



**HAL**  
open science

# Systemic approach and modelling of the socio-spatial segregation phenomenon of cities in the east of France

Kawtar Najib, K. Askassay

► **To cite this version:**

Kawtar Najib, K. Askassay. Systemic approach and modelling of the socio-spatial segregation phenomenon of cities in the east of France. International Conference of Territorial Intelligence, Huelva 2007. Papers on territorial intelligence and governance, participative action-research and territorial development, Oct 2007, Huelva, Spain. pp.479-495. hal-00767276

**HAL Id: hal-00767276**

**<https://hal.science/hal-00767276>**

Submitted on 20 Dec 2012

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

**“Systemic Approach and Modelling of the Socio-Spatial Segregation  
Phenomenon of Cities in the East of France”**

*Kawtar NAJIB, Karima ASKASSAY*

**Kawtar NAJIB, Karima ASKASSAY**

Geography  
Laboratory ThéMA, UMR 6049 CNRS  
UFR Lettres SHS, 32 rue Megevand  
25000 Besançon  
France  
kawtar.najib@univ-fcomte.fr  
askassay@yahoo.fr

NAJIB K., ASKASSAY K., 2008: “Systemic Approach and Modelling of the Socio-Spatial Segregation Phenomenon of Cities in the East of France”. in: Acts of International Conference of Territorial Intelligence, HUELVA (Spain), 24-27 October 2007.  
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

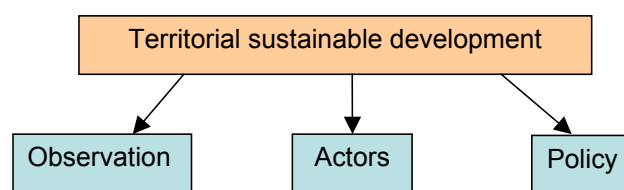
Science changes. Henceforth, there exists the need to radically break with the existing research system. Participatory research-action implies that a distribution of the knowledge leads to a distribution of power. Those with the power and responsibility to take decisions base decisions not only on territorial 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].

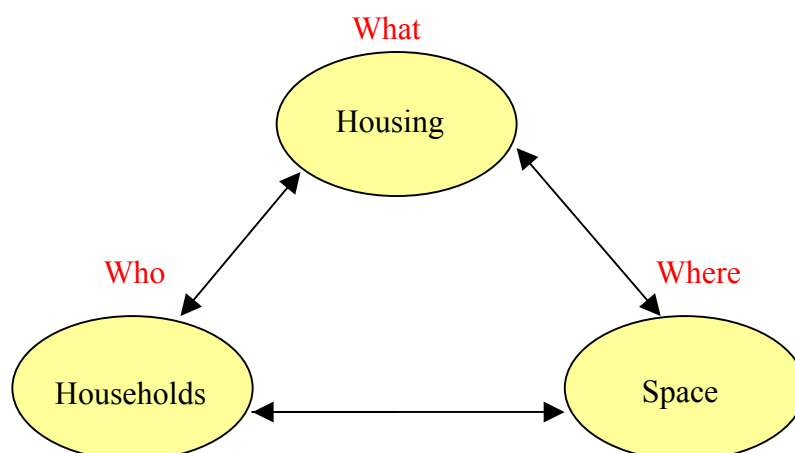
The approach of management system is primarily based on the study of the mode of coordination between the components of the studied system. The behaviors of the actors and the mode of functionality of a system or a situation appear like objectivables in theory and like being able to be studied on the 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 19<sup>th</sup> 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**

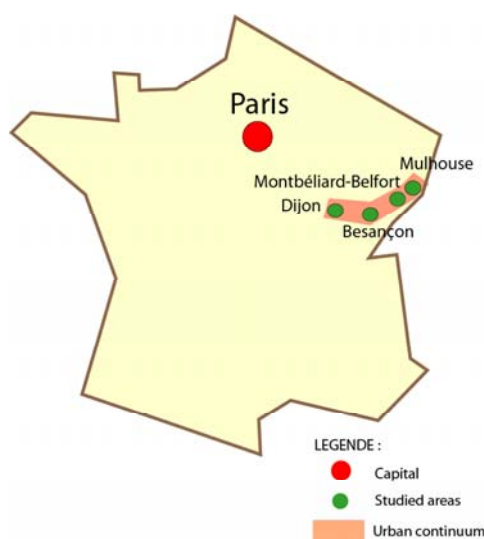
This problem, seen in all media and political and cultural debates, differs from one country to another, from one city to another by its genesis, its intensity, its way of division and its urban forms. Urban segregation has undeniably an impact on the functioning of society, the individual or collective 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.

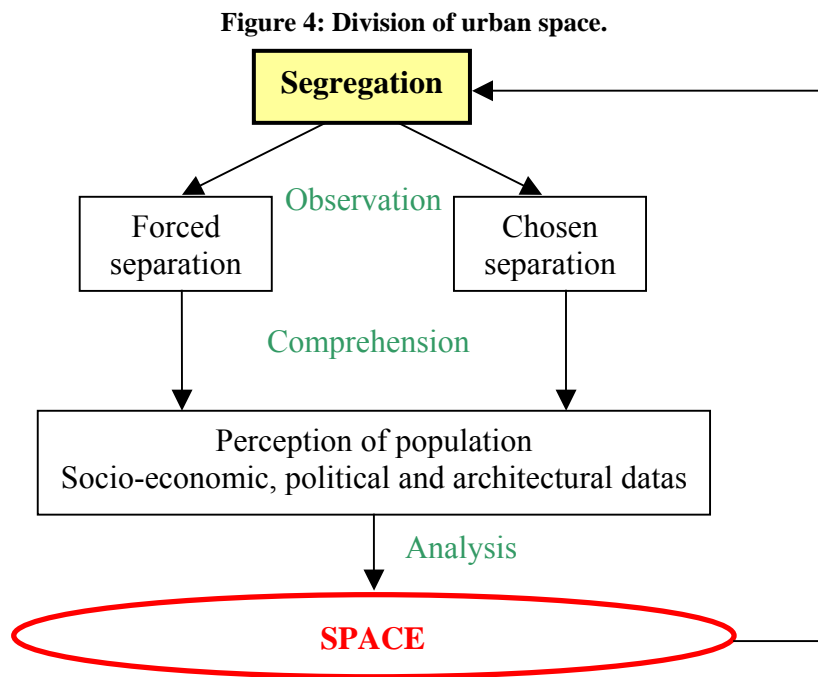
### **3. OBJECTIVES OF WORK**

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 19<sup>th</sup> 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.

## **BIBLIOGRAPHY**

Daumas, J-C. and Girardot, J-J. and al. (2002) Programme de recherche de la Maison des Sciences de l’Homme Ledoux. Pôle 1 «Intelligence Territoriale». Sous la direction de F. Favory.



- Girardot, J-J. (2003) The information technologies applied to social sciences. The concept of territorial intelligence, conference in Tunghai University (Taiwan).
- Bertacchini, Y. and Herbaux, P. (2003) Mutualisation et intelligence territoriale, *International Journal of Information, Savoirs, Décision & Médiation*, n° 14, 11 p.
- Dumas, P. (2003) Entre la création de contenus et l'intelligence territoriale: la dimension éthique, 2<sup>e</sup> rencontre internationale à Saint-Raphaël «TIC et Territoires: quels développements», 4 p.
- Girardot, J-J. (2004) Intelligence territoriale et participation, 3<sup>e</sup> rencontre internationale à Lille «TIC et Territoire: quels développements» Enic et Cies, 13 p.
- Girardot, J-J. (2000) Principes, Méthodes et outils d'intelligence territoriale. Evaluation participative et observation coopérative, in «Conherce melhor para agir melhor», séminaire européen de la Direction Générale de l'Action Sociale du Portugal, à Evora, DGAS, Lisbonne, pp 7-17.
- Amiotte-Suchet, L. and Miedes-Ugarte, B. and al. (2007) European letter of quality on action-research favoring territorial governance and sustainable development, CAENTI, International conference of territorial intelligence in Huelva, 18 p.
- Bazin, H. (2003) Pour la mise en place d'espaces de recherche-action, *Espace populaire de création culturelle*, 53 p.
- Brydon-Miller M. et al. (2003) *Why action research?* SAGE Publications, 22 p.
- Brundtland, G-H. (1987) Rapport de la Commission Mondiale pour l'Environnement et le Développement, «Notre Futur Commun», 51 p.
- Agenda 21 de la Conférence des Nations Unis sur l'environnement et le développement à Rio, 1992 et à Johannesburg, 2002.
- Maurin, E. (2004) *Le ghetto français, enquête sur le séparatisme social*, La République des idées, Seuil, 96 p.
- Haumont, N. and al. (1996) *La ville: agrégation et ségrégation sociales*, Habitat et Société, l'Harmattan, 219 p.
- Fitoussi, J-P. (2004) *Ségrégation urbaine et intégration sociale*, 327 p.
- Grafmeyer, Y. and Joseph, I. (2004) *L'Ecole de Chicago. Naissance de l'Ecologie Urbaine*, Paris, Flammarion, 377 p.
- Bassand, M. (1997) *Métropolisation et inégalités sociales*. Lausanne, Presses Polytechniques et Universitaires Romandes, 245 p.
- Lagarenne, C. Tabard, N. (1998) *Inégalités territoriales de niveau de vie*, INSEE première n° 614, 4 p.
- Najib, K. (2005) *Le niveau de loyer du secteur privé; un bon indicateur du marquage social des quartiers de Besançon*, Mémoire de Master 2 Professionnel Intelligence Territoriale, UFC, 50 p.

Paulet, J-P. (2002) Les représentations mentales en géographie, *Economica*, 152 p.

Houssay-Holzschuch, M. (1996) *Mythologies territoriales en Afrique du Sud, Essai de géographie culturelle*, Ed. CNRS, 112 p.