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Perspective of a green city Through the restructuring of the urban space Case of the city of Algiers

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Abstract:

The elements of the city die and regenerate often in other forms. This mutation, to be mastered, requires the implementation of mechanisms of support of the urban fabric presenting a State of dilapidation or dysfunction having an adverse impact in terms of functionality, the security of individuals and the urban economy.

The city of Algiers had a very important urban development, but the development of green spaces has not kept pace. At the time of the sustainable city, deal with nature in the city is a must and goes through a better management of parks and gardens that make up the urban public space.

The situation in Algiers is alarming: greenery spaces are sometimes transformed into dumps rubble, debris. There is a lack of consideration of the nature and urban ecology in the city.

We consider public green spaces built, green space, managed by the service of the green spaces of a common and open to the public.

Our goal is to try to reconcile the capital with nature and to allow the citizens to benefit from a better living environment in the context of a sustainable city.

The issue will be applied to the commune of Algiers Center methodologically we will have a questionnaire designed for users and managers including City Hall.

Keywords: Restructuration, Algiers, sustainable city, public green space, urbanization.

Introduction

In 1950, about 29% of the world's population lived in cities (Butlerand Spencer, 2010). Currently, this proportion is about 50% (Gomes & Moretto, 2011).

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By 2050, it is expected that about 70% of the world's population will live in cities (Butlerand Spencer, 2010). In some parts of the world, this proportion is more pronounced. For example, the urban population in Asia was 234 million in 1950, reached one billion in 1990, and is estimated to reach 3.4 billion by 2025 (ibid).
International megacities will also be growing in the coming years. These changes lead to reflect on the development of cities and their environmental impact, which will continue to grow, considering the sharp increase in population.
Unplanned urban development, particularly in developing countries, has negative consequences for the environment. Heat islands, surface runoff from rainwater and the disappearance of green spaces are examples of common environmental consequences of urbanization. However, from one city to another, these consequences can be very varied, according to the environmental and climatic conditions of the environment, but also according to the actions put forward by the agglomerations. In some cities, the pollution is such that nearby rivers are contaminated or dried up, and the health of the inhabitants is threatened or even already affected.
Yet other cities show a considerably lower environmental impact. These have, among other things, retained large green spaces, emphasized the development of sustainable transport and favored renewable energies.
For a few years now, we have been talking about green cities or cities, sustainable urban development or ecological urban planning. This urban ecological turning point is currently expanding globally. This trend can be explained both by the rising popularity of the environment in recent years, which has increased the awareness of the population and created a new marketing movement, then by the competitive spirit between the cities. , who wish to have more sustainable development to be more attractive than others in order to attract both people and investment (Mega, 1996). Both guilty and victims of environmental degradation, Cities are also the birthplace of conservation and sustainable urban development movements (Fujita and Hill, 2007).
Considering the accelerated increase in population density in urban areas, and the increase in the number of large cities, their role in sustainable development and protection of the environment is becoming paramount.

1- The characteristics of a Green City:

It is difficult to find a definition for the green city, since there is no concrete model and
that it could be defined in several ways (Vernay et al., 2010).
The idea of a Green City is to develop an urban environment in a thoughtful and planned way to reduce environmental impacts. According to Heijden, a green

city is a global concept that includes ideas on transportation, health, housing, urban planning, energy, economic development and social equity.
The "desire to replace large, single-use, automotive-oriented spaces for mixed-use communities within walking distance" appears to be part of many green city visions (Heijden, 2010, p.1).
Changing urban development as it is known, that is to say the opposite of sustainable development, is a difficult process. It is not only a matter of changing the urban form, the transport systems, the technologies of water, energy and residual materials, but it is also necessary to modify the underlying value systems and processes. planning and urban governance to reflect an approach based on sustainable development (Kenworthy, 2006).
Kenworthy (2006) identified ten dimensions for planning the development of a green city (see Table 1). This list is not exhaustive, it does not take into account factors such as politics and social equity, but it is based on the author's studies and observations on the development of cities around the world from 1980 to 2006 .

Table n ° 1: The dimensions to integrate in the development of a green city:

1- The city has a compact form, mixed use, which uses the land effectively and protects the natural environment, biodiversity and farmland
2- The natural environment is present in urban spaces and surrounds the city, while it and the surrounding areas produce a large part of its food needs.
3- Motorways and road infrastructures are set aside for the benefit of transport, walking and cycling infrastructure, especially rail infrastructure. The use of cars and motorcycles is minimized.
4- There is extensive use of environmental technologies for the management of water, energy and waste. City support systems become closed-loop systems.
5- The downtown core and the inner city centers are social hubs that emphasize accessibility and traffic by non-automobile modes of transportation, and absorb a high proportion of jobs and of residential growth.
6- The city has a quality public system that expresses public culture, community, ethics and good governance. The public domain includes the entire transportation system and associated elements.
7- The physical structure and urban design of the city, especially public spaces, are very accessible, comprehensible, varied, rich, visually appropriate and personalized to human needs.
8- The economic performance of the city and job creation are maximized by innovation, creativity and originality of the local environment, culture and history, as well as the high environmental and social quality public areas of the city.

9- Planning for the future of the city is a visionary process of 'debating and deciding' rather than a computer-controlled process of 'predicting and procuring'.

Source: Kenworhty, 2006.

2- History:

Many changes have occurred in cities over the past centuries, particularly in cities in developed countries. At the end of the 19th century, industrialization and the rapid growth of the population proved to be detrimental to the health and well-being of the inhabitants, as well as to the environment.

"The day I am at the head of a kingdom, my ambition will be to own a cottage. " Why Welwyn and Hampstead? (Philippe Panerai 2001)

The garden city, as a process of urbanization was invented and experienced in England in the early twentieth century. But long before that was the suspended garden of Babilone, and whatever the genesis and the context of its production, this process of urbanization appears "theoretically" in 1898, with the publication of Ebenezer Howard's book, Tomorrow: A Peaceful Path to Real Reform. From this date, it is easy to stake out the history of the establishment of this process of specific moments:

1904: Letchworth, first garden city built on the model of Howard, and first notable achievement of Raymond Unwin and Barry Parker;

1909: Hampstead, the first suburb constructed using R. Unwin's layout tools;

1919: Welwyn, first garden city combining both the theories of E. Howard and the practical methods of R. Unwin;

If we eliminated Letchworth, it is because Welwyn will resume the same means of production, taking advantage of the experiences of elder sister.
Hampstead is the experimental city, an attempt to codify urban layout. Experimentation that will benefit Welwyn, or the tools developed will be used systematically.

3- Typology of green spaces:

We can classify green spaces as follows:

- independent green spaces,
- Green areas linked to equipment.
- Green spaces in the residential area,

3-1 Independent green space:

A) The Botanical Gardens:

Parallel to the museums, the botanical gardens (open-air museum, rural or wilderness area) have their origin in the constitution by naturalists of plant collections, privileged fields of observation, with the incontestable educational role "botanists"

Figure 01: Botanical Garden (Test Garden)

B) Public gardens of neighborhoods:

This public space of proximity, formerly presented as a public square in the center was occupied by a garden surrounded by a grid, of modest size, this garden offers to the inhabitants of the district a complement to their house and answers the needs most often expressed to know :

• Rest (benches, fountains ....)
• Relaxation (boules games, outdoor chess board ...)

Figure 02: Public gardens (Grande Poste), Algiers Center

C) The urban park:

The urban park, green lung in the heart of the city, presents the same basic design as the spaces related to the collective housing and welcomes a relatively large public in number, its area of influence remains limited (about 1500 m), this type of park, generally closed by a grid, with regulated opening hours, offering a

range of varied activities, and all the more important, that it accompanies or integrates within its limits, social centers (party rooms, library, nursery, swimming pool, restaurant cafeterias, refreshments ...).

3-2 Green spaces linked to equipment:

A) The terraced gardens:

The gardens of terraces or gardens on slabs evoke the hanging gardens of Babylon, the essential objective of these developments is to increase the green areas in urban areas by the creation on concrete slabs of green spaces.

B) School gardens:

These gardens, in addition to being a response to the needs of development and relaxation of schoolchildren, can serve as a support for the educational activity as part of a teaching program.

C) The sports area:

Sports and sports fields, golf courses and racetracks, the purpose of which is sporting activity, are the places where a large public, actor or spectator can be welcomed, if the main component of these facilities is turf, Surrounding green spaces are essential complements to meet the utilitarian functions (leisure, relaxation, conviviality) aesthetic and ecological.

Figure 05: Golf Course

3-3 Green areas in residential area:

A) The gardens of individuals:

The garden of an individual is a private garden, usually accompanying the home and addressing a limited number of users (family unit, friends), their design meets specific functions, corresponding to personalized needs related to the mental functioning of the individual (cultural, psychological, imaginary references).

B) Green spaces for collective housing:

Inserted most often between large buildings and addressing a diverse and varied public.

Figure 06: Google Source School Garden

C) Gardens and green spaces of subdivisions:

In addition to the private gardens (alas sometimes standard) that accompany the houses, collective green spaces are integrated into the subdivision and become strategic meeting places especially for children and adolescents (playgrounds, wooded areas, or grassed, trekking).

Figure 07: Green space for Google source subdivision

Because of their hosting configuration (amenities) and their amenities, most green spaces act as attractors enough to create, in a more or less lasting way, an anchoring of its users. Five secondary functions could thus be distinguished: 9 functions of relaxation, recreation, sports, education and crash, each giving a place character and opportunities for sociability and socialization. In addition, being able to combine with the vocation of relaxation, these different functions would take an additional value favorable to greater functional diversity and use value, encouraging more strongly the reproduction of the social bond.

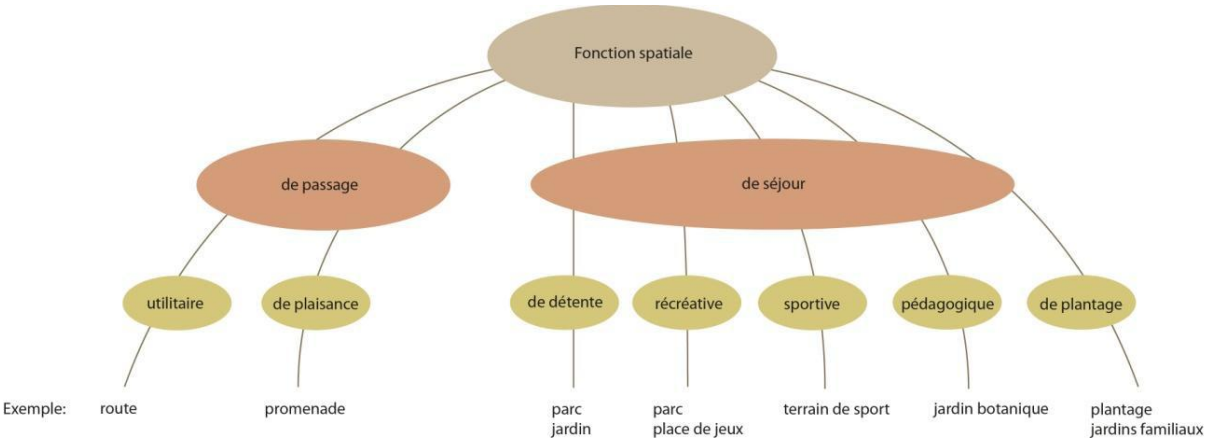


Figure 8. Functions associated with green spaces, Source: J. Schwarz, 2011

4- The legal management of green spaces:

The sound management of the urban environment requires the presence of laws and institutions with clear missions to avoid all forms of anarchy in the management process. It must be admitted, however, that the law alone can not resolve all the conflicts of interest that arise from the environmental problem which is often faced with other priorities whose estimation is, above all, the general level of development. of society, culturally, socially and economically.

In Algeria, some shortcomings still persist in the laws and prevent the activities of economic and social development to be carried out in viable conditions, which makes the path towards a sustainable development rather difficult, But the environmental data is today the one of the major concerns of legislators, the importance of the promulgated legal texts in the field of protection of the environment.

Various measures already existed even before the elaboration of the first legal framework specifically devoted to the protection of nature and the fight against pollution (Law 83-03 of 05 February 1983). These measures to regulate certain activities related to the environment, such as hygiene and public health, the preservation of landscapes and sites, were dispersed in various legal rules such as: the codes of the municipality and the wilaya, the code of health and the forest code.

This law has been supplemented by a whole series of implementing legislation (decrees) whose number and content announces the birth of a real environmental law, but on the practical level, the abundance of legal norms, n has not always been accompanied by real on-the-ground follow-up to ensure the application of these standards.

This is the main problem of laws in Algeria because, legislative and regulatory action must be accompanied by other actions and direct interventions on the ground, as well as information and awareness to produce the desired effects.

- Law n ° 07-06 of 13 May 2007 on the management, protection and development of green spaces:

The Minister of Territorial Planning and Environment in Algeria has initiated a law that sets the rules for the management, protection and development of green spaces in the context of sustainable development.
This law is in 42 articles concerning the protection, management, and development of urban green spaces.
These 42 articles laid out a legislative framework to sensitize citizens and the public authorities on the need to preserve green spaces. It lists the obligations of their classification as well as the managing authorities and indicates the forms of preservation. It also supports the management and development of green spaces in Algeria and establishes norms and coefficients of green spaces by city, by urban ensemble and by particular dwelling. The purpose of this law is, in particular, to improve the urban living environment, maintain and improve the quality of existing urban green spaces, promote the creation of other green spaces of all kinds, promote the quality of extension of green spaces in relation to built-up areas and imposing the idea of green spaces in any construction project, as an obligation supported by public and private urban and architectural studies. This in theory. However, in practice, the gaze is confronted with the continuous "concreteisation" of green spaces, their abandonment, their absence in urbanization plans or their squats.
Urban environmental problems, such as air pollution, wastewater, household waste and industrial pollution, are all factors that jeopardize the health of citizens and the urban environment in general. threat to the possibility of a sustainable development of the country the multiplicity of these problems has placed the question of the urban environment at the head of the priorities of the State and aroused actions that have certainly been undertaken to limit the effects the process of degradation of the urban environment.

5. The management of green spaces:

This operation is done by a management plan which is an orientation program in the actions are on a long term, for forests and green spaces this term has been adapted to the image of simple management plans' used in management These plans designate all the long-term management orientations of the different wooded parcels of the same property.

The role of a management team is to provide local officials with a document on the state of health of all the trees and on interventions aimed at improving this state. It is the starting point for reflection on the policy to be adopted in terms of management of arboreal heritage and maintenance of green spaces. The main objectives of the management plan are:

• Optimize economic management through the implementation of thoughtful and technically adapted actions, while allocating costs.
• Act in a coherent and programmed way, that is to say, avoided one by one.

These objectives can only be achieved from a perfect knowledge of the concerned and allow:

• The definition of priority actions to be carried out on the existing heritage.
• The distribution in time and space of interventions to respect the landscape and meet certain technical and budgetary requirements.

5.1- Green spaces management model:

The management of green spaces is a major concern for planners and landscapers and technical services managers in several cities, each of them has developed a management mode where they all seek the sustainability aspect of the management economy, will give an example of management of these spaces in cities that have a long history in this area.

Between 1960 and 1980 the German landscape changed more than ever before In the city of Augsburg in 1975 was the date of the transition from intensive maintenance to a so-called "closer to nature" management, the service direction of the green spaces of Augsburg tried to promote in the city structures very diverse green spaces of the Biotope (close to nature in the landscape until the pretentious and artificial garden of the former residence of the Bishop before all these are ecological reasons, but also economic considerations which caused this change voluntary leadership).

In the 75 years of studies on associations of garden plants and the observation of a variety of species in the flora of flowering meadows that reflect the interest of parks not subject to agricultural pressure for the protection of varieties and the biotop and for the enjoyment of the population.

But the faunistic surveys have made it possible to diagnose a modification of the fauna since the practice of extensive management, for this purpose and in response to the growing criticism of the townspeople of the systematic destruction of certain wild plants of the green spaces, in the same spirit to Friborg, the landscape architect of the city, formulated in the 1980s ten rules concerning global ecological thinking in these spaces, notably:

- The revaluation of the public garden culture,
- Citizen participation in projects,
- The taking into account of the complaints of the walkers,
- Respect for the ecological requirements of each plant,
- The training of the agents in the field,
- Information and public education has ecology.

These original approaches are largely supported by local politicians and publicized to the general public, in Augsburg the press, radio, television, have

given birth to the model of green space in Augsburg, the management close to nature has become a reference in planning and creating green spaces.

In the 90s, 21% of councilors of Friborg adhere to the party of "GREEN" critics, requirements and suggestions of the party are the main priority of environmental services especially ecological management of green spaces.

All this passes as if this ecological movement in favor of the city managed on a naturalistic mode, jointly demanded by the elected officials, the technicians and the users until the 2000s, biologically autonomous with an objective of intervention null or minimal of the men for certain areas of the city.

6. The state of green spaces in Algeria:

Algerian urban areas are currently in a vegetal deficit because even our capital, compared to others such as Paris which has 6 m² of space planted per inhabitant (excluding wood), Amsterdam which has 36 m² and London which account 45 m², is really impoverished in terms of green spaces, that its 3 million inhabitants use daily, not to mention our towns and villages that are a continuity of concrete without greenery, without any policy of urbanization plant , to the point that the national economic and social council (CNES) recommended, under the file of the taking charge of the actions of the environment, at the level of the local authorities, the rehabilitation of the municipality in its traditional activities, for a better support for actions related to the preservation of the living environment of citizens in terms of green spaces, because the need to green is felt by all and becomes a necessity in ur the citizen, who hopes to improve his living environment and to see his urban landscape look like the beautiful models shown to the authorities and the public during the various exhibitions.

Urban landscaping, including the creation of green spaces and leisure and recreation areas in Algeria, is becoming a priority for our local communities. It is one of the essential components for the success of the main lines of the development strategy. sustainable development, which is implemented by the presidential program, where a budget of almost $ 1 billion has been planned, because foreign investors and their tourists can only come to Algeria if our towns and villages no longer resemble bombed cities, without any logic of landscaping and with green spaces designed just for the time of a presidential or ministerial visit.

The new Wali of the wilaya of Algiers for the sake of preserving the environment in the context of plant urbanism, recommends to the local authorities to transform each land pocket, recovered after an old building demolition, in green space and the wali delegate Chèraga launches a campaign awareness and development in the context of plant planning, to remedy years of abundant landscaping in urban areas to give back to his constituency its beauty of in the old days.

If the establishment of development of green spaces (EDEVAL) of the wilaya of Algiers only specialized establishment in green space attached to a wilaya at the level of the whole national territory, trouble to maintain the vegetal cover of the gardens, parks and other Existing squares at the Algiers level, very few green spaces, on the other hand, are set up in the middle of the new pasta of buildings and residences of the wilaya, which offers a most gloomy decor and that despite the EDEVAL is working with its agronomists, technicians and landscapers to maintain these lungs of Algiers, while taking action here and there to make the living environment of Algiers more pleasant.

And for this comes the major project in this area which is the development of the area of "high winds" in a large landscaped park of leisure and relaxation at the confluence of the Sahel and the Mitidja, at the gates of Algiers and in the continuity of the development of the new technological city and cyberspace of Sidi Abdellah.

This exceptional area of relaxation and recreation, also called "Dounia Park" is located along the East-West motorway in a site threatened by urbanization.

The Ministry of the Environment also launched the construction of three botanical gardens as part of the Fond Sud program in Illizi, Djelfa, and Laghpuat.

6-1: Greenspace standards:

We note that there are no exact standards that define the amount of green space per capita, as it varies from country to country. But the recommendation set by the World Health Organization (WHO) is 10 m² / inhab.

In Algeria, the norm is 20.8 m² / inhabitant. it is a theoretical standard which, in general, is not applied. According to this standard the 10 m² are distributed as in the following table:

Table n ° 2: Green space ratio per inhabitant:

<table>
<tr><th colspan="2">Nature of the green space</th><th colspan="2">Minimum area to respect (m² / hab)</th></tr>
<tr><td colspan="2">a) residential green space planted</td><td colspan="2">1.8</td></tr>
<tr><td rowspan="2">b) playgrounds</td><td>Kindergartens under 4 years old</td><td>0.2</td><td rowspan="2">4.5</td></tr>
<tr><td>Kindergartens from 4 to 10 years old</td><td>0.8</td></tr>
</table>

	Sandy areas for free play	0.5	
	Playgrounds over 10 years	3	
Homogeneous free spaces of encounter in form Plot, walkways and boulevards		0.5	
Total accompanying green spaces		6.8	
Green spaces inter cartiers (squares and public garden)		4	
Green spaces located around public buildings and within socio-economic and cultural structures including industrial zones		10	

Source: Environment Directorate.

And if we take care to analyze things, we see that the standard has taken into consideration the quantitative and also qualitative aspects of the green space. 10 m² are enough to ensure a good quality of air but a district square or a playground for children is beneficial for the moral as well as the physical health of the citizen.

In Algeria, the Ministry of Housing and Urbanism, sets the footprint of outdoor spaces, as shown in the following table:

Table n ° 3: Empty outdoor spaces:

Roadway	variables
Car park	1.75 m² / inhabitant
Green spaces	1.5 m² / inhabitant
Playgrounds	2 m² / inhabitant

Source: Ministry of Housing and Urbanism (MHU).

7-: General situation of green spaces in the municipalities of the center of Algiers:

To diagnose the real state of the green spaces of the city of Algiers, we will give an overview of the situation of these spaces in some communes of the city center.

Table n ° 4: Distribution of green spaces in the communes of the central zone of Algiers:

town	Area of the municipality (H)	Area of green space (H)	%
Alger Centre	380	10.59	2.87
Sidi M'hamed	217	7.71	3.55
Belouizded	214	60.51	28.27
Bab El Oued	119	4.20	3.53
Casbah	113	2.10	1.86
Oued Koriche	246	4.26	1.73
Total	1289	89.37	6.93

Source: ONS, RGPH 1998, Specifications 2018 (EDEVAL).

According to the data have found that the municipalities of the study area suffer from a significant lack of greenery where we have recorded the largest estimated existing space of 28.27% ie 60.51 hectares of the total area . And that thanks to the forest "El Akouas" and test garden, on an area of 30,12 HA.

Table n ° 5: Evolution of the number of gardens and public places in the central zone of Algiers:

town	Green spaces and public places (Ha)	Before 1962			After 1962		
		number	Area (Ha)%	% Green spaces and public places	number	Area (Ha)%	% Green spaces and public places
Alger Centre	7.028	15	6.5106	92.63	3	0.5174	7.36
Sidi M'hamed	1.9018	10	1.5173	79.78	4	0.3845	20.22
Belouizded	0.2342	2	0.1196	51.07	1	0.1146	48.93
Bab El Oued	4.0346	6	3.6346	90.09	2	0.4	9.91
Casbah	1.5324	4	1.3524	88.25	2	0.18	11.75
Oued Koriche	0.0200	1	0.02	100	-	-	-
Total	14.751	38	13.1545	89.18	12	1.5965	10.82

Source: (EDEVAL), 2018.

7.1- Dynamics of the population in the municipality of Algiers-center :

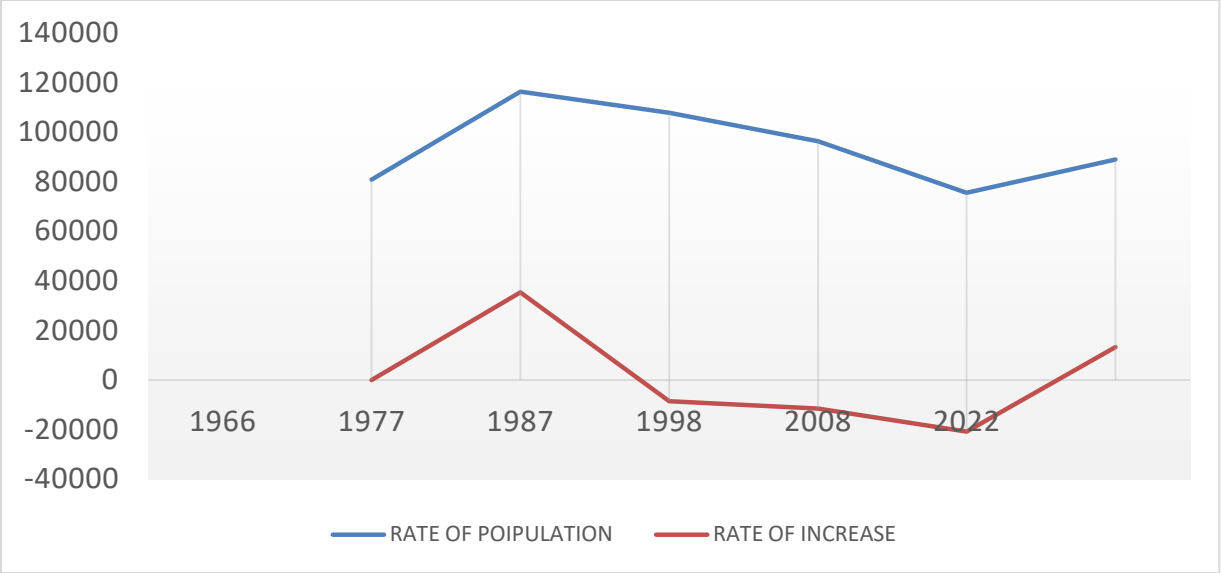
The study of the population in a given space is an essential support for the knowledge of the past realities is present of this last one, for that the evolution of this population and its structure can translate the mutations that took place in this space. The population of Algiers-center was, according to the RGPH of 1966 of 80850 inhabitants In 1977, this population will pass according to the RGPH 1977 to 116291 inhabitants, an increase of 35441 inhabitants.
Ten years after ; in 1987 and according to the RGPH 1987, the population will increase to 107,812 inhabitants; a decrease of 8479 inhabitants.
And according to the RGPH of 1998 the population of the commune continues to fall; in 1998, it reached 96329 inhabitants.
And according to the last RGPH 2008 the population becomes 75,541 inhabitants that is to say it continues to decline.
But through the last census of 2022, the population rose to 88,909 residents
On the table (n ° 6) we will indicate these data of the evolution of the population of Algiers center since 1966 until 2022.

Table n ° 6: Distribution of the population of Algiers center since 1966
Until 2022, according to the RGPH: 1966,1977, 1998, 2008,and 2022.

town	YEARS	RATE OF POIPULATION	RATE OF INCREASE
Alger-centre	1966	80850	-
	1977	116291	+ 35441
	1987	107812	-8479
	1998	96329	-11483
	2008	75541	-20788
	2022	88909	+13368

Source: RGPH (ONS): 1966, 1977, 1987, 1998, 2008, 2022.

GRAPH N ° 01: Evolution of the population of the municipality of Algiers center since 1966 until 2008.



During the period 1966 to 1977; Algiers received 15,477 people aged six (6) years and over, while the number of people leaving Algiers to other Wilaya, during the same period, only 56022 people, a gap of almost 100,000 people (according to the RGPH 1977).
Algiers attracts the population of the north of the country because of the jobs offered to it, the phenomenon of emigration to Algiers proves to be important, this explains the great evolution of the population of the municipality of Algiers -center between 1966 - 1977.

The population of the commune of Algiers-center saw its population decreased during the period of the three censuses (1987-1998-2008).

This phenomenon noticed in other communes of the wilaya of Algiers, touched essentially the most ancient urbanized municipalities such as: Sidi M'Hamed; Bab El Oued and in particular the town of Algiers-center.
This is explained by the migration and the relocation of the local population towards the neighboring communes, such as: Bab Ezzouar, Ben Aknoun, Gue of Canstantine, Maalma, Draria ..

7.2- The state of green spaces in the municipality of Algiers - center:

- The total area of the municipality of Algiers-center is 370 ha including 10.5939 ha of green space this space is distributed as follows:

Table n ° 7: The distribution of green spaces in the municipality of Algiers-center 2022:

Green area	Type	Area (ha)	Category
Khemisti street	jardin	0.334	1
L'Emir Abdelkader	placette	0.0905	1
Sofia	parc	0.1705	2
Moulin	jardin	0.1505	2
Lénine	placette	0.244	2
La Défense	Point vert	0.155	2
Palais du Peuple	Point vert	0.6358	2
CPVA	Point vert	0.25	2
Bounta	Point vert	0.1081	2
Bougara I	jardin	0.1176	3
Bougara II	jardin	0.124	3
Ouagnouni	jardin	0.1826	3
Tafoura	jardin	0.04	3
Bd Ben Boulaid	jardin	0.16	3
Docteur Fanz	jardin	0.15	3
Docteur Saadane	pente	0.28	3
Tunnel des Facultés	Point vert	0.0765	3
Bd Krim belkacem	Point vert	0.01	3
Rue Franklin rouzvelt	Point vert	0.02	3
Bd Bougara	Point vert	0.16	3
S'findja (Tafariti)	Point vert	0.1	3
Si el bachir	placette	0.1551	3
Geay	placette	0.0161	3
Rue Franklin rouzvelt	placette	0.0204	3
Rue Mustapha el Ouali	Point vert	0.01	3
Blaise Pascal	Point vert	0.0263	3
Rue Franz fanon	Point vert	0.0204	3
Bd Colonel Amirouche	Point vert	0.0124	4
Rue Youghorta	Point vert	0.041	4
Rue Khemisti	Point vert	0.096	4
Bd Pasteur	Point vert	0.014	4
Bd Mohamed V	Point vert	0.02	4
Rue Mustapha Ferroukhi	Passage piéton	0.06	4
Rue Pichon	Passage piéton	0.025	4
Rue Didouche	Point vert	0.0118	4
Frères Bellili	pente	1.5	4
Total		10.5939	

Source: (EDEVAL), Op quotes

category 1: floral zone, seasonal decoration, requires permanent maintenance, 6 workers per hectare.

category 2: floral zone, seasonal decoration, requires permanent maintenance, 4 workers / h

category 3: forest area, no decoration, requires no permanent maintenance, 2 open / h

category 4: non-floral zone, does not require permanent maintenance, 1 hour / day.

According to the data in Table No. 03, and as shown in Map No. 02, it can be seen that the green areas in the study area are distributed as follows:

- 9 gardens occupying an area of 1.5 hectares,
- 3 parks occupying an area of 4.7 hectares,
- 6 plots occupying an area of 0.7 hectares,
- 18 green points occupying an area of 1.7 hectares,
- 2 pedestrian crossings with an area of 0.08 hectares.

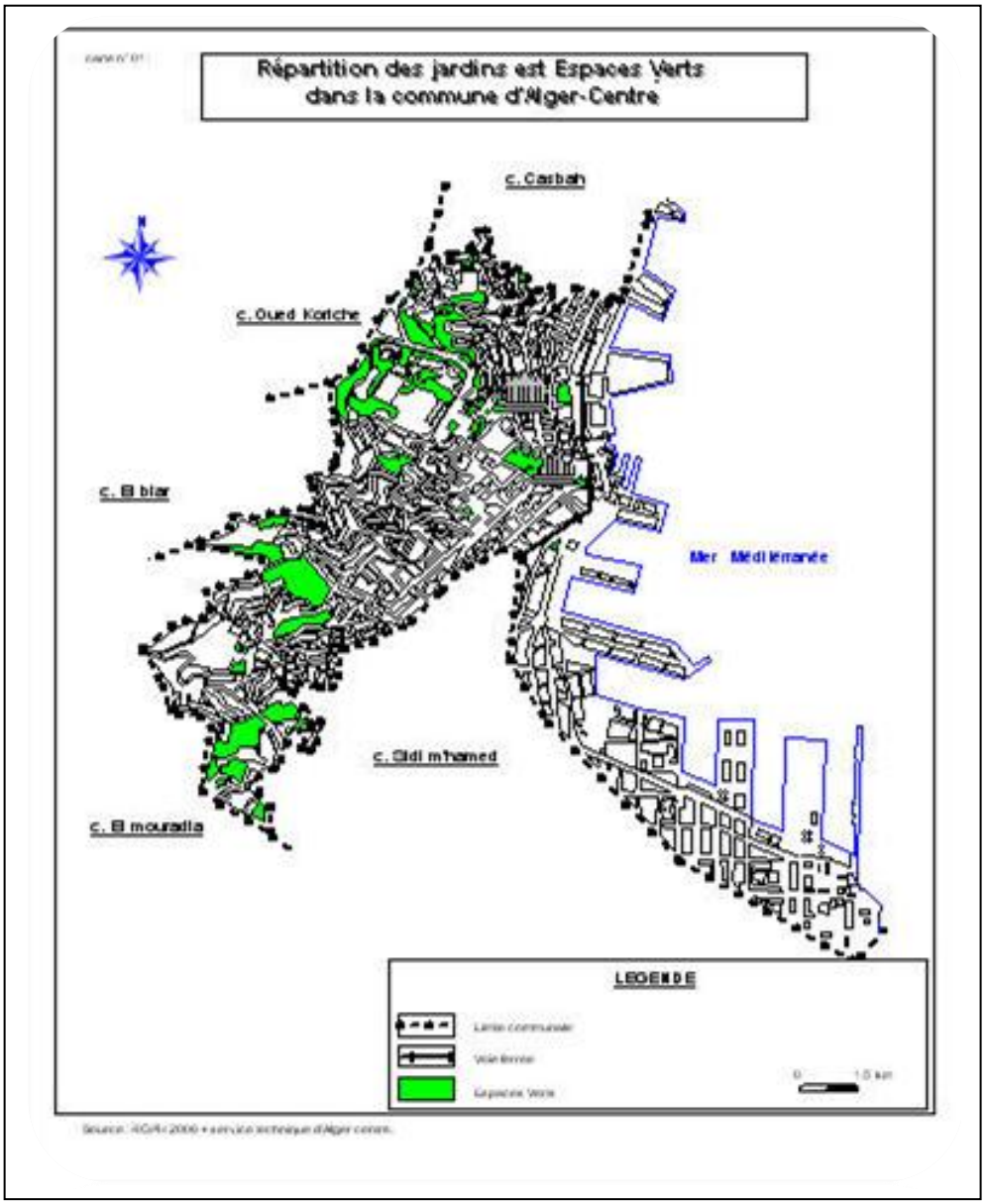


Figure 9: Distribute gardens and green spaces in the municipality of Algiers-center, 2014.

7-3: Estimating the amount of green space per inhabitant in the municipality of Algiers-center

In the absence of fixed standards, we will base ourselves in our estimations of the amount of green space per inhabitant in the commune of Algiers-center, on the ministerial decision of minimum standards of 31/10/1984 concerning the green spaces in the area. urban is estimated at 4.3 m² / inhabitant.

Table n ° 08: Estimating the amount of green space per inhabitant in the municipality of Algiers-center

town	Population (2025)	Area of green spaces + gardens	Quantity of green space	Current m² / h Area of parkland + garden according to norms (m²)	Deficit (m²)
Alger-centre	89909	65880	0.74	397891.9	328011

Source: 2022 specifications, (EDEVAL).

According to the data of the table n ° 07, one notes that there is a big deficit in the amount of green space in the commune of Algiers-center east which is 328011 m ².

General conclusion :

Land-use specialists as well as planning technicians from around the world agreed on a standard of 10 square meters of green space per capita. In Algeria, this figure is reduced to one-tenth of this standard, that is to say 1 m².
Law No. 07-06 of May 13, 2007, on the management, protection and development of green spaces, needed to preserve this situation gradually. Especially since estimates show that by 2025, we will be 33 million inhabitants in the cities. This law has laid down a legislative framework to raise awareness and the citizen and public authorities on green spaces.

It lists the obligations of their classification as well as the managing authorities, and indicates the forms of preservation. It also supports the management and development of green spaces in Algeria and institutes norms and coefficients of green spaces by city, urban and per capita particular.

The purpose of this law is, in particular, to improve the urban living environment, maintain and develop the quality of existing urban green spaces, promote the creation of other green spaces of all kinds, and extension of its spaces in relation to built-up areas and imposes the idea of green spaces in any construction project, as an obligatory management by urban and architectural studies, public or private.

Through our case study we found that the participation of the population is essential to the development, and preservation, of green spaces in the city ....

Finally, for any intervention on existing urban green spaces or the creation of new spaces, always have in mind that the type of green space is all aspects and design and management . These are only based on the precise definition of the role that one or another green space should play. By this last condition and with a sensitization of the users and a good will of the services of the state of the whole of the green spaces in our urban agglomerations will certainly play their true role the improvement of our frame of life.

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