

# Moderniser L'espace Urbain En Fonction De La Rehabilitation Des Espaces Verts

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## Abstract

The nations of the ancient world paid special attention to the vegetation cover, and made it units of different dimensions and different arrangements, and various types of life sciences, engineering, and art were used for these units. Nature, fresh air and spacious spaces. Algerian cities in general, and their residential neighbourhoods in particular, know many aspects of deterioration, especially those associated with the preparation of external areas, foremost of which is the apparent lack of creation of green spaces within urban areas. Al-Bayadh, like other Algerian cities, complains of most of its residential neighborhoods of a complete absence of prepared green spaces, while the remaining neighborhoods contain green spaces in a deteriorating condition.

**Keywords:** *Urban Rehabilitation, Green Spaces, Urban Spaces, Urban Ecology.*

## 1. Introduction

Most of those interested in the city and its organization agree that it is a distinct style of social life, as it is the vivid image of its residents and the place of coexistence in which the various social, economic and entertainment relationships interact.

It is noted that parks and green spaces are an important component of urban infrastructure, and sometimes their implementation may be delayed or canceled due to the need for land for other facilities, although green spaces of all kinds are considered an outlet that is equivalent to the rest of the city's components, including residential buildings, industrial areas, markets, streets and squares. . Green spaces reduce noise, as they can absorb 20-30% of the noise of machinery and help in a positive effect on human health and nerves. Trees also play an important role in providing shade for animals and humans, and this reduces the use of air conditioners.

It is known that the limited places of trees and green spaces, and congestion in some cities and villages are random, so that people suffer from high pollution in them, to the point that life becomes seriously threatened. The situation is almost completely changed by the presence of green spaces, where trees, vegetation and green spaces are built. By supplying the city air with the oxygen element necessary for the life of living organisms, and it absorbs carbon dioxide for use in its photosynthesis. In other words, "a person (one person) needs 12 m<sup>3</sup> of air per day and requires a green surface of 150 M<sup>2</sup> to compensate for the oxygen consumed by living organisms and various combustion processes. However, we see the opposite in most of the third world countries and Algeria as one of these countries on the path of growth, which has witnessed a great urban development in recent years, accompanied by a clear shortage in terms of the presence of green spaces.

The city of El Bayadh, like other Algerian cities, also suffers from several problems related to green spaces as a result of the accelerated urban growth, which resulted in negative effects in various economic, social, environmental and even health aspects for the users of these areas, which affected the human psyche, comfortable living and aesthetic image. The most important of these problems are:

The numerical and cadastral shortage of these areas.

The absence of an aesthetic visual image within the urban sphere.

Lack of planning, misuse and management.

Limited user culture and lack of environmental awareness in the population.

In order to understand and know the various causes that have led to the deterioration of green spaces in preparation for providing solutions that help us improve the status of urban areas within the residential complexes, we raised the following questions:

What are the most important reasons that led to the deterioration of green spaces?

Was the design taken into account during the design of the planning standards for green spaces and their suitability for the area's specificity?

Is there any involvement of the citizen in managing and monitoring green spaces in order to create spaces that fit the social characteristics of the city's residents?

And in order to be familiar with the topic in its various aspects, to direct the research according to a specific and purposeful path, and to answer the questions raised in the problem, we decided to put forward the following hypotheses:

Managing hypothesis:

Lack of the level and quality of the preparation and failure to take into account the principles of designing green spaces has had a negative impact on the urban sphere.

Hypothesis of a schematic nature:

The absence of a planning aspect that is consistent with the specificity of the region has led to the deterioration of green spaces, and its negative reflection on the visual image and the urban sphere of the city.

Hypothesis of a cultural character:

The residents' lack of urban sense towards green spaces caused the deterioration of their current situation.

Each study has a goal that it aspires to as a mechanism to uncover the mystery sweeping it. In the midst of these research principles, the study included the following objectives:

The main objective:

Attempting to upgrade the urban sphere of the city by improving and rehabilitating green spaces.

Partial goals:

Work to find the real causes that led to the deterioration of green spaces, and try to reduce them to improve the visual image of the city.

Spreading environmental awareness among the population and trying to involve the citizen in running and making decisions and designing projects, especially those related to the preparation and green spaces within the urban sphere.

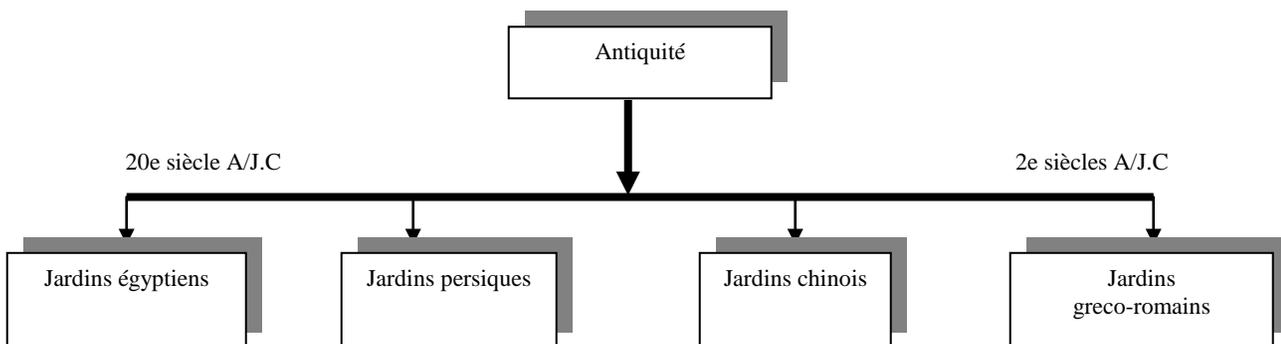
## 2. Headings and Footnotes

### GREEN SPACE:

The term green spaces is considered to be a recent creation, as it was used for the first time in the French real estate directive law in 1967 AD, as the first article of it defined it as a space devoted to barns and gardens in urban areas. [1].

As for the Algerian legislator, despite his use of this term in several laws, he did not know green areas except in accordance with Article 04 of Law No. 07/06. [2]. Relating to the management, development and protection of green spaces as: areas or part of urban areas that are not built, that are totally or partly covered by plants, and that are located within urban areas or areas to be built that are the subject of classification .. [3] What follows from this definition is the consideration of green spaces as national, public, economic properties. Because they require classification in order to give them the character of green space. In the sense of violation, every green space is not subject to classification that comes out of the framework of the implementation of Law No. 06/07.

### Historical Approaches to Green Spaces:



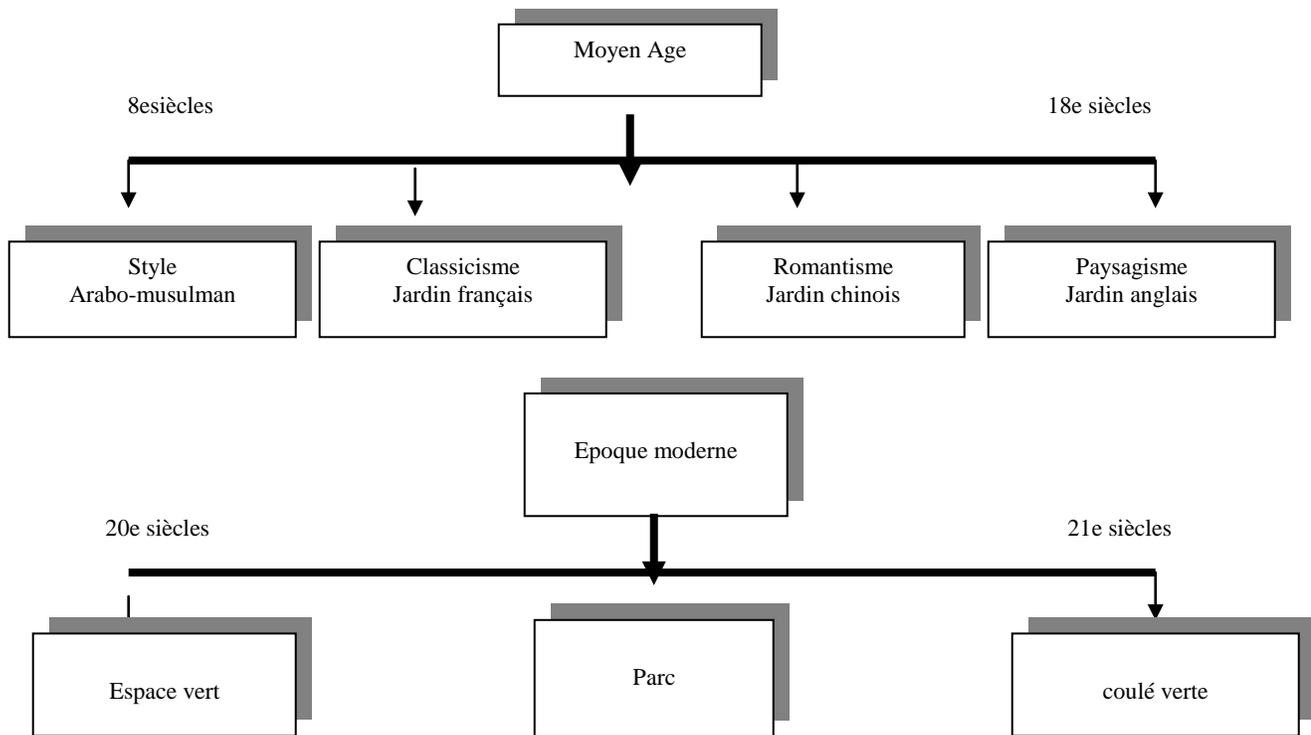


Figure 01.- Restructuring historical approaches to green spaces.

### The status of green spaces in Algeria:

Thanks to the Islamic civilization. The Arabs returned and settled on this difficult land to build cities and gardens. Because of the desert and the nomadic Bedouins. The Arabs were not directed to create gardens. And it is not like their inherited traditions. In Algeria this urbanization and the inherited tradition of building cities with its gardens. What remains for us today. This does not reflect the nomadic people living in cities and villages. This is what is considered as a break in the rhythm of our green spaces at the level of each region in our urban areas. We begin to embody Algerian traditions, since the year 1970 AD and in particular and the authority. Public be empowered to remove trees in our urban areas. Wipe out the lungs of cities and villages. For the benefit of the ugly concrete encroachment. What led to an urban landscape that does not provide any connection to social communication. What led to the lack of green spaces. Today is one of our priorities in the field of landscaping. We can say that our cities will be threatened with deterioration and division in the event that we continue uprooting trees in order to build a place or expand the building, despite the doubling demographic growth in Jazaa By the end of the year 1970 AD, the legislation and laws that govern green spaces in the Algerian urban environment have not changed. On the other hand, these spaces have become almost non-existent. And the amount allocated for their management has become completely absent. We did not say that it is not present. They are given to unqualified achievement institutions in preparing the spaces. Green. And it is led by architects in the building. Those who do not have any knowledge about plants and how to use them. Even on the technology of planting and tree planting.

In the spontaneous period of city expansion. We notice with the rural displacement. The return of private green spaces and horticultural gardens. These two types of green spaces are added to colonial green spaces. "But what is known as the great neglect and the almost total lack of interest in the reconstruction directorates, which also follow the absence of responsibility Peri-urban green spaces. The latter is considered to create parks and gardens in urban areas. Which is a good vital component and the quality of the urban environment. It is secondary compared to the basic function that it provides. Movement. Housing and trade. Algerian urban circles are currently suffering from a green deficit because Even our capital, compared to Paris, which amounted to 6 M<sup>2</sup>. wooded areas per inhabitant, without forests, and in Amsterdam, which is

estimated at 36 M<sup>2</sup>., London, estimated at: 45 M<sup>2</sup>., designated for green spaces in urban areas, which are exploited by 3 million inhabitants per week. Talking about our cities, which are distinguished by not continuing to build without greening, and in the absence of a green urban policy. What the National Economic and Social Council indicated. CNES. In recommendations in the form of a report put at disposal for environmental interests. At the community level. C. Local. Rehabilitation of the municipality according to its traditional activities. In order to protect the framework of life for the citizen in the field of green spaces and for the need for greenness. Which has become a necessity for the citizen who aspires to improve his life framework and see a comfortable environment with an appropriate design. [4]

The creation of landscapes. Accompanied by the creation of green spaces and spaces for hiking and entertainment in Algeria. It became a priority for local groups at the beginning of the 20th century AD due to an unavoidable urban structure. For the success of the large lines of the sustainable development strategy for tourism. In order to implement the presidential program and Follow-up by the Ministry of Tourism, which prepared an amount of nearly one billion dollars at the end of 2013 AD. In order to attract foreign tourists who left Algeria due to the deteriorating state of our cities, without any logical presence to prepare the landscapes with green spaces that are prepared temporarily for the visit of the President or Minister .

Table 01 .Distribution of green spaces among the states in 1995.

the state	Algeria	OM AL-BOUAGI	Constantine	MASCARA	Oran, Tipaza, Ain Defla	Jijel	Tiaret	Other states
/	20.6	8.1	6.8	6.7	5.4	4.7	3.7	40.6

**Varieties for green spaces in Algeria:**

Green areas within cities are classified according to the number of inhabitants in the area or neighborhood into:

**Green spaces accompanying residential complexes:**

This kind of greenery is given Share estimated at : 6.8m<sup>2</sup> / inhabitant.

**Green spaces within neighborhoods:** estimated value: 4 M<sup>2</sup> / inhabitant.

**Peri-urban green spaces:** estimated: 10 m<sup>2</sup> / inhabitant.

**Row trees.**

These three items were distributed as follows:

**The green spaces accompanying the residential compounds:** which contain three elements as follows:

Wooded residential areas: ..... 1.8 m<sup>2</sup> / inhabitant.

Play spaces consisting of areas divided as follows:

Gardens for children: less than 04 years ..... 0.20 m<sup>2</sup> / inhabitant.

Children's gardens: from 04 to 10 years: ..... 0.80 m<sup>2</sup> / inhabitant.

Sand areas for free play: ..... 0.50 m<sup>2</sup> / inhabitant.

Play areas: children over 10 years old: ..... 3.00 m<sup>2</sup> / inhabitants.

Free spaces coordinated in the form of spaces for recreation and leisure: .0.50 m<sup>2</sup> / inhabitant.

-Grand total: ..... 6.80 m<sup>2</sup> / inhabitants [5].

**Green spaces within neighborhoods**

It consists of public gardens, squares, and small gardens that have been completed

Allocation of share: 4.00 m<sup>2</sup> / inhabitant.

These two types of green spaces have been present in Algerian cities since the colonization. It was recommended in the ministerial department to preserve this type of green space and try to integrate it into the new urban fabric.

The planning of green spaces must take into account the physical characteristics, the climate, the region, and that are in line with the environmental specificity. The summary of these types of green spaces examined them together was estimated at 10.80 m<sup>2</sup> / inhabitant. For urban green spaces and adjacent spaces.

**Peri-urban green spaces:**

contain barns and hiking forests.

Barns and Picnic Forests: ..... ..10.00m<sup>2</sup> / inhabitant.

Barns and hiking forests are placed for balance and as one of the most important and distinguished varieties. The site is chosen on a specially prepared base. It comes according to the shape of the site and the distance, the degree of frequency with it and the roads leading to it. All these numbers are distributed over the circle. Of lower standards that provide indications for designating public green spaces.

Row trees or wooded rows :

Which contains all the wooded formations found along roads and highways and other types of roads in their parts located in urban areas and adjacent to the city, or what is expressed as the green belt that connects to the main roads and may be a link between countries and regions or a protective belt To isolate urban areas from sources of pollution and noise, as the green belt acts as a source of winds.[6].

Table 02- Green space standards. "Unitary needs".

N°	Designation Of Green Areas Varieties	Individual Needs
01	Green spaces in the residential neighborhood	6.8m <sup>2</sup> / inhabitant
02	Green spaces within neighborhoods	4m <sup>2</sup> / inhabitant
03	Green spaces outside the city	10m <sup>2</sup> / inhabitant
	Total green space standards	20.8 m <sup>2</sup> / inhabitant
04	:Row trees Inside the urban center In the semi-urban center	01trees every 05 meters 01trees every 10 meters

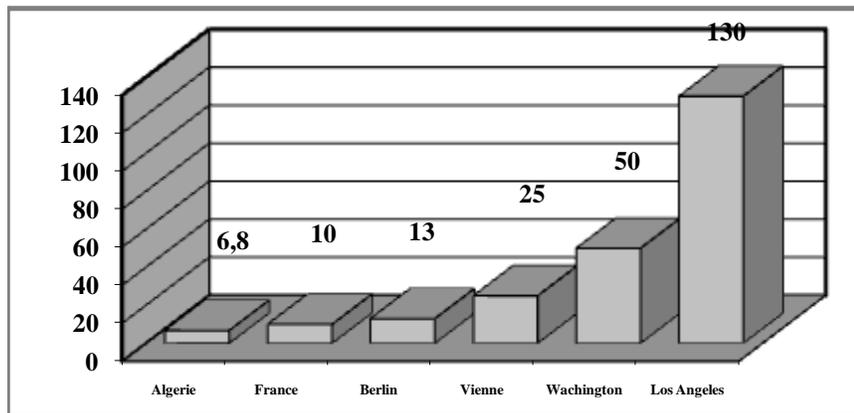


Figure 2.- Percentage of green spaces in Algeria and some countries of the world.

**Laws regulating green spaces in Algeria:**

It implemented Ministerial Instruction No. 29256 dated 11/29/1983, which included the upgrade and creation of green spaces. Then several laws were issued referring to green spaces.[7].

First: Law No. 90/25 containing the real estate directive. [8].

It is considered the first law to determine the technical strength of real estate by classifying it and determining the provisions that apply to each category, dividing the property into private and state property and property belonging to the state, state and municipality, and determining the last types to the following: Agricultural lands with an agricultural destination Pastoral lands. Desert lands. Durable and sustainable lands. Forest lands and areas with protected sites. As for the provisions related to the regulation of green spaces, they are regulated by Law No. 90/29 related to planning and reconstruction and Law No. 90/30. Law 90/29 stipulates in Article 11 of it that the preparation and reconstruction tools determine the basic directions for preparing the lands. It also sets the directions and expectations of reconstruction and specifies in particular the conditions that allow the protection of sensitive areas, sites and green spaces. In Article 31 of the same law, the legislator asserts that the land occupation plan is determined in detail within the framework of the directives of the master plan for development and reconstruction, the rights of land use and construction, and specifies the locations of

public spaces and green spaces. This is also confirmed by Executive Decree No. 91/178. Which specifies the procedures for preparing a land occupation plan in Article 08 thereof. Planning green spaces is a process that cannot be separated from the context of the overall planning of the city due to its importance in maintaining the environmental balance.

What is to be noted about the provisions contained in the Law of Development and Reconstruction: That the law obligated every municipality to cover its territory with reconstruction plans. However, the reality indicates that most of the municipalities until recently did not return these plans, and therefore the reconstruction operations were carried out in accordance with the general rules for reconstruction. Executive No. 175/91, meaning that the absence of these two tools means the absence of green spaces of all kinds in cities and neighborhoods.[9].

Law No. 30/90 containing national properties: This law is considered in Article 16 thereof. Green spaces are public national properties. It defines two types of them which are prepared gardens and public gardens, without knowing any of them. They may be subordinate to the state, state or The municipality, because the text is general, and in order for these gardens and orchards to be established, they must first be included in the national public property by classification.

Executive Decree No. 91/454 issued on 11/23/1991 which defines the conditions for managing private and public properties belonging to the state by classifying green spaces. This decree was repealed by Executive Decree No. 427/12.

Law No. 03/10 issued on 07/19/2003.[10]. Relating to the protection of the environment in the context of sustainable development, this law is included

A single text related to green spaces within the sixth chapter on the protection of the living environment, which is the text of Article 65 thereof, which states: Without prejudice to the legislative provisions in force related to urbanization and taking into account environmental protection considerations. Small forests, public parks, recreational spaces and each area are classified It has a collective benefit that contributes to improving the living framework and determines the modalities of this classification through regulation. It is noticeable that the executive decree has not been issued and this article has been explicitly canceled according to Law No. 07/06 related to the management of green spaces.

Law No. 07/06. Dated 05/13/2007 related to managing, protecting and valuing green spaces and it is the first law related to green spaces. Hence, the legislator obligated every architectural or urban production to establish green spaces, taking into account the character of the site and the scenes that should be preserved and valued. And the varieties and types of plants and the preservation of the architectural heritage of the region. He also stressed the need to take into account the allocation of green space sites within urban areas when preparing or reviewing construction tools according to the standards of each city or urban group. All this is in line with the green space management plans. The per capita share of the area of recreational areas in large cities has been estimated to be between 10 to 15 meters as an acceptable limit, as these spaces are of utmost importance to the psyche of urban residents and their daily activities.[11] . Article 02 of it stipulates that the management, protection and development of green spaces in the context of sustainable development in particular require the following: Improving the urban living environment.

- Maintaining and improving the quality of existing urban green spaces
- Upgrade the creation of green spaces of every kind.
- Upgrading the expansion of green areas in relation to the built areas.
- It is mandatory to include green spaces in every building project that is covered by public and private urban and architectural studies. Article 29: The public or private achievement is required upon completion of each

A green space must take into account, in order to achieve the homogeneity and quality of the landscape, the following factors:

The character of the site, the views that should be preserved and valued or those that should be hidden, the land resources, the plant species and varieties of the area concerned, the architectural heritage of the area or sub-district, agreements and obstacles related to the neighborhood, the water system, the right of crossing, the separation of boundaries, the rows of the road network, the leveling of lands, afforestation and the network of underground canals And underground electrical installations.

Executive Decree No. 67-09 of Safar 11, 1430, corresponding to February 7, 2009, defines the nominal list of urban trees and row trees.

Executive Decree No. 101/09 issued on 03/10/2009 specifies the organization and modalities for granting the National Award for the Green City.

Restrictive measures to protect green spaces :

The privacy of green spaces justifies the preservation of their components by means of restraining protection against various attacks. Therefore, physical assault on green spaces has been criminalized at the level of unlawful behavior against this property:

### .1.Criminalization of physical assault on green spaces:

Pursuant to the provisions of Article 40 of Law 06/07, the aforementioned person shall be punished with a penalty of five hundred thousand dinars to one million dinars who totally or partially demolishes a green space with the intention to acquire the places and direct it to another activity. F. A penalty of less than 03 months to a year applies to anyone who causes the degradation of green areas or uprooting of shrubs.[12].

### .2.Criminalization of illegal disposition of green spaces:

Green spaces of all kinds, like other open spaces, may be subject to illegal actions, especially with the phenomenon of occupying the public domain without capacity. The legislator has subjected the exploitation of parks to the necessity of obtaining prior licenses from the will administration. Any change in the green space or every occupation thereof shall be punished. He violates the laws and regulations in force, with imprisonment from six months to a year, and a fine from fifty thousand to one hundred thousand dinars, and the places are returned to what they were.

As for the person who wears billboards in green spaces without the knowledge and approval of the concerned administration, he is subject to a prison sentence of two to four months, and a fine of ten thousand to twenty thousand dinars, which is the same penalty applied to every person seeking to cut down trees in urban areas without a prior permit. In order to strengthen these procedures and work to implement and implement them on the ground, the law authorizes some qualified employees the authority to investigate and search for crimes. It gave them the capacity of judicial seizure. These violations are examined according to records sent to the public prosecutor. The criminal judge has broad powers With regard to measures that can be adjudicated in addition to the original penalty.

### Obstacles to creating green spaces in Algerian legislation:

The protection of green spaces has become in these days one of the most important priorities that countries set in their programs, policies and plans. They allocate important funds for them and recruit enormous human resources for them. But this care for green spaces differs in different cities. It appears prominent in some areas of the country. Throughout the number of prepared and protected spaces, and they appear dim in other cities, as they notice a fading color due to the loss of green in them. This is due to the uneven efficacy of the protection mechanisms adopted by the state. The process of protecting green spaces faces many difficulties and negative repercussions stemming mainly from the planning state of these spaces from deficiencies. Good and organized planning is one of the elements of the plan's success in achieving its aspirations. Poor urban planning is also considered one of the most important shortcomings of the planning situation besides these Areas with his adoption of chaotic buildings threatening green spaces.[13].

### Difficulty controlling the real estate field:

Controlling the real estate field is the basis of the preparation process, as it is the framework on which local groups undertake the preparation operations. Through it, what has been programmed for, for example, urban planning is implemented. And what the example assumes in terms of allocating land may often conflict with the boundaries of real estate that are constructed. For different owners. This calls for the management to intervene in order to resist the monopoly of land by acquiring it and preparing it so that it is suitable for construction. However, in most cases the administration is unable to follow this policy due to the real estate difficulties it faces. As the transfer of ownership often occurs from one party to another in a way. It is difficult to define the real owner, therefore, these lands must be removed from the stalemate and the credibility of the real estate registry, its unity and the homogeneity of its components must be sought.[14].

### Cluttered buildings threaten green spaces.

Despite the multiplicity of laws that explicitly stated the construction permit and the necessity to respect this procedure. However, the phenomenon of chaotic construction remained in place. Neither the procedures nor the restraining arrangements were able to prevent this type of construction that harms our cities and obscures its aesthetics. It tries to reduce the often messy structures built on undeveloped lands that can be designated as green spaces.

### The inability to deter the citizen:

The environmental dimension represents an important axis in the preparation and reconstruction process. Therefore, emphasis has been placed on the effective tool to reduce the abuses that exist in green spaces. In addition to the need to provide supervisors, this is not sufficient. No matter how intense the monitoring is, the citizen, if he is not aware of the importance of spaces. Green is in its living environment, and its role in bringing closer and strengthening social relations and combating air pollution, it will not improve its use and exploitation, which leads to its extinction. [15].  
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### 3.Results and discussion

Introducing the AL bayadh City:

Historical overview:

AL BAYADH Department rose to a state during the administrative division of 1984, as it was previously affiliated with a SAIDA state, and it is considered one of the oldest departments, it was called " GERRY CITY".[16] .Relative to a French officer.

As for the EL BAYADH as a region, its history can be traced back to six thousand years of history and archeology scholars. This is embodied by the stone drawings extending from the north and south of the desert Atlas, as well as the spread of prehistoric human cemeteries, especially in the regions of "Karakada" and "Prizina", in addition to the palaces located there.

Popular narratives differed as to the significance of the name of the eggs, but the most likely analysis of the name is due to the presence of white soil that was used to wash white clothes, such as bernous, and this soil is called “the BAYADH.”

Location and space:

The state of El Bayadh is located in the southwest of Algeria and is one of the states of the high plateaus, with an altitude of 1400 meters above sea level, interspersed with mountains such as "Boungta" and "Bouderga". The city's topography combines three aspects:

High plateaus: to the north, the desert atlas: the center, the desert: to the south

The location of the wilaya makes it a steppe region in the first place.

Astronomical site:

Al-Bayadh city is located astronomically between latitude (40-33) north and longitude (00-01) to the east.

Administrative site:

El Bayadh is located in the southwest of Algeria, bordered by:

On the north: Saida, Tiaret, Sidi Bel Abbas, south: Adrar, east: Laghouat, Ghardaia. West: Naama, Bashar.

Area:

The state of El Bayadh occupies an area of 71,697 km<sup>2</sup> and represents 3% of the area of Algeria, made up of 08 departments and 22 municipalities.

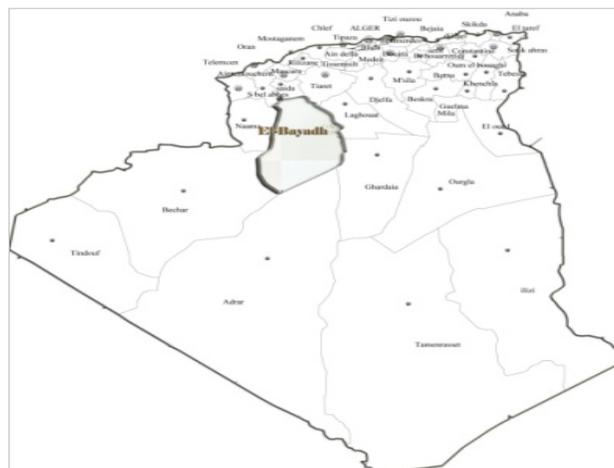


Figure 02. - El Bayadh State website.

Natural study:

the climate:

The region is generally characterized by a semi-arid climate, which is very harsh, cold in winters and mild in summer.

temperature:

It is considered one of the most important influencing climatic elements as it enables us to know and choose the building materials used and to use mechanical means such as "cooling means". Therefore, the city knows different temperatures according to the seasons of the year.

Table 03 - shows the temperature changes.

Months	January	February	March	April	Mai	June	July	August	September	October	November	December
Maximum temperature	4,83	11	12,5	13	27	32	34	34	18	20	13	11,2
Minimum temperature	4,24	5,4	5,72	6,7	23	27	30,2	29	15,2	16	10,6	4,58

According to Table No. (3). We note that the month of January is the coldest with an estimate of 4.10 degrees and the month of July is the warmest with an estimate of 34 degrees Celsius, which requires the use of devices to humidify the air. Unusually, the city of El-Bayadh is known to be very cold in winter and summer. This confirms the city's lack of green spaces that It is considered as an average temperature. After a study carried out by some researchers on the oasis of Laghouat, on the impact of the lack of green areas on the temperature, and after the lack of palm oases in the city of Laghouat between 1984 and 2015, the average maximum temperature recorded in August increased from 30 ° This is due to the retreat of palm oases that provided a microclimate thanks to the shade of the palms, trees, and watering channels that ensured the adjustment of the high temperature.[17].

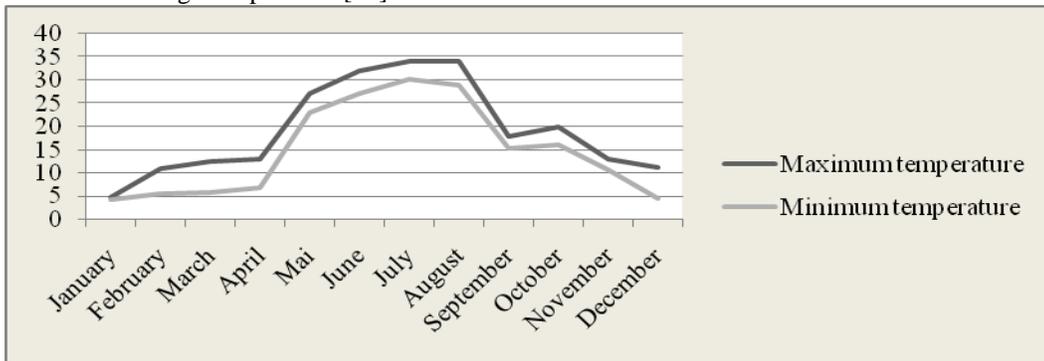


Figure 03.- shows the temperature changes.



Figure 04.- Temperature in 1984 for the city of Laghouat.



Figure 05.- The temperature in 2015 for the city of Laghouat.

**Shedding:**

Is a precipitation factor climatically specific agricultural activities sometimes be a major factor in the soil destruction, and is also considered specific to the size of networks (VRD). According to meteorology, the city eggs know the amount of precipitation is sandwiched between 200-300mm. In the year, where frequent precipitation in the following months: January Avril and December.

Table 04 - shows the amount of precipitation in the city.

Months	January	February	March	April	Mai	June	July	August	September	October	November	December
Shedding mm	40	20	5,1	25,4	5,4	3,2	0,3	5,9	4,6	29,5	31	32,4

**Vegetation:**

The city of EL Bayadh belongs to the cities of the high plateaus and is characterized by a semi-arid flank. Therefore, most of the existing plants are astropic plants such as the Allied and Artemisia, but they are in constant decline due to the random grazing and the desertification factor.

**Green spaces in the city of EL Bayadh :**

Al-Bayadh City lacks green spaces within the urban fabric, as its percentage is estimated at 0.56%, or 4.67 hectares, while those destined for recreation do not exceed 0.45%. Of the total area of the city consuming an area of 3.72 hectares .

It can be said that all the green spaces that cover the city share the same problems:

The recorded deficit in these areas at the city level (numerical and cadastral shortage) at the rate of two parks for the entire city, especially since the required rate per person from public parks within the residential neighborhood is about 0.6 m<sup>2</sup> / person, meaning that the recorded deficiency area in the city is about 47150.57 m<sup>2</sup>.

An imbalance in its distribution in the city, where it serves a small population.

Poor configuration and design quality.

The lack of wooded area means that most of it is paved.

The lack of covered areas, as well as the absence of their own furniture (kiosks, games.(... ,

Lack of maintenance.

In order to understand the state of green spaces in the city, we must study the Freedom Park as the only outlet for residents in the city, as an example of urban gardens, and in order to see the true reality of green spaces within the city of EL Bayadh.

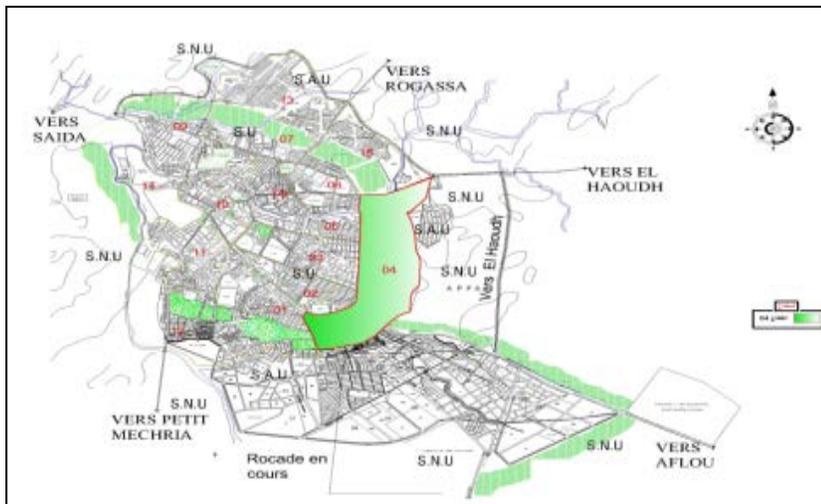


Figure 06. - Distribution of green spaces in El Bayadh City.

## Parks and public gardens in El Bayadh City.

### Introducing the Freedom Park:

In order to revive the public spaces directed to entertainment and entertainment in the city of El bayadh. A financial envelope of 9.5 million Algerian dinars has been set aside for the rehabilitation work of the "Freedom" park. This process falls within the framework of the municipality's development plan for the year 2011, through its rehabilitation and equipping it with a number of entertainment and entertainment facilities, in addition to connecting it to the electrical network and exploiting the well located in the same garden. In order to water the plants, in addition to supplying them with an additional share of various trees, according to the head of the Municipal People's Council.

It should be noted that this park was inaugurated on May 20, 2011, but soon it was closed again after the end of the summer period, so that the recorded deficit in recreational green spaces returned again.

### Site:

The park is located in the Sidi Hajj Bahous neighborhood, which is located on the southern side of the city of El Bayadh. It is distinguished by its strategic location, being located near the city center, about 450 m. In addition to its alignment with some of the important secondary roads in the city.

### Adjacent ocean:

The park is surrounded by a group of buildings of various functions and engineering, separated from it by a series of important roads from its three sides, so we find from: The northern side of the park: the court - the retirement fund - the Mujahideen Directorate.

The eastern side of the park: an urban façade consisting of three-story buildings - a temporary passenger terminal.

The western and southern sides of the park: an urban façade consisting of four-story buildings - the residence of the National Gendarmerie.

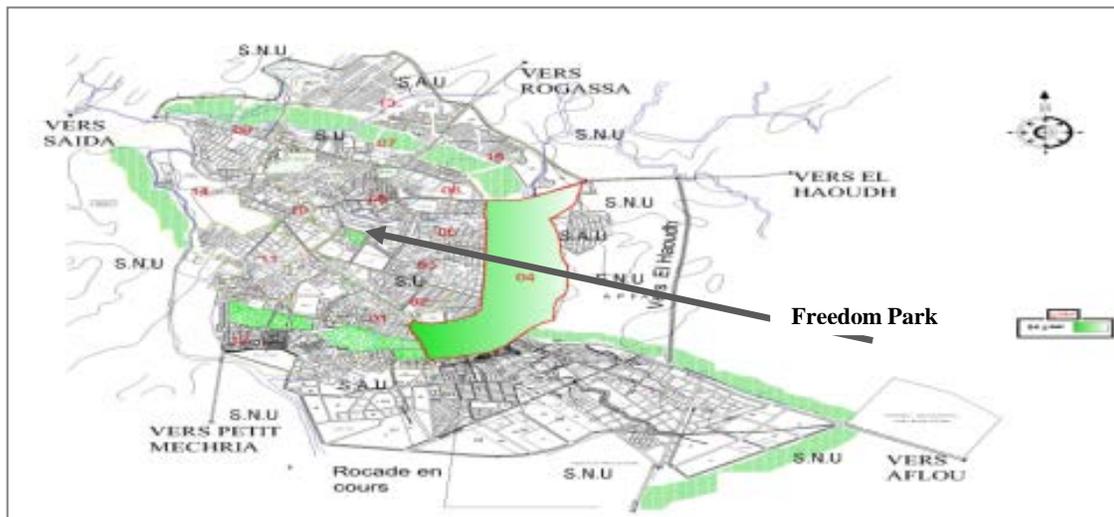


Figure 07.- Location of Freedom Park in relation to the city of El bayadh.

Through the plan, we notice that the location of the Freedom Park was a strategic location compared to the rest of the green spaces within the city, as it came in the city center, which makes it exploited by all of the city's residents and serves the largest possible group in the city.

### Department of Use (its effect on the city).

Based on the area of the park and its location in the city, we have drawn a usage cycle.

It is assumed that the area of influence of the Freedom Park on the neighborhoods of El Bayadh is about 2.5 km. That is, about 15 minutes "by car" from the park center to the last circle indicating the scope of its service in the city according to its size.

### Existing tree varieties:

For this purpose, we dealt with the enumeration of tree species in the garden by studying each species separately.

### The eucalyptus tree:

It is known for its effective role in the ecological balance, in addition to its rapid growth and distinctive size,

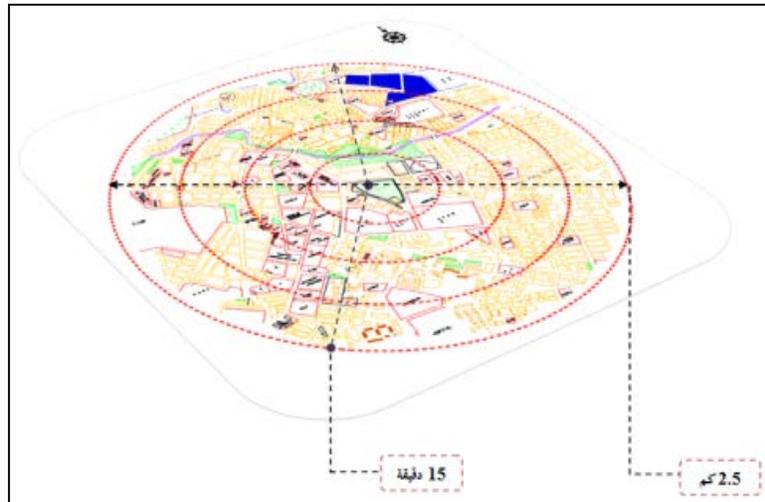


Figure 08.- Scope of use diagram of Freedom Park

so that it quickly forms a fence.

to protect the field from external winds (cold – hot), the chart below shows the locations of its distribution in the garden.

**Washingtonia tree:**The same palm leaves (palm fronds) are round in shape and green in color, with an average foot of 1.5 m.Addition of its decorative (cosmetic) property.

#### False pepper tree:

Slender evergreen tree, the compound feathery leaf includes about 25 leaves, it has a distinct aromatic smell, it is sensitive to cold.

It is known for its overhanging branches that hinder the movement of pedestrians on the sidewalk, in addition to its irregular shapes in the absence of regular maintenance.

#### Acacia tree:

A perennial, fast-growing, evergreen shrub with a broad crown and a multi-branching stem, reaching a length of 3-7 meters.It is known for its strong resilience to the salinity of the soil and its predominantly dryness due to the lack of rain and its scarcity, and it is called “thistle” or “ginkgo”.

#### Harmony and harmony of trees in the garden :from where:

**Altitudes:** It is noticed that there are different heights from (3 ~ 5.50) m, and this is due to the different tree species in the garden on the

one hand (eucalyptus, false pepper, Washingtonia, acacia), and on the other hand, the different periods of time for planting these latter. This negatively affects the shadow production process and fractures from the intensity of the incoming winds.

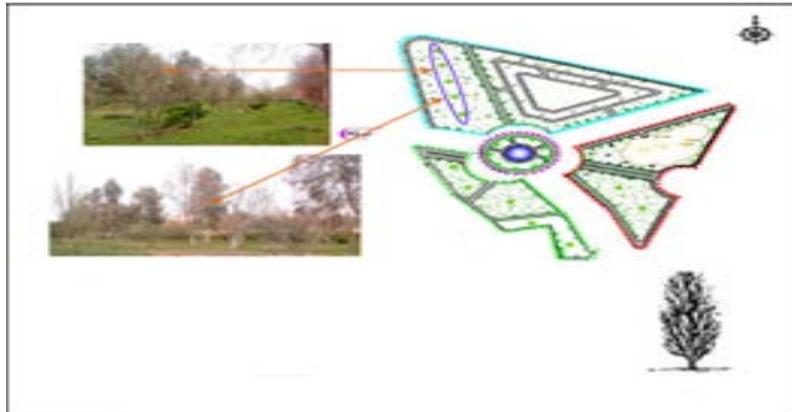


Figure 09.- Scope of use diagram of Freedom Park.

#### The space between the trees:

As for the separating spaces, they are regular in some parts and disrespectful in others, so that they form pathways for the winds, as shown in the picture.

Heterogeneity: caused by differences between tree species, sizes, greenness periods, and orientation nature.

#### the noise:

We used colors in order to clarify the intensity of the noise in the garden. We have taken from the ear of the human wandering in the park a tool for measuring observation and this is due to the absence of means of measuring sound "Sonomètre."

We dealt with the study of noise in the park to find out the extent of the park's ability to provide comfort to the user, and to attract families to it. Through the analysis it became clear that Zone No. 04 is the quietest area and attracts users. This is due to its distance from the road and noise and the trees that have worked to reduce noise However, it remains insufficient compared to what the population visits.

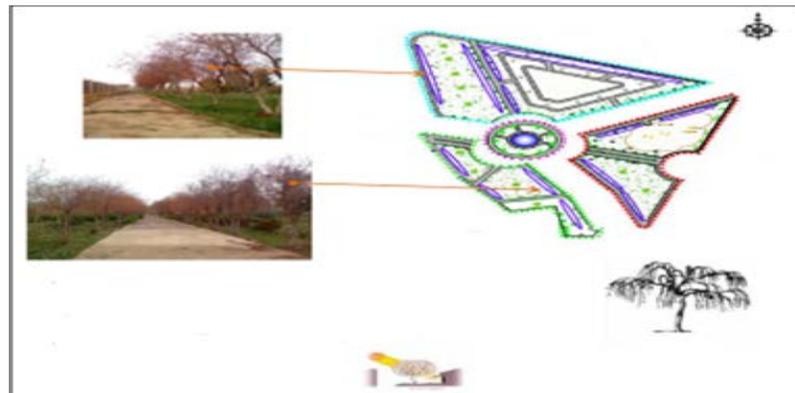


Figure 10.- Scope of use diagram of Freedom Park.

Through the analysis of the garden, we can say that the condition of the garden is as follows:

The park relies on a simple configuration in terms of structure and components, and we believe that this structure does not suit the element of diversity, comfort and enjoyment that such facilities require.

Not to exploit trees in a way that makes a person foster a sense of inclusion and enclosure due to the lack of a sense of privacy in such spaces.

We did not get the direct and powerful effect of trees for controlling the viewer's perspective, no matter how the angle of view changed.

-A difference in the perception of those concerned with green spaces through the interest of some in the plant elements only, while others are concerned with the other elements (urban furnishing) as well as the difference of intervention on them.

Lack of follow-up and maintenance by the concerned authorities from the municipality.



figure 11. - Garden noise intensity.

The lack of experience of some members of the technical staff in implementing agricultural service and maintenance operations, and this is reflected in the status of afforestation services, so we often notice the lack of pruning trees that are most in need of pruning and sometimes unfair pruning of some trees. This is confirmed by the inappropriate selection of plants in residential green spaces and the inadequacy of the soil. A lot of residential green spaces are allocated for planting and spreading herbs.

The simple structure and preparation of the park does not match the variety and excitement required by such facilities.

The difference in the time periods for planting trees in the garden, in addition to their inappropriate orientation, negatively affected the process of producing shade, breaking the intensity of the wind and reducing its speed.

The ill-considered choice of the existing tree species makes the garden more vulnerable to wind and sunlight throughout the winter and fall seasons.

It is noticed that false pepper trees have lost their greenness as a result of frost waves due to lack of watering and periodic maintenance, especially since it is the most abundant tree in the garden.

The random and uneven distribution of trees in the garden and the lack of diversity in their use, in addition to not taking into account at least 3 m of the corridors to grow false peppers on the edges of the paths to avoid branches that hinder movement.

The park is surrounded on the north and east side by two main roads, and the absence of anti-external noise barriers, whether natural or artificial, in these two sides allows the passage of high sound waves resulting from mechanical movement in addition to the noise generated by users in the middle of the park.

## 4. Conclusions

El-Bayadh city lacks green spaces within the urban fabric, as its percentage is estimated at 0.56%, or 4.67 hectares, while those destined for recreation do not exceed 0.45% of the total area of the city, consuming an area of 3.72 hectares.

According to the hypotheses put forward at the beginning of our study, we presented the most important problems of green spaces in this intervention into three important aspects:

Management side:

Each institution holds the other responsible for the degradation and lack of green spaces.

The inability of city governing bodies, especially the municipality, to create and establish effective and efficient management rules and mechanisms that guarantee a minimum of interest in green spaces.

**Schematic aspect:**

After an analytical study of green spaces at the general level of the city, we concluded that there is a clear shortage of these places on several levels, the most important of which are:

The areal and numerical shortage of green spaces compared to the number of city neighborhoods and the number of residents.

Absence of green floors.

Lack of maintenance work and absence of protective barriers.

Poor selection of plant and tree varieties.

Lack of diversity in used tree varieties.

**The cultural awareness aspect:**

After analyzing the form addressed to the users of these spaces, it is found:

The absence of a general program for awareness and information at the municipality level, as it is responsible for running these spaces.

The absence of the role of association movements at the level of the city's neighborhoods in sensitizing the importance of parks and gardens.

The user's personal and personal limits are dominant, as the responsibility does not exceed the limits of his personal benefits.

## References

- [1] Toufik, a; approach to urban public spaces. case of the new city ali mendjeli. Memoire de magister, university mentouri.constantine. 2012, P 49.
- [2] The Official Gazette; Article 34 of Law 7/6, Algeria, 2007.
- [3] Mustafa Aida; The role of green spaces in embodying sustainable urban development, Faculty of Law and Political Science, Journal of Studies and Research, Arab Journal of Humanities and Social Sciences, University of Blida 02, 2019. p 159- 163
- [4] Ammar, a; green spaces has skikda. proposal for the development of the peri-urban zone of mouadher in green grid. Memoire magister., University badji mokhtar- faculte des sciences de la terre, annaba, 2011 ,P 50.
- [5] Adra, a. K; urban public green space from Historicism to normativity case of Constantine, These de doctorat es-science , Department of architecture and town planning, Constantine, 2011, P 183.
- [6] Azzouzi, a; green spaces in skikda. Journal of man and society university of tebessa, 2013, p. 95.
- [7] Bekkouche, a. (n.d.); green spaces in oran, a component of the Mediterranean identity. Memoire magister, Oran,2012 ,P 181.
- [8] The Algerian Official Gazette; Law No. 29-90, Algeria. 1990.
- [9] Hisham Al-Abed Al-Derawi; Obstacles to providing open areas and green spaces in the structural plans in the Gaza Strip and ways to develop them, Master Note in Architectural Engineering, Gaza, College of Engineering, Islamic University, Palestine, 2013. p 34
- [10] The Official Gazette; Law No. 03/10. Environmental protection within the framework of sustainable development, Algeria 2003.p 53.
- [11] Ali Salem Al-Shawawrah; Urban and rural urban planning, Amman, Maisarah House for Publishing and Distribution, First Edition. Jordan, 2012. P 385.
- [12] Dr. Dawar Jamila; Green spaces in Algeria: shortcomings and challenges, Faculty of Law and Political Science, University of Mohamed El Bashir Brahimi. Bordj Bou Arreridj. Journal of Legal and Social Sciences, Zian Ashour University, Djelfa, Issue 14, 2019. P 14.
- [13] Al-Jassi Samah; Protect green areas. Master's Memorandum, Faculty of Law and Political Science, Tunis, 2006. P 06.
- [14] Boris Zidane; Documentation relationship with urban activity. Authentic Magazine. Issue 1, 2000. P 34.
- [15] Bin Saad Haddah; Environmental protection as a restriction on the right to real property. Master's Memorandum, Faculty of Law and Political Science, University of Algiers,. 2004. p 99.
- [16] The master plan for preparation and reconstruction. El bayadh. 2012.p 145.
- [17] kamel benarfa, khalfallah boudjemaa, djamal alkama; role of urban regulations in the preservation of the oasis of laghouat.university of laghouat,courrier du savoir.n ° 26., 2018, p 184-185.  
<http://www.meteoblue.com>.