

# The Problem of Urban Development in the Steppe Regions: Case of the Wilaya of Djelfa

Guehguih Salhi Abdelhafid<sup>1</sup>, Ghanem Abdelghani<sup>2</sup>

<sup>1</sup>Faculty of natural and life sciences, University of Djelfa.

<sup>2</sup>Faculty of Earth Sciences, Geography and Regional Planning, University of Constantine1

Received: December 31, 2022

Accepted: January 20, 2023

Published: January 28, 2023

## Abstract

This article deals with the urban problem of a steppe region, considered among the most populated and least developed Algerian cities, through an urban development operation in the city of Djelfa which remains dependent on territorial balancing and the reduction of economic and social disparities through the studied distribution of public facilities, and the adoption of the principle of priority for their fair distribution.

**Key words:** steppe, development, imbalances, structuring, equipment.

## INTRODUCTION

After the occupation of Algeria, the French colonial regime eliminated the system of integration and complementarity that existed during the Turkish period and established an economic and social structure based on a purely colonial spirit.

After independence, the Algerian state inherited a heavy legacy, as colonialism left the country with deep structural, spatial and social imbalances. The French strategy concentrated the infrastructure and basic structures in the coastal strip, for the simple reason of serving the French metropolis in particular and other European metropolises in general. In order to remedy these imbalances or at least reduce their severity and negative impact on the ground, the Algerian state has adopted several policies, but instead of extending to the entire national territory, it has perpetuated the phenomenon of desertification, and the interior regions have continued to suffer from poverty and marginalization, and even become hotbeds of population displacement to the coastal areas and urban centers of the north of the country, left by European builders in the so-called reconstruction of this vacant space on the one hand. On the other hand, the privileges granted by the industrial sector compared to the rest of the sectors, and some areas have lost their jobs and turned to urban functions.

To face this situation and the dangers of its consequences, the Algerian state has taken a number of development and reform options centered around the establishment of special programs for isolated, marginalized and disadvantaged areas represented in the means, tools and plans, but they have not achieved the desired results because of their collision with many signs and facts, especially in the 80s and 90s, with the aim of enhancing the positive aspects and erasing the negative aspects. And the coexistence with new challenges, of which the most important is perhaps the pure globalization in its social, economic and cultural manifestation. The authorities concerned have resorted to the adoption of new options in the field of urban development, the pillar of which is the restoration of the national soil and the creation of an equitable distribution of national wealth with the aim of achieving spatial balance and reducing disparities between coastal areas and highlands as part of a comprehensive national approach to reconstruction of these spaces, since it is expected to host 20 million inhabitants by 2025 with what this trend requires, this demographic weight requires natural, human, technical and material potentialities in an environment dominated by a steep character with its degradation and fragility, in addition to the repercussions and natural hazards (desertification, deforestation) that it faces.

## PROBLEMATIC

In order to study this problem, to circumscribe its subject and to give it a specialized orientation, we asked the following questions:

- What is the reality of urban development in the steppe regions in general and in the city of Djelfa in particular?
- How is the distribution of the population and its growth on the territory of the city?
- Is the urban network balanced? Is it dysfunctional and characterized by the control and hegemony of some urban communities over others?
- What is the nature of the challenges facing urban planning and development policy in its various dimensions in the face of the lack of local social capital in this territory?
- How can these spatial and developmental differences be reduced in the territory of the city of Djelfa?

## **REASONS FOR THE CHOICE OF THE SUBJECT**

The topic was chosen based on the following:

- Lack of studies dealing with the subject of steppes.
- The steppes area covers most of the highlands area, where more than 10 million people of the Algerian population are distributed, and it is heading towards the accommodation of 20 million people by 2025 in the framework of the highlands project. In addition to its provision of economic potential, having a pastoral reservoir with its importance in the food security of the country.
- The deterioration of the natural environment as an inevitable consequence of social and economic factors, as well as the intensive exploitation of natural resources, in addition to the irregular grazing and indiscriminate hunting that threaten the animal and plant species (fauna and flora).
- The phenomenon of desertification, which has affected more than 20 million hectares.
- Changes in spatial functions, as the steppe area has an agropastoral function (agropastoral vocation), but in recent years it has begun to lose this function and has moved to fulfill other urban functions to the detriment of a fragile and sensitive natural environment.
- The region is experiencing a great urban expansion due to the high rate of urbanization, especially in recent years, since 33% of the population of the city of Djelfa resides in the state capital.

The city of Djelfa was chosen as a case study, as it is the capital of the steppe, where the headquarters of the High Governorate for the Development of the Steppes (H.G.D.S) is located, as well as its aspiration to be a metropolitan city in the region of the upper central plateaus, and the accompanying structures, administrative units, service facilities and basic structures, which in turn requires significant land reserves given their scarcity and collision with the tribal blockades of the 'Aroshiya'.

## **Definition Of Steppe Regions**

Steppe regions are defined according to several dimensions that can be summarized as follows:

- Spatial dimension: The steppe is defined as the confined areas or the confined spatial space between the Tellian Atlas and the desert Atlas.

The French geologist, Raymond Codère, defines it as follows: "the zones that we cross as soon as we pass from the Tellian Atlas to the Saharan Atlas".

- Climatic dimension: The steppe zones are defined as the areas confined between the rain lines 0-200 mm and 200-400 mm. They are divided into two zones: arid regions, which have rainfall ranging from 0 to 200 mm per year, and semi-arid regions, which have rainfall ranging from 200 to 400 mm per year.
- Location and area : The steppes are located in Algeria on the strip between the High Atlas Mountains and the Saharan Atlas, and extend in a longitudinal form from the eastern border with Tunisia to the western border with Morocco, over an area estimated at 20 million hectares. Thus, they penetrate the administrative borders of 19 cities, from the south of Souk Ahras to the south of the state of Naama. In fact, the steppe region is divided into pastoral and agropastoral cities. It can be summarized in the following table:

**Table 1.** Distribution of cities, towns and steppe states according to pastoral and agro-pastoral characteristics Source: HCDS ? the potentialities of the Algerian steppe, Algeria, 2008

Steppe towns with a pastoral character	Number of municipalities	Steppe towns with agro-pastoral character	Steppe towns with agro-pastoral character
Msila	47	Tlemcen	04
Djelfa	36	Sidi Bel Abbas	04
Biskra	33	Saida	04
Tebessa	28	Tiaret	11
Laghouat	24	Medea	16
El Bayadh	22	Bouira	09
Khenchela	21	Bordj bou Ariridj	16
Naama	12	Sétif	05
/	/	Batna	41
/	/	Oum el Bouaghi	16
/	/	Souk Ahras	14

### Definition of the Study Area

- Administrative location: The wilaya of Djelfa belongs to the Central Highlands region. It is bordered by the wilaya of Médéa and Tissemsilt to the north, to the east by the wilaya of Biskra and M’sila and Ouargla, to the west by the wilaya of Laghouat by the wilaya of Tiaret, and to the south by the wilaya of Ghardaïa.
- Geographic location and area: the city sits on an area estimated at : 3228.41 km<sup>2</sup>, which represents 1.36% of the total area of the country.
- Description and analysis of the major topographic units: The Wilaya of Djelfa is characterized by the presence of four major topographic units which are: mountains, high plains, and dhaiyat.
- Climate: The city of Djelfa belongs to the dry and semi-arid climate zone. The northern regions, including Djelfa, belong to the semi-arid zone, while the southern regions belong to the dry zone. It is characterized by very low rainfall that does not exceed 10 mm per year.
- Groundwater : The water supply for various uses (domestic, industrial, agricultural) is based mainly on groundwater (underground springs), since seven hydrological events are exploited to ensure water supply throughout the territory of the city of Djelfa, which are also : the table of the eastern and western basin of Al-Zahraz, the table adjacent to Djelfa, the wadi Tawil for the northwestern edge, the plateau of Massad and Al-Majbara, the bump of Ain El-Ebel and Sidi Makhlouf.
- Vegetation:

The forest area in Djelfa province is considered very small in relation to the vast area of the province, and it accounts for 6% of the total area. It is mainly confined to the forest of Sin al-Ba’a in the east and Sin al-Ba’a in the west, in addition to a forest in Jabal Sahari located in the territory of the municipality of Ain Ma’bad, as well as a forest in the municipality of al-Majbarah, the forest of Jabal Shabaka which extends in a longitudinal form with a north-east-south-west direction from the south-west of the municipality of Bouira Al-Ahdab.

The forest area of Djelfa includes: the natural forest. forests of afforestation, (the motoral).

### Demographic study

#### *Evolution of the size of the population*

The study of the human and economic qualifications of an area is a fundamental basis of urban studies, because it shows us the size of the population and the extent of its growth.

In the following axis, we review the study, analysis and interpretation of the characteristics of the population of the region of Djelfa in terms of their evolution through natural increase, population growth, distribution and density. Figure 02 can be divided into the following periods:



**Figure 1.** Evolution of the population of the state of Djelfa during the period (1966-2008). Source: National Statistics Office (ONS), General Census of Population and Housing (1966-2008).

- The period (1987-1998): This period was characterized by a strong increase in population, since the population of the state almost doubled from 491439 in 1987, the population doubled to 797706 in 1998, an estimated natural increase of : 306267. This increase represents the total population of the wilaya of Djelfa in 1977, and the annual rate of population growth has reached 4.5%, which is double the national rate recorded at the same period and estimated at : 2,28%.

This population explosion is mainly due to the phenomenon of rural displacement and natural population growth due to improved sanitary conditions, as well as the phenomenon of rural displacement, the state of Djelfa attracting a significant number of inhabitants from neighboring states as an inevitable consequence of the deterioration of the security situation in rural and remote mountain areas.

- Period (1998-2008): During this period, the wilaya of Djelfa experienced an increase in population that followed the general trend of population increase recorded during previous periods, since the natural increase was estimated at : 292,872 people, The growth rate during this period experienced a significant decline compared to previous periods and was estimated at: 3.2%, which is much higher than the national average for the same period, which was estimated at: 1.6%, the wilaya of Djelfa being at the forefront of states with high population growth and record the highest rates, and this increase is still due to a lack of awareness of the population, especially rural, and polygamy in the first place, as well as the continued attractiveness of the wilaya of Djelfa to residents of neighboring cities, in addition to making the wilaya benefit from sectoral projects and special economic programs.

The wilaya of Djelfa, through the figures of the general census of housing and population for the year 2008, ranks sixth nationally in terms of population. And because it belongs to the central highlands, the population of the wilaya of Djelfa represents nearly half of the population of this region estimated at : 43% of the total population of the central highlands, and Table 2 shows this:

**Table 2.** Distribution of the population of the state of Djelfa according to dispersion? Source: National Statistics Office (ONS), General Census of Housing and Population (1998-2008).

Cities- Wilayas	Number of inhabitants			Annual growth rate 1998-2008
	Total			
Djelfa	1090578	824430	266148	3.2%
Mssila	590591	666848	323743	2.1%
Laghouat	445868	371462	84406	3.8%
Hauts plateaux centraux	2537037	1862740	674297	2.9%
Algiers	34074911	23764687	10310224	1.6%

Through the above table, it appears that the population of the Central Highlands region is estimated at: «2,537,037 people, which represents 07.45% of the total number of the population of Algeria, and the state of Djelfa occupies the first place in the population of the region, which represents 45%, and the wilaya of M’sila comes second representing

39.50% of the total population of the region, while the wilaya of Laghouat occupies the last place in terms of population, estimated at: 455868 people, representing 17.97% of the total population of the Central Highlands region, but with an estimated growth rate of: 3.8%, which is therefore higher than the rate recorded in my wilaya Djelfa and M'sila and the average rate of the Region.

This significant increase in the number of the population, as well as its growth, is mainly due to the high fertility rate, the natural growth of the population and the attractiveness of these wilayas for residents of neighboring regions, which have benefited from many development projects and special programs similar to the program of the Central Highlands. As for the registration of the wilaya of Laghouat at the highest rate of population growth in the region, it is also due to the natural increase, the attraction of the population and the exclusivity of the wilaya of Laghouat in benefiting from the South Fund with each of: Laghouat, El Oued, Biskra, Ghardaïa, Ouargla, Bechar, Adrar, Illizi, Tamanrasset. In addition to the bottom of the highlands of the center. As well as the presence of the industrial zone of Laghouat and the gas fields (Hassi Rmel).

**Migration**

“The movement of the population from one place to another is considered, and any displacement or change in the usual place of residence is considered, migration.” Migration is also an essential part of the study of population because it affects population growth and is the second largest source of change in population size after natural increase. Through it, we distinguish and determine the size of any area or region and its functional and regional relationships. It can also contribute to changing demographic and economic characteristics by altering the demographic and economic composition, which can create positive or negative outcomes for each combination. And its ability to perform a variety of economic, social and organizational functions.

**Population Trends in the Main and Secondary Urban Areas and Scattered Areas**

1.3 Evolution of the grouped population: through table 3, which represents the evolution of the grouped population. The evolution of the clustered population, whether it resides in the main urban areas or in the secondary urban areas, shows an upward trend from year to year. This proves the tendency to gather at the expense of dispersion, and thus perpetuates the urbanization phenomenon known in Algeria in general. In the 2008 census, the number of inhabitants grouped in the main urban centers reached 824,430 people, or 75.50% of the total population, and the population of secondary urban agglomerations reached 49,790 people, or 04.50% of the total population. The number was estimated at 623,995 people in the 1998 census, with an estimated growth rate of : 40.20% for the period (1998-2008), and an estimated growth rate of: 3,44%.

**Table 3.** Distribution of the population of the state of Djelfa according to dispersion in 2008. Source: data from the National Statistics Office, General Census of Population and Housing 2008.

<b>Municipalities Whose Inhabitants Reside in the Main Urban Agglomeration</b>	<b>Communities Where the Majority of the Inhabitants Reside in Dispersed Areas</b>	<b>Communities with a Majority of Residents in the Secondary Urban Area And Dispersed Areas</b>
Djelfa, Messaad, Ain oussara, Hassi bahbah, Idrissiya, Fayd el betma, el Birine, Had essahari, Dar chioukh, Ain el ibil, Charef, Ain afkah, Ain maabed, Madjbalra, Sidi laadjal, Atlakdid, Hassi el ach, Douiss, Ain chouhada, Zekkar	El kernini, Khmiss, Sidi Beyzid, Bouira el Ahadib, Deldoul, Zaafrane, Hassi fedoul, Sad Rhalan el mliliha, Benahar, Selmana, Oul laadam, Amoura	El Ketara, Taadmit, Benyakoub

**Study and Analyze the Urban Structure and Hierarchy of Centers**

Any process of urbanization and integrated development focuses primarily on the precise knowledge of the spatial distribution of the population, whether urban or rural, in addition to defining the function of all communities and their spatial role. Knowing and understanding the functionality of the urban structure is an indispensable factor when implementing in any urban planning process to embody the act of planning in its various dimensions, given that communities (urban or rural) are the main structuring and distributing element of development on the ground, according to the results and figures carried by the General Census of Population and Housing for the year 2008 without forgetting our recourse to the figures of the Statistical Guide of the states for the year 2014.



**Spatial Distribution of Localities: A Strong Concentration in the Center of the City**

The urban network of the wilaya of Djelfa consists of 59 settlements distributed as follows:

36 settlements for the communes counted by the wilaya of Djelfa, 23 aggregations representative of secondary centers spread over the territory of the wilaya, and distributed over an area estimated at : 32256.35 km<sup>2</sup>, with a density of one settlement for 556.14 km<sup>2</sup>. In the central region of the wilaya, 58% of total communities are concentrated and are attracted by the city of Djelfa.

And due to its geographical location in the middle of the wilaya, the city of Djelfa attracts more than 58% of the size of the communities in the wilaya, with a density estimated at: a gathering on an area of 362 km<sup>2</sup>.

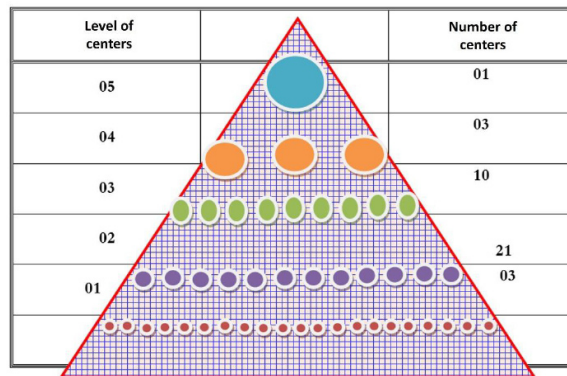
This spread is mainly due to the favorable climatic and natural conditions (semi-arid climate), and the ease of the land, which have allowed the establishment of many basic facilities and development projects.

Through figure n° (03), which represents the pyramid of centers according to the size of the agglomerations, the urban network can be divided into five levels, characterized by the urban macrocephaly.

• **First level (100 thousand inhabitants)**

It is represented by the city of Djelfa with its overwhelming dominance and its attraction to other poles of the wilaya. The city of Djelfa is among the ten most densely populated cities in the national territory, since it previously occupied the eleventh place in the ranking of cities with over 100,000 inhabitants in the general census of population and housing for the year 1998. The city of Djelfa is home to 26% of the population of the state and 35% of the total population urban area.

There is a significant increase in the population during the period (1998/2008), the increase is estimated at : 107,154 people, or about 10,000 people per year. It is among the cities with the highest population growth rates, at a rate of : 5,37%. The main urban center (ACL) is ranked fifth nationally, after the agglomeration of Illizi, Naama, Tindouf and El Tarf.



**Figure 2.** Pyramid of centers arranged by level

• **The second level (500 000 - 100 000 people)**

It is represented by three cities, and in turn they are dependent cities and fall under the influence of a city, represented by Ain and Sarah, which is 100 km from Djelfa, the city of Hassi Bahbah, 50 km away, and the city of Massaad, 76 km from the state capital, and it is structured on the national road No. 01 and No. 01b for Massaad. These three cities are home to about 300,000 people of the total population of the wilaya.

• **The fourth level (5 000-20 000 people)**

It is represented by 21 communes spread over all regions of the wilaya (north, east, south, west). The border areas also register their presence at this level, such as the commune of El-Khamis in the extreme north-west of the wilaya and bordered by the wilaya of Tissemsilt, Gomorrah and bounded by the wilaya of Biskra, Qattara and bounded by the wilaya of Laghouat and located under its sphere of influence, in addition to some secondary centers such as the village of Awlad Ubeid Allah.

• **Fifth level (less than 5,000 people)**

This level is represented by the main localities of three municipalities which are, respectively, Al-Qarnainy with: 4714 people, Ain Al-Shuhada with: 4596 people, Zakar with: 1847 people, in addition to a set of rural communities. Based on the analytical study of the problem of urban planning and sustainable development prospects of the wilaya of Djelfa in its various axes, we concluded to identify the most important challenges facing the planning process, which are exclusively the following:

- Demographic challenges: The population of the wilaya of Djelfa is based on a study of future projections, the population will reach in the horizons of 2025, and the state of Djelfa is experiencing the highest annual population growth rates as an inevitable consequence of the lack of awareness and the spread of illiteracy among a large segment of the population, especially among the rural population.

- The imbalance in population growth: the wilaya of Djelfa is at the forefront of wilayas that experience high population growth, in contrast, it records low economic growth in the workings of its local economy. This means that the weight of the demographic burden weighs heavily on economic policies and established development programs, and that in the medium term there is no indication of a decline in population growth.

- Imbalance in the spatial distribution of the population: In addition to the previous imbalances, the distribution of the population over the territory of the wilaya constitutes a major issue and an obstacle to balanced development.

The area of the wilaya of Djelfa does not have a high concentration and dispersion of the population compared to neighboring wilayas, especially the wilayas of the steppe regions. The Wilaya of Djelfa comes in the ranks of those with a low population density, and this is due primarily to the vast geographical area and the concentration of the population in the largest and most important urban centers, perhaps the most of which the capital "Djelfa City" and satellite towns: Ain Oussara , Massad , Hassi Bahbah , respectively.

- Variation in population size: The hierarchy of urban agglomerations in Djelfa is still characterized by the dominance of the urban agglomeration of the city of Djelfa, as it represents the top of the population pyramid with a population size of more than 225,000 people, and is therefore one of the largest agglomerations at national level.

The category of medium-sized urban agglomerations (20,000 and 50,000 inhabitants) and (100,000 and 200,000 inhabitants) which can play the role of connecting centers between large and small centers that remain unstructured and lack many facilities and public amenities. Unbalanced urban network throughout the state.

## **REFERENCES**

1. Al-Rimal, Number 01, Institute of Earth Sciences, University of Constantine, 1982.
2. Al-Rimal, Number 03, Institute of Earth Sciences, University of Constantine, 1998.
3. Al-Remal, Number 06, Faculty of Earth Sciences, Geography and Urbanism, University Mentouri - Constantine, 2000.
4. Bendjelid Abed, planning and organization of space in Algeria, OPU, Algiers, Algeria, 1986.
5. Ben Atia Farouk, from underdevelopment to urban development in the slums of Algiers, APC, Algiers, Algeria, 1986.
6. Bendjelid Ahmed, urban organization of the inland basins of oran, formation and functioning, university of paris 03, Sorbonne, France. 1989.
7. Benderradji Mohamed el Habib The arid environments of the extreme north-east of Algeria from Guerbes to the Algerian-Tunisian confines, eco-geography and planning, Faculty of Earth Sciences, Geography and Territorial Planning, University Mentouri- Constantine, Algeria, 2001.
8. Marc cote, Algeria space and society, edition massan, France, 1996.
9. Marc cote, Algeria or the returned space, Média plus, Constantine, Algeria, 1998.
10. Cherrad Salah Eddine, problematic of rural space planning in Algeria, discourse analysis, spatial practices and perspective, university Paul Valery, Montpellier 03, France, 1987.

11. Coudère Raymond, the high steppes of southern Oran, university Paul Valery, Montpellier 03, France, 1979.
12. Djedidi mohamed, economic and social development and urban space in the Tunisian sahel since independence in three volumes, VER, of human geography, university of Paris 07, Paris, France, 1983.
13. Lakhel Abdelouhab, economic base and spatial role of small towns in eastern algeria, typology essay, institute of earth sciences, university of constantine, Algeria, 1986.
14. Raham Djamel, Spatial structures of Eastern Algeria, territorial, urban and road grids, Faculty of Earth Sciences, Geography and Land Management, University of Constantine, Algeria, 2001.
15. Sahli mohamed, environment, planning and strategy, Faculty of Earth Sciences, Geography and Land Management, University of Constantine, Algeria, 2004.
16. National Statistics Office (ONS), results of general population and housing censuses (RGPH) 1966 - 1977 - 1987 - 1998 - 2008.
17. Directorate of Planning and Land Management of the wilaya of Djelfa, monographs of the wilaya of Djelfa for the years: 2008 - 2009 - 2010 - 2001- 2012 - 2013 - 2014.

*Citation: Guehguih Salhi Abdelhafid, Ghanem Abdelghani. The Problem of Urban Development in the Steppe Regions: Case of the Wilaya of Djelfa. Int J Innov Stud Sociol Humanities. 2023;8(1): 440-447. DOI: <https://doi.org/10.20431/2456-4931.080147>.*

**Copyright:** © 2023 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license