligence scheme;
- b) Choose consulting cabinets genuinely specialised in association with younger cabinets;
- c) Make information transfers between institutions (customs, police, county authorities, tax administration etc.) and SMEs more fluid.

4.6. listening

- a) Collective elaboration of the regional territorial intelligence (institution, company, civilians)
- b) Acknowledging a company's facts in a momentary interruption of its participation (choice of human resources affectation with regards to emergency).
- c) Gradual and personalised access (assimilation time for various practices, according to organisations).

⁶⁵ Agency effect: unbalance caused by the knowledge one of the parties may have of the future development of a convention.

5. CONCLUSION

If public investment generated short-term results in terms of territorial intelligence in the SME sector, it globally did not resist the ordeal of time in order to go from an initiation phase to a development one.

The operational taking over, inherent to the weight and burdens of State initiatives and Regional ones, must be established in the first stages of a regional territorial intelligence scheme. It thus avoids a gap in the help provided for actors and organisations involved, and therefore acts towards a capitalisation of processes and results.

Throughout exchanges, the word 'culture' was regularly used: 'this is not our culture', 'this is about a radical change in culture', 'you cannot achieve a revolution in culture every day'. In such cases, how could SMEs be better associated with a logic of territorial governance without them thinking they might lose their 'soul' in it? The issue is not of a technical or a technological nature but rather of an anthropological one. Time is the most demanding factor within a SME' one participant said.

The management of time is the main critical factor yet to be tamed for the enforcement of a regional territorial intelligence plan.

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Annexe 2. Questionnaire

ENQUETE – questionnaire-

Les trois volets d'affirmations inductives comportent 18 items. Les réponses se ventilent en six options: a) entièrement d'accord b) plutôt d'accord c) indécis d) plutôt peu d'accord e) pas d'accord f) opinion non exprimée. Les participants sont invités à renvoyer le questionnaire électronique à nouveau coché après chaque échange collectif. Les synthèses graphiques paraissent aussitôt sur le groupe de travail électronique Claroline®; elles traduisent l'évolution des positions du groupe.

A) Volet partenariat et durée

- Item A1: A votre avis, le partenariat est-il nécessaire à la réalisation de votre projet intégré de système de collecte et de traitement de l'information?
- Item A2: Pensez vous qu'une durée d'accompagnement technique de 6 mois est suffisant pour la mise en œuvre d'un dispositif de traitement de l'information dans une Pme/Pmi?
- Item A3: Jugez vous que l'accompagnement ne tient pas assez compte des variations brutales du plan de charge de l'entreprise engagée (commande urgente, rupture de stock etc.)
- Item A4: Êtes vous d'accord avec cette remarque: «la multitude de partenaires engagée dans l'opération expérimentale d'intelligence territoriale en rend progressivement la finalité floue»?
- Item A5: Pensez-vous que le système partenarial devrait s'inscrire pour chaque enjeu (recueil, traitement, formation etc.) de façon articulée et pour une période plutôt pluri-annuelle?
- Item A6: Avez-vous l'impression que la lisibilité des missions pour chaque partenaire est claire pour chaque entreprise (institutions, prestataires choisis par appel d'offre, financeurs etc.)

b) Volet soutien public

- Item B1: Considérez-vous que le financement public est déterminant pour l'engagement de la Pme/Pmi dans un processus d'intelligence territoriale?
- Item B2: Jugez-vous les financements subsidiaires accordés aux Pme/Pmi engagées dans le processus d'intelligence territoriale insuffisants? tardifs? trop contraignants par les rapports et données à établir?
- Item B3: Avez-vous le sentiment, et ce dans le cadre d'un programme régional, que les administrations et institutions partenaires sont très accessibles à vos requêtes?
- Item B4: Vous constatez que le soutien public est fixé pour une durée continue; concevez-vous qu'il puisse être séquencé sur plusieurs années?

Item B5: Jugez vous que les structures bénévoles de conseil (ressources humaines, information, communication etc.) sont peu ou pas représentées dans le plan régional d'intelligence territoriale?

Item B6: Pensez-vous que la mise en œuvre d'un système intégré de traitement de l'information pour une Pme/Pmi, demande une discrétion qui n'est pas obtenue dans le cas d'une adhésion à un programme régional?

C) Volet Information et pouvoir

Item C1: Concevez-vous que la mise en œuvre d'un système de traitement de l'information dans une entreprise renforce le pouvoir du dirigeant?

Item C2: Pensez-vous que l'organisation du système d'information dans l'entreprise le rend plus accessible à la malveillance?

Item C3: Etes-vous sensible au fait que l'apprentissage puis la pratique de mutualisation de l'information peut agir sur le climat social de l'entreprise?

Item C4: Considérez-vous que le décideur doit bénéficier seul des ultimes informations stratégiques?

Item C5: Constatez-vous que la compréhension du projet de l'entreprise par les partenaires d'un plan régional d'intelligence territorial est bien souvent limitée?

Item C6: Etes-vous de ceux qui avancent que mettre en oeuvre un système mutualisé de traitement de l'information au sein de l'entreprise, c'est offrir des clés de décision au tiers.

“The effect of Participation in the Development of Local Agenda 21 in the European Union”

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Abstract: The different forms of participation or communication within and between public agencies represent one of the five major features of policy implementation which explain why programs do not turn out the way they are expected to. This paper evaluates the advancements and the effect of the participation of several bodies – citizens, the private sector, other local government departments and other public entities - in the implementation of Local Agenda 21 in European municipalities.

Results show that participation by citizens and the involvement of different departments within the municipal government in implementing Local Agenda 21 significantly promote its implementation. However, the promotion of sustainable development through policies or activities by the European Union, the State or other national or supra-administrations are of little relevance.

Key words: Local Agenda 21, sustainable development, Aalborg Charter, European municipalities, policy implementation.

1. INTRODUCTION

The starting point of mankind's first signs of collective concern for the environment was the Conference on the Human Environment held by the United Nations in Stockholm in 1972. At that conference, serious concern for global environmental behavior was made manifest; evidence of this is the analysis included in the Report by the Club of Rome titled "The Limits of Growth." A result of the consensus on this concern was the creation of what is known as the United Nations Environment Program (UNEP), the primary aim of which is to analyze the effect developed countries' activities have on natural resources and the environment around the globe, due to both their direct action as demanders of all sorts of raw materials, and their indirect action as emitters of all types of waste and polluting elements.

It took eight years, until 1980, for the seed sown at the Stockholm Conference to have a chance to germinate. In that year, the International Union for the Conservation of Nature and Natural Resources (IUCN), currently known as The World Conservation Union, formally acknowledged the concept of *sustainable use* in its proposal titled "The World Conservation Strategy."

The few suggestions and proposals made during the fifteen years which elapsed between 1972 and 1987 revolved exclusively around the idea of protecting the environment; however, in the last year, a report came to light which was probably transcendental to mankind's future: the Brundtland Report. This report, written by the World Commission on Environment and Development (WCED), presided over by Gro Harlem Brundtland, included under its title "Our Common Future", the first major step by an official entity in terms of a committed concept of an extraordinarily wide scope, that of sustainable development. Although the concept was not invented in this report itself, the truth is, as pointed out by Berga (2005. 1), that the report turned the term into a fashionable one. It was not made up in the report, but it was disseminated on a worldwide scale.

In the report, sustainable development is understood to mean (see WCDE, 1987. 43) "that development which makes it possible to satisfy the needs of the present without compromising the ability of future generations to satisfy their own needs."

From that moment on, we shifted from a basically environmental idea of sustainability to another which practically encompasses all facets of human life in general and aims for acceptance of the need to focus on the topics involving the environment and development in a balanced, all-encompassing manner.

In the end, it was the United Nations Conference for the Environment and Development (UNCED), held in Rio de Janeiro in 1992 and known as the Rio de Janeiro Conference or Earth Summit, which managed to build the foundations for sustainable development through a broad agreement between governments.

The Rio Summit agreements were set down in five sections which, according to the Code of Good Practices of the Spanish Federation of Municipalities and Provinces (FEMP, 2004. 5), are as follows:

- The Rio Declaration

- Agenda 21
- The Conservation of Biological Diversity
- The Framework Convention on Climate Change
- The Declaration of Principles on Forests

In addition to the Declaration, which is the document that states the 27 main principles or Rights of the Earth, Agenda 21 has been regarded by many experts “as the centerpiece of the Rio accords.” In fact, many of the conferences held and declarations made by international organizations afterwards have been more or less related to the global action plan for sustainable development laid down in Agenda 21.

Even though other intermediate general proposals exist, it was the First European Conference of Sustainable Cities and Towns, organized in 1994 in the Danish city of Aalborg by The International Council of Local Environmental Initiatives (ICLEI), which created the foundations for a serious commitment by European cities to the enforcement of Agenda 21.

With the signing of the Aalborg Charter, the cities, smaller towns and territorial units of Europe committed to taking part in the local initiatives of Program 21 and to carrying out long-term programs aimed at sustainable development, under the following terms (European Sustainable Cities, 1994. 8):

“We, European cities & towns, signatories of this Charter, pledge by signing this Charter and joining the European Sustainable Cities & Towns Campaign that we will seek to achieve a consensus within our communities on a Local Agenda 21 by the end of 1996. This will meet the mandate established by Chapter 28 of Agenda 21 as agreed at the Earth Summit in Rio in June 1992. By means of our individual local action plans we shall contribute to the implementation of the European Union's Fifth Environmental Action Program Towards Sustainability.”

Therefore, the Aalborg Charter comprises the commitment of European cities to become a motor for enforcement of Agenda 21 at a local level, by creating local action plans to promote sustainable development and establish systems and processes for monitoring and social communication of the progress achieved.

The holding of other events, such as the Second European Conference of Sustainable Cities and Towns; the special session on the environment and sustainable development of the United Nations General Assembly, held in New York in 1997 and known as Rio+5, in which the goals established at the Rio Summit were revised; the United Nations Millennium Summit of 2000, also held in New York; or the Third European Conference of Sustainable Cities and Towns of 2000, held in Hanover, has not led to significant advancements in the proposals on sustainable development.

The aim of the World Sustainable Development Summit held in Johannesburg in 2002, known as Rio+10 or the Second Earth Summit, was to put a stop to the impoverishment and degradation suffered by the environment. Likewise, the current validity of the

agreements reached at the Rio Summit were reaffirmed, especially in terms of the application of Program 21 as a basic element for sustainable development.

At the Aalborg+10 Conference, the local European governments included in the European Campaign of Sustainable Cities and Towns moved ahead. An inspiration for the future, it was held in 2004 in order to review the local activities implemented for sustainability after ten years. At the conference, these governments undertook to play a central role in ensuring sustainable development, influencing individual behaviors through education and increasing awareness and consolidating Local Agenda 21.

This research paper is an attempt to evaluate to what extent the governments and municipalities of the European Union have fulfilled the commitments they took on in 1994 in the city of Aalborg and backed up ten years later in the same location.

We have attempted to verify the level of fulfillment by considering two perspectives: on the one hand, by assessing the degree of advancement in the process to implement Local Agenda 21, and on the other, by determining the effect of the participation of several bodies – citizen associations, other local government departments and other public entities - in the development of Program 21 at the level of each of the municipalities. The different forms of participation or communication within and between public agencies represent one of the five major features of policy implementation which explain why programs do not turn out the way they are expected to (Van Meter and Van, 1975).

The results showed that the degree of advancement in the implementation of Local Agenda 21 is quite homogeneous amongst European municipalities. Participation by the people and the involvement of different departments within the municipal government in implementing the Local Agenda 21 significantly promote its implementation. However, the promotion of sustainable development through policies or activities by the European Union, the State or other national or supra-administrations are of little relevance.

The paper is divided into five sections and an introduction. Section 2 comprises a study of the features of Local Agenda 21 as a process, while briefly examining the status of research. Section 3 details the hypotheses of the investigation based on the relevance of different forms of participation or communication within and between public agencies on policy. Section 4 is devoted to proposing the analysis methodology used, specifying the analysis techniques implemented and the characteristics of the population analyzed. In Section 5, there is an empirical study in which we analyze the degree of implementation of Local Agenda 21 in the municipalities of the European Union and the effect of participation to this degree. Finally, in Section 5, the conclusions reached are stated.

2. LOCAL AGENDA 21

Local Agenda 21, whose basic aspects are summarized in Table 1, is a dynamic program which describes the foundations for action, the objectives to be achieved, the activities to be carried out and the means necessary for its execution. In terms of the importance of participation by local entities, the Program emphasizes:

“Because so many of the problems and solutions with which Program 21 is concerned are related to local activities, the participation and cooperation of local authorities will constitute a decisive factor in achieving the Program objectives. In their status as the authority closest to the people, they play a very important role in the education and mobilization of the public in favor of sustainable development.”

The implementation of Local Agenda 21 entails the execution of a series of activities, phases or stages for each municipality, on the basis of the analysis methodology that they use (i.e. ICLEI, 1997 and FEMP, 2004), which could be described, in general, as follows:

- Environmental Diagnosis. An analysis of the weaknesses and threats, and of the economic, social and environmental strengths and opportunities presented by the territorial entity where Program 21 is intended to be implemented.
- Environmental Action Plan. A coherent set of strategies and activities oriented towards solving the environmental problems of a municipality or other local entity in a sustainable manner.
- Tracking Plan. A set of different techniques geared towards determining whether the execution of the Environmental Action Plan is correct, in other words, to determine whether the actions undertaken entail fulfillment of estimated goals.
- Social Participation Plan. Social organization of the process which comprises the setting-up and use of extensive participation networks by different players, with diverse interests, which aim to develop and implement a common future vision for the municipal area. This social organization is usually linked to social participation instruments and to social communication plans.

The effort made by each municipality in the field of sustainable development or, in other words, the degree of implementation of Local Agenda 21, is being analyzed by different types of public entities and institutions and by researchers. These reports analyze the process used to implement Local Agenda 21 by studying cases and sending out surveys. The case studies usually involve a description and an analysis of the activities carried out by specific local authorities, whereas the studies completed using the survey technique show the results obtained by municipalities in the Local Agenda 21 implementation process. Out of the existing contributions, Table 2 shows the most noteworthy.

3. POLICY IMPLEMENTATION: RESEARCH HYPOTHESIS

Policy implementation studies emerged in the 1970s within the United States, as a reaction to growing concerns over the effectiveness of wide-ranging reform programs. Up until the end of the 1960s, it had been taken for granted that political mandates were clear and administrators were thought to implement policies according to the intentions of decision makers (Hill and Hupe 2002: 42). The process of “translating policy into action” (Barrett 2004: 251) attracted more attention, as policies seemed to lag behind policy expectations.

The American scholars Van Meter and Van Horn (1975) offered one of the most elaborate theoretical models. They were concerned with the study of whether implementation outcomes corresponded to the objectives set out in initial policy decisions. Their model

included six variables that shape the relationship between policy and performance. Out of these variables, Interorganizational Communication is an element which is vital to policy implementation (op. cit. 466).

Effective implementation requires a program, in this case Local Agenda 21, to be understood by those individuals responsible for its fulfillment. Hogwood and Gun (1984. 205-206) explain the importance of communication for coordination between individuals and institutions by saying that "communication has an important contribution to make to coordination and to implementation generally" although "coordination is not, of course, simply a matter of communicating information or of setting up suitable administrative structures."

The abovementioned statements lead one to think that communication is not an end in itself, but a basic means to achieving knowledge, acceptance and, as a consequence, the coordinated participation of individuals and institutions in an implementation process. This is thus confirmed by different papers on Local Agenda 21, whose conclusions ratify that consensus, the participation of different departments and the existence of coordination, even with the private sector, facilitate its development and implementation (ICLEI, 2002; Evans et al., 2005).

These statements allow the following hypothesis to be made:

H₁: A statistically significant relationship exists between the level of integration of Local Agenda 21 into the municipal system and the degree of advancement of the Local Action Plan.

Moreover, as Neustadt (1960. 18) affirmed, successful implementation requires the presence of action-forcing mechanisms. In this regard, Van Meter and Van Horn (1975. 466) suggest that these institutional mechanisms and procedures should be established by higher authorities (superiors) as they may increase the likelihood of implementers acting in a manner which is consistent with a policy's standards and objectives.

In respect of Local Agenda 21, municipal administrations are the organizations which are responsible for its development, but it is higher level administration, such as the European Union, the State and other minor supra-municipal administrations, which must promote sustainable development through several policies.

Experiences such as that of the ICLEI (2002) or Lafferty (1999, 2001) make it clear that the State, or regions or federal-states' (Kern et al., 2004) policies to promote sustainable development can have the effect of adding momentum to the development of local program 21.

A consideration of the impact of promotion policies by top level administrations on the municipality allows the following hypotheses to be made:

H₂: A statistically significant relationship exists between the policies to promote sustainable development, developed by supra-municipal administrations, and the degree of advancement in the Local Action Plan.

Finally, as is indicated by Agyeman and Evans (1994), Local Agenda 21 is profoundly democratic in nature not only due to the fact that it emphasizes the need to adopt policies and strategies which allow the problems and deficiencies identified to be solved, but because it promotes the involvement of affected groups in decision-making and in the implementation of the strategy adopted.

This promotion of the intervention of different citizen groups in its diverse facets is what Astleithner and Hamedinger (2003, p. 56-57) call “social organization of Local Agenda 21”, and it is closely linked to a process of opening-up to different social players by means of social participation which seeks the involvement of citizens and socioeconomic agents in policy decision-making processes (strategic planning) in the area of sustainable development.

It means, therefore, direct intervention in the identification, valuation, prevention and correction of environmental and social problems in the municipality where the individuals live or act, favoring the design and implementation of Local Agenda 21.

These statements allow the following hypothesis to be made:

H3: A statistically significant relationship exists between the participation of citizens and private enterprises in the municipality and the degree of advancement in the Local Action Plan.

4. ANALYSIS METHODOLOGY

This section lays down the criteria applied to the basic aspects of the analysis, such as the population to be analyzed, and the variables and the methodology which will be used to compare the proposed hypothesis.

4.1. Obtaining the sample

The selected scope of the study is municipal administrations, due to the fact that Chapter 28 of Local Agenda 21 considers the activities carried out by local authorities to be a decisive factor in achieving the objectives of Program 21.

The sample population is made up of the 2,277 European municipalities that signed the Aalborg Charter on April 28, 2005, the last information available when this paper was begun, on the basis of which a statistically representative sample of all the European municipality signatories was obtained. As can be seen in Table 3, the distribution of these municipalities by country is totally unbalanced, because two of them, Italy and Spain, make up 80.98% of the population, which is why the sample was generated by applying the following criteria:

- i) Obtaining the samples from the municipalities in Italy and Spain: they were selected by using a stratified random procedure applied to the population which was divided into eight segments, on the basis of the number of inhabitants in each municipality.
- ii) Obtaining the samples from the municipalities in the remaining countries of the European Union: this was performed by using a random procedure without stratification, given the low number of individuals in each city and town.

In accordance with the aforementioned criteria, a total sample of 928 municipalities was chosen and their distribution by country is shown in Table 3. In order to obtain the information, we used the survey technique, by sending questionnaires to the chosen municipalities.

The questionnaires include 35 basically closed items, grouped into 14 sections: identification data; geographic and environmental data; economic and management data; political data; implementation process for Local Agenda 21; specifications regarding said process; coordination between municipal government departments; participation by other public entities and bodies; participation by the people; systems for divulging information; environmental education; development methodology used; assessment of resources, and the environmental management system.

A total of 105 responses were received, representing 11.31% of the selected theoretical sample, or 4.61% of the population analyzed, including information from 60% of the countries which currently make up the European Union, as shown in Table 3.

4.2. Variables

The variables used to compare the hypotheses proposed are included in Table 4.

The COMUNICACION and COORDINATION variables are used to test the first hypothesis.

We use the EUROPEANUNION, STATES, SUPRAADMINISTRATIONS and OTHERORGANIZATIONS variables to compare hypothesis H_2 .

The two remaining variables, PRIVATE and CITIZENS, are used to validate the latter of the hypotheses proposed, H_3 .

4.3. Methodology

The empirical analysis carried out was performed in two phases or stages:

1. Analysis of the data obtained in the survey. Frequency tables were used that show response repetition to the questions posed, in absolute terms and percentages.
2. Analysis of the behavior of the participation variables. A comparison of hypothesis H_1 with H_3 entails an analysis of the behavior of the components obtained in the third stage, using dependency models or multiple linear regression that make it possible to explain their importance in the level of advancement in the stages of Local Agenda 21.

The variables which represent the level of advancement of Local Agenda 21 correspond to the dependent variables to be predicted by a set of independent variables which show the participation of citizens and private companies (H_3), other local government departments (H_1) and other public entities (H_2).

In order to isolate the effect of the aforementioned factors, one control variable was introduced to represent the size of the municipalities, expressed in terms of the number of inhabitants.

5. EMPIRICAL ANALYSIS

5.1. Degree of implementation of Local Agenda 21

a) Process evaluation

As a first step, the Aalborg Charter was signed by municipalities on average 1,690.23 days prior to the date used as a reference for the analysis or, in other words, approximately in late 2000. The main reasons which led to the signing of the charter were a decision by the municipality itself (54.60%), or a combination of factors such as informational campaigns and/or the influence of other municipalities (18.60%), as shown in Table 5 (5.1).

Signing the charter entails the implementation of Local Agenda 21 through the application of a methodology that usually requires the execution of a set of stages that we have decided to call: Environmental Diagnosis; Environmental Action Plan; Tracking Plan, and Social Participation Plan. The most usual methodologies and their level of usage by the municipalities are synthesized in Table 5 (5.2).

In terms of the average degree of advancement in the five aforementioned stages of implementation, Europe's municipalities have practically reached the halfway point in the process, whether expressed in terms of the degree of advancement in the stages (46.47%) or on the basis of the work load that the persons responsible consider they have completed (44.45%). The first factor corresponds to the dependent variables in the analysis.

Focusing on the stages that are involved in the execution of direct environmental activities by the municipalities, the results obtained are as follows:

- Environmental Action Plan. From an execution perspective, the Plan lacks a timeline in 29.90% of the municipalities, whereas a duration of between four and six years is foreseen by 22.70% and between seven and ten years by 10.30% of those surveyed, as can be seen in Table 5 (5.3).

In terms of the relevance of the different facets of its contents, the cities and towns assess them in the following way (assigning values from 1 to 5): environmental aspects (2.74), social aspects (2.43) and economic aspects (2.14).

- Tracking Plan. This has only been developed in 22 of the municipalities analyzed, with an execution term of more than one financial year in fifteen of them. Nevertheless, 80.00% relate the delay to a feedback process intended to create corrective actions in the event of abnormal or unsuitable situations.

It includes control indicators of different types: environmental; social; economic, urban planning-related; and other types, such as those related to cultural initiatives or people's satisfaction. Their relevance is shown in Table 5 (5.4). Its characteristics are quite heterogeneous, given that only in 5.20% of the cases are they uniform in terms of their annual contents.

- Social Participation Plan. This is one of the basic elements in the process and has been developed in 60 of the municipalities examined (61.9%); it is in a developmental stage in 5 (5.2%); and it is in the project stage in another 12 (12.4%).

The forms of participation used, associative, personal and public, display the frequencies shown in Table 6 (6.1).

The most commonly used instruments for participation are, as shown in Table 6 (6.2), Forum Meetings, Public Hearings and Sector-based Discussions. The people's level of participation was average in 39.20% of the cities and towns, and low or high in 10-15% of the municipalities analyzed.

In terms of the processes for communicating the information on sustainable development, websites (60.8%) and specific publications (51.5%) are the most commonly used, followed by magazines (33.0%) and books (10.3%).

In 64.9% of the cities and towns, activities are already being performed in the field of environmental education; they are under development in 10.3%; and they are in projects in 9.3%. The frequencies of the different forms of education: associative, personal and public, are shown in Table 6 (6.3).

b) Evaluation of resources

In order to implement the different stages of Local Agenda 21, the responsible offices or municipal departments have an average annual budget of 5.4 million euros/dollars, or 1.44% of the total average municipal budget. The municipalities themselves believe that the resources are very limited because, on a scale of 1 to 5, they scored the economic, human and technical resources they have at 1.86, 2.13 and 2.13 points, respectively. Perhaps this poor assessment justifies the widespread trend, in nearly 56.80% of the municipalities analyzed, to use staffed teams which are mixed internally and externally in the implementation of municipal Program 21.

On the other hand, the existing organizational structure scored slightly higher, at 2.20. This is probably due to the fact that there is quite generalized knowledge about the implementation and objectives of Local Agenda 21 in the Municipal Departments of almost all the cities and towns (70.10%), though in only half of the cases (48.50%) is there any coordination between them in the field of sustainable development.

c) Participation Evaluation

Leadership in the process for developing and implementing Local Agenda 21 tends to be assumed by the Mayor. However, at other times there is shared leadership between several responsible parties, or the competent technical department of the municipality simply assumes this role, as shown in Table 7 (7.1).

At the same time, there is notable participation by public entities, organizations and businesses in the application of Local Agenda 21, as can be seen in Table 7 (7.2). Most noteworthy in this participation are the contributions made by the administrations closest to the municipality, with cooperation in 42.30% of all cases through economic and technical support, whereas technical support alone is given in 18.60% of cases.

5.2. Verification of the effect of participation in the implementation of Local Agenda 21 between European countries

The results obtained after estimating the proposed model are shown in Table 8. The global significance of the model (R^2) reaches 32.60% for a confidence level of 99% (p-value < 0.01).

With regard to the variables analyzed, four out of the eighteen are statistically significant. In particular, PRIVATE shows a negative and significant impact for a confidence level of 99%. OTHERORGANIZATION, for the same confidence level, exhibits a positive effect. The coefficient of COMUNICACION, significant at 0.05, and CITIZENS, significant at 0.01, indicate a positive effect on the implementation of Local Agenda 21.

The STATE variable has a negative but non-significant effect on the estimated model. The remaining independent variables (COORDINATION, EUROPEANUNION and SUPRAADMINISTRATIONS), as well as the control variables (POPULATION) display a positive but non-significant effect.

These findings allow us to fully accept Hypothesis 3 but with a different effect depending on the participation typology we considered. In part, we cannot reject Hypotheses 1 and 2. In Hypothesis 1, the effect is only linked to the existence of communication between different departments of the municipality. In hypothesis 2, the impact is only significant for the participation of Other Organizations.

As regards the interpretation of the results obtained, it is worth indicating that the proposals of Van Meter and Van Horn (1975) have been partially compared. Thus, it has been observed that communication between the diverse municipal departments favors the implementation of Local Agenda 21. Nevertheless, this assertion cannot be extended to their coordinated participation in the process for implementing this policy.

Furthermore, it has been observed that the action-forcing mechanisms created by administrations higher than those at municipal level, such as the European Union, States, etc., lack their estimated impact as regards the promotion of sustainable development on a municipal scale.

Perhaps the reduced effect of these institutional factors is a consequence of the positive impact that citizen participation has on the development of Local Program 21. Thus, it has been verified that a more active citizen intervention in the design of a common future vision for the municipal area means greater political and administrative commitment in the implementation of the policy which enables the desired future to be obtained.

Nevertheless, it has been observed that when private companies intervene in said participation, the impact is negative, delaying the advancement of Agenda 21. This effect may be due to the priority that economic profits have over environmental and social benefits in the case of lucrative, economic units.

6. CONCLUSIONS

The most important expression of the collective feeling of concern for the environment was reached in the report completed by the World Commission on Environment and

Development, known as the Brundtland Report. This report describes a shift from a basically environmental idea of sustainability to another more general concept which practically encompasses the general range of facets of human life.

The United Nations Conference for the Environment and Development, held in Rio de Janeiro in 1992, was the event which built the foundations for sustainable development. Among the agreements reached was one considered by many experts to be the centerpiece of the Rio Accords: Agenda 21.

The successful execution of Program 21 depends fundamentally on governments. Nevertheless, international, regional and local cooperation is a key element for national efforts to become meaningful. Therefore, local administrations must play a decisive role in the process of educating and involving people.

Europe's cities were aware of the responsibility they took on in terms of leadership in Agenda 21 and, when they met at the First European Conference of Sustainable Cities and Towns, they created the foundations for a serious commitment to its enforcement: the Aalborg Charter.

The efforts made by each municipality in the field of sustainable development are being analyzed by public institutions and researchers, with a focus on either case studies or analyses of the general situation in municipalities within a restricted geographical area.

From an analysis of the implementation of Local Agenda 21 achieved in the municipalities of the European Union, basically the following conclusions may be reached:

- Eleven years after the Aalborg Charter, the number of municipalities to have signed on is quite low in certain countries, and perhaps too high to be assumed realistically in other countries like Spain and Italy.
- A municipality's involvement in sustainable development processes depends basically on that municipality's own decisiveness, with a limited effect from informational campaigns and other factors.
- Once responsibility has been assumed by the municipality, the Mayor usually exercises strong leadership in its later development.
- The current degree of advancement of the phases or stages of Local Agenda 21 has reached the halfway point. In general, these stages have been implemented through the application of a methodology created by each municipality on its own.
- The implementation of Local Agenda 21 could be identified with a process that requires the execution of a set of stages described as follows: Environmental Diagnosis; Environmental Action Plan; Tracking Plan and Social Participation Plan.
- The Environmental Action Plan prioritizes, in this order, the environmental, social and economic aspects, and generally lacks a pre-established timeline for the fulfillment of its objectives.
- A Tracking Plan for Local Agenda 21 has been applied in nearly 23% of the municipalities, and in 80% of cases it creates a feedback process intended for corrective actions in previously established plans.

- The Social Participation Plan, a vital element for the success of the municipality's action, is only implemented in 61.9% of the cities and towns analyzed. The most commonly used instruments for participation are forum meetings and public hearings; information is mainly communicated through the use of websites and publications.

As regards the theoretical contribution, the analysis verified that participation by the people and the involvement of different departments within the municipal government in implementing Local Agenda 21 significantly promoted its implementation. On the contrary, intergovernmental enforcement activities such as the promotion of sustainable development through policies by the European Union, the State or other national or supra-administrations are of little relevance. Furthermore, in the process geared towards attaining sustainable development, the participation of lucrative economic units may temporarily delay their attainment.

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Table 1. Basic Aspects of Local Agenda 21.

Origin:	Rio Summit or Earth Summit
Form:	Action Plan
Basic Aspect:	Considers social and economic development and the environment in an integrated manner
Ultimate Goal:	Stopping the destruction of the environment and eliminating inequalities between countries
Objectives	The fight against poverty
	Protecting and promoting health
	Protecting the atmosphere
	Conservation and the rational use of forest resources
	The fight against desertification
	The protection of mountain eco-systems
	The development of agriculture without harming the soil
	The preservation of biodiversity
	The rational and ecological management of biotechnology
	The protection of ocean and fresh water resources
	Safety in the use of toxic products
The management of solid, hazardous and radioactive wastes	
Priority Activities	The prosperous world: revitalization of development according to sustainable criteria
	The fair world: a sustainable life
	The inhabitable world: population sites
	The fertile world: efficient use of resources
	The shared world: global and regional resources
	The clean world: management of chemical products and wastes
	The world of people: participation and responsibility of people
Scope of Applicability:	The whole municipal territory

Source: Spanish Federation of Municipalities and Provinces (2004).

Table 2. Evaluating Local Agenda 21: The State of The Art.

2.1. Contributions by public entities or institutions.		
INSTITUTIONS	SCOPE	COMMENTARIES
International Council of Local Environment Initiatives (ICLEI) (2002)	International	It provides technical consulting, training, and information services to build capacity, share knowledge, and support local government in the implementation of sustainable development at the local level. Its basic premise is that locally designed initiatives can provide an effective and cost-efficient way to achieve local, national, and global sustainability objectives.
Local Authorities' Self-Assessment of Local Agenda 21 (LASALA) (Evans and Theoblad, 2003)	European Union	One hundred and fifty municipalities took part in this project. This method of self-evaluation has developed into an Internet-based facility for local governments to self-evaluate their Local Agenda 21 processes.
Developing Institutional and Social Capacities for Urban Sustainability (DISCUS)	European Union	The results of the project are based on detailed analysis of forty local authorities from Southern, Western, Eastern and Central European countries and Scandinavia. The findings should enable the improvement and development of institutional capacity and social capital at a local level in order to achieve more effective and participatory decision-making processes for sustainable development.
SUSCOM	13 European countries	Active evaluation research on Local Agenda 21 since 1995. They have been able to establish and strengthen networks for the exchange of knowledge and experience within the field of sustainable development.
Project for Alternative Future Prosus (Lafferty et al., 1998)	Norway Nordic regions	
SUSNORD	Nordic and Baltic regions	
Norwegian Ministry of Environment (1997)	Norway	
Local Government Management Board (1995; 1996)	UK	
Ministry of Housing (Hernández, 2001; 2003)	Spain	

2.2. Empirical studies performed by researchers		
AUTHOR	SCOPE	METHODOLOGY
Hovik and Johnsen (1994)	Norway	Survey
Naustdalslid (1994)	Norway	Survey
Whitakker (1996)	Australia	Survey
Jackson and Roberts (1997)	Scotland	Studying case
Kitchen et al. (1997)	UK	Studying case
Selman (1998)	UK	Studying case
Grochowalska (1998)	Poland	Studying case
Bond et al. (1998)	UK	Survey
Wild y Marshall (1999)	UK	Studying case
Avanzi (1999)	Italy	Survey
Scott (1999)	UK	Studying case
Jörby (2000; 2002)	Sweden	Studying case
Font and Subirats (2000)	Spain	Studying case
Mercer and Jotkowitz (2000)	Australia	Survey
Joas (2000; 2001)	Finland	Survey
Aall (2000)	Norway	Survey
Kelly and Moles (2000)	Ireland	Survey
Blasco (2001)	Spain	Survey
Vallitu and Lehtimaki (2001)	EUROCITIES	Survey
Grewwe et al. (2002)	US	Studying case
Lindstrom and Groholm (2002)	Union of cities of the Baltic	Survey
Sharp (2002)	UK	Studying case
Kelly and Moles (2002)	Ireland	Studying case
Barrett and Usui (2002)	Japan	Survey
Cuthill (2002)	Australia	Survey
Aguado and Etxebarria (2003)	Spain	Survey
Astleithner and Hamedinger (2003)	Austria	Studying case
Rowe and Fudge (2003)	Sweden	Studying case
Corbiere-Nicollier et al. (2003)	Switzerland	Studying case
Etxebarria et al. (2004)	Spain	Studying case
Feichtinger and Pregernig (2005)	Sweden and Austria	Survey

Table 3. Municipalities of the European Union that had signed the Aalborg Charter as of April 28, 2005.

Country	Population (1)	Theoretical Sample	Final Sample	% Response Theoretical Sample	% Response Population
Austria	27	25	5	20	18.52
Belgium	10	10	0		
Cyprus	1	1	0		
Czech Republic	2	2	1	50	50
Denmark	10	10	1	10	10
Estonia	6	6	1	16.67	16.67
Finland	32	30	5	16.67	15.63
France	32	30	8	26.67	25
Germany	69	59	12	20.34	17.39
Greece	68	58	1	1.72	1.47
Hungary	3	3	0		
Ireland	1	1	0		
Italy	687	247	22	8.91	3.2
Latvia	5	5	0		
Lithuania	6	6	0		
Luxembourg	2	2	0		
Malta	0	0	0		
Netherlands	12	12	1	8.33	8.33
Poland	8	8	0		
Portugal	42	38	6	15.79	14.29
Slovak Republic	3	3	0		
Slovenia	4	4	0		
Spain	1,157	289	35	12.11	3.03
Sweden	23	22	2	9.09	8.7
United Kingdom	67	57	5	8.77	7.46
Total	2,277	928	105	11.31	4.61

(1) Source: The European Sustainable Cities & Towns Campaign.

Table 4. Variables used in the analysis.

NAME	CLASS	DESCRIPTION
<i>DEPENDENT VARIABLES</i>		
IMPLEMENTATION-AL21	Numerical	Degree of advancement in the various stages of Local Agenda 21 according to the four phases or stages on the basis of the methodology of analysis
<i>INDEPENDENT VARIABLES</i>		
COMUNICACION	Dichotomous	Shows whether or not the municipal government's departments are aware of Program 21.
COORDINATION	Dichotomous	Shows whether or not there is coordination between municipal departments in its implementation
EUROPEANUNION	Dichotomous	Shows whether or not the European Union cooperates in its implementation
STATES	Dichotomous	Shows whether or not the State cooperates in its implementation
SUPRAADMINISTRATIONS	Dichotomous	Shows whether or not other Supra-municipal administrations cooperate in its implementation
OTHER ORGANIZATIONS	Dichotomous	Shows whether or not different Organizations cooperate in its implementation
PRIVATE	Dichotomous	Shows whether or not the private sector participates in its implementation
CITIZENS	Numerical	Shows the citizens who cooperate in its implementation, taking values from 1 to 5.
<i>CONTROL VARIABLES</i>		
POPULATION	Numerical	Number of inhabitants in the municipality

Table 5. Factors, methodology and development of the process for implementation of Local Agenda 21.

Concept	Frequency	Percentage
5.1. Factors which led to the signing of the Aalborg Charter		
International Information Campaign	2	2.1
National Information Campaign	5	5.2
Autonomous Regional Information Campaign	9	9.3
Influence of other municipalities	1	1.0
Internal municipal decision	53	54.6
Informational campaigns in general	2	2.1
Resulted from the relationship between municipal governments	3	3.1
Combination of all these factors	18	18.6
5.2. Methodology used		
FEMP methodology	5	5.2
ICLEI methodology	15	15.5
Own methodology	38	39.2
Supra-municipal administration methodology	16	16.5
Methodology from other experiences	18	18.6
Other methodologies	8	8.2
5.3. Timeline for the Environmental Action Plan.		
From 1 to 3 years	8	8.2
From 4 to 6 years	22	22.7
From 7 to 10 years	10	10.3
From 11 to 20 years	9	9.3
More than 20 years	1	1.0
Does not include a timeline	29	29.9
5.4. Contents of the Tracking Plan in terms of indicators.		
Environmental Indicators	38	39.2
Social Indicators	33	34.0
Economic Indicators	33	34.0
Urban Planning Indicators	22	22.7
Other Indicators	2	2.1

Table 6. Forms and instruments for social participation in the process for implementation of Local Agenda 21.

Concept	Frequency	Percentage
6.1. Forms of Social Participation.		
Associative (aimed at associations, entities and companies)	55	56.7
Personal (aimed at people on an individual basis)	47	48.5
Public (aimed at the staff of the municipal government)	42	43.3
6.2. Instruments of Social Participation.		
Forum meetings	49	50.5
Department of the Environment	15	15.5
Sector-based discussions	28	28.9
Public hearing	38	39.2
Consultations by survey / referendum	20	20.6
Other	22	22.7
6.3. Forms of Environmental Education.		
Associative (aimed at associations, entities and companies)	45	46.4
Personal (aimed at people on an individual basis)	58	59.8
Public (aimed at the staff of the municipal government)	40	41.2

Table 7. Internal and external participation in the process for implementation of Local Agenda 21.

Concept	Frequency	Percentage
7.1. Leadership in implementation of Local Agenda 21.		
Mayor	26	26.8
Deputy Mayor	10	10.3
Councilor / Municipal Dept. Head	12	12.4
Technical department	15	15.5
Shared leadership	25	25.8
7.2. Participation by other entities in implementation.		
European Union	14	14.4
State	17	17.5
Other administrations	64	66.0
National and international organizations	21	21.6
Private sector	26	26.8

Table 8. The Effect of Participation in the Development of Local Agenda 21 in the European Union.

INDEPENDENT VARIABLES	COEFFICIENT
Constant	0.000***
POPULATION	0.014
COMUNICACION	0.289**
COORDINATION	0.029
EUROPEANUNION	0.57
STATES	-0.093
SUPRAADMINISTRATIONS	0.105
OTHER ORGANIZATIONS	0.191*
PRIVATE	-0.186*
CITIZENS	0.348***
R² = 0.326	
F = 6.164***	
Multiple regression. Significant values in bold	
* p-value < 0,10	
** p-value < 0,05	
*** p-value < 0,01	

**“Social Participation of Rural Youth in Development in Two Villages in
Kena Governorate in Egypt”**

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Abstract: Youth social participation is the process that developing partnerships between young people and adults in all areas of life so youth can take valued position in society and the community as a whole can benefit from their contribution, ideas and energies, This study analyze the kinds and the levels of social participation of rural youth in development in Kena governorate in Egypt, Sample social survey approach was used in this study population was sampled from among rural youth of the age category (18-30) years, and the sample was selected by zone random sampling methods, from two study villages, in Keft the sample size was 150 youth, whereas in Aboutcht was 204 youth, data analyzed by SPSS (statistical package for social science), a major result of the study is the lowest youth participation in two village and this can be explain by centralization and adulate control, in addition to loss the trust in the governmental programs, finally, the study confirmed that local initiative is important for their participation.

Keywords: Egypt, Rural Youth, Social participation.

INTRODUCTION

The real wealth of the countries like Egypt is human resources, and young people are the type of players these resources they burden of change in social systems, in order to benefit from the energies of society must be a social system based on youth participation in the conduct of affairs. (Mahmud, 301:2001).

Youth1 period nature involve many of the important characteristics that distinguish them from childhood and adolescence and on the next stage, which is so unique phase of the rights bus changes physical and physiological, social, emotional, which may have a negative impact on the personality and psychology if it fails to improve the care and guidance and assist them to adapt and compromise with the self and society (Ala'edeen, 2000: 33).

The government was recently increased attention to human development through increased education and to participate in development activities, The process involved the most important factors affecting the success of the process of local development, and represents youth manpower in the best and strongest stages which accounted for 33% of the total proportion of the population (Central Agency for Public Mobilization and Statistics, 1998), and they represent a broad sector of the work force upon as representing youth about 61.8% of the total labor force "15-60 years", which represents 53.8% of the total population in the Egyptian society in 1996 (the Central Agency for Public Mobilization and Statistics, 1998).

Rural youth represents 53.9% of the total youth (Central Agency for Public Mobilization and Statistics, 1998).

There is consent among the researchers and development workers on the importance of social participation of community members in the activities and development programs carried out in their communities as one of the main pillars for the success of these projects (full, 1999: 30).

Social participation is an important area to hone the skills of personnel and capacity-building. Based on the relationship between social work and human resource, it can be argued that the backbone of human resource practitioner of social participation are the youth, youth power belonging to their community and laying help and support social work and level of sophistication and content, as well as social participation duplicated their experience and their abilities and skills, which will be in desperate need of them, particularly in their working lives.

In Upper Egypt the people suffering from regional disparities, which is essential feature of the road development in Egypt, in addition to the disparities between urban and rural areas on the national level, which prompted the state to do projects and programs that would improve life quality in rural areas and that With community participation as one of the most important mechanisms for development.

The social participation and the all forms of volunteerism most pressing local in the current period where the State abandons a lot of previous burdens for individuals and

institutions in response to international changes and control of the ruling market economics and the develop the role of civil society.

The equation consists of participation is (People + Command + ideas + plan + initiatives groups + self-management) (Schoftan, 1998: 64). but what is happening on the fact is the opposite, where the state and its institutions increasingly turning its disrupting the community rely on the state to the stage of self-reliance, although the formal allocation encourage the participation (Banna, 2003: 15).

Rural organizations are very important as rural development agents. They have an active role in the development process through its responsibility for affecting change intended, as the success of these organizations in achieving its role depends on the efficiency of the regulatory process and its ability to guide manpower towards common goals and motivate their continued hard work and attention to achieve the desired goals as much as possible (Siam EL deen, 1982: 22).

This paper attempts to examine the degree of youth participation in social activities and the types of their participation and what are the elements of their participation using a specific study to focus directly on factors that shape the extent of participation in civil society organizations. More specifically, it addresses the following question: “in Qena, what are the major factors influencing youth participation in development projects and civil society organizations”.

To address this question, it's supposed to examine four hypotheses about participation that focus on economic, social, characters, and access issues. Briefly, it hypothesize that the probability of participation in development is greater for youth who enjoy a greater level of economic well being; and have a higher level of education and who have more interactions with and open.

Testing these hypotheses helps explore whether existing power holders and those who are wealthier may appropriate a greater proportion of benefits from decentralized control over resources. It also enhances the understanding of the nature of participation and its determinants so as to facilitate better policy design and encourage participation from youth.

To examine the research question and hypotheses in a concrete setting, we focus on the Shrouk program, cooperatives, youth club, and community development associations. We estimate a statistical model to test our hypotheses regarding participation.

The data for the empirical test come from a survey of 354 youth that we conducted in 2004. The youth reside in two villages in Qena governorate in Upper Egypt. Choosing the villages were depending on development index, percentage of youth, and the number of local organizations.

We randomly selected 204 young man from a list of youth in first village and 150 from the anther, depending on the population size.

Discussing the results and their scope in light of theoretical discussions on participation, we conclude with a consideration of some of the implications of our research for future analyses of youth participation, and the design of social participation programs.

MAIN PROGRAM AND ORGANIZATIONS IN RURAL EGYPT

The most important organization contact with rural youth are the Rural youth center and Community Development Association (CDA) in addition to the national program of integrated rural development - Shorouk – we can be addressed in terms of concept and historical roots, objectives and obstacles.

First: Rural youth center, The law No. 77 of 1975 as amended by Act 51 of 1987 defined youth centers as "every corporation equipped buildings by the stat, local councils, individuals separately or collaborators in towns and villages to develop young people in various stages of age, and also to spend their leisure time in the practice of social activities, spiritual, cultural, sports, and related under the supervision of specialized leadership".

As for the established of youth centers, in 1937 formed groups of promote sports in the villages were under the auspices of members of the royal family without a clear strategy, and in 1938 established rural centers consisted of a group of people on behalf of (social centers), while established the Ministry of Social Affairs in 1939 adopted these social centers the rural club based activity centers, after(1952) and when the revolution gave youth sector extremely interested, and in 1954, Cabinet approved the establishment of the Supreme Council of Youth and Physical Education, this became an independent body with legal personality, With the first Ministry for Youth in 1964 acceded to the clubs and centers curses and sports bodies, after the passage of Law N° 26 of 1956 turned youth centers to private agencies, which give it flexibility in management (Specialized National Councils, 2001: 449-453).

Youth centers Plans include set of programs and projects is the main areas of work exposure (Habib, 2001: 145), as follows:

- Sport: The implementation of the courses of various sports.
- Religious sphere: The competitions and projects such as the religious celebration and religious seminars, competitions and memorization of the Koran, and celebrations of national events throughout the year. Artistic and cultural sphere: The competitions in poetry, spinning, story, painting and hold seminars cultural and intellectual wall and folklore.
- Trips, camps and public services: organize trips for young people within and outside the province, the work camps in the service environment.
- Scouts and Rangers: organizing training camps for members of the scouts and Rangers, organizing day camps to community service and training for rescue work, and civil defense.

In spite of the proliferation of youth centers in the rural Egypt, but the fact was they did not achieve their objectives, (Dabbous, 2003: 64-65) that many of the field studies indicate that there are short coming in the services performed by the rural youth centers, and some of this shortfall is due to the following problems:

- 1) Implementation and administrative problems: The decline in the efficiency of supervisors, trainers and members of the Governing Council in many rural youth centers and control of routine management, the absence of women's activities.
- 2) Financial and technical problems: The lack of funding and resources, equipment and buildings, libraries appropriate cultural, and the lack of many recreational centers to the means and media (Samalouti, 1994: 87-89).
- 3) Local environmental problems: The illiteracy and nervousness among members, and the lack of women participation because of the rigid customs and traditions, and not convinced that parents actively these important organizations, and not convinced that the young people themselves seriously activities.

Second: community development associations (CDA) had known as "grass-roots organization announced in accordance to Law No. 23 of 1964 and has independent legal personality and the board of directors of each team from community leaders"

(Mohamed, 1982: 22). It consists in the villages' contribution of a group of villagers not less than twenty citizens are registered and elect among themselves a member of the administration.

(Muharram, 1994: 66) the association operates through five committees interested in each core to specific aspects, as follows

- I. Economic Committee: improved agricultural methods used by disseminating agricultural culture, Interest in industrialization and industrial projects in rural environmental, domestic and market their products, Improving irrigation and drainage and Improve productivity.
- II. Social Committee: Improve family planning and the establishment its centers, Maternal and child care through the establishment of units for the service, Study of family problems encountered in the countryside and appropriate services, and Organizing the contributions of citizens to development programs through financial and in kind contributions.
- III. Health Committee: interest prevention of epidemic diseases and the treatment of sick people, Provision of clean water resources and publicize waste and pollutants, Clean-up campaigns and bridging the village ponds, Settlement the roads.
- IV. Cultural Committee: Reducing the illiteracy, raising the educational level of students in the village and raising the general cultural level village.
- V. Women's Commission: directed towards women benefit from social and health services to build strong families, Training women in handicrafts and rural industries to increase the family income, Upgrading social standing of women.

As for the problems of Rural Community Development Associations are;

1. the decline in the number of volunteers (Abdul others, 2003: 66), the reasons for rural people reluctance to volunteer are volatile economic situation that made the

satisfaction of basic needs is a preoccupation, absence of volunteerism culture and awareness of the importance of volunteerism in community service through NGOs.

2. Similarity between CDA and governmental institutions in the way its inception, funding and work and mostly nothing more than a banner hung on a run-down. With limited resources, and often limited to a meager aid from the Social Affairs (Kishk, 2003: 92), since the Ministry of Social Affairs on villages pressed for the establishment of CDA, which make the output pressure and not a result of the desire of community members themselves (Muharram, 1994: 66-69).
3. The problem of weak administrative capacity of the societies where often lacks administrative efficiency owing to the required training. The process of devolution of power within the administration suffer from the problem of continuing the Governing Council for long periods without any change, which affects labor inflexibility Ahli (Abdul others, 2003: 66).
4. Neglecting the special needs of women as wives and mothers, and lack of representation in the association departments at the senior management level (Kishk, 2003: 137).

Third: project of the national program of integrated rural development-Shorouk – in 1994 the Organization of the reconstruction and development of the Egyptian village "ORDEVS" established a program of integrated rural development project named Shorouk, in order to reduce the gap between urban and rural areas (Shehata, 2001: 175).

The Declaration of the National Program for integrated rural development-Shorouk - basis or rural development policy in an effort to address inter challenges facing Egypt in this period, and has emerged political commitment to support Shorouk through make it an essential component in the government of Prime Minister Atef Ebeid 1999.

About the finance of the program Shorouk from some foreign grants, has reached those resources in the first year (1994-1995) 600 thousand Egyptian pounds, increased to 59 million pounds in the next year (1996-1997) then jumped the total investments to around 18.2 billion pounds in the five-year plan (1997-2002) are distributed among (28.8%) popular participation, and (26.9%) loans, and (44.3%) government funding and foreign grants.

The Composition of the committees Shorouk comprised representatives of ministries and agencies concerned with rural development in order to facilitate the achievement of its objectives and streamlining procedures under the new methodology (ie, popular participation).

The Cabinet Trend to consider the construction and development of the Egyptian village is the only institution that is the flow of funding from which to rural development projects.

Shorouk goal to improving the quality of life for citizens in the Egyptian village through the participation of a wide and deep to the people of this rural community. (Muharram, 2002: 157).

According to The Human Development Report Egypt (National Planning Institute, 2003: 101) Shorouk Achievements that the program Shorouk over eight years during:

- raising the level of community participation and integration in the development process and the processes of change in the meetings formations psychological and mental and social trends of the participants.
- Deepening democracy in the curriculum development, as the essence of the development process, and rely on local leaders and young women.
- The implementation of the training plan benefited all members of the committees "Shorouk" as well as local leaders and the executive responsible for overseeing the work of those committees.
- At the level of material achievements during the period (1994-1995 / 2001-2002) can be summarized that the total investment program 1877.8 million pounds to about 545 million participations popularity rate of 29%, and infrastructure investments accounted for 75.9%, and economic development projects 7.8% of total investments of the program, while the number of projects implemented program 76138 to about 28764 EGP for the infrastructure projects, and in 4129 a project for human development, and economic projects amounted to about 43245 projects.

Can refer to some Obstacles and problems enface Shorouk; like even though the program aimed to achieve decentralization it is system is very central and all the decision come from Cairo office, miss coordination necessary between the partners and many players in a village, these partners having no common vision, or strategy(Salwa Sharawi, 2001: 297), also Shorouk be implemented in an law and institutional environment impose additional restrictions on the program because it does not generally decentralized, Since 1960 there were eight basic laws to regulate local administrative, Each adjust and replace other, and the latter Act No. 43/1979 was introduced to amend several times, These adjustments are repeated another negative in the management of public policy at the local level, and all this means that the legal situation of the local administration is still hesitant reflects government in achieving local government, or at least decentralization required.

And also the financial obstacles; Although the period (1997-2002) was scheduled to report investments Shorouk 18.2 billion pounds, the 2000 session statistics indicate that the total invested funeral has not exceeded 1.5 billion pounds, or a 8.24% of the scheme(Salwa Sharawi, 2001: 297).

We can observe also that Even though shrouk had established from 1994, there was Still cultural and media space around Shrouk need to stimulate even turn into a priority popular as a governmental priority, as it may not have enough presence outside Shorouk three occasions and basic frameworks; First National Conference, which is held only twice since the beginning of the program, Second in the corridors of the Ministry of Local Development, especially the village, and the third in the committees Shorouk which is Altengiz villages.

FIELD STUDY AREA AND DATA COLLECTION

The field study done in two villages in Upper Egypt, Qena governorate the following is a brief profile of the villages selected for the study and have been collecting data released by (village description form).

Abotesht District: Qoser Bakhanes village is away from the Qena city of 80 kilometers, and 4 km from Abotesht city, and the nearest railway station 5 km. In 2001, the estimated number of 41452 populations (estimates from the reality of the local unit). With regard to educational services in Unity Village, it includes 13 primary schools include 172 class room, 4 preparatory schools and 7 institutes AZHAR, dismissal contain any secondary schools. Social services and social unit has a single, and one Association of Community Development, girl's operator, training center, a nursery and events associated with the role of family, and there are 87 mosques. There is also three youth centers and six community development associations, and one bank for the village, and four offices Telegraph. And stationed most important economic activities in the village in the manufacture treacle, and the manufacture of mats, and there are three village workshops, and three Apiaries. With regard to health services it was fourm one family planning Center health units.

Keft District: El shekhyia village is away from the Qena city 25 kilometers, and Keft city only 2 km, and the nearest railway station 2 km, the link roads of the village in good condition. The total number of 38390 residents of the village inhabitants, the total number of male 18888 and female 19502, as the number of those of working age 31466 (Central Department of Statistics, Office of Qena Governorate). With regard to educational services it has 14 elementary schools separated by 134 classroom, and 6 primary schools by 76, and three AZHAR Institutes. There is no any secondary school. for the social and health services; there are four community development associations, and four kind gardens(KG), three family planning centers, The three health units, and Two clinics. With regard to social services there are 33 village mosque, and five youth centers, and one public library. For economic services and communications it has one village Bank and the agricultural cooperative, to communications there are three village centers Telegraph and three government post offices.

The sampling method was determining the number of study units, according to equation (Zeenat Tabalh, 2003: 10) suggests that this equation used in the situation where the phenomenon has a percentage of incidence or prevalence.

Equation:

$$N^1 = M^2 L (L-1) X^2$$

Equation correct size of the = $N^1 / (1 + (N^1-1) / N)$

where:

N^1 = sample size

M = value of the variable standard is equal to (1.96)

N = size of the community (among rural youth study the villages is equal to 16736 divided by 42.65% Sheikha village, The ratio 57.65% village of qosier Bakhanes)

L = incidence of the phenomenon (0.4)

X = volume error allowed (0.05)

So;

$N1 = (1.96)^2 \times 0.4 \times (1-0.4) / (0.05)^2 = 361$

Equalization correction = $361 / (1 + (361-1) / 16736) = 353$

Sample size village Sheikeh = $42.65\% \times 353 = 150$

Sample size village Gosairbekhans = $57.4\% \times 353 = 204$

study sample becomes = 354 after rounding.

The study collecting the data by personal interview questionnaire, the period when field data collection, which was during the months (May, June, July) for 2005, which was designed to measure variables research, commensurate with the objectives of the research, and the test of tribal form (pre-test) to (20) of rural youth village Abushoucheh Aboutcht status in March 2005, and was amended in the light of some ambiguous terminology used, deletion of the questions which gave inappropriate responses that do not serve the study, and equipped with proper form of youth and serving objectives of the research.

STUDIED VARIABLES, DATA, AND ANALYTICAL MODEL

The field research for this paper is conducted using personal interview questionnaire, sampling between six weeks in each field site the interview questionnaire content all the variables that have theoretical correlation with participation to test the significant of this assumptions.

The choice of these variables is based on an extensive literature on determinants of participation. Some of the earliest research on participation focused on participation in development projects, and suggested that an individual's social status, education, and organizational membership have a strong effect On the propensity to participate in develop; ents activities (fahmy, 1998; nawal, 1975). In general terms, research on participation has examined three broad sets of factors: incentives of individuals, socioeconomic and structural factors, and normative and ideological forces (Verba, Schlozman, Brady, & Nie,1993). Analogous research on associations, interest groups, and collective action has also developed formal models of participation, This research suggests that to explain participation it is important to consider both economic and social variables, as also demographics and personalities factors.

Studies of youth participation in development have tended to support the more general arguments above, even as they have identified specific variables that should be taken into account. Many existing studies have also been highly concerned with questions of trust on the development agent (Abdul Rahman, 1999).

House building materials, house size, and consumption type are commonly used as indicators of economic status and its variations (Abdul Rahman, 90: 1989).

Education is similarly an important variable that can serve as an indicator of both social status and economic opportunities (Afaf, 1980; Magda, 1982; Abd Elkader, 1986)

In addition, open to another cultures acanthopterygians gain toward community have a significantly influence on participation, including labor availability, it is necessary also to assess another important aspect of local organizations in rural Egypt, the role of the government. When governments facilitate the creation of organizations/groups, a significant part of the agenda is designed by state agencies. Government officials often decide about the objectives of the community-level organizations, and the benefits they receive. Careful initiatives can reduce costs of local collective action substantially.

Designed interventions can undermine all possibility of widespread participation. It is important therefore to pay attention to the relationship between government officials and residents in local communities, the extent to which government officials are accessible to local residents, and how such accessibility affects participation. Given the multiplicity of factors that may reasonably shape different levels of participation, it is important to test the relative contribution of different theoretically relevant variables simultaneously.

Depending on the participation litterateurs and field studies results we suggest the following variables;

1-independent variables

1-1 demographic variables include personal data on gender, age, educational status, and marital situation.

1-2 social, economic and psychological variables include;

1-2-1 opening to the outside world: The index includes openness geographical internal and external, so knowing the degree of visiting the neighboring villages, the district and the country capital and other governorates in addition to travel abroad. It also includes index cultural openness expressed by exposure to the mass media.

1-2-2 level of trust: includes indicators of trust in the dealings within the community, in addition to the local government.

1-2-3 income level: This variable was met through general indicator consists of a sub-indices contain the type of housing (construction material), and the number of rooms, in addition to belonging to a certain category of between three categories of consumption and expenditure.

1-2-4 knowledge of the projects in the village: this variable has been met through the index reflects the inventory of existing projects and village question on the extent of its presence known on the knowledge of them.

1-2-5 the access of contribute to the development of society: The expressions of this variable component of the Index reflect the responsibilities that could be assumed or contribute youth.

1-2-6 the degree of affiliation: Use index, which consists of a 16-some positive and others negative. Divided questions to reflect three words about pride and happiness reside village,

and three expressed a preference for working in the village, and four words on his participation in the service of solving problems village, and two felt with village officials, and two from a feeling of security village, and two from the responsibilities and duties towards the people of the village.

2-dependent variables: This variable included the composite index composed of the membership of the Bretton 4 (community development association, youth center, Shorouk Commission, parties) is to join the organizations of civil society, and then the type of membership (ordinary member of the Committee, or board member), subsequently, the degree of visiting or participation (weekly, monthly, yearly).

We used statistical tools to test theoretical assumptions. The statistical assumption which required that there is no relationship between the degrees of social participation and each of the demographic, social, economic and psychological variables studied."

Statistical analysis tools were used statistical package for social sciences (SPSS) to conduct the necessary analysis of the preliminary data that have been collected by the study questionnaire. The use of electric and statistical tools:

- test the validity of verbal essay using Chi Square.
- Simple correlation coefficient (Relational matrix of variables).
- Stepwise multiple regression analysis.
- T test; to test the validity of assumptions when comparing between the two villages.

The statistical analysis tools used to, first of all determined the variables that have a significant relation with youth participation by (Chi Square, correlation), after that spesicate the main and the degree of effects of the significant variables by (Stepwise multiple regression analysis), and at last clearness the different between two study area in the degree of participation by (T test).

Results and discussion

The presentation of results and discussion of the study found that the rate of participation of social study of a sample is in the low level of participation since the 89.6% of the sample in low-category appeared more status Aboutcht where this category represented 91% of the sample represented 87.3% while the status of towns.

Table(1) reports the estimates for the relationships the model is highly statistical significant, with a Chi-squared statistic of 60. It pointed out that there is a Significant relationship between the social participation of rural youth at the district Keft: gender, marital status, work status, age, openness to the outside world, and knowledge of the projects located in the village, either in the district Aboutcht Significant relationship between the social participation and: gender, work status age, knowledge of the projects the village, and opportunity to act.

The table (1) summarized the results of the study could discuss some important points in the table as follows.

Independent variables	Social participation	
	Keft	Aboutesht
Chi squar values		
gender	11.445*	13.04**
Maretal status	9.185*	5.561
Work status	18.29**	12.215**
Correlation variable		
age	0.295**	0.258**
Education	0.051	0.086
opining	**0.303	0.018
Trust level	0.120	0.157*
Income level	-0.022	0.105
Knowledge about the village projects	0.013	0.105*
Opportunity	0.307**	0.199**
alligant	-0.048	0.067

Source: analyses of field survey (2005).

* Significant at $\alpha = 0.10$. ** Significant at $\alpha = 0.05$.

Regarding the status Aboutcht there are four independent variables contributed significantly to interpret variations in the levels of formal participation among rural youth and these variables are: age, informal social participation, and openness to the outside world. As the correlation coefficient is 0.390.

Table (No. 2): results of multiple regression analysis in two study villages

Model		R	R Square	adjusted R Square	F					
First village Aboutcht	Age	0.258	.0670	0.101	14.419**					
First step										
Second step						Oppor to act	0.307	.0940	4.63	10.461**
Third step						Trust	0.421	.1772	8.52	9.039**
Fourth step	opining	0.511	.261	-6.41	8.940**					
second village Keft										
First step	Oppor to act	0.387	0.150	0.128	27.027**					
Second step	age	0.482	0.232	0.189	22,241**					
Third step	Open	0.516	0.267	0.160	17.683**					
The constant of the first equation = -2.361										
The constant of the second equation = -8.169										

Source: analyses of field survey (2005)

**Significant at $\alpha = 0.01$

The study also showed (Table 2), that there are four independent variables contributed significantly to interpret variations in the levels of participation among young rural in Abotecht, that model significant until the fourth step, when F value 8.94 is calculated at the level of significant 0.01, these variables are: age, opportunity to act participation, trust, and the opening to the outside world. as the correlation coefficient is 0.390 multi significant at the level of 0.01 and a significant factor specifically (R2) 0.251 This means that the independent variables of nature relating to the previous three due to the 25.1% of the variance in the dependent variable is the official social participation.

In the other area of study- left- the model was significant until the third step, as the value of F is computed 17.683 on the significant level of 0.01, this means that there are three independent variables contributed significantly to interpret variations in the levels of social participation of official status among young rural towns and these variables are: informal social participation, age, and openness to the outside world, where the correlation coefficient is 0.516 multi significant at the level of 0.01 and a coefficient determination (R2) 0.267 This means that the independent variables of nature relating to the three former attributable to 26.7% of the variation in the dependent variable a formal participation, and 63.3% is attributable to other variables not included in the study. Given the most influential factor, we will find that the informal social participation is the most influential accounting for only 15%, while the other two variables together only 11.7%.

The T test pointed out that there is no Significant difference between degrees of social participation in each of two study area that the value of T measured 3.348, which is greater than the value of " T "at the level of significant spreadsheet, which was 0.01 (2.57).we can return that to the level of level of development even there are difference between the two are this is not very high, and the general norms and tradition it seems very similar.

According to this result we can focus in our discussion on specific points to understand and interpretative the result with comparison with the other studies in the same field;

- the gender: there is significant relation between participation and gender, where freedom of movement and visits and attend the meeting not available for females in the villages of the study specially in upper Egypt the movement of women is limited. This result agrees with both (Shawki, 50: no), (Fahmy, 1998: 241), (drunk, 1993: 73).
- Marital status: we can be ascribed significant relationship between marital status and informal participation status to unmarried represent perhaps inclined to participate in informal activities, and this is consistent with the results (Fahmy, 1998: 242), (single, 1991: 17).
- work status: can we explain the relationship between participation and the practical case that workers more open and have the ability to move and participate even the unemployment have the time to participate their attitude and anatomy status push them to refuse all the activity specially that almost of it depend on the stat (Fahmy, 1998: 243).

- Age stages: can be ascribed significant relationship between age and social partnership to nature of the rural communities, as the age is one of the key components of social status and thus participate in the informal increase rise with age, although they generally low but the adults are control and manage the organizations and therefore marginalization of young people expected from them. this result agrees with the findings of the (Alserji, 1983: 286), (Fahmy, 1998: 248), (Abdullah, 1991: 27-28).
- Educational situation: there is no correlation between the educational and participation this is very interesting result it show how the education context is low from local needs as all the education materials and methods come from the central management in Cairo and it doesn't have at all any community activity or encouraging the participation, in addition to the memorials system and individuality support with loosing to team work activity even the education upgrade the awareness of the people it doesn't enough to push them to participate.
- Opening to the outside world: there can be explained by Significant relationship between openness and social participation official suggested that the more openness to the world capita increased ability to communicate effectively and watching foreign born while on the move with a desire to improve the society in which he lives, and confirms the same result reached by the (Imam, 1986: 41)

CONCLUSION

Coming back to our result of research which offer some interesting remarks in order to increased the level of youth participation in development, group discussions have show that the opportunity for youth participation are high if we mansion the youth suggests in account during planning the development programmes, we suggest some idea which would develop the youth participation in rural development, these recommendations, where the study confirmed pared distracts study and contains proposals set points especially actors and decision makers to participate in society and those makers are: the State, socialization institutions, and non-governmental organizations, natural local leaders. The following are the proposals of each party. First: State suggests that the following steps;

1. Decentralization: this problematic propos in Egypt from The State is the actor first and often only in the making at all levels, if the proposal young people themselves to participate be given the power of decision-making can produce that without a legislative change in the local administration law, The trend towards decentralization seriously by the local community does not have the resolution can not necessarily give young people the ability to make their own decisions.
2. Supporting a culture of volunteerism: This role can the State advancement in large part due to the possession of a media giant with the observation of the differences is the use of local portals appropriate subsidiary distinctive cultures of the various regions in the preparation of promotional programs and advertising campaigns, education and the issue is linked in one way or another decentralization.

Secondly: institutions of socialization. the socialization and ethical through (home, school and mosque) and upbringing are planted seed for the formation of a tree and community participation, policies and community adult who is the nurturing and growth and death, or miscarriage. Therefore, the study suggests that the integration of the three points in order to create a sense of participation owns generations, through family participation in local organizations, and to pay their children's work service and volunteerism, the school also could do local surveys and field studies and days of public service by students and teachers help stimulate the founding families and service groups such as the issuance of the newspaper example, or the establishment of the work for the village noted here that the local component is completely absent in the educational content, The mosque, there is no doubt that it has the weight of social and Significant influential especially in the Egyptian village which can play through the advocacy of volunteerism and holding symposiums and meetings and encouraged domestic action because some of the growth phenomenon of terrorism among the students out.

Third: the NGOs must start focusing on local initiatives when Ice individuals not caring institutions including the State establishes them, and on the other hand, organizations and associations to do the work of a package of programs that meet the needs of the community, and doing media campaigns to promote programs and disseminate the principles and ideas via the local population, for example in a study suggests young people themselves range of programs, namely:

- the basic skills necessary for the labour market-lifting leadership skills and industry- resolution analysis of local needs and development planning in addition to the programs that would support the production of local partnerships between adults and young people and these programs are:
- Effective communication skills-building trust between generations-building task forces and take into account these programs involve young people of both sexes, and don't marginalization the poor, and all the institutions working village, and members of local councils, and members of the development committees, what attract youth to take organizations through recreational activities and programs that are dominated by work and adventure and interactive methods.

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“Organizing Capacity of Territorial Actors in Medium-sized Cities”

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Abstract: We are interested in the capacity of organisation and the difficulties to create networks of actors in medium-sized cities that receives a station of High Speed Train (HST). HST is constructed mainly to serve big cities, but it is also an opportunity to create interesting processes local development in those territories between big cities. Local actors can play an important role in it. We study three cities through the application of a new metrology to evaluate the degree of local development that HST supposes.

1. INTRODUCTION AND STATE OF THE ART

In a globalized world, more territorially competitive, big cities expect to receive great events to prosper, as Olympic Games, Universal Exhibitions or International events. Intermediate or medium-sized cities, however, have to trust in other events to progress, as «High-Speed Train» (HST). Really, many medium-sized cities expect this great infrastructure of transport to allow them to make a considerable qualitative jump in their economy, city planning, territorial position and quality of life. The interest in this field has taken us to investigating to what degree HST drives to processes of local development.

We understand local development as the process that increase and reproduce, in the long term, local resources, material as well as immaterial, from the implication of the collectivity (Feliu, 2005). Likewise, local development presupposes the activation of explicit and implicit factors. Explicit elements would be those essential characteristics of the city and its territory for development, which one can describe, enumerate and detail objectively «from outside», from an exterior point of view. In the case of HST, for example, we can determine that the existence of an important contingent of qualified population, a powerful economic sector or a significant cultural patrimony are factors of success for the new infrastructure. But these factors are not the only ones to take into account. Also implicit factors, those that are gestated «from inside», from territorial agents and their relationship with resources, are fundamental. They are difficult factors to systematize and configure the particularity of every urban context, that what some call the «genetic code» of every city (Rabin, 2002). These implicit factors are established in the relationship between local actors and the contract that leads to the local project of development.

HST is a French invention developed in the 60s and 70s of the 20th century. French government defended the creation of a new fast and efficient transport system to join main cities of the country. On the other hand, they wanted to make use also of the existing train system to prevent important costs that could be caused. This way, the *Train à Grande Vitesse* (TGV) was born, a train that would circulate to more than 250 km/hr in the new train lines and at less speed by conventional ones: it would be as «Clark Kent in the conventional line, and Superman in the special lines» (Lolive, 1999). The first TGV line was inaugurated in 1981 between Paris and Lyon. Rapidly, it was proved that it was very profitable and that it could extend towards other directions, always from Paris. Seeing French success, other European countries were added to the adventure of High Speed: Italy, Germany, Holland, United Kingdom and, in 1992, Spain. HST network was considered from the European Commission as a Trans-European Network of Transport.

As HST network kept extending through Europe the need to connect smaller cities, those situated among big cities, was made evident. First, these stations were placed in the periphery, but medium-sized cities asked for more centric stations, urban stations. The rulers of these cities thought that HST could provoke processes of economic and social development. That is, that they could entail «positive effects» in the territory.

At present, after some years, we can make balance of socioeconomic effects of this transport infrastructure in the intermediate cities. Numerous investigators that have worked

in this subject are not too optimistic about this (Martí-Henneberg, 2000; Bellet, 2000; Rabin, 2003; Plassard, 2003; Feliu, 2006a). From the study of different medium-sized cities as Mâcon, Montchanin, Valence, Aviñón, Le Mans, Mannheim, Utrecht, Ciudad Real or Puertollano, authors determine that HST does not contribute, by itself alone, to economic growth of the city. In any case, HST speeds up those socioeconomic and territorial processes that were already taking place before its construction. HST, therefore, «moves what was already moving», and hardly provokes automatically some new effects in economic and social structure of cities.

In relation to this, many authors had already criticized socioeconomic concept of «effect» of the High-Speed Train (Offner, 1993; Plassard, 1997, 2003; Joignaux, 1997; Burmeister and Colletis-Wahl, 1997; Governa, 2001; Miralles 2002...). The effects of any infrastructure are usually described as direct effects and indirect effects. First ones happen in the short term, and entail a greater mobility of population, a greater activity of the station or an increase in the expectations of the city. They usually take place in a similar way in all the studied cities. However, indirect effects, those that are produced in the half and long term, are usually different according to every city. In some cases, station area has entailed an increase of state prices, in others not. In some places, new infrastructure has entailed the change of use of residence to tertiary (offices), but in others not. The conclusion closes that great infrastructures in general, and HST in particular, do not generate same socioeconomic and territorial effects in different cities. That is, that «effects» of HST are not foreseeable in terms of cause-effect relationship.

This fact shows that territory is a complex phenomenon. It is formed by places, cities, regions, configured in a historical way through social relations and their material and immaterial resources, and they answer differently to external stimuli. As Dematteis (1985) explains, «the land turns into territory when it is means of communications, working object, production, exchanges, cooperation». Thought this way, territory can not be observed as an abstract space, simple and foreseeable where some determinist relations of cause-effect are produced, as those that are described many times with High-Speed Train. It has to be thought in another way, for example, as a complex system.

Indeed, a way to face the study of the city as a complex phenomenon, and its relationship with HST, is the systemic theory (Maturana and Varela, 1984; Conti, 1996). We can see the city as a complex system, as a set of subjects and elements that interact between themselves. And we can see HST also as a transport system. The relation between both systems will not be, therefore, of cause-effect, but a mutual adjustment («structural coupling»). Transport system will affect the city, but it will not determine its behaviour.

So, which are the elements that play in a process of local development for a city? Many authors think that the answer is in the subjects, in the economic and social agents of the city (Berg and Pol, 1998, Pol, 2002; Plassard, 2003). If local agents -government, enterprises, University, Chamber of Commerce, business, environmental and cultural associations, etc.- are organized adequately and they create joint strategies to make use the advantages of HST, development improvements will take place. If strategies are not created, the expected effects will not take place. And more, it's necessary a perception of HST as an endogenous resource for the city. It is necessary that local agents understand it

as a way of promoting their own resources (Pucci, 1996; Governa, 2001). If it is not like this, the only ones that will make use of the new infrastructure will be a few agents, many times external ones.

All these reflections relocate the debate of local development towards the political arena. That is, that one of the most important elements for the local development will be the planning, or more precisely, how local agents are organized to plan strategically the utilization of HST, and how local agents interact with other agents for the location of the station in the city. Therefore, we will have to determine which is the organisation of the internal local network and which is the dynamic of multilevel government at national and regional scale.

For this reason it's necessary the creation of a new methodology that takes several elements into account. In the first place, technical conditions will have to be analyzed, as which it is the location of the station, -centric, peripheral, semiperipheral-, which are the urban characteristics of the city and the station neighborhood, which are the economic potentials of the city. In the second place, it will have to be studied how local actors are organized and which planning dynamics has occurred among different levels of government.

This last exercise of analysis and diagnosis (the organization of territorial actors), is the one that has been extended in this research for three medium-sized cities. The chosen cities have been Lleida, Avignon and Novara, situated respectively in Spain, France and Italy. The three cities are considered as medium-sized by several reasons. In the first place, for the dimension: they are about a hundred thousand inhabitants. In second place, because the functions: they are intermediaries between the big city and the territory. Finally, because they have an identity of capitality, institutional thickness and historical roots that configure them as territorial service centres. Another common element is that they are located in the European Mediterranean Arc, a dynamic space in process of growth.

Finally, it has been wanted to analyze which are the issues that affect specifically intermediate cities in relation to the organization of the actors implicated in HST planning. For this reason a transversal reading of the three studied cases has been elaborated showing the fields where problems of organization of this kind of cities.

With this research, we want to deepen in the processes of organization of actors who allow processes of local development, especially in this urban context (the intermediate city), that sets off from a situation of weakness in aspects of governance.

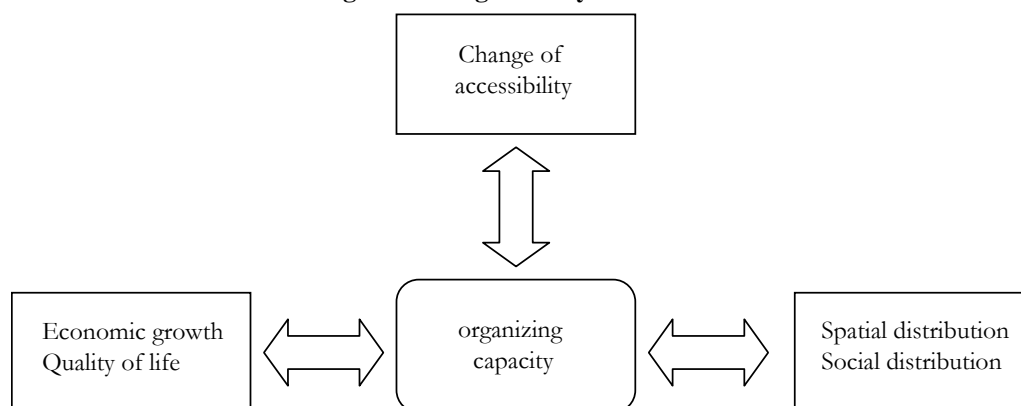
2. METHODOLOGY

To evaluate the degree of local development that HST involves has been configured a methodology that, from qualitative and quantitative information, analyzes, firstly, technical characteristics of the intervention (objective factors) and organizational characteristics of the agents (subjective factors). These last one divide into internal and external interaction of the actors. In the second place, a concluding reading that evaluates the process and the product of the introduction of HST in the city from the Territorial Local System (SLoT) as instrument of analysis is carried out.

An interesting model that allows analyzing the interaction of such objective and subjective elements is that configured by Dematteis (1995) and that it's called Territorial Local System (SLoT), defined as "a group of reciprocally interacting bodies which, as a function of their specific relationships with a particular environment or local *milieu*, behave, in certain circumstances, as a collective body" (Dematteis, 1993, cited by Governa, 1997, p. 40).

Then, methodological referents who have been used are two. The first is Dematteis (2003), who elaborates a methodology for the analysis of SLoT. The second is Berg and Pol (1998), who analyze the capacity of organization of 14 European urban areas with HST. They use a double methodology. Firstly they obtain information from interviews carried out to different stake holders, as local and regional authorities, chambers of commerce, etc., to acquire valuable qualitative information. Afterwards, they carry out an analysis of every city following a schema that tries to cover the complexity of each city, a schema that leads to an «integral analysis». The criteria that are considered for the analysis (figure 1) are six: Change of accessibility, Economic Growth, Quality of live, Spatial and Social distribution of the activities and, joining all together, Organizing capacity.

Figure 1. Integral analysis of HST.



Source: Berg and Pol, 1998, p. 9.

One of the studied aspects by Berg and Pol (1998) is the «organizing capacity», a substantial condition for good implementation of HST into an urban system. It is considered fundamental because it comprises the interests of implicated actors and it allows the optimum use of knowledge, work and capital. Organizing capacity is defined as:

“The ability of those responsible for solving a problem to convene all concerned partners (public and private, internal and external), in order jointly to generate new ideas and formulate and implement a policy that responds to fundamental developments and creates conditions for sustainable economic growth” (Berg, Der Meer y Pol, 2003, p. 1.961)

So, we can synthesize the suggested methodology in the next schema. In the first place, it's needed the elaboration quantitative and qualitative information. Interviews to local experts in this field of study is considered important for qualitative information. In the second place, information is ordered following the first part of the schema, which comprises two

ways of observing the characteristics of the city: technical characteristics of the intervention and organizational characteristics of the agents. The sections of this analysis are subdivided like this:

Technical characteristics of the intervention

Aspects of transport system

 Territorial position of the city from HST

 Characteristics of HST station

Aspects of urban intervention

 Urban model to urban scale

 Urban model to station scale

Aspects of the economic planning

 Different economic projects of the city related with HST

Organizational characteristics of the agents

Capacity and typology of external structuring

 Supralocal agents and their projects

 Degree of conflictivity and cooperation between local and supralocal agents

Capacity and typology of internal organization

 Capacity to create a city project from HST

 Agents that take part in local project and their dynamics

 Territorial area of the projects

Finally, a concluding reading that evaluates process and product of the introduction of HST in the city from Territorial Local System (SLoT) as instrument of analysis is carried out. The schema is the following:

Evaluation of the territorial process

Network of local actors

Range of actor's network

Functional Cohesion

3. CASE STUDIES

This methodology has been applied to three medium-sized towns of the Mediterranean Arc: Lleida (Spain), Avignon (France) and Novara (Italia). They are all cities with HST, of about 100.000 inhabitants and near to important metropolises. We show here the synthesis of their situation.

The first case is Lleida (118.000 hab.), situated in the northwest of Catalonia. It has a central High-speed station. When the train is going to operate completely it will place the city at 50' of Barcelona and at 2 hr of Madrid. The arriving of the AVE (*Alta Velocidad Española*) in Lleida was taken for pretext to improve intermodality of the station, urban characteristics of the quarter and economy of the city. The most of performances were

configured from a strategic plan called «*Pla de Dinamizació de l'Alta Velocitat de les Terres de Lleida*» (www.lleidatav.org). It was driven by the Chamber of Commerce, the Town Council, the Regional Government, the University and other institutions of the city. The Plan managed to create positive dynamics among the actors and to assert –with other plans– a local project capable of making use of resources of the *milieu*. The matter came from the negotiations with the central government. Although were obtained –with many difficulties– certain investments in the main station, the lack of dialogue provoked also the loss of an opportunity for Lleida: the refusal of building the second station on the by-pass. This affects negatively the development of the Technological Park and the development of the model of city considered in the last General Plan.

The second case is Avignon (89.500 hab.), in the French Region of *Provence-Alpes-Côte d'Azur*. The semiperipheral TGV station places the city at 30' of Marseille, 1 hr of Lyon and 2 hr 30' of Paris. The decisional process of the HST route in Provence and the location of the station in Avignon were long and troubled (between 1989 and 1995). It provoked a great protest of local agents and severe internal tensions between municipal government and local environmentalist groups. Everything flowed into the change of political majorities in the government of the city and of the Department. The new government did not have any project of development for the new quarter of the station –and this would be one of the causes that no performance has been carried out around the TGV station yet. For this reason, the project of Courtine was ordered to an external institution, without too much leadership of the local governments. The result has been a Plan for the quarter where it's suggested a «*Cité de la formation*» –a new space with centers of seminars, congresses, etc., for the permanent training of workers. The Plan foresees also the construction in the sector of some hotels and logistic equipments.

The last case is Novara (102.000 hab.), in the Italian Region of Piemonte. The HST station, central, will place Turin at 30' and Milan at 15'. At the beginning, there only had to be a single station HST in the city, at the historical station. But finally, for pressures of the biggest cities, a second station will be built in the outskirts of Novara, in the by-pass, to prevent to pass through the town center. The investment of HST was taken as an opportunity to remodel all the train system of the city, to restructure urbanistically the degraded neighborhoods around the station and to locate next to the station the two large equipments that symbolizes the economic specializations of the city: the Technological Park of the chemistry and new materials, and the CIM (a logistic center). The second station will be placed in the outskirts and allow connecting cities as Turin with the airport of Malpensa directly, although it will take potential of transformation away from the central station. Local government did not agree with this decision, but they could not take part in the negotiations where its accomplishment was decided.

3.1. Transversal reading of the cases

From the transversal reading of the cases of study we can extract some ideas concerning to the organization of territorial actors in relation with new rail infrastructure.

Multi-scalar conflictive relationship

Three scales of performance (that correspond to three interests groups or three levels of projects for the High-Speed Train) can be distinguished: national, regional and local. At the national scale, represented by the state government and rail companies, HST is considered mainly to join and articulate biggest cities of the country, giving preference to the most direct and efficient lines. At the regional scale, represented by regional government and big cities, predominant interests are those of the articulation of regional territory giving priority to the interests of connectivity of bigger cities. Finally, to local scale, represented by local agents and medium-sized cities, interests are in the positioning of medium-sized towns in the territory and its local development.

In this context, local scale is the one that is in a weaker position, but it is, at the same time, the one that can produce better processes of local development. For this reason, and because of the existence of several territorial interests, local actors must take an active and propositive role, even of leadership, in front of other scales of decision, in front of attitudes of constrained government of superior levels (national, regional).

Contained local network of local actors

The network of local actors that lead transformations usually correspond to a few actors and very institutionalized ones. On the one hand, municipal government is the one who usually leads the network, especially because the station is located into the municipality, it has urban competences and it has internalized -when it has leaders with vision- an economic and social model of the city.

Another actor is the «territorial administration» (province, department). This actor gives territorial legitimacy to the project, as well as representativeness of smallest municipalities (which don't usually take part in the network who decide the project). Territorial administration usually maintains certain relationships of conflict with municipal government, which are not always of political character, but due to the competition between both administrations.

Chambers of Commerce and Universities (all of them present in the studied cities) are the other two actors that use to be involved in the project of transformation, together with many other actors (enterprises, business associations, other municipalities, citizens, etc.). Usually, implication of other actors is made difficult because the few mechanisms of participation that institutions are endowed and for the fear to solve the conflicts that rise up among internal actors.

Difficulty to go beyond the municipal area

In territorial terms, the difficulty that entails an urban project that goes beyond the strict municipal limits of the city is confirmed. In spite of supramunicipal arguments, reality is that small municipalities that limits with the city, and that many times have elements in common (industrial estates, neighborhoods, stations, areas of growth...), do not take part in the core of actor's network.

On the other hand, it's difficult to think that this dynamics changes by itself if doesn't appear superior administration initiatives that produce supramunicipal planning with some real contents.

Crisis and project capacity of the city

A close relationship between the needs of the city to be endowed with a new local project of development and the exploitation of HST occurs.

Cities that have been highlighting situations of economic or territorial crisis in the last years or decades are those more activated to benefit from new situation in the network of cities and those more able to make use of the new station to carry out new urban projects, in economic and urban terms. Often, these projects already existed before the arrival of HST, but they could not be carried out because the high cost or the lack of consensus among the actors. HST, in these cities, acts as a revulsive, a sparkle that lights a new historical stage of the city.

Difficulty to extend HST profits to the territory

One of the goals for the construction of the new infrastructure is the extension of profits to the rest of the territory. Benefits should not be concentrated only in the city where station is located. They should be also a factor of development of other regional towns and other spaces that are not exactly near to the city.

The establishment of alliances with local actors of other cities and next territories can be a recommendable policy to extend HST profits and to give activity and sufficient critical mass to HST station of medium-sized city. These alliances should go accompanied with a system of physical, strategic and territorial planning to different scales: station, municipality, urban area and territory.

4. CONCLUSIONS

The methodology elaborated to study the organization of territorial actors allows the analysis of the most important subjective (or implicit) components in the process of local development from High-Speed Train. But we should remember that the analysis of objective (or explicit) factors is equally essential, even if in this text they have not been described deeply for reasons of subject and extension.

Presented methodology acts in accordance with two phases. In the first place, it tackles the study of technical characteristics of the intervention and organization of the agents. In the second place, from this information, it interprets the process of local development that provides the introduction of new infrastructure in the urban context. The process of development carried out in the three analyzed cities shows us organizational differences in the Spanish, French and Italian contexts, differences that correspond to more or less hierarchical, or more or less formal schemas of planning.

But the analysis also shows us many similar elements among the cases. In all of them, intermediate city appears as a very weak actor in the relationship with other implicated actors in HST planning. In the first place, intermediate city plays a fragile role in the

process of decision of HST at multilevel scale, when, in fact, it is the best positioned actor to lead the processes of local development. In second place, the reduced dimension or critical mass make more difficult to store a powerful network of local actors with capacity of influence. In the third place, and as consequence of the previous realities, intermediate city is more sensitive to local conflict that rises up with the project of development. In the fourth place, the problem of improvement of municipal limits is confirmed to establish a greater area for the project -a question that has been an objective in some countries as France, but without too many positive results at the moment. In the fifth place, it's observed a close relation between the sense of crisis of the city and the will to reinvent itself with a new project of development. Finally, the last but not the least, it's confirmed also the difficulty that other territories or next cities can make use of the arrival of HST for their own development. Then, the capacity to create regional development is lower.

Probably, not all the problems that affect intermediate city have solution, or it exists in different degrees. But many problems are originated from the lack of a correct organization of local actors. We can distinguish, besides, both areas where this organization is deficient: multilevel relationship among the different actors, and among local actors themselves. In both cases, organizational improvements can be produced in the line of what many authors call the change of a process of government to a process of governance (for example, Governa, 2002). This way, we can talk about actions addressed to external and internal governance. For correct external governance, supralocal institutions must favour dynamics of dialogue and negotiation. They must also favour instruments for adequate planning at the urban area scale and the adequate management of intermodality at regional scale. For internal governance, local actors must follow some guidelines: taking an active and propositive role facing other scales of decision; establishing a wide network of local actors, with specialized roles of different actors; increasing the degree of real participation of different agents; and seizing the opportunity that HST represents to carry out substantial changes, or to reaffirm own development axes in the model of city.

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“Natural Desastres and Intelligence in Latinamerica”

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Abstract: In this communication it is analysed the state of the question of the territorial intelligence in Latin America specially related to the natural disasters clarifying that though the high frequency of catastrophic events would suppose a major determination of the different governments of the region for knowing these natural processes to mitigate the effects in the population and the infrastructures, still prevail there the economic interests that take politician and possible investors to keeping one nebulous with regard to the application of the multiple studies of technical personnel and scientist who exist on this topic. Still it gives the impression that for a wide sector of the population of Latin America. The simple mention of studies related to the catastrophes is considered to be an attempt on the development, and what is obtained finally, is that there are realized investments that can manage to get lost in the short term for lack of forecast. To settle this problem there appears the need to obtain a real communication among scientists, politicians and the citizenship in order that the future actions on the territory are consistent with the dynamic American nature.

1. PRECEDENTS

The high frequency of earthquakes, tsunamis, volcanic eruptions, removals in mass and climatic processes with characteristics of disasters that affect to Latin America does that its study and impacts in the population it is an unavoidable question in the territorial planning's of the most vulnerable zones; nevertheless, the reality is that at present the territory deals without considering studies on the natural disasters, not because they do not exist, but because, in general, they give priority to the economic interest, before that the improvement of the quality of life of people and less yet, the protection of the environment. In this vast region of the planet, it is stills planned in the short term, for particular or electioneering interests and there exists a real sloth of the political class to confront this so dynamic nature witch they must coexist, not only them but all the American citizens.

On the other hand, a question in which you can be sure in this region of the planet is that in any moment, it might generate a catastrophe, especially in the Circumpacific sector; and if repeated some of the natural processes with characteristics of disasters that have happened during the last five hundred years, the consequences would be devastating. In this respect, the historical and geographical documentation gives testimony of the intensity with which the forces of the nature can manage to act on the coast of the Pacific one generating geological combined processes that have managed to have catastrophic consequences for the people and the countries in which have happened; an example of the previous thing is the series of earthquakes, volcanic eruption and finally the tsunami that devastated the South of Chile between the 21st and 22nd of May 1960.

2. PRESENT-DAY REALITY

When the figures of disaster are analyzed in Latin America it is possible to have the impression to simple sight that they frequency of this type of natural processes is increasing as it is insinuated, sometimes, in the mass media of masses; on one hand, nowadays, it exists a major information at all the events in real time and on the other hand, what happens is that everytime this territory –as the planet I general- is more populated and the human emplacements are realized in inadequate zones as consequence of the shortage of policies territorial planning or the urban development speculation that begins to be habitual in many sectors, to the detriment of the civil safety badly called “natural disasters” often obey to human reasons to the wrong decisions of a certain society, undoubtedly, the nature is the origin, but it is not the reason of the catastrophe. If the citizenship knew this reality, is would be more complicated for the governments and the administrations to try to convince them that a “disaster” cannot be avoided and would take the desires from them of hinting in the 21st century that these things happen for divine plan.

Considering the previous thing, it is evident that the fluid communication among investigators, politicians and the citizenships should be a regional priority, since any omission in this respect will reverberate negatively in the reached development. This way, though the studies of the scientists are perfectly detailed or the politicians raise in their

programs of government different strategies of prevention before eventual natural catastrophes, if the population is not educated adequately the application of any plan of action it will be a Utopia.

Of that social agents operate as a whole it becomes the need increasingly evident of having analyzed the failures committed in the last catastrophes in Latin America, as for example in the eruption of the Nevado del Ruiz in Colombia (1985) that had a balance of twenty – three thousand dead people. The earthquake that devastated Mexico D. F. (1985) with an indeterminate number of died people that ranged between the ten thousand and thirty thousand; the hurricane Mitch, that devastated wide zones of Central America (1998) and stopped more than eleven thousand mortal victims and approximately eight thousand missing people as consequence of the slides and floods and among other cases there can be mentioned the collapses due to torrential rains in Venezuela (1999) where they registered about twenty- and fifty thousand dead people. To everything else, it is necessary to add the loss thousands of dollars due to the damages in infrastructures that provoked these catastrophes, certainly hardly called “natural”; it meant for these regions –already enough depressed economically – a delay difficult to overcome in the short term and for the governments to have to have to dedicate few available resources to the reconstruction, instead of destining them to improve the life of their citizens.

In the previous cases, it has only been considered the events of a great magnitude, but every year the negligence's are repeated and small efficiency of the administration in natural processes that do not manage to affect a numerous population, but not for it they are not important. Really, these events should be useful as training in positive of the population and of the administration, in order that when they really need to act with rapidity and efficiency to save their lives, they know what they must do.

Another topic that has a direct relation between territorial intelligence and natural disasters in the reconstruction of damaged zones, specially, for earthquakes, floods and removals in mass. The history of last five hundred years says to us that the areas affected frequently by this type of natural processes have continued filling and being exploited economically doing that the problem transforms in an endless chain of blunders. The movement of American cities affected by earthquakes and floods of great magnitude, really, it has not been considered to be a viable possibility due to the costs; but at least, the reconstructions would have to be realized considering the pertinent measures of safety. At present there exists a real knowledge of forms of surer construction, but the governments do not dedicate the capital necessary for this purpose, allowing, in most cases that the private investors should lead the labours of building.

The worst of the present situation is that we cannot consider being any Latin American country as a model in the managing of the natural disasters, since though suitable personnel should exist so much of civil defence, scientists and qualified technicians the failures repeat themselves constantly. Undoubtedly, the condition of the social and political maturity and the own mentality can be the points of item to understand many blunders that if they were settled in some form might lead to a way with some hope for the future.

3. FINAL COMMENTARIES

Before this general panorama, a possible realistic solution to this problematic –though not for it less complex leading to effect- is the education of the politician and of the citizenships in order that they collaborate in the development of the plans mitigation and emergency before eventual catastrophes and of land management. Undoubtedly, they must take advantage of the moments of tranquillity to organize all these activities and to forget the alarmism and the speculation. To deny the evident thing has been one of the main causes of catastrophic situations in the nearby past, which they have prevented the sustainable development and continued in the time of the most affected countries in the Hispanic America.

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WORKSHOP 6. PARTICIPATION AND GOVERNANCE (EXPERIENCES)

***“Influence of the Contexts and Associative Organisation on the
Implementación of a Follow-up System of Users’ Itineraries”***

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Abstract: Define and mutualise the conclusions linked to the place and influence of the contexts (external) and organisation choices (internal) on the development and implementation of an observatory of handicapped people, online system of administrative information, and of the individual process of their socio-professional integration itinerary.

1. PRESENTATION OF THE WORKS IN PROGRESS AND OF THEIR OBJECTIVES

The processing of the asked question is fed within the adapei of Besançon by the observation and analysis of four experiences, either internal or led in partnership, of design and implementation of observatories of insertion itineraries of handicapped people, cooperative tools of evaluation firstly in network and then online.

These tools firstly aim at memorizing the users' situations and the actions that are linked to them and at allowing an objective observation of their characteristics, also imposed as means to quantitatively and qualitatively evaluate the itineraries evolution and the quality of the care plans, in relation with the individually determined objectives (for each user) or the collectively determined ones (for a structure, an activity sector or the whole association).

This issue, which is in the heart of the adapei of Besançon present, is being processed in several external and internal framework: legal, financial, normative, participative. The partial conclusions remain linked to the present phase of the development of a final tool called OSUA (1000 users are concerned).

2. PRESENTATION OF THE CHARACTERISTICS AND CONSEQUENCES OF THE (EXTERNAL) CONTEXT REQUIREMENTS

2.1. Legal context: law 2005-102 called «law handicap»

It details the framework of the equal rights and equal opportunities, of the handicapped people participation and citizenship by answering three objectives:

- Guaranteeing to the handicapped people the free choice of their own life project thanks to a compensation of the consequences of their handicap and a life income that favours an autonomous worthy life.
- Allowing them an effective participation to the social life thanks to a city organisation according to the accessibility principle.
- Putting them in the heart of the devices that concern them, by replacing an administrative logic by a service one.

Until today, that is to say three years after the adoption of this law, all the decrees linked to it are not published yet.

2.2. The associative policy answering the law

2.2.1. The associative project

To meet the law spirit, at a first global level, the adapei of Besançon drafted an associative project that details its policy, it indicates:

- values that are shared by all the structures of reception and care plans of the association as regards the users (paper and role of the handicapped person within the

Society, rights recognized to any person, citizenship, search for autonomy and equal opportunities)

- services projects, whatever the concerned activity sector, to meet needs at all the life ages and to guarantee a global individual project...
- its ambition to provide a quality performance by a dynamic management of human resources, a continuous improvement step and a commitment in research, innovation and communication
- the implemented evaluation method, whilst respecting the texts that define the persons' rights, in conformity with the law 2002-2 and with the orientations adopted in general assembly, by taking into account the users', financial backers' and staffs' satisfaction.

2.2.2. The establishment project

Moreover, in a second level that is specific to each activity sector, establishments' projects are drafted.

They are inscribed in an improvement process of the social and medico-social offer as at the external as at the internal level, by describing according to the law terms their adhesion to:

- a quality step
- a changement dynamics
- a participative step
- a prospective and strategic vision
- a global and coherent approach with the social and medico-social organisation.

2.2.3. The Beneficiary Accompaniment Project (B.A.P.)

Lastly, at the user's individual level, the association designed an accompaniment method also to meet the law orientations: any person who has a handicap and who integrates one or several structures of the adapei of Besançon, benefits from the implementation of a personnalised global accompaniment project.

Transversality and global aspect of this project require a coordination function so as to guarantee the coherence of the actions offered by the reception structure(s). Whilst taking into account the specific involvement according to the activity of each activity sector the cared person benefits from, it is the sector in charge of the social follow-up of the beneficiaries that is in charge of the coordination of the global B.A.P.

The BAP includes three main phases:

- an observation time,
- a period of project drafting,
- its implementation.

This method includes regular questioning that allow adapting the actions that were initially decided.

2.3. The law 2002-2

It renovated the social and medico-social action in France and deeply transformed the organisation and functioning rules of the establishments and social services; it appeals to financing from the public community.

Its main dispositions are to:

- Guarantee the rights of the social and medico-social institutions users’;
- Adapt the mission of the social and medico-social action to the society evolutions;
- Improve the management modalities as the medico-social planification, the authorizations system as well as the coordination of the social and medico-social actors.

Indeed, the law 2002-2 determined new rules linked to the persons’ rights by reasserting the users’ preponderant stead; it wants to promote their autonomy, protection and the exercise of their citizenship.

This law, which includes 87 articles, requires many application texts, even if many dispositions are immediately applicable. Until today, that is to say almost 6 years after the law adoption, all the decrees linked to it are not published yet.

3. THE EVALUATION OBLIGATION AND NEED

These two laws, as well as the political choices of the association, imply a systematisation of the individual evaluation of the users’ itineraries or of the institutional practices, of the financial management of the establishments but also of the person’s real needs...

A «National Guide of the Internal Evaluation» was drafted by the French National Commission of the Social and Medico-Social Evaluation; it details that by January, the 1st 2009 the establishments should produce the results of their internal evaluation, and by January, 1st 2011 the results of an external evaluation.

Four missions of the association are evoked, they represent the fields to be internally evaluated and which heart is then detailed through 15 functions to deal with, what shows the depth and the complexity of the system to be implemented to reach an evaluation that is useful to get the objectives determined by the laws. They are the following elements:

- the establishments projects (in relation with the identified needs, the assigned missions, the project stead in its institutional organisation)
- the relations establishment/environment (integration in the territorial context, opening towards the environment, accessibility)
- the organisation of the establishment means (human resources, work organisation, environment, financial resources, information system)

- the beneficiaries' right and the provided performances (rights respect, users' and representatives' participation, personnalisation of the intervention, users' security and risks management).

Until today, and since the beginning of 2007, the works of the National Commission have been continued by a French National Agency, also called "Well-treatment Agency", more organised than the initial Commission.

It did not provide its complementary recommendations as regards the elements to be evaluated.

4. PRESENTATION OF THE CHARACTERISTICS AND CONSEQUENCES OF THE (INTERNAL) ASSOCIATIVE POLITICAL CHOICES

4.1. Quality step and certification ISO 9001 version 2000

To meet these constraints, the association made the strategic decision to internally implement a quality step on the basis of the reference ISO 9001: 2000, that aims at giving an organisation pattern of the resources, activities and means to continuously improve the users' and professionals' reception and care plans conditions and at giving to the wardship organizations a better visibility of the led actions.

The drafting of a quality step facilitates the evolution of the association in its environment by allowing it organising its policy based on evaluation, actions coordination and competences transfer in a common framework.

The certification ISO 9001 has been got for all the association since January 2007, thanks to the obtention of a certificate for each activity sector (6 sum-total).

As regards the systems organisation, the norm lists fields in natural relation with those that are imposed by the laws 2002-2 and 2005-102, especially in the framework of the internal evaluation obligation.

The need to have a global tool to gather and process data about the users is confirmed at this stage.

4.2. Users, association professionals and external partners active participation

If the association vocation is to bring the necessary help to the mentally handicapped people with the support of their family or representative, of a governing body made up by friends and parents, of professionals, the global quality step is the element that allows meeting these internal requirements that respect the legislative framework and more particularly the law 2005-102.

It demonstrates the association political will to include these actors in the association performances, functioning and innovation.

To manage this, a coordination, a decision body and a group of referents coming from all the association structures were created, they are in charge of leading the projects.

The strong involvement of these actors in the formation and personal reflexion at all the association levels allows leading to the formalisation of common or specific processes adapted to the practices reality and will be used as a basis for the internal evaluation.

This global and participative approach guarantees at the same time the respect of the handicapped people specificities and the reflexion cohesion at all the association levels.

The diffusion of the information about the projects progress in this direction (quality step and tools to gather and process data about the users and the led actions), and the users' formation are also essential resources in the implementation of these management tools.

4.3. A management method of the association structures through actions budgetisation under Pluri-Annual Contract of Means and Objectives (PACMO) on a 5-year term

The law 2002-2 introduces this new strategic tool of contractualisation between the reception structures of the handicapped people and the public financing organizations; it allows determining a global pluri-annual budget within a same association.

The PACMO is based on the associative and establishments projects, but also on the users' individualised projects that integrate the needs evaluation, the implemented means, the follow-up and adjustment modalities.

On these preliminaries, since January 2008 the PACMO will offer a visibility during several years to the adapei of Besançon, by determining in advance and on the middle and long term:

- Financial commitments,
- Quality objectives,
- Users' care plans criteria,
- Functioning modalities,
- Development prospects that take into account the cared people evolution, and consequently the association activities, the staff qualification, means...

The evolutions linked to legislation that are presently taking place, even in the medico-social sector in France, directly influence:

- the mode of users' care
- the institutions and associations management
- the relation with the control and ratemaking authorities, from a a priori control mode to a a posteriori one that is linked to the got results.

At these two levels, the evaluation step has become incontrovertible in relation with the determined objectives and from now on concerns all the association actors.

The implementation of a global tool to gather and process data about the users is confirmed as a necessary element to allow meeting these legal requirements.

5. CAPITALISATION, DEVELOPMENT, MODELLING OF THESE CONTEXTS IN OSUA (TOOL TO FOLLOW-UP THE ADAPEI USERS)

The links between legislation, the ISO norm and the associative policy are incontestable as regards the individual and institutional evaluation, but also the need to formalise the led actions at all the levels and to manage the data that are linked to them, with the active participation of actors at all the association levels.

Consequently, the point is to mutualise the action for the users' well-being, to analyse the results and to forecast the consequences on the future care plans, on the basis of a unic work method and of a same complete and global tool to gather and process the information.

Since 2006, the annual quality outline plan of the adapei of Besançon has indicated all the elements that compose this step and its dynamic logic, by taking into account on the one hand:

- The association users' needs and expectations (users and families, public powers, control authorities and wardship organizations, professionals, activity sectors, partners)
- And the associative quality policy,

And on the other hand, elements that are logical consequences:

- The processes of resources management, of performances execution, of practices improvement to meet the needs and the policy,
- The regularly determined objectives for each of them,
- The indicators that allow emphasizing the got results in relation with the determined objectives,

...and this way, for the following period, improving the processes, determining new objectives, or even making the associative policy evolve...

From these organised data, dashboards per activity will be implemented, and then tuned, what required a quantitative and qualitative processing of the gathered information.

They will allow the follow-up of the activity and of the association evolution as an answer to all the association users' needs and expectations evolution, including of the users as regard their individualised life project and of the control authorities in the framework of the legal internal evaluation and of the PACMO.

OSUA, tool to gather data linked to the association users' follow-up and to the led actions is presently being written and meets all the listed frameworks and needs; it allows: memorising data and actions, exchanging information, producing individual and collective, quantitative and qualitative balances on which the professionnals will base their analysis of the users' and structures situation, and even the association one.

OSUA appears to be an associative tool that allows meeting at the same time the requirements of the laws 2002-2 and 2005-102 (individual evaluation for each user's

itinerary and collective evaluation for each entity that constitutes the association), the financial indicators of the PACMO follow-up and the quality indicators of the performances offered by the association to each user.

6. TAKING INTO ACCOUNT OF THESE ELEMENTS IN THE KNOWLEDGE ORGANISATION AND MANAGEMENT AND OF THE PROFESSIONALS' INVOLVEMENT, AND METHODOLOGICAL CONSEQUENCES

6.1. Relations between the known evaluation elements and the OSUA tool

The OSUA project has mobilised since 2005 a referents team and a steering committee represented by the association directions of the activity sectors on these issues, in a participative way.

As regards the form, we thought about formalising the links between the contextual requirements already quoted, the users' accompaniment practices and the actions evaluation ones and the architecture of the OSUA tool, during the 31 meetings that took place during a 2-year period.

The idea was to use a methodology of constant coming and going between the sectors ground practices, their modelling during meetings and work groups, the reference to the legislative and ratemaking framework and their transmission to the organization in charge of the writing.

In parallel, a transversal work had and still has to be made with all the association staff, on the basis of a written communication plan, that has a dimension:

- Of information, to make the staff knowing this future tool they will use and the context in which it is inscribed
- Of training, to use traditional data-processing tools
- Since the end of 2007, in relation with the finalisation of the tool writing, of training to use OSUA.

All these exchange occasions allow drafting a tool in relation with the reality of the accompaniment practices on the one hand and with the contextual requirements and constraints already evoked on the other hand.

6.2. Methodological consequences on the project progress

During the 24 months of the OSUA project and all the almost six years that passed from the publication of the law 2002-02 and of its first degrees long, it is easy to pick out these coming and going in all directions between:

- The evolutions of the legal requirements, according to the decrees publication,
- The accompaniment practices according to the sectors specificities,
- The evolution of the financing and control devices of the structures and activities,
- The normative framework ISO 9001,

- The training and involvement of the project actors,
- The writing of the OSUA tool.

In this very changing framework, it seems impossible to lead a project according to a logic based on objectives defined as unchangeable since the beginning.

The political outlines of the association remain stable, the point is: from all the association users' needs and expectations defining actions that seem "unimportant" on the shorter or longer term, but which results, in relation with the determined punctual objectives, will impose to draw again the initially contemplated answers.

In this logic, the association should work according to a continual strategic positioning, towards the continuous improvement system it decided to implement.

Should not we speak of project management according to a "sub-objectives" logic, in a context that is so closely linked to the evolution of the users' needs and expectations that has become structural?

The design and development methodology of the OSUA tool is tributary of this contextual functioning, that always implies to question the bases of the decisions that were validated during the previous steps of the project and that can not be considered as definitive any more.

Another consequence of this functioning is the difficulty for the association and the project coordinators to formalise and model a methodology of project management, whereas the context remains unpredictable.

CONCLUSION

The legal and normative requirements, the natural evolution of the cared people, the bridges to changes, the continuous improvement step, are elements we should take into account before any integration project of a tool like OSUA, as they provoke regular questioning that often oblige to make form corrections on the decisions that were previously made.

At this development stage of the project, the gathering work of the external requirements the association is tributary to is not totally finished. Presently, it is too early for the Adapei of Besançon to comment the results that are implied by the choice of the management tool of the data about users.

“A Self-critical Analysis of a Running Research Project⁶⁶ to Improve the Sustainability of Public Place Management”

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Abstract: The paper presents the way a framework for (self-)assessment to improve the sustainability of practices in public places and spaces was created during the first months of the Topozym action research. It underlines obstacles encountered and solutions found by a multidisciplinary team in creating this tool. Based on this critical self-analysis, the difficulties of putting the theoretical ideas on action research in practice are discussed.

⁶⁶ The Topozym project (<http://www.topozym.be>) is funded by the Belgian Federal Public Planning Service – Science Policy, as part of the program ‘Sciences for Sustainable Development’.

Definitions of action research vary widely, depending on the researchers, their backgrounds, experiences and academic environment. Several useful books discuss the theory and the methodology of action research, but analyses of real applications show the great diversity of approaches and philosophies (Resweber, 1995, Barbier, 1996, Liu, 1997, Reason & Bradbury, 2001, Christen-Gueissaz et al, 2006, Amiotte-Suchet, 2007). When researchers join a network for a research project, these differences in definition, philosophy and habits challenge the co-construction of the action research.

The questions of what an action research must be and how it can be learned remain open. Important issues are still discussed. What is the role of the researcher in action research? Can someone be an expert in action research? Can action research occur without a “professional” researcher? Expertise seems a strange idea in action research, as it is postulated that each participant is an expert and contributes to the co-construction of the research. Due to the specific characteristics of action research – it deals with the present (Chandler, Torbert, 2003), deals with complexity, it is directly validated by actions, and it focuses on transformation (especially the transformation of the partners) – action research is usually successful from the action point of view (Reason & Bradbury, 2001). On the other side, difficulties regarding the establishment of the role of the researcher exist: he often becomes a facilitator using scientific tools; he often has difficulties to theorize his work; and he is often not recognized by other scientists as a real researcher.

The rare literature that does exist on the role of the researcher in action research encourages him to have a self-reflective stance along the research process and to search for invariants between the different action researches that he has experimented. In this light, this paper reports the first nine months of an action-training-research, focusing on the elaboration of a tool by the research team. This tool is designed to increase the awareness of actors to different aspects of sustainable development. In this paper, we present a self-reflection on choices we have made during these first months, in order to underline the difficulties encountered and the solutions found by the Topozym team. Although each action research has to create its own way (Christen-Gueissaz, 2006), we hope that our experiences in the framework of the Topozym project can help other actors and researchers to avoid some of our pitfalls.

1. THE CONTEXT: TOPOZYM

The Topozym project (www.topozym.be) is an action-training-research aiming to help evolve concepts and practices in the management and use of public places and spaces, with a focus on sustainable development (Schmitz et al., 2006). The final research objective is to produce a “dashboard” for use by people who can change the behaviour of stakeholders, to help them design and/or evaluate efficient and coherent participative approaches for territorial governance of public places and spaces. This “dashboard” must be understood as a toolbox including concepts, indicators, syntheses of experiences and training systems.

The emphasis placed on behavioural changes is a response to today’s urgent need to define new ways of helping people to become aware of our responsibilities at the local and global level. This should eventually lead to ways of managing and using public places and spaces in a more careful manner, one which is more respectful and shows more concern for the

future. The project seeks to demonstrate the applicability of certain aspects of sustainability that are not always taken into account. It tries to do so by defining the concept of sustainable development and the interrelation of its various aspects in the case of some stakeholders through a training programme.

The Topozym research has a three phases approach, with each phase helping to contribute to the final “dashboard”: (1) the elaboration of an inventory and typology of tools and approaches, (2) an in depth analysis of six projects (“case studies”), and (3) a training for the actors of each of the “case studies”. The project has started in January 2007 and will finish in December 2008. Three Institutions – the University of Liège, the Catholic University of Leuven and the Institute of Eco-Pedagogy – are partners in this research project. About seven researchers and five trainers and about fifty actors of the six “case studies” are involved in the project. The research is funded by the Belgian Federal Public Planning Service – Science Policy, as part of the program ‘Sciences for Sustainable Development’. The first “case studies” in which the Topozym team intervenes are a large park in the north of Antwerp, a bike and pedestrian path in Charleroi, and the temporary Christmas Village in Liège. Three other projects of public place management will be selected in the next months.

2. THE DEVELOPMENT OF AN ASSESSMENT FRAMEWORK

One important part of the work that has been done so far is the development of an analytical framework for projects of public place management. This tool is made up of criteria that enable the assessment of the sustainability of the projects and the tools used in these projects. The framework is embodied in a grid that is divided in six main principles and for which about forty directing questions are proposed. This grid results from passionate and rich discussions between six Topozym researchers, originated from different academic disciplines: an anthropologist, an engineer, an economist, a linguist and two geographers.⁶⁷ The two main goals, defined at the beginning of these workshops, were (a) to stimulate a discussion within the research team on sustainable development and (b) to design a framework to analyse the sustainability of the six “case studies”.

Different problems made these workshops difficult, but all the more interesting. It was not easy to find existing tools, concepts and definitions that were acceptable for all researchers and for the Topozym project⁶⁸, nor to adapt certain concepts to small local projects (see also Ballard, 2005), nor to conciliate the differences in points of view between the disciplines around the table. For instance: How many and which pillars must be taken into account in a sustainable development analysis? Is the cultural pillar a fourth pillar or is the cultural approach part of the social pillar? How to reduce the risk of breaking up the necessary complementarities of the approaches with the presentation in different pillars? How to include “good governance”? How to define solidarity and shouldn’t we rather use

⁶⁷ De Graef Sarai (KUL), Philippot Marc (IEP), Lejeune Wafa (Ulg), Dumont Elisabeth (Ulg), Dalimier Isabelle (Ulg), Schmitz Serge (Ulg).

⁶⁸ The Brundtland report, the Agenda 21-criteria, or the Millennium Ecosystem Assessment were however helpful basic frameworks.

the rarer concept of equity? The workshops proved useful to underline the different points of view on and levels of sustainable development, which was the first goal of these workshops. They also showed that it is necessary to begin with the actors' needs and will when wanting to increase the sustainability of their actions.

At the end of these discussions, the researchers agreed upon the six main principles that organize the framework and they proposed a first serial of directing questions. They decided to formulate open questions instead of indicators, wanting to avoid a too normative approach and the increasing trend by many managers of meeting indicators instead of target aims (Bernard, 2005). The general approach is to avoid a scoreboard giving good or bad notes, but to offer bases for reflection on the sustainability of a certain project. The questions aim at positioning the projects and the actions with regard to diverse criteria of sustainability and to show potential alternative ways of acting.

- The self-assessment grid exists today in French and in Dutch. The six following principles were selected by the research team:
- transversality (or the mutual reinforcement of the different pillars of sustainable development),
- participation of stakeholders, users and citizens to the different phases of the project,
- pro-activity both in the sense of precaution and sustained improvement,
- aptitude with regard to the local context and its integration to regional and global scales,
- solidarity, including an explicit and equitable sharing of responsibility,
- conscientiousness raising of the stakeholders, users and citizens.

3. FROM AN ASSESSMENT TO SELF-ASSESSMENT GRID AND BACK

While formulating the directing questions for each of these six principles, the researchers decided to adapt the assessment framework so that it could be used directly by actors of projects of public place management. This adaptation should increase the social value of this tool and of the Topozym research in general, and fit with the guidelines of the territorial intelligence network (www.territorial-intelligence.eu).

To suit these objectives certain changes had to be made to the original version of the questionnaire. The vocabulary had to be as simple, but also as exact, as possible. The number of questions had to be reduced, so that answering the questionnaire would not take too much time. A guide for users seemed necessary to clarify some concepts or to give some examples of alternative ways of acting and thinking. Wanting to avoid model answers that could force a certain view on sustainable development onto the actors or give too much information about what they considered being "good practices", the researchers spent a lot of time formulating and reformulating the questions. Moreover, the questions had to induce a self-reflection about the project and personal practices with regard to sustainable development. The grid was thus becoming a training tool.

First discussions with actors – not linked to the six “case studies” – on the basis of the self-assessment grid showed the usefulness of the tool. The grid could not only serve as an instrument to communicate our understanding of sustainability, but also as one that can help actors of public place management to explore different aspects of sustainable development. Nevertheless, up until now the grid has not been tested in a real project.

We have decided not to give the grid to the actors of our six “case studies” as a tool for self-assessment. Because the first phase of the Topozym training activities will consist out of the construction of a common concept of sustainable development within the group of actors of the “case studies”, the Topozym partner leading this training phase has insisted on avoiding any kind of influence of the researchers on these actors during the in depth analysis of the “case studies”. The self-assessment grid thus again became a tool for assessment for the researchers and no longer a tool for self-assessment. It will serve the researchers while evaluating the sustainability of the “case studies”. It could also be used during the training activities, among other existing tools, to be deconstructed and reconstructed and eventually to help improve and change behaviours of actors.

4. LIMITS OF THE TOPOZYM ACTION-TRAINING-RESEARCH

This evolution – defined by certain researchers of the team as “the reject of the grid” – illustrates the difficulties to combine different scientific cultures and ideas on (action) research of partners in a network for a research project. This is especially the case when action research would lead, via the cross-boarding of disciplinary expertise, to a co-construction by the different partners of a new community of practices (Wenger, 1998). During the first nine months of the Topozym project, the researcher with a heavy positivist background tried to impose a more directed inquiry that could be reproducible in the different “case studies”. The trainers wanted to avoid as much as possible any influence of the researchers on the actors before the training phase started.

Another example of this kind of difficulties can be seen in the changes in the research methodology of the in depth analysis of the six “case studies”. The original methodology foresaw a serial of focus groups, animated by the researchers, to grasp the dynamic of the project and the interrelations between the actors. Based on an analogous argumentation than that of the evolution of the grid, the trainers did not want the group of actors to interact before the actual beginning of the training phase. The team thus decided to replace the focus groups by an augmentation of the number of individual interviews.

In addition to these difficulties, the Topozym team soon understood that the late integration of the actors of the “case studies” in the research project – namely after the Topozym project was submitted to be funded – may cause great distortions with regard to the research agenda. A deeper and earlier collaboration between the different actors of the research (the researchers, the trainers and the actors) would have probably improved the quality of the action research. As a partial solution for this problem, the team decided to organize a synchronisation meeting, as early as possible in the process, for each “case study”. This synchronisation meeting between actors, researchers and trainers, is designed to (a) give equitable information to all partners and (b) discuss the agenda of the action research.

CONCLUSION

This paper discussed the development of a tool for (self-)assessment, that could improve the sustainability of public place management. Because of the laborious nature of this task, to not use it for the purpose and in the way it was conceived was no easy decision and has been the object of disagreement between members of the Topozym team. However, the discussions leading to this grid and the common definition of six main principles of sustainability have already proven very useful. When presenting the grid to actors that are not linked to the “case studies”, reactions were positive and the grid seems to be able to open minds to different components of sustainability.

The Topozym research is still running and we do not have the necessary detachment yet to evaluate the different choices made and their impact on the action-training-research. Nevertheless, the past nine months underlined many difficulties to conciliate an action research approach with more traditional research approaches. The integration of a training phase, based on a socio-constructivism paradigm, in particular, has led – because of its phasing at the end of the research – to high constraints for the researchers during the in depth analyses of the “case studies”.

The question on the role of the researcher in action research, and more particularly when the research is enriched by the participation of “professional trainers”, does not have an obvious answer. Keeping the researcher confined to its role of disciplinary expert – the way traditional research approaches would want him to – induces the risks of too much distance from the real need of the actors, of too much simplifying the complexity of the project, and eventually of merely being a tool instead of an actor in the action research.

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**“To a TI Community System: Shared Diagnostic and Territorial Animation
of a Seraing’s area (Belgium)”**

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Abstract: Optim@ develops several projects aiming at the improvement of the wellbeing of the population living on the territory of Seraing (Belgium), an industrial town of 60.000 inhabitants. One of these projects consists in carrying out a process of observation and animation on a more restricted territory, namely the area of Ougrée-Bas. This process first of all seeks to build a diagnosis shared by all the actors and to reach a common knowledge of the area. The realization of this diagnosis requires a territorial process of animation and supposes a complete knowledge of the territory. On the basis of resources and needs identified, projects are defined and set up by the actors with Optim@. The method and the tools used could constitute a contribution for the theory on the territorial intelligence community systems (TICS).

1. GENERAL PROCESS OF OPTIM@'S OBSERVATION AND ANIMATION

Optim@ leads a partnership of almost sixty associations and institutions on the territory of Seraing (Belgium). After a period of explorative observation between 1998 and 2002 with the Catalyse method, this partnership was structured into reflexions groups which led to the implementation of social inclusion and socio-professional insertion actions.

The actions of social inclusion first concentrated on the area of Ougrée-Bas, an undermined area of 5.000 inhabitants. They aim to make the area more dynamic by supporting the emergence of projects carried out by the inhabitants and the professionals. During the three last years, these initiatives became increasingly autonomous thanks to a transfer of competences and Optim@ gradually positioned in second line, in support of the actors.

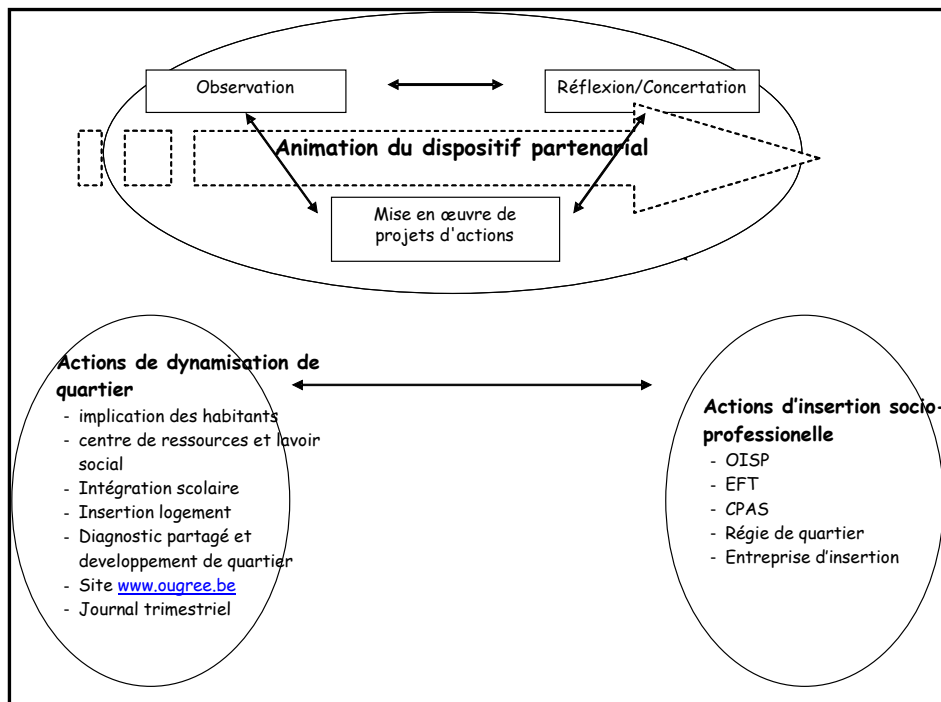
Optim@ evolved to a function of territorial animation relating to:

- Meeting of the actors;
- the global knowledge of the territory;
- Accompaniment of projects.

That shows the importance of animation in the global approach of the territory: it helps the actors to be complement each others in order to improve the well-being of the population in the fields of health, the social action, employment and housing.

Territorial animation becomes, for this reason, a cross function in all the projects of Optim@.

Figure 1: Territorial animation to action.



1.1. The territorial process of animation organizes the link between professionals and/or inhabitants

The partnership process, which gathers since 1998 almost sixty services and groups of active inhabitants in Seraing, is composed of actors of the social integration, socio-professional insertion and the social economy. The objective is to develop a global solution for the insertion of excluded people and unemployed people without professional qualification in Seraing. This approach integrates collective and individual dimensions of insertion: to make there are more dynamic encourage the social activity wich is a necessary step before the social-profesional insertion. The individual report makes the transition to social and professional integration easier.

This process is based on different meeting's places:

- Conference and follow-up group (housing, employment, community development) to define projects starting from identified needs and following the actions.
- network meetings to share reflections between partners;
- seminars to increase reflections and to diffuse them outside (employment project in Seraing, positive experiences in the schools, follow-up of the unemployment person, parentality, community experiments in Seraing, need for education of the territorial actors...).

From 2008, "practices communities" will be the places where actors could speak and exchange about different issues related to their experiences.

The aim is to produce actions, tools and methods (e.g. mobilization of public undermined, critical segments of the individual courses, passage between operators, bond with social economy...).

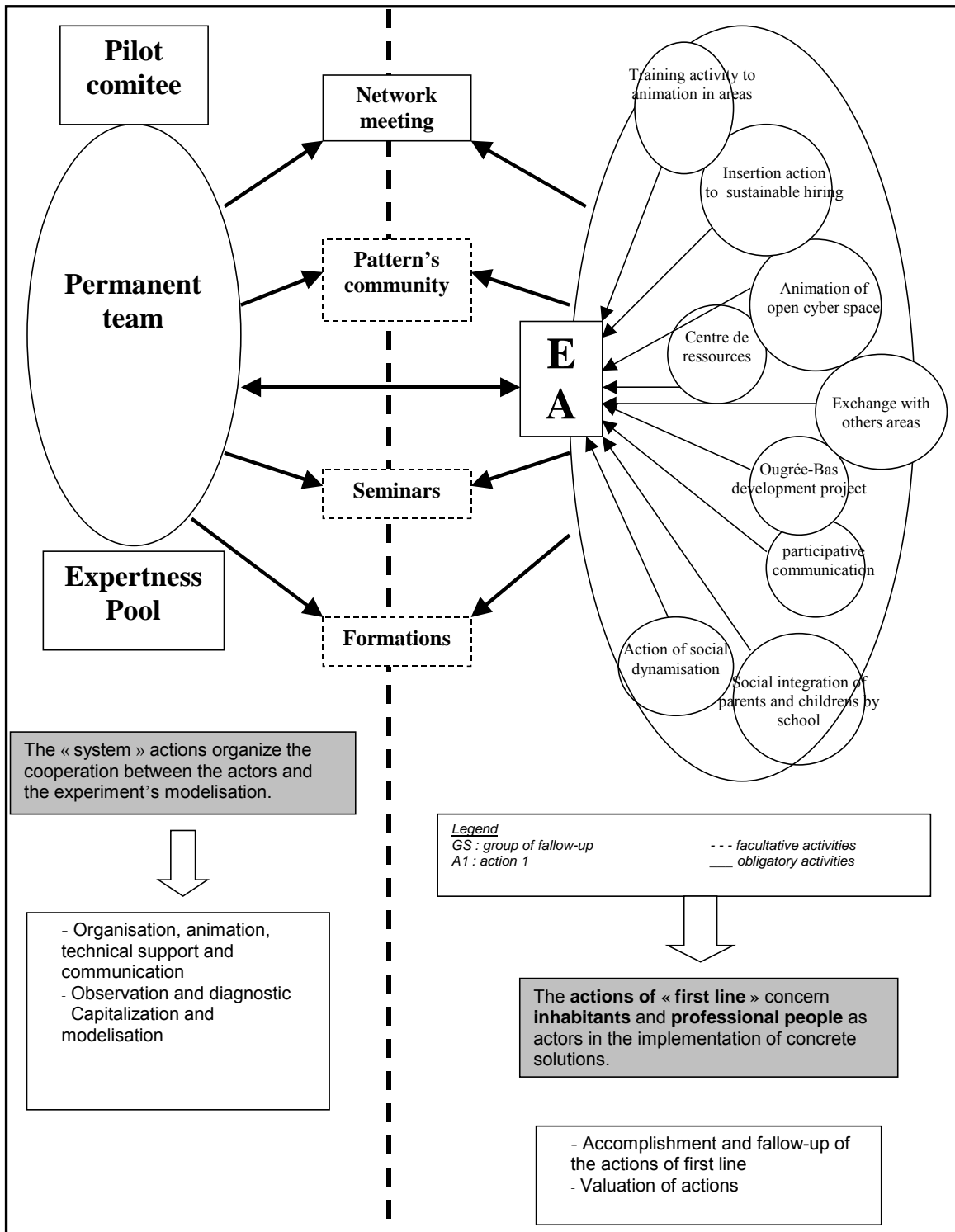
Training courses will be organized for the actors in the fields of the project management, animation of partnership, group dynamics... the aim is to improve their competences while supporting the meetings and synergies between actors of the same territory.

An animation team, including members of Optim@ and partners, wich carry out actions, is responsible for the organisation of the activities related to this process. Moreover, a magazine, "l'observatoire serésien" is produced and distributed with the collaboration of Seraing Municipality with a circulation of 700.

1.2. Providing support of the projects

For 2007/2015, the objective of Optim@ is to improve the individual way of insertion for excluded population and unemployed people without professional qualifications in Seraing.

Consequently, Optim@ integrates in a global solution, the collective and individual scale: the collective scale allows the emergence of social activity wich is a necessary step before the socioprofessional integration (social dynamization, co-operative and innovative projects); in addition, the individual scale (related to the individual project) supports the orientation of insecured inhabitants in their way of social and professional integration.



1.3. The knowledge of the territory

The exploratory observation (1998-2002), carried out with the Catalyse tools, made the mobilization of the partnership possible. It also allowed to reach a better knowledge of the users and to implement a first series of experimental actions in Seraing.

That aim is to get the more complete knowledge of the territory in order to give structured informations to the partners. These informations should allow them to give a better orientation to their projects.

The characterization of the territory requires several activities: meeting the partners or the actors of the territory, evaluating their requests, identifying and collecting information, treating and analyzing these data, putting them in prospect with contextual data and then disseminating information towards the actors.

In collaboration with the Service d'Etude en Géographie Economique Fondamentale et Appliquée (SEGEFA-Université de Liège), ten themes were defined: health and well-being, incomes, employment, economic activities, housing, sociocultural and sporting activities, environment, education, mobility and life's areas.

For each theme, four sources of information are identified:

- a survey carried out in 2004 by Optim@ to 3600 inhabitants of Seraing brings information on real situations and gave new themes which are not yet treated by the official suppliers;
- the territorial indicators are institutional data (National Institute of Statistics, Forem, IWEPS...) which make possible to characterize the territory in an objective way;
- the reading on the area (realized on the pilot area of Ougrée-Bas) allows to know this area by establishing cartography of it (spatial data, parks, public spaces, empty housings, empty shopkeepers or in activities, pollution...). This reading, carried out by two people who go on site, completed the knowledge of the territory; This cartography is an additional asset: it brings a space representation of elements which are difficult to obtain, and it is clear for a public of neophyte.
- actors sensitivities are used to improve the knowledge of the area and to identify the elements they considered as a priority. To launch development project in Ougrée-Bas, some animations were organized during a photo exhibition and allowed the participants (inhabitants, professionals...) to express their sensitivities regarding their area.

2. THE APPLICATION OF THIS PROCESS TO AN IDENTIFIED TERRITORY: THE OUGREE-BAS DEVELOPMENT PROJECT

2.1. Definition of the significant territory for the intervention

The area of Ougrée-Bas is defined like significant territory of intervention:

- the size of the area makes this territory controllable (this working hypothesis is currently assessing);

- the precariousness of the population is important;
- the area is part of the priority zone defined in the Seraing plan for economic and urban renewal;
- a partnership between inhabitants and professionals, has been active in Ougrée-Bas for several years

Seraing is made up of the Jemeppe, Ougrée, Seraing and Boncelles old municipalities: Optim@ defined 10 "areas", including 3 in Ougrée (Ougrée-Bas, Ougrée Moyen and Ougrée Haut).

The definition of the limits is based on some indicators of the National Institute of Statistics (INS) whose coherence was analyzed for the area (housing, family, type of household, unemployment, evolution of the population).

Moreover, the topographic limit which is between Ougrée-Bas and Ougrée Moyen confirms this cutting.

2.2. Description of Ougrée-Bas (data INS 2001 and 2003, reading on the area carried out by Optim@ in 2006-2007).

The area of Ougrée-Bas counts 4929 inhabitants (8,1% of Seraing complete population). Surface area is 181 ha (5,1% of Seraing complete surface area).

Density is 223 inhabitants per km².

23,2% of the inhabitants are foreigners (mainly Italian), which is a bigger ratio than those for the whole of the communal territory (15,3%).

Similarly to Seraing, the population strongly decreased between 1981 and 1991. Ougrée-Bas lost 526 inhabitants (-9,8%), whereas over the same period the population on a municipal scale decreased by 5,7%. Between 1981 and 2001, Ougrée-Bas lost 7,7% of its population (common of Seraing -6,5%). This phenomenon is commonly observed in the industrial tradition valley whereas the very close tablelands are gaining inhabitants.

In 2001, the rate of unemployment in Ougrée-Bas (31,1%) is definitely higher than the rate of the municipality (22,1%) and the Walloon Region (16%).

In 2006, the rate of unemployment in Ougrée-Bas is not known, but it has strongly progressed in Seraing (28,1%) and in Walloon Region (18,5%).

Women living in Ougrée-Bas have a rate of unemployment of 40,4%. It is twice higher than men's rate (24,3%) and much higher than women in Seraing (28,5%).

The industrial decline had a strong impact on the area, and particularly on the commercial activity. There are less and less shopkeepers in activity, a lot are changing into living ("return to the living").

Housing in Ougrée-Bas is characterized by a majority of joint houses (59,9%) whose size is rather small (<84m²). The comfort is reduced (49,5%), generally dating back to more

than 40 years (more than 50% were built before 1970). The private rental housings is very important (25,8%) as there are very few social housing.

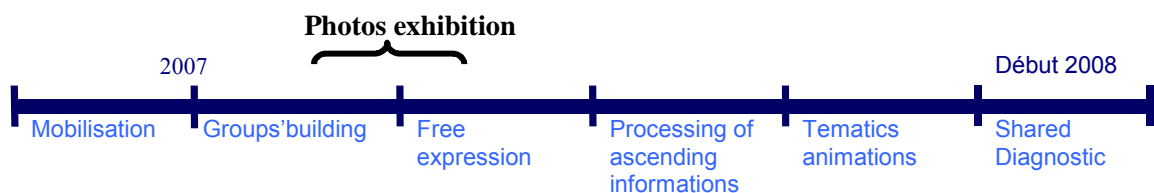
2.3. The Ougrée-Bas development project: objectives and timetable

Because of the decline of Ougrée-Bas, it is important to identify the forces and weaknesses of the territory to set up fitted solutions. Those solutions could improve the population wellbeing only if they involve all the actors. Consequently, Optim@ sets up structures of dialogues between all of them: inhabitants, speakers, political decision maker and economic actors).

This development project is divided into different phases:

The project preparation

First step is to define the territory of intervention (limits and the characteristics) and to create a process of animation facilitating the implication of the whole actors of this territory. It is also important to identify the resourceful actors of this process. The framework must be flexible even if some methodological options are choosing.



The mobilisation of the actors and the expression of actor's sensitivity

The mobilization aims to involve all the actors of the territory in the development project. The project started with a photographic exhibition "Ougrée-Bas: heads or tails ", organized in the Arts centre from the 12/01 to the 15/02/2007.

Some activities based on the photo exhibition were organized in order to make the actor express their sensitivity regarding their area of living. It was the first way to collect information. This information, complexe and new, comes to supplement the statistical data. The photographic support was extremely useful to cause the participation of the public by the means of the guided tours by district inhabitants, the animations organized by Optim@ (expression on the basis of photos, joinings, drawings, expressions of elements positive and negative compared to the areas, use of maps of Ougrée, Seraing or air photos...) and of the participants filmed interviews. Moreover, the expo made it possible to clarify the area image, miserable and dirty, and the image of the inhabitant, dynamics and cordial. This valorization of the inhabitants supported the meeting and the exchanges between the whole of the actors. Let us note finally that it is during the expo that the collect's first sequence of information was begun.

The first groups have been build on the basis of the existing partnerships in the area. The reflexion on various themes will continue and will permit to mix the different actors. The mobilization goes on throughout process.

The processing of these ascending data is the first step to formalize a shared knowledge: it consists in classing informations resulting from the group and making them validate by the group. It allows to identify the gaps of the groups about their knowledge of the territory.

Thematics animations and shared diagnosis

During a network meeting (“Interateliers”) in June 2007, a synthesis of this first knowledge was presented to the participants. The priority themes were identified: environment, life area, employment/economy, housing, health... The people mobilized during the first phase have been going on to participate to the working group for September 2007.

The knowledge of participants will allow to complete the knowledge about the area together with the information collected by Optim@ and the knowledge of the participants. The aim is to produce a document called “the shared diagnosis” wich will be published in February 2008.

The transverse process develops knowledge that each one has on the area. The group gathers various actors of the territory. This heterogeneous form is complex to set up. It is difficult to structure the communication⁶⁹ between different people by their history, their formation and their competences. This diversity requires the installation of adapted animations. Methods are collected and evaluated before completing the tools of the organizers.

Providing support of the projects

The shared diagnosis will be used as a basis to identify the priority problems on which to act firstly in the area. In March 2008, it will be a common base to make easier the projects carried out by the different actors of the territory.

3. ANALYSE OF THE PROCESS

Optim@ emphasizes several major elements of the process in terms of governorship:

- this process is based on the links creation and the participation of a diversity of actors. Far from constituting a spontaneous construction, it supposes a specific animation and an adapted communication. The experiment of Optim@ is based on a long-standing social dynamic of the area, which is certainly an element facilitating the process.
- to build to an operational knowledge shared by all the actors, it is probably necessary to have several types of tools and supports. The appropriation of the process by the actors and the training of these actors about it are two fundamental issues. The undermined public used to be missing of these territorial dynamic.

⁶⁹ Each participant can speak, hear, to feel listen and to be listen by the group.

- at the time of the transformation of knowledge shared into territorial action plans, the nature and the ambition of the actions require the implication of the political authorities. This implication is important from the beginning of the process in spite of the difficulties that it could represent.
- the process of territorial development must be written in the long-term, which supposes their progressive institutionalization. The evaluation, the diffusion and the transfer of practices must be developed.
- this participative process asks the place and the function of the inhabitant-actor-citizen on his territory, and its relation with the other actors (intervening, decision makers, experts, contractors)

4. OPTIM@ METHOD'S: A CONTRIBUTION TO THE THEORY OF TICS?

Since 2003, the SEGEFA of the University of Liege (ULg) works with Optim@ in its steps. This collaboration is especially reinforced by the CAENTI. The SEGEFA brings assistance to Optim@ regarding to the tools of the IT and the installation of a territorial information system. It also has a function of consultation, as well as technological and methodological support in collaboration with MTI (UFC).

The methodological options tested for the pilot action of Ougrée-Bas is based on the experience accumulated on the city of Seraing where a Catalyse step had been initiated. New working hypotheses are tested there. The similarities and the divergences are indexed by the SEGEFA within the context of the CAENTI.

In this paper, the SEGEFA will intervene in order to show the originality of the method and the tools used to lead to the diagnosis shared on Ougrée-Bas. This method and the tools could constitute a contribution for the theory on the Territorial Intelligence Community Systems (TICS).

4.1. Theoretical recall on the TICS

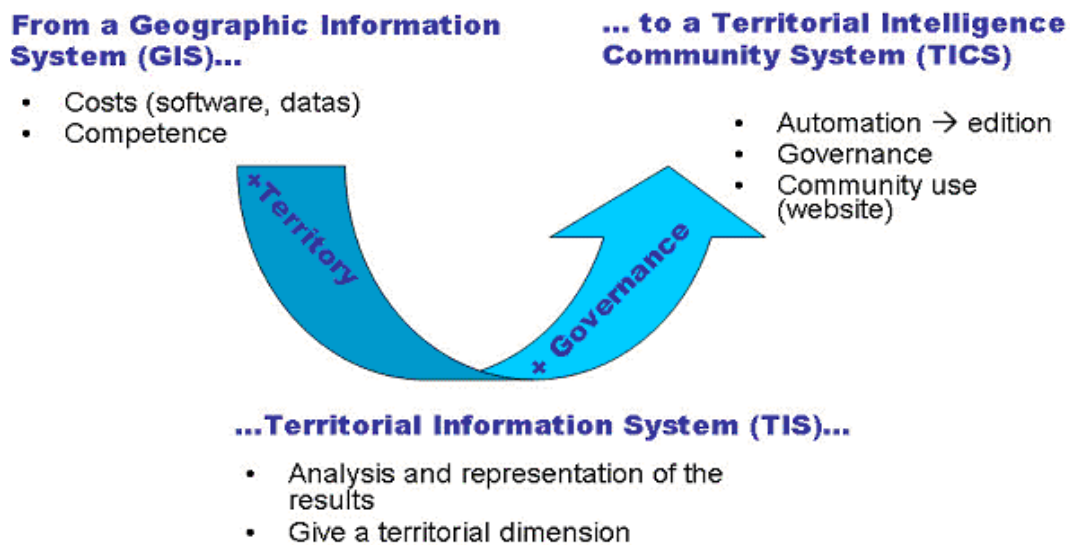
As Girardot and Masselot (2006) explained it a territorial intelligence community system is a Territorial Information System (TIS) in the service of a territorial community (a partnership of territorial actors) that want to develop democratic governance at the service of sustainable development.

- It favors the information sharing within a territorial development partnership;
- It instruments the data cooperative analysis and the results participative interpretation;
- It introduces the citizens' participation in the process of decision-making;
- It provides the actors with useful information to draft projects, then to manage them and value them.

As it is shown in the next figure, the concept of TICS can be approached with the GIS (Geographic Information System) concept. The GIS needs particular competences and generates some implementation costs. In adding the territory notion, the GIS becomes a

Territorial Information System (TIS); it concerns a geographic space and its community. In adding the notions of governance, participation and automation, the TIS becomes a TICS. The TIS is shared within a partnership (professional associations and institutions) but also with the whole territorial community (inhabitants included) that is united by a common project. Moreover the TICS automatically deals with the analysis of the furnished data and edits the analyzed information (by a multi-criteria analysis for example) in order to produce graphic and cartographic documents...

Figure 3: the transition from a GIS to a TICS.



One of the objectives of the CAENTI is to create the tools in order to obtain a global TICS usable by the actors. These tools have to integrate:

- the analysis function;
- the data analysis protocols;
- the editorial workflow;
- the community uses.

4.2. Originality of the Optim@'s process

The Optim@ process originality on the Ougrée-Bas area is the process animation which permits to consider the sensitivity of the whole actors (inhabitants, politic and economic authorities) of the territory in order to build a shared diagnosis.

- The capture of the sensitivity is done during the animation process by using different tools:
- une exposition photographique permettant aux acteurs de s'identifier à leur territoire;
- les résultats de l'analyse de l'enquête effectuée auprès des habitants;

- les cartographies des relevés de terrains;
- les résultats de l'analyse des données contextuelles.

The communication methods are adapted functions of actors' types (dispersion, simplification, practical methods of animation ...).

The recording's storages are various: audio and video tape, notes...

The goal is the acquisition of the approach by the actors. The framework is smooth and adaptable.

The realization of the optim@ process is allowed thanks to two conditions specific to the territory of Ougrée-Bas:

1. The territory of Ougrée-Bas is an area of about 5.000 inhabitants and 181 ha. Given that this little size the territory is easily controllable and its knowledge can be approached by the use of sensitivity and reading on the area. Usually the working area of Optim@ is the whole entity of Seraing. This modification of scale is done within the framework of the adequacy's research between relevant territory and methods of observation, animation and action.
2. The final aim is to improve with actions the general wellness of the Ougrée-Bas' population. Thus the whole population of the territory is concerned by the process and not only certain groups of the population. That is why the tools have been adapted. The entire territory actors are concerned.

4.3. Conclusions

First of all it seems that the process in implementation on Ougrée-Bas constitutes the foundations of a TICS because it corresponds with the definition and the general aims of the concept. The TICS of Optim@ is currently experimenting. That is because it is now a pilot-project in progress. For the moment (the shared diagnosis is waited for the beginning of 2008), it appears relevant and the first results are very positive and relevant especially for the actors' mobilisation.

The use of the actors' sensitivity in the process seems to be an innovative element that constitutes a contribution for a TICS because it reinforces the shared knowledge of the territory and allows a real implication of the actors.

Nevertheless the implementation of a such process can meet several difficulties:

- The information from the sensitivity of actors is qualitative feature. It is not simple to objectivise and sum up them. A lot of contradictions can appear; thus the observatory has to be careful before any synthesis.
- The collected information is the result of what the actors want to communicate. That does not always correspond to their real sensitivity because some people can have self-restraint when they are talking. The use of different tools and means of capture allows to limit the lost of tacit information. In this direction, the implementation of a website (www.ougree.be) constitutes a new relevant tool.

- To constitute a shared diagnosis on a whole territory needs the mobilisation of lot of actors. All the actors of the territory should participate. Although taking into account the sensitivity of 5000 inhabitants is a very difficult task. Thus it is important to implement an ascendant network whereby the formalized and generalized information will go through.

The aim of this future research-action, notably within the CAENTI framework, is to develop solutions to surpass these difficulties. In a close collaboration, Optim@ and SEGEFA will underline the reproducible elements on other territories or other populations and try to make a model of the process in order to disperse it.

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***“Strategic Observation and Partnership. The case of ACCEM’s
Observatories”***

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URL: <http://www.territorial-intelligence.eu/index.php/huelva07/Fernandez>

Abstract: The present paper analyses the starting out of local partnerships focused on the mutualisation of the information and the territorial diagnosis. It discusses the potentialities and the limits of these partnerships as the basis for the development of shared actions by the entities involved. It’s specifically questioned the role of this type of observatories for the development of the intelligence and the territorial governance. The work rises from the comparative analysis of the processes of starting out and development of three main territorial observatories of ACCEM in the last decade. As these observatories are organizations in permanent evolution it will be stress the analysis of these kind of processes in such a changing diverse institutional and socioeconomic contexts.

1. INTRODUCTION

The final version of this paper will present in the first place the socioeconomic and theoretical background that lead to the development of ACCEM observatories. Secondly it will sketch the theoretical framework where the promotion of these observatories as instruments for the development of the territorial intelligence and territorial governance can be better analyzed. Thirdly, the methodology and tools used by ACCEM on the promotion of the local observatories will be described. In the fourth place it'll be presented the difficulties that have been found on the implementation of this methodology and in the use of the tools as well as its main consequences for the global action. Main potentialities of these tools will be also discussed.

In this summary we are going to address main first, second and fourth topics. Third section about specific tools is widely developed in the Power Point presentation.

2. ACCEM OBSERVATORIES PREVIOUS BACKGROUND

Nowadays ACCEM is present in ten Spanish Autonomous Communities and every year attends more than 9.000 immigrants with very different socio-economic profiles. ACCEM activity has exponentially increased along the last decade.

In the mid 90's, the economy and employment crisis context affecting practically all the countries in the European Union, but especially Spain, hindered in a great extend the socioeconomic insertion processes of the beneficiaries' of our association. Facing this situation the organization thought about a change in its intervention philosophy that coincided with the beginning of its extension process: from being fundamentally centred in the individual necessities of the beneficiaries and in the defence of their interests and rights as a cluster, moved to outline their social action with a wider focus linking the immigrants' socioeconomic insertion with the territorial development processes in the areas where they were settling. This performance logic confronted ACCEM with a great diversity of regional and local socioeconomic contexts, the lack of information on the target intervention population was a common denominator, together with the lack of information of local socioeconomic indicators and information on the group of agents developing actions of similar or complementary nature in the intervention area. The lack of coordination of the plans, programmes, projects and actions carried out in the territory were the predominant tonic. The complexity of the situation was accentuated by the processes of decentralization and delegation of social action started by the public powers which led to a great fragmentation of the actions in the territory.

From the association point of view all these factors impeded the elaboration of an integral diagnosis on the situation of ACCEM beneficiaries in each area and in consequence in all the organization, what hindered the management at a global level, especially the designing, the follow-up and the evaluation of the actions. From the territorial perspective, all these processes of lack of information and lack of coordination among the agents operating in the territory outlined a problem of territorial governance that was very far from being solved.

3. TERRITORIAL GOVERNANCE AND TERRITORIAL INTELLIGENCE IN THE KNOWLEDGE SOCIETY

In the other hand, another important feature of the social context of the middle of the nineties was the emergence of what was called the “knowledge society”⁷⁰. If territory is defined as a space with actors in which production and appropriation of resources occur, in the knowledge society the first resource that needs to be the object of this production and appropriation is the knowledge that exists throughout the territory, as well as the processes which contribute to its creation. In particular, knowledge “of the territory” and of the “action developed in the territory” is converted into knowledge of paramount importance for directing the action in favour of territorial development.

Therefore, with regard to territorial governance, territorial intelligence can be defined as all knowledge relating to the understanding of territorial structures and dynamics, as well as the tools used by public and private actors to produce, use and share this knowledge in favour of sustainable territorial development. From this perspective, territorial intelligence is a tool for territorial governance; however both concepts have a complex relationship according to E. Morin (1992), since, in their turn the evolution of territorial governance promotes the development of territorial intelligence. The driving force behind this feedback process is the participation of the actors. The intensity and quality of the participation is what determines the way in which both processes feed off each other.

In fact, if good territorial governance basically refers to “sharing what we jointly know and have as a result of our diversity and then undertaking coordinated, coherent action”, territorial intelligence provides feedback for that process by means of analysis and joint evaluation of the action developed through diversity, resulting in new shared knowledge which allows an improvement in the action. In the knowledge society, where learning is shared, both are faces of the same coin.

Nowadays, thanks to the development of new information and communication technologies, there is an enormous amount of information available and a great many very

⁷⁰ “The idea of the “knowledge society” was first used in 1969 by university professor, Peter Drucker, and in the 1990s it was entered into more deeply in a series of detailed studies published by researchers such as Robin Mansell or Nico Stehr. [This idea arose] at almost the same time as the concepts of “learning societies” and “lifelong learning for all”, which is not exactly a coincidence” (UNESCO, 2005:61). The knowledge society goes well beyond the concept of the information society. The latter is an instrument of knowledge, but not knowledge itself. The latter would be the result of the interpretation and critical analysis of the former and of the ability to draw useful conclusions, both for its practical application, and for living lives, which in A. Sen’s familiar expression “are worth living” (SEN, 1992). It is at this point that the concept of the knowledge society establishes a link with that of human development, with the twin facets of this understood: creation of life opportunities and development of the freedom of choice. Knowledge proves to be of paramount importance as much for one component as for the other. The information society refers to the technological; the knowledge society affects much wider social, ethical and political dimensions. Perhaps the most significant expression to summarise the role of knowledge since then is that attributed to M. Serres: *knowledge is now the infrastructure*. As Pierre Lévy (1994) explains, the point is that the principal characteristic of knowledge societies is that we have recognised that knowledge is everywhere and intelligence is distributed universally (no one has all the knowledge and everyone has some): the knowledge society is conceived as a society which is nourished by diversity and ability.

sophisticated tools for collecting, processing and analysing it. The development of territorial intelligence means putting all this potential at the service of territorial action, contributing to the actors involved, not only institutional decision-makers, but the actors most directly involved in the action in the field, incorporating mechanisms in the course of their ordinary activities to facilitate interaction, promoting their individual and joint ability to manage information, to mutualise it and convert it into knowledge which allows them to assess, redirect or design new action. In this sense the design of tools and participatory work methodologies which allow the actors' abilities to be developed is of vital importance.

4. ACCEM Observatories as tools for the development of territorial intelligence and territorial governance in a knowledge based society

The confluence of several circumstances, such as the extension of the use of the so-called new information and communication technologies, also the link with the investigation team of the University of Franche Comté directed by Jean-Jacques Girardot specialized in these new technologies applied to the strategic observation and the participative evaluation within the framework of social action and finally the possibility of getting financing from the UE within the framework of the Community Initiative for Employment and Human resources, Integra, facilitated the development of the first ACCEM Observatories in 1999 (ODINA, in Asturias, and also the Sigüenza Permanent Observatory of Immigration).

The main objective of these observatories was to associate different entities and institutions developing actions with immigrants in a direct and cross way. The idea consisted on jointly designing and starting devices of strategic observation and participative evaluation that enable to have a better knowledge of the situation of the groups attended in connection with the territory.

The final purpose was to propitiate a transparency and trust atmosphere that facilitated the coordination of the actions of the partners involved in the observatories to generate joined actions.

In fact, the final target was to mobilize, through the combined development of tools supported in the potential of the information and the communication technologies (programmes of collection and treatment of information, programmes of cartographic representation, etc.), the existent group of knowledge and agents' skills to generate new knowledge on a base of common information that could also generate shared diagnoses that serves as base for common actions. According to the terminology of the previous section, territorial intelligence development was been considered, with the purpose of improving the territorial governance. But the terminology is subsequent, and even more, a great part of this speech on Territorial Intelligence to serve Territorial Governance has been developed later and to an important extend inspired by the experience of ACCEM Observatories (Girardot, 2005).

5. ACCEM Observatories: limits and potentialities

Obviously the creation of a device of this nature is not a mere technological operation. Although it is useful to have some tools already experienced, the creation of an observatory is a much more complex process which involves agents' groups with variable configurations depending not only in the territory, but also in the socio-economic and political context. Not all moment and place is appropriate to begin the process.

Sometimes the agents' will fail, either because they have the perception that their particular interests are threatened by the common action, or because there are histories of conflict among the participants. But the willingness of the agents is not enough if it not accompanied by a networking culture which can prevent that the daily activity may leads to unjustified mistrust in some of them, to exclusive appropriation of common results in some others, to justified distrusting in consequence, or to interferences.

Overcome these barriers the problem of the adaptation to the different rhythms and agents' resources involved in the process remains, which hinders to a great extend the burden sharing among the partners.

On the other hand, many times the blockades appear at the end, when it is time to take decisions that really imply a reorganization of the human, technical and equipment resources of each of the partners.

On the other hand, as the contexts change, it is very important, for the durability of the observatory, to bear in mind which is the priority of the objectives is in each moment. In some cases the initial objective, starting point of the observatory, to "sharing the information", can be harmed because obtaining this information could be very expensive in time and effort or it turns out to be particularly strategic for the interests of one participant or more. In that case, the trade-off between intelligence and governance is especially important, in the sense that it can be necessary to do without part of the information to continue propitiating processes that favour the joined decisions making (governance) that could propitiate more transparent informative frameworks in the long term.

Anyway, what is certain is that the experience of ACCEM Observatories has clearly contributed for the association and their partnerships have information that allows them a better adaptation of the interventions to the territorial necessities. On the other hand, they have contributed to the development of decision making participative processes in the territory, at a greater or lower importance. This process has also brought itself the development of the territorial agents skills for the observation and the participative evaluation applied in the field of immigration.

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APPENDICE

“Sustainable Development: Elements for its interpretation”

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Summary: The contents and scope of Sustainable Development, as a model for the development towards which the international community wants to move forward, is the object of multiple interpretations. That way both, diagnosis of sustainability and the design, execution and assessment of actions aimed to the reorientation of the current model towards a sustainable model, requires a previous exercise of conceptualization and the delimitation of the concept of sustainability itself. We want to introduce in this abstract, some elements that might contribute to the necessary discussion, required for the concept of sustainable development to become operative.

We will start from the events that gave origin to the discussion about the dominant development model and the first diagnosis that recognized the exhaustion of the same, focusing our attention on the evolution of the interpretation of the relationship between environment and development. We will describe that way, the process followed, till a world wide consensus was reached, regarding the definition of Sustainable Development, upon which the current international strategy for Sustainable Development is based on.

We will consider afterwards, the main elements that will contribute to the different interpretations of sustainable development; from the limitations upon which it has been built. On one side, the transformation that the adjective sustainable operates on the own concept of development (internal limit). It is therefore a question of, what are the needs to be satisfied. And on the other hand, the physical limit (external limit) related to the way the system is organized, seeking the satisfaction of the needs.

Finally, we will apply these elements of analysis to the discussion of the proposal contained in the Tokyo Declaration (Brundtlan Report), upon which the international strategy towards sustainability of the Rio conference was articulated.

Key words: Sustainable Development.

The contents and the scope of Sustainable Development, as a model of the development towards which the international community wants to move forward, is the object of multiple interpretations. That way, both the diagnosis of sustainability and the design, execution and assessment of actions aimed to the reorientation of the current model towards a sustainable model, requires a previous exercise of conceptualization and the delimitation of the concept of sustainability itself. We want to introduce in this abstract, some elements that might contribute to the necessary discussion required for the concept of sustainable development to become operative.

Two are the main questions we propose, to orientate this reflection:

In the first place, the process followed, till an international consensus was reached regarding the definition of Sustainable Development, that serves as the basis for the international strategy of Sustainable Development. The Analysis of the origin and evolution of the debate on the Environment - Development relationship, might help us, as a guide for a first interpretation, besides providing the necessary context, for later reflections.

We will then, propose, the analysis of the limits that the adjective *Sustainable*, adds to the noun *Development*. The different ways of conceiving the contents and the scope of these limits, constitute to our understanding, the central elements that will contribute later on, to the interpretations of Sustainable Development.

After the application of this criteria to the analysis of the content of the Brundtland's Report, we will enumerate the operative criteria, that normally shows the way towards sustainability to finally make an exercise of synthesis with the aim of getting global conclusions.

1. THE DEBATE ON THE RELATIONSHIP BETWEEN ENVIRONMENT AND DEVELOPMENT⁷¹

In this first section, we shall overview the most important milestones of the history of the formulation of the concept of Sustainable Development. We will consider a period of 20 years, from the first conference of the United Nations on the Environment and Development, held in Stockholm in 1972, that opened the way to the integration of Environment-Development, till the Summit of the Earth, Rio-92, at which, an institutional strategy for Sustainable Development, was formulated world wide.

The international context, in which the debate that gives origin to the formulation of Sustainable Development, is developed from, is marked by a series of international events

⁷¹ In 1987, the World Commission for the Environment and Development (CMMAD), also called the Brundtland Commission, introduced the concept of sustainability, associated with economic development. In one of its reports, it was stated that development is sustainable, if it satisfies the needs of the current generations, without affecting the capacity of future generations to satisfy their own needs. Later on in, 1991, in an attempt to characterize parametrically sustainable development, Nijkamp introduced the variables of economic production, social fairness and environmental sustainability.

that during the 70's, contributed to significantly modify the conceptualization of the relationship between Environment and Development.

On one hand, the limited yield of the different developments, backed by the UNCTAD. This failure leads, in the theoretical scope, to the reformulation and the search of alternative development models.

In the political scope, there is an intensification of the demanding activity of southern world countries, that materializes in the declaration and the action programme of the NOEI, within the General Assembly of the United Nations in 1974.

Third, the increase in the price of raw materials in international markets, and the World economic crisis associated to this circumstance, showed for the first time, worldwide, the possibility of a collapse of the international economy as a consequence of a limit in the resources.

All that, together with the signs of global effects of the economic activity on the environment. the greenhouse effect, the ozone's layer loss, and in short, the confirmation that the ecological crisis is a fact, that does not understand of international frontiers.

So, the international economy, faces two main issues: underdevelopment and the deterioration of the environment, that we will have to face without delay, and whose relationship, seems to be that of confrontation, what complicates matters even more.

Decade of the 70's: confrontation

The way the described situation, is confronted during this decade, is strongly conditioned by the diagnosis, carried out by the MIT⁷² and promoted the Club of Rome, published in 1972 under the title of "The limits for growth".

The Club of Rome was founded in 1968 as a "non-governmental organization", in spite later on, it adopted the form of a organization, by a group of 35 personalities (academicians, scientists, politicians) of 30 different countries, with the aim of "contributing to peace making and social and economic welfare, through thinking and prospective investigation".

It was the Club of Rome itself, that ordered the preparation of surveys, that were published later on, under the names of Model Word-2 and Word-3, of Forrester and Meadows respectively. The results of the first survey, were published in 1971 under the title of "Worldwide Dynamics", using the methodology of system's dynamics. The survey, tries to forecast, the evolution of the worldwide system from a series of variables related, with six groups: population, capital investment, geographical zone, natural resources, pollution and food production. In 1972, Meadows published, in *The limits for growth*, the results and conclusions, obtained from the application of model Word-3 using Forrester's methodology.

⁷² Technological Institute of de Masashusett.

The results presented by Meadows, forecasted the collapse derived from the exhaustion of resources in the term of less than a century. The recommendations of the report, regarding this situation, focus on the reduction of production and demographical control. In short, it is recommended to slow down growth, as the only way of stopping the evolution of the system towards its own destruction.

In June 1972 it was held the first conference of the United Nations on Human Means at Stockholm. This conference was marked by the problematic of underdeveloped countries.

In the declaration of Stockholm, a declaration that contains 24 principles, in spite of the ambiguities and even contradictions it contains, some issues were clarified.

First of all, it was understood, that the main cause for the deterioration of the environment is different in Northern and Southern countries. In the case of developed countries, the cause is development; specially industrial development.

In the case of underdeveloped countries, the main cause of environment's deterioration is the result of demographical pressure and the nature of the underdevelopment phenomenon itself. Therefore, we could summarize the concern that marked the Summit of Stockholm and also marked the whole decade, with three elements:

- There exists first of all, an important concern, that the problem of the environment might hinder the development.
- Second, it is feared, that the implementation of environmental policies, might put a brake to the development.
- And, third, that underdevelopment itself and the demographical growth in underdeveloped countries, might increase the problem of the environment.
- These would be in short, the three major concerns that became clear in the conference of Stockholm, from which the PNUMA⁷³ sprang forth from.
- The proposals of Stockholom to slow down the effects derived from the relation of confrontation between the economic development, and the natural environment, focused mainly in:
 - The need of a technological change. That given the circumstances, must come from the developed countries.
 - Northern – Southern cooperation, mainly in what refers to the transference of technologies and financial cooperation.
 - Development's planning.
 - Accelerated growth of the South.

Among these 24 principles, there appear many references to the ecological difficulty to spread the current model of development across all the territories, for its perpetuation in the time. What it never appears, is the reference to the need of a change of the model.

⁷³ United Nations Programme for the Environment.

Worldwide Preservation Strategy: conciliation

The decade of the 80's, was characterized by the attempts to conciliate Environment and Development, so as a shift in the focus of concern from the effects of growth on the environment to the effects of environmental deterioration, upon the economical perspectives. Concern that had already appeared at Stocklhom and become now a main issue.

The Worldwide Preservation Strategy (EMC)⁷⁴ is the first major international document on the problematic of the environment.

The PRESERVATION of the nature is defined in this document as the “management of the human use of the biosphere, so the highest benefits are obtained for the current generations but maintaining its potential to satisfy the needs of future generations”. Preservation, involves both living creatures and unanimated elements of the environment of which, the former are dependant.

In this way of defining Preservation it may be appreciated that:

- Preservation is defined as a “way of management” to ensure the maintenance of the benefits. Preservation is not an end in itself, but an aspect of the good use of resources. The main objective is not the preservation of life, but the maintenance of the benefits that life provides us with.
- The limit would be marked by the maintenance of the productive potential of Nature. It is therefore about managing, always granting the maintenance of the capital.
- And, finally there is an explicit reference to the future generations.

The EMC is a long-range plan, aimed to the preservation of the world biological resources, to ensure the good use of the resources. This long-range plan is considering the change in the model of management, towards a model of sustainable management.

In the EMC, the concept of Sustainable Development, is introduced and later, it will be used again, to be outlined with more general aspects of the development, focusing not only on the exploitation of resources, by the Brundtland Report.

According to the EMC, the Sustainable Development, must be informed by the principles of fairness, solidarity, justice and rationality.

But, what is it rationality? The current model, is not irrational. It is about a change of rationality, that will make it possible the reconciliation between environment and development, from the proposal of this document. The conciliation, goes hand in hand with a change of rationality. Rationality oriented to make it possible:

- fairness, solidarity and justice. That is to say, we are talking of rationality, internal to the process of worldwide socioeconomic organization (internal limit).

⁷⁴ Promoted by the International Union for the Preservation of Nature, the Programme of the United Nations for the Environment and the Worldwide Fund for Wild Life (WWF).

- in all the territories and in the long term. That is to say, taking into account the limitations imposed by Nature (external limit).

This new rationality, is based on Preservation.

In 1984 the Commission for the Environment and Development was created (Brundtland Commission), to prepare the Conference of Tokyo, that was going to be held in 1986. The CMD was constituted by a group of independent people with the aim of:

- Analyse the situation of the Environment and Development, worldwide and in conjunction, and
- Set up strategies to attain the DS defined in the EMC.

It was institutionalized that way, the commitment to match two terms that had walked separated and even antagonistically.

In 1987 the document that contained the declaration of Tokyo, was published under the title of “Our Common future” (Brundtland Report).

To end, we will make only a reference to the Río-92 summit. Regarding the conceptualization of Sustainable Development, there are no major contributions, but there are, in regard to actions towards sustainability.

The Summit of the Earth, Rio-92, defined as its main objective, the design of a worldwide strategy based on Sustainable Development, starting with the recognition of the exhaustion of “a” model of development “ecologically predatory, socially depraved and politically unjust”.

The outcome of the conference, is summarized in three large documents containing, non binding political commitments, that make up the frame of reference for the application of the principles of Sustainable Development, The Charter of the Earth, the Declaration of Forests and the Agenda 21. The later is an action plan, where detailed actions to be carried out by the governments and organizations are included, to integrate the Environment and Development in the horizon of the XXIst century.

2. INTERPRETATION FROM THE DEFINITION OF THE LIMITS

In this section we will introduce, two elements that we consider key, for the conceptualization of Sustainable Development, the different interpretations of which, turn around at a large extent. Both are related with the limitations that the adjective “Sustainable” introduces in the term Development: an internal limitation and an external limitation.

The starting point, would be the following statement: Sustainable Development is a model of development, based on the satisfaction of human needs.

At first, this means:

- a) That it is a model of Antropocentric Development. Preservation, will be in any case therefore, subordinated to the human welfare.

- b) A model, based on Inter-territorial Solidarity.- Must contribute to the satisfaction of the needs in all the territories. With this, we would be answering to the first of the main questions, raised during the decade of the 70's. Sustainable Development is a kind of Development, that makes it possible its extension to all the territories.
- c) Solidarity between generations. - It must allow, the satisfaction of the needs of future generations. And with this, we would be giving an answer to the second main question. The model of Sustainable Development, gives an answer to the need to guarantee the Development in the Long-Term.

All that, subordinated to an ecological limitation. We would have to answer a series of questions, after 20 years, some better solved than others. We will focus on those that refer to: the needs that will contribute to satisfy the model and the ecological limitation.

2.1. Internal Limit

The first question in relation with the needs, is linked to the distribution of the resources in time. There exists an evident difficulty to determine the needs of future generations. Difficulties, derived from:

- The need of a temporary projection: ¿How many generations?
- Demographic projection: ¿How much population?
- Identification of the needs: what in neoclassical terms we would ask as: how do we detect the preferences and the choices of future generations?

There is a second question in relation to the needs, that must be satisfied:

The territorial distribution of the resources.- In this case, it is about identifying, the needs to be covered in the territories. What we are talking about now, is of the second element that has raised concern, about the limits of the model: the ecological impossibility to extend the model of satisfaction of developed countries needs to the whole world's population.

The answers offered by the economic literature to these concerns, are in many cases questions themselves. There nevertheless exist, clear differences depending on the starting point.

a) Relativistic vision:

On one hand, what we might call "relativistic" vision, would derive from a statement of this kind: "the needs to be satisfied are established by the cultural evolution, they are determined historically. And the knowledge that we have of our needs, changes in time, with our ability to satisfy them".

Facing the determination of the needs to be satisfied, it means:

- That at present, not all of us have the same needs. They will depend on: culture, history, territory, climate, living standards, and even age, social group, family structure... etc. Even on the capacity to satisfy them.

- In what refers, future generations, the process of needs creation, will follow its historical evolution, also linked to the ability to satisfy them, and to the historical and cultural changes, etc.
- And, finally, provided we recognize the existence of limits, this approach leads us to try to satisfy unlimited needs with limited resources.

Facing Sustainability, it means:

Since we start from the impossibility to guarantee the satisfaction of the current needs (of all the individuals) and the future needs with the model of Developed Countries.

- A hierarchy of needs is established and the objective of Sustainable Development will be fixed in granting the basic needs (linked to the survival): food, health, education (social sustainability).
- Under this approach, we focus on the modes of production of goods and services; so that technology and organization of production, plays a central role in the model of Sustainable Development, with the objective of optimizing the use of the resources.
- All that, is accompanied with recommendations regarding a demographical control.
- And finally, under this approach, the economic growth is specially required, at an accelerated pace in Southern countries.

b) Universalist vision.

On the other hand, the vision we might call “universalist”, would derive from a statement like: “the needs are not linked with history, what changes with time and culture is the way those needs are satisfied”.

As we did before, let us see first, what would this mean, facing the determination of the needs to be satisfied and what would this mean, facing Sustainability.

Facing the determination of the needs to be satisfied under this approach, it is considered:

- That the principal human needs are finite, not many and can be classified.
- But, besides that, these needs are the same for all the cultures and historical periods. The Sustainable Model, is aimed to satisfy the same needs of all peoples.
- What changes throughout the time and the cultures in this case, is not the kind of needs, but the way or the means used for the satisfaction of same (satisfactors).

Facing Sustainability, this means:

- First of all, the development we are talking about, is referred to the people and not to the objects. Therefore, the objective is to satisfy ALL human needs. Here, there is no hierarchy regarding the needs.
- Sustainability in this case refers, not to the needs to be satisfied (the internal limit is not linked with the needs to be satisfied, that are all) but is linked with the satisfactors.

- It is highlighted therefore the importance of the creation and the mediation between needs – satisfactors – and economic goods.
- The development of growth is unlinked by means of desmaterialization of the satisfactors.
- All, is accompanied with recommendations regarding redistribution.

In any case, the borders between both approaches are not sharp. Starting from the relativistic consideration, we could come closer to the other approach, by declaring that, even considering that the needs are historical and evolve with time and that the process of needs generation is continuous in time, “the study of the processes through which the needs are socially built, is at least as necessary, as that of those through which they are satisfied, with the goods and services produced by the economy”.

Although it is evident, that both approaches, lead to models radically different, anyway, in both cases the internal limit that marks the sustainability makes it necessary to reformulate the process of needs creation.

2.2. External limit

The second element, would be a restriction of ecological character.

The first question related to the ecological limit, once accepted the existence of the same, refers to its determination. What determines that limit? In which terms, is it established?

The answer generally accepted for this question, is based on a term, originating from ecology: the Capacity of Sustainability. So that it is accepted, that the ecological restriction comes imposed by the need to preserve the capacity of sustenance of the planet.

The capacity of sustenance of a particular territory, is defined from the ground of ecology, for a given species, as the maximum population of that species that can be maintained indefinitely, without a degradation in the foundation of the resources, that might cause a reduction of the population in the future.

The application of this term, originating from ecology, to the human species (which is the objective) is to be done taking into account, at least three considerations. These three considerations, would be the following:

- a) In the first place, the ecological degradation, may happen not only as a consequence of demographic pressure on the resources, but also because of because of pressure on production.

This is so, for two reasons:

- The pressure that a particular group puts on a particular ecosystem, is the pressure required to satisfy its needs but also to satisfy the needs of other groups (commerce). This becomes evident with those economies oriented to the exportation of goods.
- Then, the pressure does not depend only in the number of needs and the number of population; but also in the kind of productive process. This leads us, to the second consideration.

b) The Capacity of Sustenance depends on technology and social organization of human societies.

And finally: the third consideration we wish to do, regarding the application of the ecological concept of capacity of sustenance of human species refers to inequalities.

c) The pressure that unequal humans put on the base of Natural Resources is extremely unequal; we ought say ...extremely unequal humans is extremely unequal. There does not exist a species with so many differences, similar to human species. Territorial disparities, between groups, together with the transference of resources, makes it impossible to apply this concept to the human species, if it is not at a planetary scale.

We could conclude therefore, that the notion of C.S. is only meaningful in relation with the whole planet, and besides that, it depends on the technological level and social organization in a given historical stage.

That way, we could reformulate the concept of Sustainable Development in terms of C.S. saying:

“Sustainable Development is about improving human life’s quality, without exceeding the loading capacity of the ecosystems upon which it is based”.

“A society is sustainable from the ecological point of view when:

- It preserves the ecological systems that are the base of life and biodiversity.
- It guarantees the sustainability of renewable resources and reduces to a minimum the exhaustion of non renewable resources and..
- It remains inside the loading capacity of the supporting ecosystems.

Worldwide Strategy for Preservation – 1991 (p.25).

The second question related with the ecological limit, refers to the determination of the criteria of sustainability.

As a general rule, it has been accepted the definition of an economy as sustainable, if it is capable of maintaining its capital stock at a constant level in the time. After all, it is a criteria, linked to the capacity of production.

The condition of maintaining capital stock at a constant level, might be interpreted in different ways, what will give rise to different meanings for the concept of sustainability, that are usually grouped into two positions: strong sustainability and weak sustainability. Each of them is based on different assumptions.

a) Weak sustainability.

- Is based on the assumption of sustainability between natural capital and manufactured capital.
- This assumption is based on an optimistic attitude, towards the technological possibilities to replace the functions that nature plays in the production of goods and services.

- The possibility to measure the monetary value of the environmental goods and their deterioration.

Under all this considerations, weak Sustainability, would remain conditioned by “the maintenance of the monetary value of total capital stock”.

b) Strong Sustainability:

- On the other hand, strong sustainability lays on the assumption of complementation between natural capital and manufactured capital. What it is rather done, it is to refuse the possibility of a perfect substitution, and add, that the relation between natural goods and goods manufactured by man, is a relation of complementation. Some of them, will be useless for humans, without the others.
- From this point of view, technological progress, will never remove the need of the natural capital for the elaboration of manufactured capital.
- On the other hand, it is considered the necessity to use physical indicators for the measurement of the capital, non monetary.

Under all these considerations, strong Sustainability would remain conditioned by the maintenance “of the natural capital stock and manufactured capital, separatedly and in physical terms”.

3. INTERPRETATION FROM THE DEFINITION OF BRUNDTLAND’S ⁷⁵ REPORT

Let us focus our attention now, in the interpretation of the concept of Sustainable Development derived from the contents of Brundtland’s Report.

Brundtland’s report, defines the Sustainable Development as:

The Development that satisfies the needs of the current population without jeopardizing its capacity to satisfy the needs of future generations.

First of all, the objective, is the satisfaction of human needs.

It contemplates the existence of ecological and moral restrictions.

Then, Sustainable Development, would imply the need of growth of Southern countries.

It requires besides, a demographical control.

⁷⁵ It was in 1987 that the concept of sustainable development was genuinely formalised. Under Mrs. Gro Harlem BRUNTLAND’s impulse, the World Environment and Development Commission published a report that defined sustainable development as follows:

«It is a development that answers the present needs without compromising the future generations’ ability to answers their ones. Two concepts are inherents to this one: the concept of «need», and particularly of essential needs of the most destitute people, to which it is indispensable to give the priority, and the idea of the «limitations» that our techniques state and social organisation impose to the ability of environment to answer the present and future needs».

Sustainable Development would be additionally a model of development, that considers the existence of final limits.

Under the Sustainable Model, preservation is subordinated to human welfare.

And, finally, Sustainable Development, requires the rational use of non renewable resources.

This is the scheme that we are going to follow: for each of the seven elements that we have described, we will start from a textual statement of done in the Brundtland's Report, we will make a comment on this statement that will contribute to its interpretation within the frame of the report, to establish afterwards, the relation with the limits we talked about, in the previous section.

1. Objective: the satisfaction of human needs.

“The principal objective of development is the satisfaction of human needs and aspirations”.

The Brundtland's Report makes a special emphasis in the fact that sustainability requires, in particular, the satisfaction of the essential needs of poor people, to which a prevailing priority would always be given.

The concept of Sustainable Development at Brundtland's Report is linked to the idea that poverty is one of the principal causes of over-exploitation of the natural resources.

We must not forget, that the formulation of Sustainable Development as a model of alternative development, gives answer to the need of proposing a worldwide consensus for the protection of the environment under the pressure of underdeveloped countries. Taking into account besides, that without its collaboration, it will be impossible to slow down the auto-destructive tendencies of the system.

In relation to the internal limit of which we talked about previously, development must guarantee the satisfaction of the basic needs of the whole population, therefore, the relativistic vision of the process of construction of needs.

2. Restrictions: ecological and moral

In relation with the second element, Brundtland's Report textually states “The way human needs and aspirations are satisfied by means of development is subordinated, between other things, to two kind of restrictions: ecological restrictions and moral restrictions”.

There is an explicit recognition that some of us live, above ecologically acceptable means. Therefore, Sustainable Development, requires the promotion of values encouraging behaviours to which any one may reasonably aspire.

It refers therefore to the “mode” in which they are satisfied, and not to the type of needs, neither the formulation of the same.

The concept of Sustainable Development is linked to the idea that: the way productive processes are carried out, mainly in the case of industry, is the cause the deterioration of

the environment. Likewise, it is attributed to the habits of consumption of northern countries.

Therefore, in what refers to the internal limit, the establishment of the new model of development, requires the transmission of new values that might orientate a change of behaviour.

3. Economic growth of the Southern Countries

And finally, it is stated that “for the satisfaction of the essential needs, economic growth is required on those places where these essential needs are not satisfied”. That is to say, it is required, the growth of the Southern countries.

To promote the growth of the Southern countries, international cooperation is proposed specially, in what refers to the financing of the development and technological transferences.

Growth is understood as a requirement of sustainability.

The ecological limit does not hinder the possibility of increasing production. This is so, because of the confidence, in the possibilities of the technological change.

4. Demographical Control

“Sustainability of the model, requires, besides a conscious form of demographical control”. It advocates the search of harmony between the demographical evolution and the productive potential of the ecosystem.

It refers mainly to the need of controlling the phenomenon of the demographic explosion of underdeveloped countries. The binomial of poverty plus demographic growth is considered as an ecological danger.

Regarding the limits, this statement would be linked, to the capacity of sustenance understood in ecological terms, that is to say, linked to the number of individuals, that the ecosystem might maintain in a sustainable way.

The four elements that we have previously described are strongly linked to the question of underdevelopment. The following three next elements, will focus more on the natural resources and the ecological limitations.

5. There exist end limits

Brundtland’s Report, states that: “From the point of view of the population or of the use of resources, there are no fixed limits. Nevertheless, development cannot put at risk the natural systems that sustain life on the Earth: atmosphere, waters, soils and living creatures”.

There are no fixed limits regarding the population. At the beginning that seems to be a contradiction in respect of what we had previously stated, in relation to the need of a demographical control. Somehow this is not like that, because the concern regarding the demographical growth is referred to the Southern countries.

The possibility of displacement of the limit, both in what refers to the population and the use of resources is based on the confidence on the technological progress as a element contributing to the expansion of these limits.

On the other hand, when the Brundtland's Report talks about end limits, it is considering Nature, as a source and habitat for life. Regarding other functions, like warehouse of materials and energies or recipient of wastes, here technology enters into the stage, to move the limits.

6. Preservation subordinated to the human welfare.

“Economic growth and development imply changes in the physical ecosystems. Not every ecosystem can remain intact in any place”.

That way, preservation is not an absolutely mandatory imperative for sustainability.

Here Brundtland's is heir of the Worldwide Strategy for Preservation which main objective, is to guarantee the best use of resources in the long term.

It is possible, a sustainable exploitation of resources, that removes the limitation on the process of needs generation.

7. Rational use of non renewable resources.

“The use of non renewable resources must be as slow as possible”. Sustainability, passes by the adoption of paces of exploitation of this kind of resources in a way, that it is guaranteed they are not exhausted before a convenient substitute is found.

The exploitation of non renewable resources, does not contradict sustainability in spite these are exhausted, provided their exhaustion is preceded, of some kind of innovation that allows their substitution.

Therefore, we are in front of what we have previously denominated weak sustainability. Sustainability is not linked to the maintenance of natural capital, but to the possibility of replacing the exhausted elements by any other resources, either natural or manufactured by man.

4. OPERATIVE CRITERIA

Logically, the efforts aimed at clarifying the contents and the scope of the model of Sustainable Development, have as objective, to show the way that the economic system must go across towards that model. It is therefore interesting now to try to make the reflections that we have raised here, operative, in a way they allow us to translate the definition of the model into objectives and instruments of public policies.

The Worldwide Strategy for the Preservation of Nature in the 90's, has proposed seven principles of Sustainable Development, that were not formulated with much accuracy. We will take the principles that we are going to enumerate next, collected by J. Riechman in the collective work “About economy and ecology” published in 1995 in Trotta. Principles inspired in the article of E. Daly of 1991 under the same title. A similar approach is followed by M. Jacobs in “Green Economy”, 1991.

These principles are established under the light of the consideration of the following elements:

A) Functions carried out by the biosphere in its interaction with the economy:

- Essential source of life and habitat for living creatures.
- Warehouse of energy and raw materials.
- Rubbish tip of wastes.

B) Type of natural resources.

- Permanent at a human scale. Like the sun, light, wind, rain.
- Renewable.
- Exhaustibles. Both those recyclables, and those that are exhausted irreversibly.

C) Technology. In the measure, it plays a essential role in the interrelation between man and the nature.

1.- Principle of Zero Irreversibility:

Considering biosphere, as a essential source of life, it is considered a principle of unrenounciable sustainability, the principle of Zero Irreversibility. This means, to reduce to zero the cumulative interventions and irreversible damages.

2.- Principle of sustainable collection:

Aplicable to the way of exploitation of the renewable resources. The sustainability of the said exploration would be guaranteed, provided the rates of collection, would match and equal the rates of regeneration. The reduction of the rate of regeneration of the resource, is considered as a capital loss, as it means a loss in the capacity of production. Therefore it is considered as non sustainable.

3.- Sustainable Emptying Principle:

Due to the fact that the recycling is never perfect and that it requires the use of energy, the exploitation on non renewable resources, both whether they are recyclable or not, will be governed by the same principle of sustainable emptying. It would be necessary to clarify, in any case, that the exploitation of these kind of resources, from the strict point of view of sustainability is not sustainable. Therefore the principle of sustainable emptying would say: is almost sustainable the exploitation of non renewable natural resources, when their emptying rate match and equals the rate of creation of substituting renewables.

4.- Principle of Sustainable Emission:

It is a principle referred to wastes and residues. The rate of wastes emission must be lower than the capacity of assimilation of the ecosystems to which wastes are emptied to. This would imply the emission of zero non biodegradable residues.

5.- Principle of Sustainable Selection of Technologies.

Regarding technology, according to this principle, technologies honouring the above mentioned principles and the selection of technologies that would increase the performances in front of all the other, directed to the growth of production, would have priority.

6.- Principle of Caution:

Finally, this principle is inspired in the acceptance of the existence of uncertainty linked to the complexity of the phenomena and the limitation of our knowledge on the effects of our activity on Nature. Given the magnitude of the risks, it is a recommendation that would lead us to rule out, actions that might give rise to serious effects even when the probability they might happen might seem to be small.

The four first principles, are really operative in way, their observance is susceptible of measurement, through the set up of indicators that might orientate the attainment of the objectives.

6. CONCLUSIONS

The path towards the integration of the strategies related with the Environment and the Development, that culminate in the concept of Sustainable, described in the document “Our common future” known as the Brundtland Report. This opens a new stage in the debate of Environment – Development seeking the compatibility between both.

Sustainable Development, implies an integral approach of Development: the recognition of its social, environmental and cultural dimensions. It implies the harmonization of the productive structures with a sense of distributive fairness, ecological responsibility and endogamous cultural identity.

Is is a model of Development based on the satisfaction of the needs.

It is a Worldwide Strategy for the Development based on common goals and values: local diversity – regional in the institutional scope Instrumental and international cooperation.

It is the result of the symbiosis between Human Development and a Strategy for Preservation. Thus, it was reflected in the report of PNUMD – 92.

The goal is to “Attain a current development that allows that future generations might cover their needs, putting the person in the focus of attention”.

There exist though, important operative difficulties:

- We still lack consensuated indicators.
- There are still too many countries and peoples whose only concern is to survive, what relegates it to a secondary role, any consideration relating other generations.

Regarding the basic discussion about the contents and the scope of the concept of Sustainable Development, we might propose as a global synthesis, the existence of two different visions that will correspond to different ways of doing:

Limits: two visions, two ways of doing	
<p>Development focused on production. It is linked to growth.</p> <p>Main element sustainability: technological change. Preservation: maintenance of total capital in monetary terms.</p> <p>Hierarchy of needs. Objective, satisfy basic needs. Incision is made into the processes of production. Technology and organization of production key elements in optimizing the use of resources. We need to confirm the technological progress.</p> <p>Recommendations demographic control and the need of growth (Sourhtern countries).</p>	<p>Development focused on persons. It is unlinked of growth.</p> <p>Main element of sustainability: assumption of control. Preservation: maintenance of natural capital in physical terms.</p> <p>Development refers to the people and not to the objects. The objective of the model is to satisfy ALL the needs.</p> <p>Sustainability refers to the satisfactors. The internal limit is not linked to a limitation of the needs.</p> <p>Incision is made into the processes of creation and mediation between satisfactor and economical goods. Confidance in our capacity to seize these processes to lead them.</p> <p style="text-align: center;">Recommendations on redistribution.</p>

So that the debate, remains open:

1. The discussion about the means required for the attainment of sustainability should not divert our attention from the obectives: natural environment and distribution.
2. Two common criteria (capital maintenance and needs satisfaction) – multiple interpretations.
3. Sustainable Development implies a CHANGE OF RATIONALITY.
 - Changes in the internal relations of the socioeconomic system: the way the process of needs satisfaction is organized.
 - Changes in the relations with the physical environment: the way the process of needs satisfaction is organized.
4. The study of the processes through which the needs are built socially is, at least as necessary as that of those through which those needs are satisfied with produced goods and services.
5. Sustainability is related with the scale (external limit) and the mode of social construction (internal limit).
6. Implications on territorial actions and the own definition of territory: space of social construction of needs with the capacity to assume the control in the way these are built and satisfied.