

URBAN DWELLING AND SUSTAINABILITY IN ALGERIA

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Résumé

Cet article présente les différentes facettes de l'accessibilité au logement et quelques alternatives de l'habitat en Algérie. Le concept de durabilité sera discuté à travers ses échelles et son cadre théorique.

Plusieurs quartiers d'habitat présentent des cas intéressants à étudier, comme Sétif où quelques expériences positives offrent de meilleures conditions pour un environnement durable et marquent l'histoire contemporaine de la ville.

Notre stratégie de recherches combine l'étude des usages et des pratiques spatiales à l'analyse de la qualité du design. Une quantité de données a été rassemblée pour l'évaluation environnementale se concentrant sur des aspects physiques et sociaux.

Le développement urbain durable fournit aux urbanistes les critères de la rationalité sociale et écologique qui sont différents de ceux disponibles sur le marché.

Mots clés : durabilité, habitat, environnement, qualité urbaine, analyse urbaine.

Abstract

This paper presents the different facets concerning affordability of dwellings and some housing alternatives in Algeria. The concept of sustainability will be discussed here through its scales and theoretical framework.

Several successful housing areas present interesting cases to study, like Setif where some positive experiences are offering better conditions for a sustainable environment and marking the contemporary history of the city.

Hence, our research strategy combines the study of spatial practice and usage to the analysis of design quality. An amount of data had to be collected for environmental assessment focusing on physical and social aspects.

The sustainable urban development provides city designers with criteria of social and ecological rationality that are different from those available in the market.

Key words: sustainability, Housing, environment, urban quality, urban analysis.

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ملخص

Introduction

This empirical research work concerns the urban dwelling and its sustainability in Algeria. The different facets concerning affordability of dwellings are studied and housing options in Algeria are investigated. Diversity is one of the most visible features in urban housing expressing the nation wide experience along with its successes and failures. The spatial quality of some dwellings provides them permanence and "sustainability"; a concept that will be discussed here through its scales and theoretical framework. The aesthetic values of architectural and urban spaces are often determinant factors for the environmental quality of housing.

Several successful housing areas in the country present interesting cases to study, like Setif where some positive experiences are offering better conditions for a sustainable environment and marking the contemporary history of the city. Although, we should point out that the urban spaces, in the new housing areas, seem generally to be dislocated, drawing a socio-spatial mosaic dreadfully lacking unity. Negative, monotonous and anonymous open spaces are characteristics of the large waste land between buildings included within the huge amenities.

Hence, our research strategy combines the study of spatial practice and usage to the analysis of design quality. The method employed is qualitative interviews, observations and walking tours with the inhabitants. Housing upgrading is a promising experience contributing socially, economically, physically and aesthetically to regenerate the local urban environment and empowering the community ties. The sustainable urban development provides city designers with criteria of social and ecological rationality that are different from those available in the market. Consequently, the concept of sustainability becomes the keystone of the urban development process.

2. Background

During the 1970's and even before that, the public enterprises in the construction field had the monopoly in the building sector and had to monitor the huge housing programs that the country could never meet. Since 1980, the Algerian Authorities have tried to weaken the public companies power by restructuring them in a liberal way. This process had been accelerated since 1990 till the less competitive companies were disqualified.

The failure of the state, as the only developer and dominant manager, led the public authorities to cut subsidies from the housing programs and stop the big projects and large public companies created mainly for the occasion. The private sector came out of this situation and for the first time private developers started with their new experience. Actually, Setif was pilot in this liberal challenge since 1986. (see figure 1)

The legislation became more precise and clear about the private developer's role for the four following years; i.e. in 1990, and many measures were taken to follow the new political environment.

The user's contribution, partially or totally, in the cost of their new dwellings, was the first step towards the inhabitant's participation in the process of housing development. In recent years, loans from banks and subsidies from the Government become increasingly available. New schemes have also been set to diversify dwelling affordability for different social categories. Whereas, the public program of social housing is exclusively destined for the poor and low income population, and those living in difficulties.



Figure 1: Location of Setif
(Source: www.ri.net/.../algeria_destiny_s/map.gif, 2010)

3. Concept of sustainability

Sustainable development has been used to refer to the "environmental protection to meet the need of the present and future generation". [1] Other definitions on the other hand have incorporated the human perspective in explaining Sustainable Development that is not simply a call for environmental protection. It is a development that should be economically, socially and ecologically sustainable.

Emmitt claims that something must be done to change the way in which we develop, use and recycle buildings so that our natural environment is both protected and enhanced. Contribution to sustainable development will surely come from those actors and users concerned with the project and its close environment. [2]

Basically, the sustainable urban development provides the city planners with new criteria of social and ecological rationality different from those offered by the market. Consequently, the concept of sustainability becomes the keystone of the urban development process.

In the beginning of this millennium, there is a need for a new urban ethic, based on the concept of social sustainable development that integrates the notions of social equity, environmental sustainability, economic efficiency, social integration in a multicultural context. Eventually, to implement a sustainable strategy, it is necessary to involve the different actors in the process of production and management of the city.

3.1 Scales of sustainability

Evidently, some cities are more livable than others, as well as some cities remain livable longer time than others. The secret certainly reside in the urban contexts: social values, human cultures and environment. In fact, the contextual vision helps to approach this concept in an operative way, but a cautious analysis is required. At what scale should we study these values? Cultures and environment? Is it the scale of the district, the city, the influence territory or the urban region? Effectively, every scale generates its own logic. Should we prevail the only global scale that could observe the general interest? The contradictions between the global and local logics show again the difficulties of the global approach. [3]

3.2 The need for a theoretical framework

Planning for the sustainable city is a claimed action today all over the world. But what would the ideal sustainable city look like? Until now there is no definite answer. On one hand, we have the proponents of the compact city which implies a strategy of concentration and increasing urban density (to minimize the need for transportation). On the other hand, we have the proponents of the green city which implies a strategy of deconcentration and spreading out using the unbuilt land for local water infiltration and cultivation. So we are confronted with two strategies seemingly irreconcilable for the sustainable city. This may be called "the density paradox". [4]

The issue of urban quality and urban form is no less confused. Leading theorists of urban planning and design during the twentieth century proposed different ideal solutions and various urban models: low-rise (Raymond Unwin, Lewis Mumford and Jane Jacobs) where traditional grid-iron plans, streets and compact blocks are advocated, medium-density (Kevin Lynch and Christopher Alexander) with small-scale garden suburbs, or high-density developments (Le Corbusier) with high-rise buildings and large open spaces. Evidently, there is no consensus on the question of urban quality and urban form. [4]

There is a great confusion in the fields of quality and sustainability in urban planning. According to Radberg [4], much of this confusion stems from the fact that the theories are formulated on a very general and abstract level. There is a need for empirical facts, observations. In particular, there is a need for a theoretical framework concerning these empirical observations. Systematic descriptive classification of the urban structure on the microlevel is required in order to process the collected data on existing urban environments.

The compact city or the green city is both stereotypes, they are virtual, in reality, cities are not homogenous. The urban density is not uniform. The modern city is composed of small pieces, districts, blocks which differ from each other, in terms of urban form, density, types of buildings, urban quality, etc. We can identify some frequent types of developments: the urban core, colonial houses, suburban dwellings, the mass housing areas, the industrial enclaves and institutions. The choice between the compact city or the green city is a fake alternative between two stereotypes. In reality, we have to consider cities as complex entities made of urban elements on the microlevel.

The urban strategies should focus more on the local level. One reason is that the existing urban structures are very permanent; it is very hard to change the macrolevel. However, on the microlevel, - the urban block level - strategic adjustments (rebuilding, restructuring of the ground) are much easier to implement. [4]

Urban form as an important factor has an impact on the urban environment where the issue of quality primarily relates to the local level, such as the urban blocks in the city. Evidently, in every city there are more attractive and less attractive residential districts.

Some urban areas, like inner cities and large scale housing estates of the 1950's, are problem-ridden. Recent research suggests that the degree of vandalism and other social problems is linked to certain aspects of urban design: the number of storeys, the number of flats in each building, the relation of the buildings and the entrances to the streets and the surrounding open spaces. [5] The key to understanding the social difficulties in the mass housing estates is through the study of the urban form on the microlevel and the urban block. A theoretical framework is necessary to study the small elements in the urban structure, the urban blocks, or groups of buildings. But let us keep in mind that the statistical averages for a whole city or a whole region are not very informative and may even be misleading.

3.3 Sustainability Indicators in a Neighborhood Context

Indicators can play several important roles in promoting, implementing, and monitoring neighbourhood sustainability. They are a tool that can be used to measure if a community is moving towards or away from sustainability.

Indicators can be classified in several different ways. One important distinction is that between input and outcome indicators. Both types of indicators are important: input indicators signal policy priorities while outcome indicators can track the effectiveness of public or collective action in changing economic, social or environmental conditions. A community diagnostic facilitates the identification and selection of neighbourhood sustainability indicators. The main purpose of a community diagnostic is to become familiar with the neighbourhood, assess current conditions and develop an understanding of the processes underway that sustain and change the quality of residential life. [6]

The procedures and processes to be followed in developing, testing and using indicators of sustainable development will vary from country to country, depending on country specific conditions, national priorities and objectives, available infrastructure, expertise and the availability of data and other information for decision-making. Because the process requires the allocation of human and financial resources, a pragmatic, cost-effective approach is essential. [7]

3.4. Typo-morphological approach

The typo-morphological approach allows us to undertake urban analysis that is different from the functional typology, upon buildings that are studied in context, together with the surrounding public and private spaces. The object of such analysis could be a cluster of buildings and open space, the building lots, or the street-pattern.

The history of typo-morphological urban research dates back to the 1950s and 1960s. The Italian architects like (Saverio Muratori, Gianfranco Caniggia and Aldo Rossi) were then systematically studying building types in historical city centers in Italy. [8] Meanwhile, M.R.G. Conzen, a British geographer, studied the British medieval cities and their evolution, from another standpoint. Conzen developed a typological (or typo-morphological) study of the urban forms, the street-net, the urban blocks and the individual plots. [9] Similar research has been done in a number of European cities, like Paris and Bordeaux by Panerai and Castex [10], and in San Francisco [11]. These historical studies demonstrate that urban elements (the urban block, the street pattern) are permanent over long historical periods and also functions can change to a surprising extent within a traditional urban pattern, without breaking the pattern.

Basically, these are only the first steps of typo-morphological urban research, as Radberg [4] wrote it; in the future it may develop along several lines. [12]

- As a tool for description of the existing urban structure. The classification into urban types will provide a basis for description of the existing urban structure in a specific city, in terms of characteristic urban typologies.
- As a tool for analysis. It can provide deeper insight into the "sustainability" of the different urban types: by gathering basic environmental data (for example annual energy flow per capita, consumption of water, production of waste, recycling capacity, capacity for local cultivation, potential of recycling building materials etc.). It will also be possible to evaluate the relative attractiveness of the different urban types, by gathering socio-economic data (for example annual turnover of inhabitants, average income, social interventions, signs of vandalism, etc.).
- As a tool/or planning and design. In providing a deeper understanding of the urban types, of sustainability and quality, a better description of the existing built environment, it will pave the way for a better planning practice.

4. Housing environmental quality

Housing quality is not only limited to the indoor comfort, but the outdoor environment is also a determinant factor. Good relationship between the dwelling and its external spaces promotes better neighbourhood and sustainable development. (See figure 5)

Alike other urban space components, the public space across the whole country appears to be distorted, dislocated, drawing a socio-spatial mosaic dreadfully lacking unity. The huge amenities usually include, between their buildings, large open spaces which are not organized, monotonous and anonymous. [12]

The contemporary public space in Algeria is completely different, not only in its form but also in its usage. Indeed the rapid urban growth combined with industrialization, as a mean for a fast economic development, encouraged the import of foreign know-how to solve various social and economic issues. Unfortunately, such imported processes, despite the good intentions they convey, were imposed to the populations far away from their culture and identity.

Comparatively, in old cities the public spaces have a functional quality, indeed the compact traditional fabrics are moderated by a number of small places, markets and commercial alleys. These spaces may appear today tiny and geometrically imperfect, with winding alleys and small places limited in width and length, they have however been of a great importance for inhabitants in the past. Besides, these spaces had been managed by pre-established codes and social rules, sometimes very strict. Hence, inhabitants know their itineraries, defend their territories and respect the others'. Whereas, the stranger knows his limits, if not the spatial layout will make him understand it. Open and welcoming spaces surrounding the city contrast completely with the narrow and sinuous alleys generating an impression of discomfort and embarrassment.

With the colonial occupation, a new shape conveying and representing a new culture is superposed to the old public space. North in the country, like Constantine, Algiers or Tlemcen, many parts of the compact fabrics in the Medina (historic city) have been severely transformed, particularly their layout patterns: large streets and spaces appeared as new outcomes. In the South, the colonial act was more recent and less aggressive, more caution and respect to the existing fabrics were learnt from the occupation of old cities in the North. So, public space closely took place beside the ancient without change but proposing thus a new way to live such a space. With the street frontage, access to houses is easier, and traffic is more fluid and faster. Therefore, the colonial public space completely changed the principle of communal and public life.

In 1958, a team of French architects working in Algiers claimed that: "only two forms of habitat are valid: the horizontal compact buildings (Mediterranean villages are squeezed as nests of wasps) for individual housing, with the human scale of its lanes and its intimacy by using the patio;

the vertical buildings in large collective housing, with its vast street frontage bringing an other form of intimacy, and its high necessary densities for human communication that any city is gloomy without. This notion of density is often forgotten. Some urban Planners try to remedy these by low-rise and quite spaced buildings. Absolutely reprehensible formula: it is a backward step under the pretext of sensitivity that is only sentimentality"[13]. They then suggest that from these various considerations, in the Mediterranean region it is necessary to cover the ground with a maximum of constructions and private spaces. In the absolute, the solution would consist in building the entire surface to urbanize, over one or two floors pierced with patios.

The planned cities of Colonial origin, mostly in the North like Setif, (see figure 2) have a clear layout, based on the grid iron system, which provides a better control on them. The main street, main square and location of the landmarks created a balanced urban network that tremendously contributed to a sustainable urban development after the Independence. These cores have become the historic centres in this type of cities.

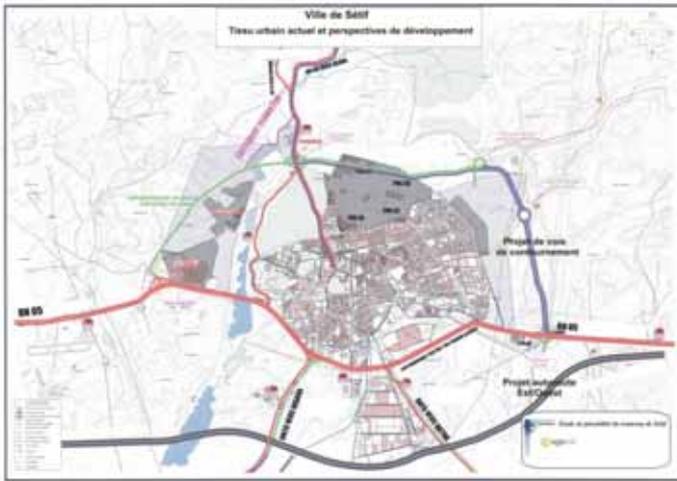


Figure 2: The existing urban fabric & development perspective of Setif
(Source: URBASE, 2007)

Their expansion, in the 1970's and 1980's, was a belt of mass housing areas without amenities. The new allotments of the mid 1980's and 1990's similarly created an urban chaos, particularly in those not achieved yet residential areas. A common feature of the contemporary cities is that: "as the gap between social demand and public offer widens, their spaces are increasingly becoming fragmented". [14]

5. Sustainable development in the Algerian context

The key words in Algeria today are: liberalism, market economy, privatization, private investment. The government is drastically reducing its role at the economic level because it gave up any further development policy. The local Authorities are imperatively and mainly responsible of making and managing the public amenities and basic infrastructures.

5.1 Urban housing policy

The existing Master and land use plans, as urban organizing tools universally recognized, actually concern only the means of urban development. Whereas, these plans do not care so much about urban form and quality of the living environment.

One of the obvious breakdowns of such tools is the lack of effective concerted action between the participants in order to realize a complex project. In fact, the urban composition could stand for this specific and fundamental device, the operational planning and urban composition have only to be articulated. Toussaint asserts that the plan as projection will never assign the future, but will rather be a consignment of the past, as a memory for updating the reality. [15]

As far as analysis is concerned, "technocratic" urban planning models need to be improved upon, as they tend to be based on solely "quantitative" analysis of population and activities. "Planimetry" should be complemented with other more qualitative approaches such as studies of: landscape diversity, water and land, climate and geographical diversity. This type of approach implies going beyond the local scale of analysis and adopting a wider perspective of territory. [1]

Cities could only become places of individual freedom, social cohesion and socio-economic progress if they offer certain minimum warranties for civic participation, "the city is a political construction" (Aristotle).

5.2. Dwellings shortage

The Algerian State made of the "modern" dwelling a general consumption need without taking into account if it is available in the market or not. While setting statistical goals, the fundamental laws reduced the housing issue to a quantitative dimension. This quantitative approach is based on: demographic evolution, urbanization tendency and the present housing occupation rate in order to determine the tendency and goals to reach in terms of housing standards and then get the number of housing units to build. [16]

In fact, the previous hypothesis concerning the housing shortage or "crisis" had to be reviewed in the recent years because the forecasted situation was more dramatic than it is in reality today. For instance, the demographic growth rate projected (3.2%) for the year 2000 was already 2.15% in 1998 (National Census). Also, the estimated population of 35 million was finally not more than 29.2 million in 1998.

There is no study concerning the nature of this crisis: it affects all the social categories. But, "the space used for housing and amenities has considerably increased, notably with a prestigious housing stock (due to the freed land market), and even thus, justified or not, the housing demand also increased. The paradox is the peculiar outcome of this crisis: 90 thousand housing units developed by the public sector were not sold and one million dwellings unoccupied while there was a housing need (may be overestimated) of 1.3 million units". [17]

5.3. Case of housing cooperatives in Setif

The housing cooperatives in Setif represent an example of the individual involvement within the group in the process of producing his own familial dwelling. The cooperative members can be chosen on the basis of kin, friendship or job ties and far from any restriction. But these members should not be among the jobless or retired people and must live in the same municipality where their cooperative is founded.

The initial experience in Setif is marked by the creation of 215 cooperatives occupying a land of 90 hectares. The first cooperatives (1982-83), often gathered well informed members who work in the building sector, such as public officers and directors. Their location is also chosen on sites of high estates value. The average density is 18 houses per hectare and those privileged cooperatives had even less (12 houses/ha); the required density is between 15 and 20 houses/ha.

In practice, the objectives assigned to the cooperatives have not been followed and the community or group interest was far behind the expected results. Every member was free to build or sell his lot as he likes. Whereas, the master plan is common and the architectural aspect should be coherent for the cooperative identity. Also, any member cannot sell his lot unless all the members of the cooperative have agreed.

5.4. Collective housing in Setif

Setif as a leading city for collective housing, during the last three decades, presents some interesting experiences of spatial quality, though the general negative aspects remain common to all mass housing areas (lack of identity and social life, monotonous typology of the façades) and need an amount of urban renewal works.

In the South part of Setif, a social housing complex of 412 dwelling units and five levels high is called "Cité Benbegag". (See figure 3)



Figure 3: Aerial view, "Cité Benbegag". (Source: Google earth, 2008)

It occupies 6.8 hectares and dates back to the mid-seventies. This case illustrates some positive aspects: 75 m² per 3 rooms apartment and 90 m² per 4 rooms apartment (more than the today's required standards of, respectively, 65 m² and 75 m²). (see Table 1 and figure 4)

Table 1: Miscellaneous data concerning "Cité Benbegag".2008

Dwelling type	F3 (Living + 2 rooms)	F4 (Living + 3 rooms)	Total
dwelling's number	212	200	412
rooms number	636	800	1436
Dwelling area m ²	75	90	
M ² per inhabitant			11.70
Rate of dwelling occupation			7.03
Rate of room occupation			2.02
Total population			2897

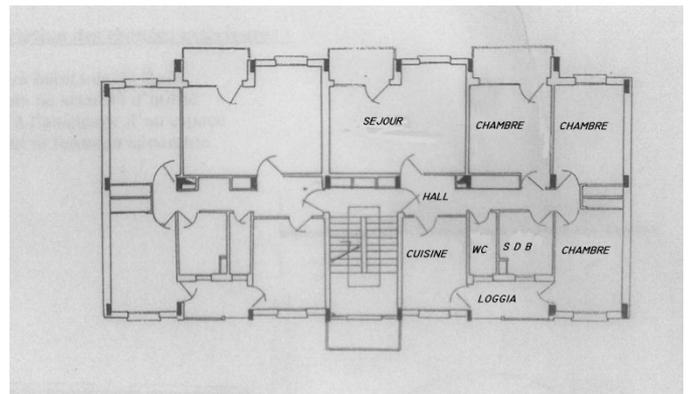


Figure 4: Typical unit plan in "Cité Benbegag". (Source: The authors, 1999)

5.4.1 Survey findings

Among the 400 households, a sample of 40 households was chosen randomly, covering 10% of the households. 29 (%) respondents filled in the sample questionnaire in which, they had to respond with one of the four answers concerning (social sustainability of the cité Benbegag).

La Cité Benbegag characteristics:

- Orientation & exposure. In La Cité Benbegag almost all the apartments benefit of interesting view on open spaces this is due to the design of open spaces and of the building environment; Visual comfort and at the same time intimacy are particularly important for the residents who are very exigent regarding this criteria. (See figure 5 and 6)



Figure 5: Outdoor spaces in "Cité Benbegag" – Setif
(Source: The authors, 2010)



Figure 6: Outdoor spaces in "Cité Benbegag" – Setif
(Source: The authors, 2010)

- Reduction of charges

Concerning energy and water consumption, the local authorities do not manage it. The consumption depend partly on the residents' behaviour.

- Common spaces

The buildings do not have any area dedicated to common spaces to receive official meetings or to allow the organisation of small events between residents, however the adult residents use the outdoor open space for meeting and discussion.

- Existence of car parking

There are many car parking areas close to the buildings regarding visual comfort. These car parks offers almost one car place per two flats.

- Accessibility to open spaces

We can notice the existing of open spaces close to the buildings, open spaces don't have a high quality. The quarter dedicated a large share of the area to green spaces which can be used by the residents. (See figure 7)



Figure 7: Outdoor spaces near the building entrance in "Cité Benbegag" – Setif. (Source: The authors, 2010)

- Accessibility to different facilities.

The favourable location of this collective housing quarter makes the residents benefit of the presence of various equipments and services mainly schools, colleges, Police office, kid garden the largest in Setif. (See figure 8)



Figure 8: The main School in "Cité Benbegag" – Setif
(Source: The authors, 2010)

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Table 2: Survey findings.2010

	Indicators	definition	Nothing done	Minimum done	Well done	Very well done
1	Social Mix	Is the cite des 400 logements accessible to a large part of the population (in terms of price attractiveness)		x		
2	Comfort of the apartments	Thermal comfort of the apartments		x		
3		Quality of the indoor air and ventilation			x	
4		Available space, surface, adapted to the residents' needs			x	
5		Reduction of pollution (acoustic, electromagnetic)...			x	
6		Orientation, exposure, visual comfort & intimacy,			x	
7		Reduction of charges (utilities & maintenance)	Utilities: energy, water...			x
8	Maintenance of the buildings and the surrounding			x		
9	Existence of common spaces	common spaces for meeting	x			
10	Car parking quality	Location & security			x	
11	Appropriation of the quarter by its residents. Accessibility to open spaces	Common outdoor space activities for adults & children.		x		
12	Accessibility to old and handicapped persons		x			
13	Quality of the public transports to deserve the city centre, equipments and public services	Proximity of public transport station or stop to go towards the city centre , accessibility to public services and equipments by foot or bicycle			x	
14	Urban diversity of functions in the neighbourhood	Presence of shops, garden, facilities and services in the neighbourhood		x		

CONCLUSION

The private sector in Algeria is playing now an important role in the diversity of dwelling affordability for different social

categories. The involvement of users in the housing programs, at least financially, helped the Government to focus primarily on the poor and those in difficulties.

We would believe that the concept of sustainable development should take into account the specificity of the Algerian society: on the economic, social and cultural levels. The user's participation in the creation of their home environment is the best incentive for them to preserve it and give it a long life.

Living the process of your own dwelling birth makes it a part of your memory and sustainability follows.

One of the reasons why in Algeria so many interventions for urban development and regeneration continue to fail lies in their focus on the physical dimension. Any overall strategy for dealing with the development of urban systems should reconcile the local development concerned with social processes which take place in the city with policies designed to change its spatial form. It is this kind of view, looking in the direction of both space and society, which has so far lacked in conceptualizations of urban development.

The case of Setif shows that while the few new investments are concentrated, for reasons of visibility and political convenience, in its city center, other portions of its territory become increasingly marginalized, because of the lack of services and infrastructure and of the pressure of the demand coming from the newly urbanized and from those social groups who cannot afford to live on the more expensive land of better-served areas. Housing is sustainable when it is available and affordable and provides a safe and healthy environment for all residents.

The neglect of prospective studies in the urban form field, the inefficiency of urban management system, the lack of an urban development strategy for inner cities and the issue of contemporary architecture insertion into the old fabric appear to be the main problems facing the Algeria cities. The responsibility and legitimacy of the local Authorities depend upon their ability to control the future of their city. Such type of actions help to lay sound basis for a sustainable urban development that serves the Algerian citizen.

REFERENCES

[1] - Brundtland Report, (1987). "Our Common Future ", UN Offices, New York.

CIMES, (1999) "Villes intermédiaires et urbanisation mondiale", éd. Ajuntament de Lleida/UIA/UNESCO, Lleida - Espagne.

- [2] - Emmitt, Stephen (1996) "The Diffusion of Environmentally Responsible Ideas and Practices", in Book of Proceedings, IAPS 14: 'Evolving Environmental Ideals', Stockholm.
- [3] - Bailly, Antoine S (1999) "Pour un développement social urbain durable", in 'Villes et Croissance', éd. Anthropos, Paris.
- [4] - Radberg, Johan (1996) "Towards a Theory of Sustainability and Urban Quality", in Book of Proceedings, IAPS 14: 'Evolving Environmental Ideals', Stockholm.
- [5] - Newman, Oscar (1973) "Defensible Space, Crime Prevention Through Urban Design", New York.
- [6] - Urban Ecology Coalition, (1999), *Neighborhood Sustainability Indicators Guidebook*, Crossroads Resource Center, Minneapolis.
- [7] - United Nations, Department of Economic and Social Affairs, Division for Sustainable Development, *Indicators of Sustainable Development: Guidelines and Methodologies*, 2001.
- [8] - Moudon, Anne Vernez (1986) "Built for Change: Neighborhood Architecture in San Francisco", MIT, Cambridge, USA.
- [9] - Conzen M.R.G., (1968) "The Use of Town Plans in the Study of Urban History", in H. J. Dioz: 'The Study of Urban History'. New York.
- [10] - Panerai, Philippe et al. (1980) "Eléments d'analyse urbaine", éd. A.A.M., Bruxelles.
- [11] - Moudon, Anne Vernez (1987) "The Research Component of Typomorphological Studies", Paper for AIA/ACSA Research Conference, Boston, USA.
- [12] - Cote, Marc (1993) "L'Algérie ou l'espace retourné". Ed. Media Plus ALGER, Constantine.
- [13] - Miquel, Louis, Bourlier, P., & Emery, P (1958) "Essai de solution d'un problème d'urbanisme en climat méditerranéen, cité Sellier à Alger". *Architectural Archives of the 20 Century*, Paris. Cited by A. Picard, (1996). 'Architecture et urbanisme en Algérie: d'une rive à l'autre (1830-1962)'. In Figures de l'orientalisme

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en architecture'. revue REMMM 73.74, éd. Edisud, Aix-en-Provence, p. 130.

- [14] - Harvey, D (1989) "The Experience of Time and Space", in D. Harvey, *the Condition of Postmodernity: an Enquiry into the Origin of Cultural Change*, Blackwell, Oxford.
- [15] - Toussaint, J. Y (1998) "La ville n'est plus ce qu'elle aurait dû être: distance et décalage entre la ville planifiée et la ville réalisée", in Insanyat N°5: 'Villes Algériennes', CRASC, Oran.
- [16] - Messahel Nouredine (2000) "La production de logement en Algérie: enjeux et acteurs", non published Master Thesis in economic sciences, University of Constantine – Algeria.
- [17] - Prenant, André (1999) "Les services publics au Machrek et au Maghreb", Colloque SEDET, Paris 7, May 1999.