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Analysis of the game of actors for the management of the urban extension. case of the urban pole of the city of Bouira

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Abstract. The city is a very complex system produced by the various interventions carried out by different actors. The diversity of these actors influences the different decisions taken concerning the future, the development and the management of urban spaces in cities. In this perspective, it is essential to question the transformations experienced by these cities from the actors, while emphasizing their role and their impacts. Bouira is a medium-sized city that has undergone significant development in recent years, particularly in terms of spatial growth, which has been to the detriment of land with high agricultural potential. All the interventions in the city are carried out by different actors working in various fields, whose interests are not necessarily convergent. Indeed, "without a detailed analysis of the interplay of actors, the scenarios lack relevance and coherence" (Michel Godet, 2007). To this end, this article aims to analyze the game of actors contributing to the construction of a future image of the city of Bouira. Through the use of the Mactor method, we will define the nature of the relations between the different actors concerning the project of the urban pole of Bouira, while trying to define their roles, their direct and indirect influences between them and to identify their convergences and divergences.

Keywords. Sustainable urban development, city, Bouira, game of actors

1. Introduction

The growth of cities in recent decades has meant that the concern of the state is focused on the development of new peripheries to meet the needs of the inhabitants [1].

In the city of Bouira, the issues related to urban development projects are diverse. This depends on the objectives of the public policies undertaken and the actions carried out by the different actors. The latter are looking for a desirable future for the city of Bouira which mobilizes actors at different levels (national, regional, local). In the case of the Bouira urban pole project, these actors will influence its success in a positive or negative way.

The success of such a project will undoubtedly require the involvement of all actors and the unification of their objectives. These are called to work in partnership and in governance to bring the project to term.

2. The city as a complex system

For a long time, cities have been the object of multiple scientific interpretations as an object of study by several disciplines. Given the complexity and diversity of the urban fact, it is almost unrealistic to think of understanding this concept [2]. Indeed, each discipline highlights elements and indicators that consolidate its definition of the concept of the city or the urban phenomenon.

Since its birth, the city has undergone major transformations in terms of structure, form and functioning. This leads to a development of mobility systems and practices in the form of an urban transition [3]. It is considered as « *a dense habitat, characterized by a differentiated society, a functional diversity, a capitalization and a capacity of innovation that are part of multiple networks of interaction and that form a hierarchy, including increasingly complex nodes as one goes from small cities to larger ones* » [2]

These transformations mean that cities are made, developed and evolve in time and space. The history of urban planning shows that "cities have been marked by profound changes over the last few decades, affecting the way urban space is organized, how people move around in it, how they appropriate it, and how they insert new functions and new types of fabric (more or less enclosed peri-urban residential spaces, business districts, peripheral commercial concentrations, technopoles) [4].

The city is a territory that contains several components that weave unlimited relationships between them. This multitude of components makes this territory very complex and its explanation becomes more and more difficult. Referring to all these data, the city is strongly qualified as a system that requires new methods and tools for its analysis. A system is qualified as complex when the interaction of a large number of entities favors the emergence of a global phenomenon that cannot be reduced to the understanding of local interactions. To facilitate this system, the systemic approach is necessary. This approach aims to find the most relevant elements to facilitate the understanding of the city [5].

The systems approach is based on the importance of detecting the different links between the components of the system. Jambaud (2013) expresses that « *The study of complex systems, interdisciplinary in nature, allows for a better understanding of urban systems where many parameters interact; transportation, energy, habitat, ... etc, and inflow increasing masses of data to be processed* » [6].

Thus, the complexity of the city cannot be summed up in the multiplicity of its components. It is thus the result of the variety of actors who contribute to its making. These actors act in a qualified environment with multiple intentions and objectives and different interests.

3. The actors of the city

Generally speaking, the actors of the city are all those who act for the benefit of the transformation of territories. They can be public (municipalities, State(s), developers, companies) or private collectives or individuals (investor, merchant, user, inhabitant, citizen).

By definition, an actor is defined by the intentionality of his approach which expresses the will to act with a more or less elaborated and formulated strategy, while having an impact on the urban space [7].

Indeed, the actors act in the urban space according to their legal, political and financial means, and their conception of the city. They work in collaboration, in partnership to achieve common intentions and objectives, which are sometimes contradictory. A player cannot act

alone. He interacts with others and his actions form a system supported by a game of actors that shapes the role and action of each.

In order to understand the nature of the relations between the actors in the city, it is necessary to consider a detailed analysis of their game. Thus, analyzing the interplay of actors often means studying the partnerships and negotiations, but also the conflicts between elected officials, residents, and city professionals (architects, urban planners, developers, companies or service institutions) [7].

4. Definition of the study area

Located in the POS AU6 on the northern side of the urban center of the city of Bouira, the urban pole covers an area of 52 Ha (See Figure 01). It is an agricultural area as well as its surroundings, which are class 01 agricultural land. The land base was chosen by the local authorities to receive a very important program composed of 24 equipments and 3798 housing units of all segments.



Figure 01: Situation of the urban pole of Bouira

5. Identification of the project of urban pole of Bouira

5.1. The context of the project

In reality, the emergence of urban centers is an objective of urban planning. It ensures that the production of the city is a perfect product to meet the needs of the inhabitants. The evolution of the city increasingly shapes its urban forms and growth patterns. Nevertheless, and in a real world, the perfect city does not exist. Most cities in the world suffer from a variety of urban problems that affect the lifestyles of their inhabitants.

The urban growth induced by the rapid movement of people from the countryside to the urban centers has allowed the city to adapt to take care of the new populations. As a result of this urban dynamic, urban spaces are overwhelmed with problems that must be dealt with.

The report of the degradation of Algerian cities is well known by most actors. In this sense, the Minister of Land Management and City recognizes the degradation of urban centers by stating that « *problems related to the quality of life, social inequalities between neighborhoods and territories, and an inefficient urban management of proximity* » [8].

In the case of the city of Bouira, the need for housing and equipment exceeds the expectations of the inhabitants. On this, it has benefited from a substantial program in terms of housing and equipment for which a land base has been reserved. Indeed, the realization of the project of the urban pole is to give a new district in Bouira and to make a reality both physical and social. Following the of the state which aims at the realization of 2 million dwellings, the local authorities of Bouira have prepared the ground since 2011 to receive such a program. It is 24 local facilities and 3798 housing registered under the five-year 2010 - 2014.

The project itself is part of a city policy that aims to concretize the national policy concerning the different strategies of urban development of cities. On the other hand, the project tries to answer the principle of sustainable development by respecting the orientations of the n°06-06 of 20/02/2006 relating to the law of the orientation of the city which aims at defining the policy of the city within the framework of the sustainable development policy.

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This phenomenon can only be solved if there is a willingness on the part of the state and the various actors. Indeed, the state, through its institutions, is trying to « *produce a shared reference framework for urban policy and to provide public actors with a global and integrated vision of urban policy, capable of correcting existing imbalances, ensuring harmonious growth of cities and planning for the sustainable development of cities* » [8].

5.2. The housing program

The project of the urban pole houses a housing program of 6798 units including 1602 units LPL, 1600 units LV and 596 units LPP. This program has been notified by the Ministry of Housing to the wilaya of Bouira and assigned to the various project managers (OPGI, E NPI and AADL). The realization of this program is done by sets registered at the level of the ministry according to the demand and the financial envelope allocated to the project owners.

5.3. The land as a constraint of realization

Before any project is carried out, the question of land is essential in order to find a site for the project. The choice of land for the urban pole of Bouira was difficult because of the scarcity of urbanizable land and the legal nature of the land (private land or collective agricultural exploitation -CAE-).

Prospecting has been underway since 2008 with visits to various sites. The current project site represents class 01 agricultural land owned by the CAE. Located outside the urban perimeter, its integration has required to resort to the procedure of distraction of the agricultural regime to the benefit of the municipality in 2011 and in application of the provisions of the Ministerial Circular N° 191 of 29 March 2011 on the distraction of agricultural land for the realization of public facilities. Subsequently, a revision of the Master Plan of Development and Urban Planning (PDAU) of the municipality of Bouira was launched, which allowed the integration of this land in the urban perimeter.

6. Identification of the different actors and their objectives

By definition, Michel Godet presents an actor as: « *a homogeneous group with common objectives and means of action, implementing the same strategy and displaying a balance of power in relation to other actors* » [9]. In this sense, this work was carried out on the basis of a survey questionnaire carried out with all the actors involved in the urban pole project.

Within the framework of the realization of the urban pole project of Bouira, all the actors who intervene in its achievement present objectives which seem convergent for some and divergent for others. To define these objectives, we have based ourselves on the identification of the role and mission of each intervening actor.

Table n° 01: List of actors

N°	ACTEUR	ACTOR	ABRÉVIATION
1	Collectivités locales	Local Authorities	CL
2	Secteur Habitat	Housing sector	SH
3	Service d'Hydraulique	Hydraulics Department	SHY
4	Service Agricole	Agricultural Service	SAg
5	Education	Education	EDc
6	Travaux Publics	Public Works	TP
7	Services d'Environnement	Environmental Services	SE
8	Protection Civile	Civil Protection	PC
9	Algérie Télécom	Algeria Telecom	PTT
10	Service d'Adduction en Eau Potable	Drinking Water Supply Service	SAEP
11	Office National d'Assainissement	National Sanitation Board	ONA
12	Service de Sonelgaz	Service of Sonelgaz	SSo
13	Entreprises	Companies	ETB
14	Maitres d'ouvrages	Owners of works	EPIC
15	Bureaux d'études Techniques	Technical consulting firms	BET

Table n° 02: List of objectives

N°	OBJECTIVE	ABBREVIATION
1	Densify the urban fabric	DTU
2	Taking care of the needs of the population	PBP
3	Limit the expansion of the city on the north side	LEN

4	Realize all the amenities (water, gas, electricity, green spaces,...)	RTC
5	Provide quality housing and sufficient community facilities	FLEQ
6	Reduce precarious housing	RHP
7	Involving citizens	FPDC
8	Maintain a mix of housing	MMH

6.1. Elaboration of input matrices

After having carried out the census of the actors involved in the project of the urban pole of the city of Bouira, and the definition of the strategic objectives, two input matrices were elaborated:

- A matrix of direct influences (MID) "actors/actors", which expresses the influence of each actor on the others;
- A matrix of valued positions (2MAO) "actors/objectives", which explains the positions of each actor (favorable or unfavorable) in relation to each objective.

Table 03: Matrix of direct influences (MID) actors x actors

MDI	CL	SH	SHY	SAG	EDc	TP	SE	PC	PTT	SAEP	ONA	SSo	ETB	EPIC	BET
CL	0	1	2	3	3	1	2	2	1	1	1	1	3	1	3
SH	1	0	2	2	4	3	3	2	1	1	2	1	3	1	3
SHY	1	2	0	2	4	2	1	3	0	1	2	0	1	0	1
SAG	2	2	3	0	2	2	2	0	0	2	0	0	0	2	2
EDc	0	2	0	0	0	2	0	3	3	3	0	3	0	1	0
TP	2	2	3	2	2	0	0	2	0	3	3	2	0	3	3
SE	2	2	2	3	2	0	0	3	0	2	2	0	0	3	0
PC	2	3	0	3	2	2	0	0	3	2	3	2	3	3	3
PTT	1	3	0	0	2	3	0	3	0	0	0	3	0	3	2
SAEP	1	3	1	0	4	3	2	3	0	0	3	0	3	0	3
ONA	3	3	1	3	3	3	3	3	0	3	0	0	3	0	3
SSo	1	1	0	4	1	3	0	3	3	0	0	0	0	0	0
ETB	1	1	3	4	0	0	1	0	1	0	0	0	0	0	1
EPIC	2	2	3	2	0	2	0	2	0	2	0	2	1	0	1
BET	1	1	1	2	0	3	1	2	3	0	3	0	1	0	0

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The influences were noted from 0 to 4 according to the importance of influence of each actor on the others.

0 : No influence

1: The actor influences the project's operating process (administrative procedures)

2: The actor influences the type of project

3: The actor influences the missions of the actor.

4: The actor determines the existence of the actor.

2MAO	DTU	PBP	LEN	RTC	FLEQ	RHP	FPC	MMH
CL	1	1	1	1	1	1	1	1
SH	1	1	1	1	1	1	1	-1
SHY	1	1	1	1	1	1	-1	-1
SAG	1	1	1	1	0	1	-1	1
EDc	0	1	0	0	1	1	1	-1
TP	1	0	1	1	1	1	1	1
SE	1	1	1	1	1	1	1	-1
PC	-1	0	1	1	1	1	-1	0
PTT	1	1	0	1	1	1	-1	0
SAEP	1	1	1	1	1	1	1	1
ONA	0	1	1	1	1	1	1	-1
SSo	-1	1	1	1	1	1	-1	1
ETB	-1	1	1	1	1	1	-1	-1
EPIC	-1	1	1	1	1	1	1	-1
BET	1	1	1	1	1	1	1	1

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Table n° 04 : Matrix of valued positions (2MAO) actors x objectives

The positioning of the actors in relation to the objectives studied is based essentially on the nature of their relationships with respect to these objectives. Indeed, a matrix of valued positions (2MAO) was established at the beginning by noting the position of each actor in relation to the objectives. This rating was done in the following way:

- 1: Actor unfavorable to the achievement of the objective
- 0: neutral position
- 1: Actor in favor of achieving the objective

7. Analysis and discussion of actor strategies

7.1. The nature of the relationship between the actors

The first objective of this step is to characterize the nature of the relationships between the different actors by establishing the plan of influence and dependence between the actors. This plan provides information on the positioning of the actors according to their roles in the process of realization of the project of the urban pole of Bouira. This plan was the result of the data elaborated by the Mactor method. This result is represented by the following figure:

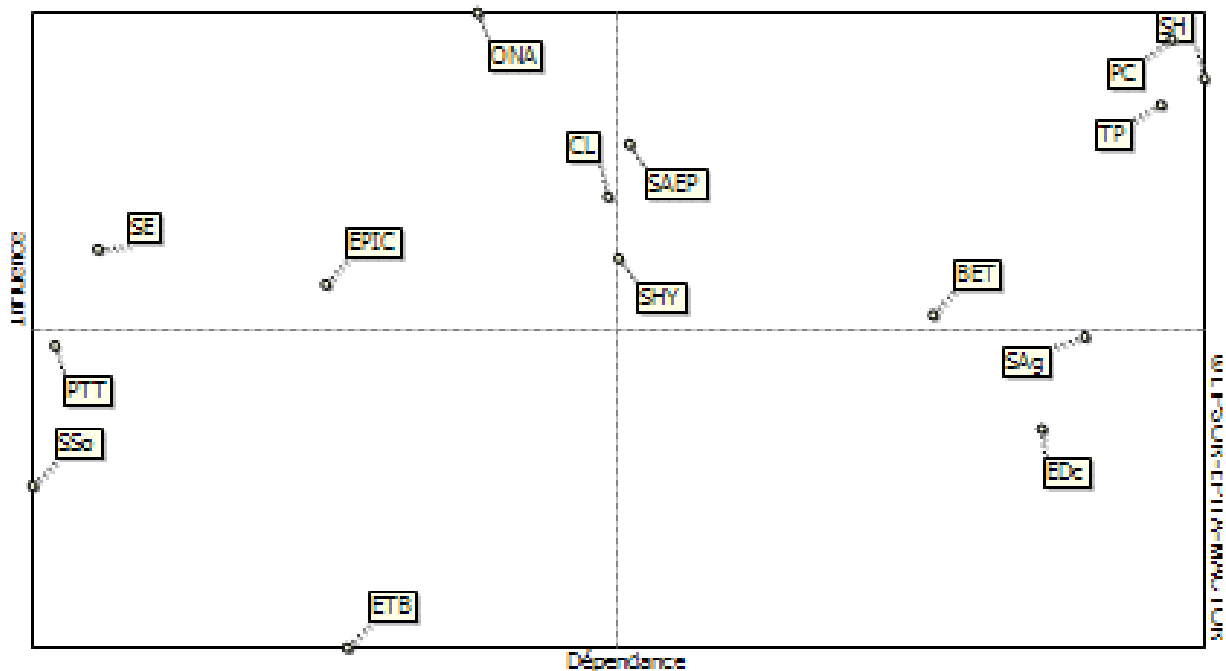


Figure 02: plan of the influences and dependencies between the actors

The analysis of this graph makes it possible to visualize the position of each actor concerned according to its influence and its degree of dependence in relation to the other actors. In order to succeed in the realization of the project of the urban pole. It shows four categories of actors:

A. Relay Actors (North-east):

This category of actors has a very strong influence but also very dependent. In this case, it is the housing sector (SH), public works services (TP), civil protection (PC), and in lesser importance we find the design offices (BET) and the drinking water supply services (SAEP).

The housing sector includes the Department of Urban Planning, Architecture and Construction (DUAC), the Housing Department (DL) and the Public Facilities Department (DEP). This one is very influential by its role in the study and the follow-up of all the operations of realization on the site of the urban pole. In addition, it plays a role in issuing building permits and ensuring compliance with urban planning instruments. It can also control other sectors in terms of setting up services for the benefit of the inhabitants. However, it is characterized by its dependence on other actors. In this case, it is the local authorities, represented by the State, in particular the Ministry of Housing and Urban Development. They reserve the right to make decisions and provide financial resources.

The engineering offices are also one of the most involved actors. Their role is very important in the study and monitoring of projects on site. However, this actor always remains influenced by the housing sector and the communities in order to better respect the regulations and the urbanism rights on one hand and to make sure to respect and protect the environment on the other hand.

B. The dominant actors (North-West) :

This category of actors has a great deal of influence on the others without them being strongly influenced. In our case, it is represented by the local authorities (LC), the contracting authorities or Public Establishment of Industrial and Commercial character (EPIC), the National Sanitation Office (ONA) and the Environment Service (SE). The local authorities are the main influential actors through their decision-making powers and their financial contributions to the other actors. We also note that the EPICs (OPGI, ENPI and AADL) are considered to be influential and dominant actors thanks to their role as project owners.

C. Autonomous actors (South-West):

This category includes actors with little influence and little dependence. They do not have the power or strong influence to act on the different actions contributing to the realization of the urban pole project. In our study, these are the Sonelgaz Services (SSo), Algeria Telecom (PTT) and the companies carrying out the work (ETB). The analysis of this category has shown that despite the autonomy of these actors, they remain influenced along the process of realization. It is the case of the companies of realization are influenced by the owners in the respect of the clauses of the market of realization.

D. The dominated actors (South - East):

These actors are those who have little influence and are strongly influenced by other actors. The analysis of the figure shows the inability of certain actors to play their role. Indeed, the agricultural services (SAg) demonstrate their inability to preserve 52 ha of its class 01 agricultural land. They are so influenced by the public authorities, notably the Ministry of Agriculture, which authorized the distraction of the said land base.

7.2. Convergence and divergence of actors

The divergence of the objectives of the actors involved has influenced the process of the realization of the urban pole project of Bouira. The various actors have different behaviors and interests. This implies that the process of realization was strongly influenced by these objectives which are contradictory in certain cases.

In order to identify the conflict of the actors in relation to the objectives, a histogram realized by the Mactor method allows to show the mobilization of the actors on the objectives.

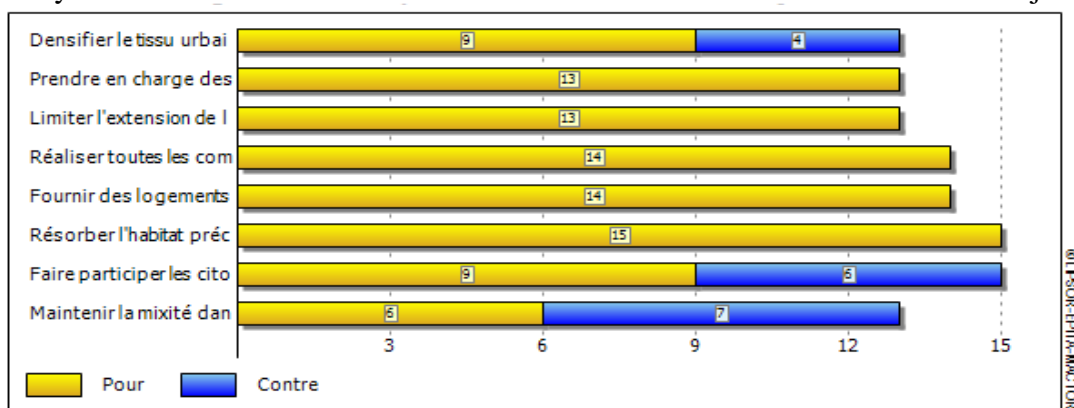


Figure 03: Histogram of the involvement of the actors on the 2MAO objectives

The analysis of this graph of convergence and divergence of the actors on the objectives shows that there are conflicting and consensual objectives between the actors. The conflicting objectives that have influenced the realization of the urban pole project are

- The densification of the urban fabric,
- The participation of citizens,

- The maintenance of the habitat mix.

The participation of citizens in the project is an important objective for the actors and for the inhabitants. Nevertheless, we notice that this objective is questioned by some actors because they are too demanding in their needs and expectations which are not limited. Thus, each citizen participates for personal interests.

The densification of the urban fabric is an equally important objective for the majority of actors. (The local community, housing sector, agricultural services, ... etc.). This objective makes it possible to meet the needs of the population without invading agricultural land. The densification of the urban fabric favors the concentration of functions and allows for better management of various services (waste, green spaces, sanitation, ...). We recall that the lack of coordination between the actors and the confrontation of points of view have influenced the process of realization of the Bouira urban pole project.

The Mactor a method thus makes it possible to establish the balance of the actor's positions with respect to the conflicting objective. The balance relative to the objective of « densification of the urban fabric » is represented as follows:

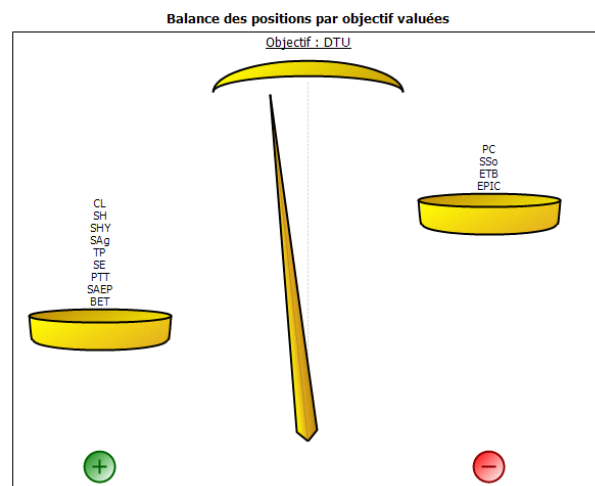


Figure 04: The balance of the actor's positions

7.3. Recommendations

The analysis of the games of actors of the project of the urban pole of Bouira which was the object of this work, allows us to identify the alliances and the conflicts between the various actors contributing to this project. In order to succeed in this project, it is advantageous to put some strategic recommendations namely:

- Strengthen alliances between actors who have conflicts on certain objectives,
- Raise awareness of the common interest of the project on different scales,
- Encourage alliances between the housing sector and other actors,
- Ensure the social, economic and environmental success of the project.

Conclusion

The development of the city of Bouira is currently becoming a major concern for local actors. It is translated by the extension of the city in order to meet the needs of the local population which increases from one year to another. Only, the local authority is not the only

actor who takes charge of the extension of the city. Nevertheless, in the era of sustainable development, all actors must participate in the success of the project.

The realization of the Bouira urban pole project requires local governance that allows for arbitration between the various actors. This also favors the conciliation between the interests of the actors which are sometimes divergent and allows to overcome all the conflicts between the actors and to establish the conditions favoring the organization.

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