

URBAN UPGRADE IN BISKRA'S SHANTYTOWNS SAMPLE: THE NEIGHBORHOODS OF SIDI GHAZEL AND SIDI ROUAG (ALGERIA)

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Citation: Bouhkelifi, K. D. & Mezerdi, F. (2024). Urban Upgrade in Biskra's Shantytowns
Sample: The neighborhoods of Sidi Ghazel and Sidi Rouag (Algeria). *Analele Universității
din Oradea, Seria Geografie*, 34(1), 01-14. <https://doi.org/10.30892/auog.34101-900>

Abstract: The shantytowns or slum area started to appear in the urban fabric within town zones in Algeria during the colonial period. This situation endured after the independence, in particular during the seventies of the last century. The reasons : a population growth and an increasing urbanization in big and intermediate cities, in addition to the industrial establishment resulting from the development choices. This latter wasn't supported by balanced development. The impact was obvious on the urban development of the Algerian cities. Hence, the slum areas increased outside the town urban perimeter, where the public lands and the lands inconvenient for urbanization such as river shores, old quarries and hills. The citizen, in cause of that, stood in a permanent conflict with the relevant authorities, in particular municipalities, to settle the situation or to remove definitively the house. Hence, this situation leads to a degradation in the urban fabric and planning of numerous cities. The Governorate of Biskra was also affected by this phenomenon starting from the 1970s. It results, among other reasons, from its elevation to the status of Governorate in 1974 following the second administrative structuring in Algeria after the independence.

Key words: Urban upgrade, Shantytowns, Urban fabric, Town zone, Housing crisis, Governorate of Biskra

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INTRODUCTION

The increasing leniency in urban managing, the absence of field urbanization plans, and the system of quotas imposed on municipalities to avoid the temporary housing, contributed in the apparition of shantytowns in the perimeter of many big and intermediate towns during the beginning of the seventies. The situation worsened in the course of the eighties. especially This urbanization has been accompanied by an accelerated increase in the rate of land consumption to meet the strong demand for housing and public facilities (Elhaj, Mili, & Oudinai, 2022). Rapid urbanization has pushed large numbers of poor migrants out rural and small towns into large end medium cities-without properlu integrating there. The urban development model of these megacities can be described as a «logic of chaos» (Kowarick, 1993). The phenomenon of shantytowns in Biskra started in the early seventies. The reason was the industrialization during the socialist period known as ‘the period of Boumediene’. It is observed throughout the world that industrial growth and urbanization go hand in hand. Urban centres are attracting people form their remote origins in search of stable income and higher living standards (Vyas, Upadhyay, Sachin, & Deepa, 2003). This industrialization caused a town pressure on the agricultural countryside and the attraction of peasant toward it mainly after the application of the three-year plan (1967-1969). In addition, the state monopoly on housing investments without any efficient policy to settle the countryside inhabitants in their environment, led to the emergence of shantytowns especially with the failure of the existing housing stock to absorb the new entrants.

Given that the anarchic, unplanned and solid slum buildings are important housing features that affect the study and the preparation of the different strategies for planning and urbanization and the plan of land occupancy because on the basis of these features the fate of the building is determined, whether by integrating it into the urban network of the city or not, it was necessary for the authorities to reconsider the urban structure of cities in order to reduce the spread of this phenomenon. The Governorate (wilayah) of Biskra was also affected by this phenomenon starting from the 1970s. It results, among other reasons, from its elevation to the status of Governorate in 1974 after the second administrative structuring in Algeria following the independence, in addition to other economic reasons reflected in the emergence of facilities and amenities within the town of Biskra, which led to a huge pressure exerted by the population on the value of the land in order to own a house. Given the multiplicity of purposes for which a land can be used, the land value increased, while the wages paid to workers remained low, which prompted the lower social groups to build this type of shanties. It’s worth mentioning here also the political reasons, in particular the lack of sufficient available mechanisms having suitable means that ensure the improvement of managing and monitoring methods of the trend and urban growth in the seventies, in addition to delays recorded at the level of the perimeter management, which is not in line with the urban and economic movement witnessed by the Governorate, as well as the inability to control the real estate and the trends of its exploitation through the application of construction laws a rigorous application and the respect of its standards.

The Governorate (wilayah) of Biskra is one of the Algerian governorates (figure 1) located in the Southeast on the reaches of the Aures Mountains. Those latters represent the natural frontier between it and the north. The Governorate surface is 10 246 km². It is located on 402 km from Algiers (the capital). It contains 27 municipalities according to the forth administrative structuring of 2019. The pressure and population growth of the city of Biskra is not only due to natural increase, other reasons involved in this demographic dynamics; those are the rural exodus, internal and external migration dynamics. On the contrary, the rural population showed a decrease of 68% in 1966, to 33% in 2008 related to the transformation of the relations between town and country (immigration and the transfer of rural population to urban centers). Therefore, the extension of the city is faster than population growth and the consumed area percapita increases. In this framework and to control urban growth and to minimize the caused problems, policymakers should obtain accurate spatial data to detect the growth of this city and develop strategies for monitoring and

environmental management. These strategies must be based on technological performance (Bouhata, Mahdi, Bensekhria, & Habibi, 2016).

Our survey will focus on two shantytowns. The first is Sidi Ghazel located in the town of Biskra – the governorate chief town. The second is Sidi Rouag, located in Tolga, a district [daïra] 36 km far away from the governorate chief town. This paper aims to introduce how these two neighborhoods imposed their selves on the authorities regarding the urban upgrade? And how this urban upgrade occurred during fifty years?

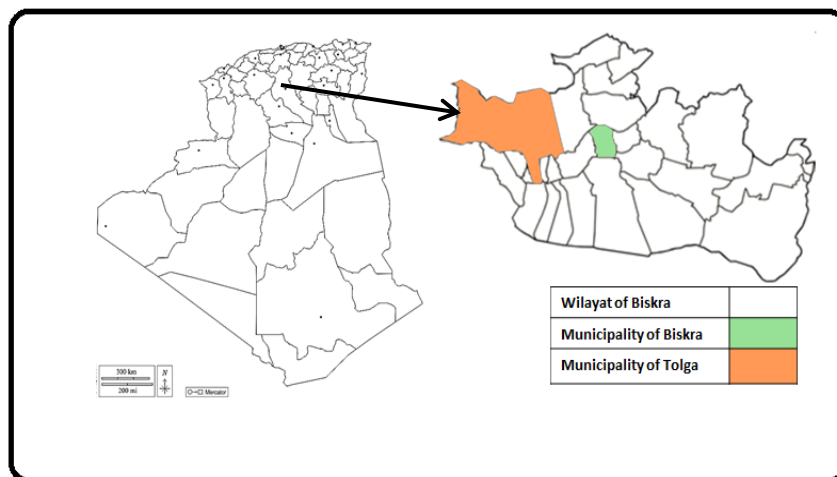


Figure 1. The location of the study area

THE METHODOLOGY

This study is based on a case study. It aims to examine the shantytowns phenomenon in the frame of the scope in which they interact in particular how these neighborhoods imposed their selves over time during 50 years since their apparition and how they imposed their selves on the state through the urban development, and their supply by electricity, water, wastewater facilities, in addition to their equipping by the necessary amenities for education, health, and services.

The tools used in data collection

The Observation

It consists in viewing the problematic phenomenon by using the right scientific method according to the determined plans and aims in order to reach the required knowledge or to find the practical solutions. The scientific observation is an important source for data collection. That's why, we observed the two neighborhoods in order to extrapolate the houses' morphological model and the scope of the authorities' intervention in urban improvement.

The Interview

The interview is considered as one of the most important and the most credible means in scientific researches because it contributes in providing many and deep information about the phenomenon under study. We proceeded with numerous oral interviews of some citizens living in the two neighborhoods since the 1970s and 1980s. We asked them some questions regarding the urban and space development of the two neighborhoods in the last decades.

The Form

Given that they represent a tool to collect information regarding the individuals, we used forms. We distributed 200 forms on inhabitants in the two neighborhoods. We got 160 forms with answers from the shantytown of Sidi Rouag in Tolga and only 120 forms with answers from the shantytown of Sidi Ghazel in the chief-town of Biskra. We used a random sample to collect this

information: (1) Personal information. Regarding individual aspects of the person : the number of his/her family members, his/her geographical origin, the date of settlement in the neighborhood, and the job of the household head; (2) Dwelling information. The house's features as the surface, its matching or not with the family members number, construction date, building materials, and the scope of modifications done by the inhabitant in order to evaluate the amplitude of the urban deformation; (3) Neighborhood information. Concerns the extent of equipping the neighborhood with the necessary education, health, religious, administrative and cultural amenities and parks and playgrounds for children by the authorities.

RESULTS AND DISCUSSIONS

Background of the slum shantytowns concept

In order to determine the concept of "shantytowns", it is important to return to its origins. The [French] term originates in Maghreb [North Africa], precisely in the port of the Moroccan city Casablanca, during the colonial period. It was used the first time in 1936 by Berque to mention the unfit housing. It was used in the same year also, in Morocco always, by Baron, Huot and Payet. The shantytowns have become the pattern of urban development in plentiful of Algerian cities, because they represent the unique solution for the disadvantaged stratum of society. This latter is excluded from the ownership of lands and real estate. With this solution, these citizens find an affordable refuge for accommodation in towns without any overbid (Bendraoua, 2015).

The shantytowns concept

Informal urban housing: Ubiquitous and on the rise, as formal housing supply is not keeping up with urban population growth, and this is driving new informal settlements in many cities (Zinnbauer, 2020). The phenomenon of informal neighborhoods is universal although it has taken on several names depending on the geographical context ,such as the "ashwa'iyat" of Cairo, the "shantytowns" of Lagos and the "favela" of Rio de Janeiro (Mehdi, 2022). Slums, the illegal popular housing, slum housing, unprompted anarchic dwelling, poor housing, all are terms to name the unplanned self-building. The 'unplanned' concept refers to unprompted and unplanned. The self-construction is the process of making a built frame by a designated social group relying only on its capacities and skills. Regarding the term 'unplanned', it is equivalent to unlawful. The most important feature is the absence of any title deed.

Its categories

Broadly speaking, the unplanned self-construction in the governorate of Biskra is divided into two categories: the slums, and unplanned self-building in the form of solid construction. The latter is a group of housing built with the arrival of the new inhabitants. They build their homes themselves without many resources according to their knowledge, creativity and the conceived model. Self-built unplanned neighborhoods are not necessarily viewed from a negative point of view. Rather, they are essentially a survival tool. They are also considered as an architectural lesson that might be titled "survival in scarcity and rationing". It is a special way of urbanizing the city (Adad, 2004).

The general housing situation in the towns of Biskra and Tolga

The general housing situation in the two towns is characterized by an increasing shortage. This severe crisis is not only limited to the most disadvantaged classes, but also affects a large part of the middle classes in these two towns. The housing stock grows more slowly than demand. This situation aggravated the shortages. According to the Office of Real Estate Promotion and Management, 24 000 requests were recorded for housing in 2021, comparatively to an inhabited stock estimated at 63 540 homes in the municipality of Biskra. While in 2008, requests were estimated at 18 600 for a housing stock of 44 644. This growing demand arises from, in part, the decrease of the housing occupancy average from 4.49 in 2008 to 4.22 in 2021. In the municipality of Tolga, the deficit in 2021 was estimated by 9 200, and the stock was estimated by 11 539 homes. While it was estimated in 2008 at 9808. The occupancy rate of housing increased from 5.58 in 2008, to 6.31, which shows clearly the inability of the two municipalities to provide housing for the

population. We note here also that the area of the municipality of Tolga is naturally limited by oases from the north and the south. Which makes the expansion of the urban fabric in the future very difficult, apart from some real estate pockets within the urban fabric. As for the town of Biskra, planned areas for building exist in the northern and western zones of the town. The aggravation of this housing crisis has led to the apparition of shanties in the perimeter.

CASE STUDY OF THE SIDI GHAZEL AND SIDI ROUAG NEIGHBOURHOODS

They are two of the slum areas that the state decided to keep and develop through the urban upgrade. The necessary networks and service facilities were provided. This is due to their high population density and the difficulty of providing housing for all these families, because of the financial cost for the demolition process and the compensation of families by other house, Therefore, the authorities transformed the chaotic rural style of construction into an urban style to reduce the aggravation of the situation (United Nations Economic Commission for Africa, 2017).

Sidi Ghazel neighborhood in the municipality of Biskra

The neighborhood of Sidi Ghazel is located in the south of the town of Biskra. Its surface is 90 hectares next to the mausoleum of Sidi Ghazel (figure 2). The topography of the neighborhood is characterized by the flatness of its plots. It is located within the 10th structured section of the town. It is limited in the north by the industrial zone and the bricks factory, from the west by the valley of El-zmar and the sewage outlet of the western side of the town of Biskra, from the east by the National Road No. 3 and the railway, and from the south by the bypass road and an agricultural zone with some palm oases (figure 3). Originally, the neighborhood was built on farmlands lower than the surrounding lands. Therefore, it is exposed to many dangers, including:

- inundations, in particular, in the west side;
- upwelling and even the wastewater ascent, which impacts the buildings foundations;
- air and soil pollution due to the near industrial activity in the industrial zone.

The neighborhood's arises in 1977, when some private landowners began selling their lands as plots for construction at low prices along the industrial zone. Considering that the industrial structure helps in urban development (Peng, 2022). The neighborhood began to expand little by little to become one of the most important neighborhoods in the town of Biskra, despite its lawlessness nature and the lack of many necessary facilities. The population density is estimated at 649 inhabitants/km and the residential density is approximately 12.47 house/hectare. On the urban side, the existence of the shantytown of Sidi Ghazel results from an urban discontinuous axial sprawl where the National Road No. 3 represents the axe, and discontinuous because the expansion of the city crossed an important artificial barrier represented in the industrial zone.

The quantitative development of the neighborhood is characterized by continuous density and consumption of all internal spaces as individual housing at the expense of public facilities such as green spaces and playgrounds for children. This situation is due to private ownership of lands, non-compliance with laws such as plot and building permits, and the almost total lack of municipal technical services in this neighborhood for a long time. It is worth noting that the neighborhood of Sidi Ghazel is unfit to be extended in the long term due to the presence of strong natural and artificial obstacles that we can list as follows:

- from the north, an industrial obstacle, the industrial zone and the brick factory;
- from the south, a natural obstacle represented by palms and agricultural lands;
- from East, artificial obstacles such as the National Road No. 3 and the railway;
- from the West, artificial and natural obstacles. Wadi (stream) El-zmar and the sewage outlet

of the western region.

In the area of the neighborhood of Sidi Ghazel, there is one type of urban fabric, the individual self-building. It was classified according to the structure and the prevailing function as a modern urban fabric. But, there are no clear urban characteristics for the neighborhood except that it is known as a slum neighborhood in a large extent. As for the commercial aspect, considering that the

neighborhood contains the industrial zone, and as a result of this industrial function, the number of shops has decreased to 53 stores, with a share of 8 stores/1000 people.

Those stores satisfy the needs of the residents (such as foodstuffs, vegetables, fruits and butchery) and some cafes and restaurants are directed to serve the workers of the National Cable Corporation [ENICAB] and the dates conditioning enterprise

The neighborhood of Sidi Rouag in the municipality of Tolga

The neighborhood of Sidi Rouag is located to the north of the urban fabric of the town of Tolga (figure 4). It is a slum neighborhood with damaged and unpaved streets.



Figure 2. Urban Sectors of Biskra
(Source: adapted from Google Earth, 2022)

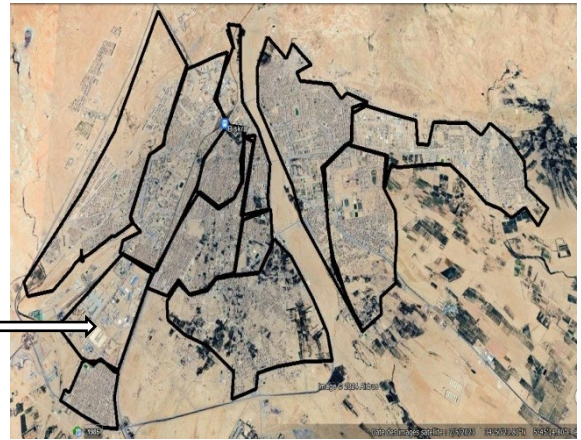


Figure 3. Messy neighborhood of Sidi Ghazal
(Source: adapted from Google Earth, 2022)

It is bordered on the north by the natural gas pipeline passing through this area, and the second sector represented by the divisions of 324 and 226 plots, and from the south it is bordered by the new urban housing area [ZHUN], which represents the third sector. The neighborhood of Sidi Rouag represents the first sector of the total number of seven sectors in the town area (figure 5). It is a dense urban fabric, and it consists of the Eastern Sidi Rouag and the Western Sidi Rouag.

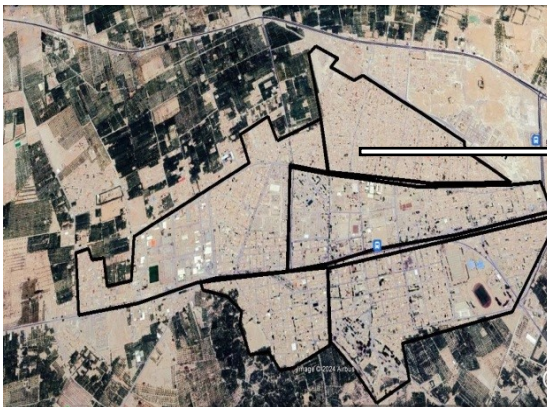


Figure 4. Urban Sectors of Tolga
(Source: adapted from Google Earth, 2022)

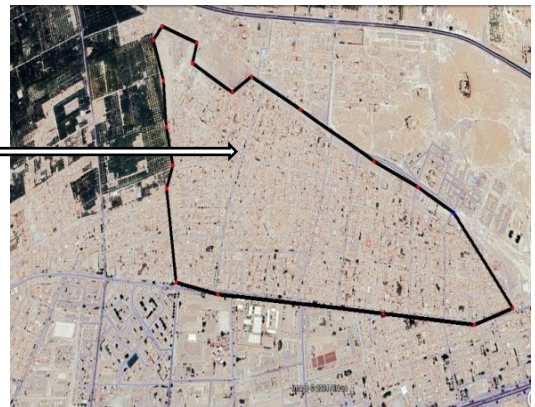


Figure 5. Messy neighborhood of Sidi Rouag
(Source: adapted from Google Earth, 2022)

The urban organization and structuring characteristics in the Sidi Rouag neighborhood

The area of the neighborhood is estimated by 65.44 hectares, or 9.06% of the built-up sector in the municipality of Tolga. Thus, it occupies a large area within the built-up perimeter of the town.

The population density is estimated by 170.88 inhabitant/h. The residential density reaches 26.07 house/h. The neighborhood emerged by 1973 on the foothill topped by the zawiya of Sidi Rouag. It was classified as a secondary cluster in 1977. It merges with the main town grouping of Tolga, in 1987, as a result of its continuous expansion. But in fact, the first real core of the neighborhood dates back to the colonial period, exactly at the beginning of the fifties. Some nomads set up their tents near the mausoleum and the zawiya of Sidi Rouag. During this period, the production of housing was on a private initiative of the population - the Algerians - because the number of houses granted by the colonial authorities is very limited despite the large demographic growth of the population, which led to the expansion of slums (Journal Officiel Algérie, 1994).

In terms of the ethnic structure, the tribes, the neighborhood is divided between certain clans and groups, so we find among them: Ouled Rahma and Ouled Rabeih from the confederation of Ouled Nail, who are considered immigrants to the region since the beginning of the seventies and the groups of the Makhalif from Ouled Nail, and the clan of Ouled Mesahel and Al-Nouafaa from the tribe of Al-Amour. It is worth noting that through a city survey of the neighborhood, we find that each quarter dedicated to a specific clan as a kind of respect for the other and to maintain blood kinship. That is a feature of these slums. We noted also a paradoxical element in this neighborhood, the houses seem to be in good condition on the main road axes, but when we go inside the neighborhood, we find that the housing is really inappropriate, especially near the hill where the zawiya is built. There are some tents - shacks - for some families as a deliberate way to obtain social housing from the municipality, and indeed they were topped in the list of grantees for housing. There are about four main roads in the neighborhood with a width of around 10 meters. Sometimes they are limited or we find a dwelling building that suddenly goes out on the road. The first road separates the neighborhood - the first sector - from the rest of the town sectors. As for the other roads, they go through the neighborhood. They have modest commercial activities, including the street of Souk Al-Asr Street [Marketplace]. Secondary roads are characterized by being winding roads, with a lot of meanders. Their width ranges between 2 and 2.5 m. Sometimes they are limited, or we may find suddenly a built house suddenly on the way. Due to the residential character of the neighborhood, the number of stores is low with 25 shops, which represents a rate of 1 shop/1000 people. There are shops selling foodstuffs spread out in the main streets. Within the neighborhood, there is no commercial activity. In the main street separating the neighborhood between the first sector and the second sector, we find a bakery, a service station, a pharmacy, a dressmaker, a hairdresser, a butcher, and a hardware store. During the field inspection, we noticed a lot of hay trucks parked next to the houses inside the neighborhood. We also counted four stores selling haystacks, especially between the members of the clan of Ouled Rahma from the confederation of the Ouled Nail. Originally, many of them were and are still practicing the profession of pasturing. We find in the northern side of the neighborhood in front of the National Road No. 46, about ten cooling stores for dates. This element reflects the agricultural character of the area.

The property nature and buildings condition

The real estate nature of the lands is characterized by its diversity:

-the neighborhood of Sidi Rouag: according to the land registry office, the section of Tolga, the neighborhood is built on lands owned by the state (public lands);

-the neighborhood of Sidi Ghazel: according to the land registry office, the section of Biskra, the majority of lands, under this study, are private owned – the group 75 – except from public amenities, owned by the municipality.

Table 1. Status of buildings in the slum neighborhoods

(Source: field investigation in august 2022)

Neighborhood	Traditional		Modern and renovated	
	Number	Percentage	Number	Percentage
The neighborhood of Sidi Rouag	24	1.81	1299	98.19
The neighborhood of Sidi Ghazel	50	3.45	1398	96.54

Through the survey, the inspection and everything related to the housing data, we find that the housing surface varies greatly, ranging from 140 meters to 400 meters. In some rare cases, we find 500 to 600 meters. Regarding the date acquisition of the field and the construction of the dwelling, we find that 60% of the housing were built in the seventies in form of tents surrounded by palm fronds or in form of sheds. 30% were built in the eighties and 10% in the nineties, when it became difficult to acquire lands due to the control imposed by the municipalities to some extent during the same period. Many houses have undergone a radical renovation in their morphological structure in line with an increase in the number of the family members after the marriage of children, and also in result to the urban and citified context impact on the mentality of the residents. Floors appeared in the houses building, with the exception of the old houses, which are considered the initial core in the neighborhood of Sidi Rouag, where they are still in a very miserable situation. In general, the renewal rate in the two neighborhoods is about 90%, especially with the contribution of children in this renewal, and the entry of new elements into the neighborhood from officials and workers from the city's population. It has not become a monopoly of low-income groups anymore, as shown in table no. 1.

Connecting the neighborhoods with the necessary networks

The authorities are seeking to provide these slum neighborhoods with the necessary networks for urban improvement and the provision of services to the residents, but the rates of provision of these networks remain different from place to place and reflect the extent of shortcomings in these two neighborhoods.

Table 2. The percentage of houses supplied with the necessary networks
(Source: field investigation in august 2022 and municipal departments)

Neighborhood	Drinking water	Electricity	Gas	Sewage	Pits	Phone	Internet
Sidi Ghazel	49.48%	62.63%	86.59%	63.55%	36.45%	1.36%	13%
Sidi Rouag	80%	93.48%	48.51%	70%	48.51%	2.32%	8%

But the supply of neighborhoods remains fluctuating when compared to dwellings of the other housing sectors within the two towns (table no. 2). As for the supply of drinking water, we find that the neighborhood of Sidi Rouag is better supplied, due to the presence of two water towers near it. The rest of the residents, they buy water from trucks, even houses connected to the network, due to the continuous fluctuation in the supply of this vital substance. The electricity supply remains weak compared to the population density of these neighborhoods. Nevertheless, the inhabitants resolved the problem by bringing electric wires to some homes from power poles in the streets. However, this solution poses a great danger, especially in the winter, during the rains. The supply of natural gas still troubles the residents, especially in the neighborhood of Sidi Rouag located only about 500 m from the main gas pipe. Houses are not supplied with gas. Gas cylinders are used instead. As for the housing units located on the northern side of the neighborhood, they are not supplied with drinking water due to the solidity of the soil and the difficulty of digging with machines.

Sanitation is one of the problems in the two neighborhoods. Therefore, residents resort to digging a pit outside the houses with a depth ranging from 5 to 7 meters, which they connect with pipes to the housing toilets. These pits usually took from three to four years to be filled. Then they are cleaned by the competent authorities in the municipality, and it remains Environmental sanitation has remained an intractable problem in developing nations particularly (Rafiu, Samuel, Dele, Waheed, & Blessing, 2022). Wired telephone and internet connection remains weak, especially with the existence of mobile phones.

Existing Public facilities in the neighborhoods of Sidi Ghazel and Sidi Rouag

Considering that the town of Biskra is the chief-town of the wilayah (governorate) and Tolga is the chief-town of the district, they have many public services and facilities compared to the

services provided to the population in their perimeter or in the neighboring municipalities. They contain public facilities, especially in the educational, health, cultural and service fields. However, there is a marked disparity in terms of the level of facilities between the housing sectors that constitute the fabric of the two towns. We find areas equipped with amenities and others that lack them. This situation led to an imbalance and inequality of development in the urban areas between them and the absence of a balanced network of public facilities. The nature of urban fabrics and the proportion of urbanization development varies from one sector to another. It is worth to mention that the location of the facilities is subject to the rule of vacant spaces. It depends also on whether that this urban area or that lacks public facilities or not. In order to value the urban spaces in the two neighborhoods, the authorities have provided the bellow public facilities.

Table 3. Public facilities and amenities in the Sidi Ghazel and Sidi Rouag neighborhoods
(Source: field investigation in august 2022 and municipal departments)

Neighborhood	Education facilities			Health facilities	Religious facilities	Administrative facilities			
	Primary school	Secondary school	High school	Health center	Mosque	Post office	Municipal division	Police station	Antenna for terrestrial broadcasting
Sidi Ghazel	2	2	1	2	3	/	1	1	1
Sidi Rouag	3	/	/	1	4	/	/	/	/

The two neighborhoods are provided with a minimum of public facilities, especially educational ones, including primary schools. For secondary and high schools, they exist only in the neighborhood of the Sidi Ghazel. Health services are also present and represented by a medical center. The religious aspect is also present through the large number of mosques. In general, the neighborhood of Sidi Ghazel is more equipped than the neighborhood of Sidi Rouag, as shown in table no. 3, due to the presence of vacant spaces in it, which helped the authorities to set up the facilities. Recently, the neighborhood was enhanced also by a neighborhood stadium and a youth center.

Table 4. The number and type dwellings and their legal status
(Source: field investigation in august 2022 and municipal departments)

The shantytowns	Sidi Ghazel	Sidi Rouag
Houses number	1323	1483
Inhabitants number	5846	11183
Rooms number	2652	3264
Files approved by the settlement committee	869	904
Files for which the required amount is paid	246	94
Settled files	165	50
Files for which the required amount is not paid	798	810

Through the law related to the settlement of lawless building (Journal Officiel Algérie, 1990) and by examining records in the municipality, we find that most of settlements that took place in the neighborhood of Sidi Rouag were done in the eighties for a symbolic value of 925 Algerian dinars per square meter, after enacting the suspension of granting licenses for connecting lawless buildings with the necessary networks dated on March 2nd1985, which prevents the obtainment of licenses for linking to drinking water, sanitation and electricity by the then governor [Wali]. This decision prompted a significant number of residents to settle their housing files in order to obtain a title deed.

We also noticed that many of the heirs settle the dwelling in order to facilitate and speed up the sale process. The situation was similar in the neighborhood of Sidi Ghazel.

Stages of the shantytowns - the neighborhoods of Sidi Ghazel and Sidi Rouag - integration in the urban fabric

We must know that there is a change over time in the stages of housing construction within the two neighborhoods in terms of morphological appearance and the structure of the two neighborhoods, as we can distinguish through the following stages.

Emergence of slums areas differentiated by a social rupture 1970-1980

In the seventies of the last century, the demographic growth rose widely. It was estimated at (6.88%) in the wilayah (governorate) of Biskra, because of social policies and the agrarian revolution great effect on the development of informal settlements in Algerian cities (Naceur & Belmessous, 2018) which was reflected in the huge deficit in housing and the growing demand for it, especially with the industrialization movement which followed the applied development programs. Additionally, the municipality's control over slums construction was almost absent due to the vague regulatory and legal procedures. This situation led the authorities charged with respecting even the lowest rules of the master plans to be indulgent. Therefore, the order No. 75-74 of November 12, 1975 regarding (Journal Officiel Algérie, 1975) "the preparation of the general land survey and the establishment of the land register" (Journal Officiel Algérie, 1985) was issued to relieve this situation. In addition, the weakness that characterized the supply in the field of plots allocated for construction should be noted. It prompted the citizens to disrespect the rules of urbanization and to take over some lands. This is what happened in the neighborhood of Sidi Ghazel in Biskra and the neighborhood of Sidi Rouag in Tolga.

The stage of takeover in the perimeter of neighborhoods began in the following way:

The first settlement started usually with of the head of the family in the neighborhood. The first houses were similar to rural dwellings. They were characterized at the beginning of the formation of the shantytown with their malleable changing form according to the urgent need for space. The building materials for the dwelling are local. Soil mud is used to make bricks and wall coverings. Palm leaves are used for roofing the house. Worn fabrics are used as a fence to landmark the appropriated field.

The new entrants came mainly from the neighboring municipalities, due to the spatial polarization that the town of Biskra knew after its rise to a governorate (wilayah) in 1974 and the rise of Tolga to the rank of a district in the same period. This administrative rise provided services, especially the presence of the industrial zone near the neighborhood of Sidi Ghazel in Biskra, in addition to the administrative services, for the newly settled workers in Tolga. The most of them in this period were farmers, or rather, Khamasin - the Khamas is a farmer who takes one-fifth of the agricultural product [in counterpart of his work] - with the owners of palm orchards in the area. Some of them were also daily workers with daily fluctuating job to subsist in scarcity, the worker and his family members. In some cases, two families, related by blood, take advantage of the shanty. The first family moved first, the one who built the slum or the house. Then, it is followed by a second family. The dwellings in this period are characterized by the total absence of the necessary networks (electricity, gas, water, sewage). For example, until the beginning of the eighties, the sewage channels were completely missing. The neighborhoods depended on pits, or what is known as dry toilet, where they extend some pipes directly to the street. This situation made streets muddy, filled with dirt and foul odors, at the expense of the environmental aspect.

Shantytowns and the reality of urban upgrade the period 1980-1990

The shantytowns became a reality imposed by the force of the spatial presence in Algeria during this period. The neighborhood of Sidi Ghazel in Biskra and the neighborhood of Sidi Rouag in Tolga, the subject of our study, were part of them of course. The settlement of certain houses took place in stages as shown in Table No. (4). The state had to integrate them into the urban town fabric. In order to limit these infractions within the two towns because of these neighborhoods, Order No.

85-01 dated on August 15, 1985, especially articles 1 and 2 of it (Journal Officiel Algérie, 1975) was issued to codify in a transitional manner the rules for lands occupancy in order to preserve and protect them as a stern warning from the state. It was strengthened by the law No. 90-25 dated On November 18, 1990, containing the property guidance (Journal Officiel Algérie, 1990) and the law No. 90-29 related to the development and urban-planning (Journal Officiel Algérie, 1990). Given the limits of these laws, a legislative decree No. 94-7 dated May 18, 1994 related to architectural production conditions and the practice of the profession of architect (Journal Officiel Algérie, 1990) came to fill the void by establishing the urban police in order to monitor all errors and abuses in the field of urbanization and the speed of intervention.

Other strata of society came to set up in the neighborhoods of Sidi Ghazel and Sidi Rouag in this period. The native people of the original city began to settle in it due to the low real estate prices in it compared to the downtown. We notice also the arrival of some newcomers from the northern governorates (wilayah) who were affected by the black decade (1992-1999) and found in the desert towns a safe haven, due to the very difficult security conditions known in their villages and northern cities in particular. Most of the settled people in this period were merchants and public officials with high incomes. This matter was reflected by the change in building patterns and materials. The municipality also intervened in the settlement of many houses under the law 08/15. Furthermore, the authorities have also set up many public facilities in the field of education and health in vacant areas, because the population density within the neighborhoods is large as we mentioned earlier. The State was obliged to develop the perimeter and to feed the neighborhoods with all networks as a kind of an imposed reality.

The shantytowns and an attempt to break with the past 1990-2021

The neighborhoods in this period were provided with all necessary facilities for the life of the population. But the manifestations showing the absence of planning are still the prominent feature in the neighborhood of Sidi Rouag and the neighborhood of Sidi Ghazel. The most important features of this stage are the following:

-the establishment of new strata of the society, from well-off merchants and public officials, which led to a change in building materials to cement, as well as the change in building models. They took a modern construction shape. Also, occurred a change in the morphological appearance of housing, especially the ones near the axes of the roads, where they became two to three floors, while the ground floor is allocated to shops, where the residents took the most of their foodstuff needs;

-the morphological appearance of the dwellings from the inside is characterized in the old cores of the neighborhoods of Sidi Rouag in Tolga and Sidi Ghazel in Biskra, with frequent renovation and mending. In the most cases, this situation is due to the fact that inside dwellings half of their rooms are built with bricks and the other half with fibrocement plates or with cement. This renovation appears especially during the marriage of one of the sons. As for the facade of the house, the bathroom and the kitchen, they remain mostly without any renovation, as if there is a struggle of generations between the first generation - the parents - who merged with the reality of shantytowns and the sons who are trying to integrate the urban fabric of the town, even if only by their own rooms;

-the great fluctuation in the supply of drinking water. The residents are obliged then to buy tanks from trucks roaming the streets and selling one liter of drinkable water at 3 Algerian dinars. Sewage is also characterized by clogging and erosion of pipes, which causes the formation of ponds of dirt and unpleasant odors in the streets and poses an environmental threat if it is mixed with drinking water pipes.

CONCLUSIONS

The towns of Biskra and Tolga witnessed a rapid spatial growth in the seventies due to the administrative upgrade and the important development programs of which benefited each of them. Therefore, they became an attractive pole for the population. Accordingly, the city requires the

organization and the restructuration of its perimeter, which led to the emergence of slums. They grew gradually and were fueled by internal migration to continue the appropriation of marginal areas near the two towns. Over the years, the appropriation of the lands became an acquired right. The authorities, including the successive governments, realized the importance of housing for the community, and that some shantytowns had become an imposed reality. They carried out a kind of urban upgrading within them through the development and completion of some primary facilities, especially in the educational and health sides and providing them with the necessary networks, but in different proportions in order to integrate them into the town urban fabric of the two cities. The authorities settled also many files, especially as cities act Such as complex self-adaptive systems (Pulselli, Ratti, & Tiezzi, 2006).

The most important findings of this study are:

- the emergence of shantytowns - the neighborhood of Sidi Ghazel in Biskra, and the neighborhood of Sidi Rouag in Tolga in the seventies. They grew gradually and were fueled by internal migration to continue the appropriation of marginal areas near the two towns. Over the years, the appropriation of the lands became an acquired right;

- the first entrants to the neighborhood were from the neighboring municipalities, whether rural or pastoral ones, because of the attractive role played by the two towns, due to the availability of job opportunities and access to services provided by the town, especially in the education sector. The morphological building of dwellings also progressed over time from very simple dwellings - tents surrounded by palm leaves - in the seventies and eighties to solid dwellings built with cement, in addition to the appearance of floors in the building while they were only built on the ground floor previously;

- the two neighborhoods continued their urban expansion at the expense of lands in light of the weakness of urban control and regulated urban management by the municipal authorities. The peak of expansion has been reached in the nineties due to the crisis of the black decade that the country experienced, especially with the displacement of huge numbers from the northern regions in search of the stability and safety in the Southern towns. This phenomenon happened in the neighborhood of Sidi Ghazel in Biskra, where it witnessed the exodus of families from the Aures Mountains - the governorate of Batna-and from the Namamcha mountains [tribe] - the governorate of Khenchela and the governorate of Tebessa - due to the geographical proximity and from some northern governorates such as Medea, Bouira and Algiers. The choice of establishment in this neighborhood was due to the low cost of real estate in it;

- the two neighborhoods are characterized by a high population density compared to other neighborhoods in the two towns. The neighborhood of Sidi Rouag alone represents the first sector in the district of Tolga, and the neighborhood of Sidi Ghazel represents with the industrial zone the tenth sector in the town of Biskra; This situation prompted the authorities to provide them with educational and health services, especially through the completion of the land occupancy plan for the neighborhood of Sidi Ghazel in 2001 and the proposal of the land occupancy plan for the neighborhood of Sidi Rouag, which has not been completed until today. In addition, the authorities provided facilities and amenities according to the availability of vacant real estate pockets inside the two shantytowns. Therefore, we find that the neighborhood of Sidi Ghazel is better outfitted than the neighborhood of Sidi Rouag;

- through the field inspection and personal interview with some neighborhood residents, we find that the neighborhood of Sidi Ghazel is characterized by a social and ethnic diversity. We noted the existence of a mixture of the social fabric of the country, as the geographical origin of the residents is divided on the wilayah of Biskra and the neighboring municipalities and some governorates also such as the wilayah of Batna, Khenchela, Medea. Regarding, the neighborhood of Sidi Rouag, we find that its quarters are divided socially among tribes;

- since the end of the eighties, the municipal authorities have sought to settle the ownership files of the housing units at symbolic prices to enable citizens to obtain deed titles. But many of the dwellings remained unsettled, except in the case of the heirs' desire to sell the real estate. In this

case, they resort to settlement in order to speed up the sale process. This is what we found in the case of the neighborhood of Sidi Rouag;

-the municipal authorities have made great efforts to provide the neighborhoods with the necessary networks of drinking water, electricity, gas, and sewage. But the proportion of connection to the networks remains medium for several reasons, including the lack of deed titles for the houses, the proximity of houses to the gas pipeline with less than 500 meters in the case of the neighborhood of Sidi Rouag, Tolga, which makes the supply with gas impossible due to the dangerousness of the situation, the poorness of some families, reason for which the family head refrains from supplying electricity and chooses to take wires from the electric lighting poles of some streets despite the dangerousness of the situation and the legal violation that it involves. Therefore, processes of transforming the built environment remain characterized by diversity and lack of organization (Bounouni, 2023). The importance of decent residential conditions is very vital for any society because it plays a major role in the health and well-being of an individual (Akoteyon & Rotimi, 2022).

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Submitted:
April 22, 2023

Revised:
March 22, 2024

Accepted and published online:
March 27, 2024