

**EVALUATING THE COMBINATION OF AGRICULTURE  
AND INDUSTRY SECTORS IN THE PROVINCE OF BOUIRA  
(NORTH ALGERIA)**

**Naziha LAMRI <sup>1\*</sup>, Amna BELAYADI <sup>2</sup>, Faiza ABBAS <sup>3</sup>**

<sup>1</sup> University of Bouira (Algeria), e-mail: n.lamri@univ-bouira.dz

<sup>2</sup> University of Constantine 1 (Algeria), e-mail: ami\_belay@yahoo.fr

<sup>3</sup> University of Science and Technology (Algeria), e-mail: faizaabbas16@yahoo.fr

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**Abstract:**

Bouira is one of the Algerian states that has witnessed development in all fields during the last decade. After the isolation and economic and social impotence of the 1990s, Indeed, the area of agricultural land amounts to 66% of its total area. Every year, the state achieves agricultural production that meets local and even national demand. This is thanks to the natural qualifications consisting of a temperate climate and hydrographic network as well as human potential. We used field investigation and data analysis by using geographical systems from maps and graphs. We have shown that the local and national authorities have recently encouraged the development of industry in the state through the expansion of industrial real estate, the creation of an industrial park in Dira and the expansion of the industrial area in Oued El Bardi, with the aim of achieving social and economic development in the state and achieving sustainable development.

**Key words:** Agriculture, industrial park, activity zones, agro-industrial area, Bouira.

**JEL Classification:** R11 ; Q ; L8



## **Introduction**

Agriculture is the first human activity and it is the cradle of all kinds of activities. It is what made possible the emergence of industry and industrial revolution to respond first to the influx of workers into the agricultural sector and then its absorption over the years (Caporali, 2008).

In 1962, Algerian State did not build its development policy from the "Nothing" in the aftermath of independence. Algeria inherited an important economic base, particularly in the agricultural sector and basic economic infrastructure (Said-Amer, 1978). As well as a recently developed but productive oil sector Since then (Chemingui, 2006).

At the same time, it has invested heavily in industry by providing huge sums for the production of a shaped industry in order to take Algeria out of the colonial era and revitalize the national economy (Bouder, 2007).

However, after the changes in the Algerian economic system, the industrial sector has undergone many changes, both in terms of land and industrial investment (Bouder, 2007). Public authorities reveal a new development paradigm what was declared by the Minister of Industry and Mines on 06 November 2014 in Algiers (Ratiba, 2016).

In this context of pedagogical vulgarization that falls our research. Within one the Algerian regions, the province of Bouira, Where agriculture has always been a predominant vocation (Amine, 2016), and it experienced an amplitude during the agrarian revolution of the years 1971. It achieves a satisfactory production each year thanks to its moderate climate, its important hydrographic network and its geomorphological diversification (Knauss, 1977).

It benefited until 1974 from 04 industrial units (SNIC painting unit; Ben Haroun mineral water unit; Bouira mill SN.SEMPAC; SONITEX furniture manufacturing unit) (Mutin, 1980), located in 02 Dairas which are known by their agricultural yields (Lakhdaria and Bouira) located in the central depression.

Since 2014, The Algerian government had recently encouraged the development of industry, which has established for better economic development in this region, by bringing together 13 activity zones spread over the territory of the province, adding the establishment of an industrial zone located in the municipality of Oued El Berdi.

However, the problem is mentioned that the public authorities have managed to change this rural province into an agro-industrial area.

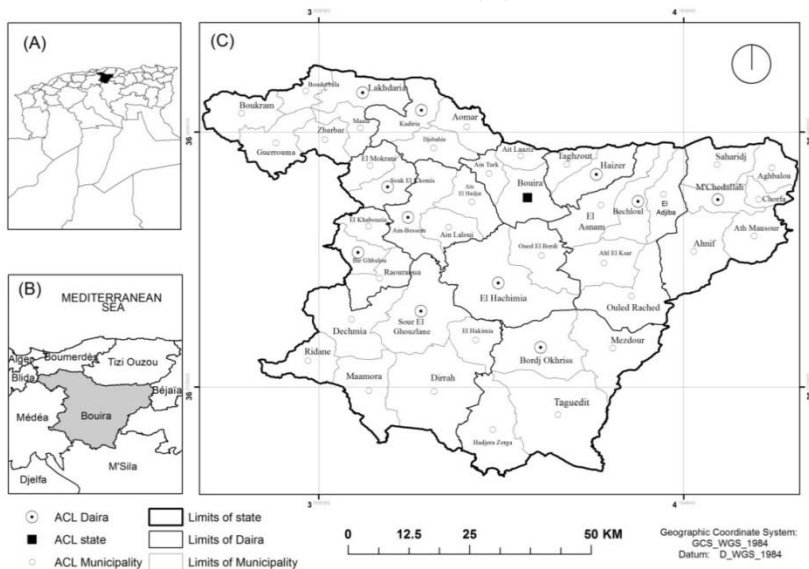
## **1. Materials and methodology**

To understand the problem of our research, we conducted a territorial approach, based on a territorial diagnosis and on interviews with officials from the various departments of the province. The aim is to highlight resources and potentials, as well as constraints. In order to have a clear image of the two basic sectors (agriculture and industry) in the Study Area and whether there is an opportunity to promote its economy for social welfare.

### 1.1 The natural qualifications of the province of Bouira

Our study area "province of Bouira" is located in the north-central region of Algeria, it is considered as an important regional relay, resulting from the administrative division instituted by Order N° 74/69 of 02 July 1974, relating to the redesign of the territorial organization of the provinces (MEZRAG, 2017). It is bordered to the north by the province of Boumerdes and Tizi-Ouzou; to the south and southwest by the provinces of M'sila and Médéa; to the east and southeast by the provinces of Bejaia and Bordj-Bou-Arredj; to the west by the provinces of Blida and Médéa. It covers an area of 4454 km<sup>2</sup>, representing 0.19% of the national territory, and it is divided into 12 Dairas and 45 municipalities (Fig.1).

**Figure 1: Location of the province of Bouira (A,B) and administrative distribution (C)**



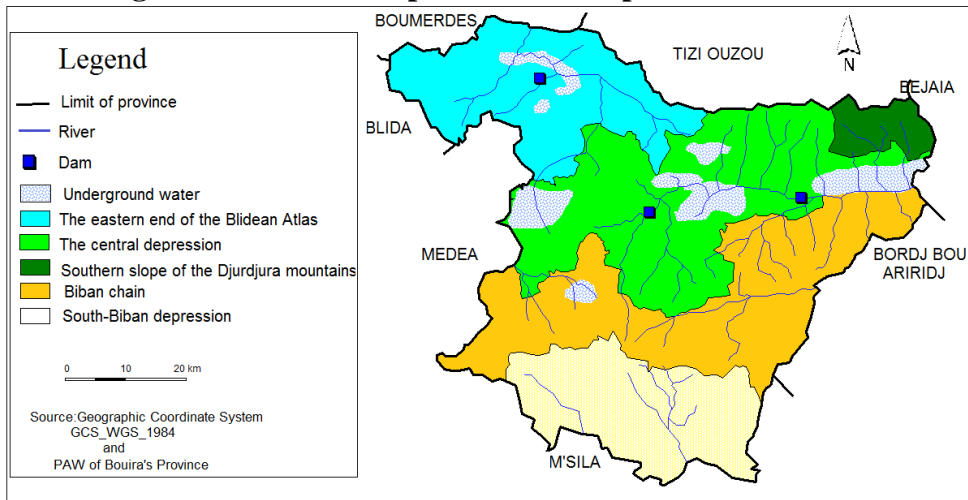
The province of Bouira is characterized by the heterogeneity of the natural environment and consists of five (05) morphological zones: the eastern end of the Blidean Atlas; the southern slope of the Djurdjura

mountains; the central depression; the Biban chain; the South-Biban depression showed in Fig.2.

The climatic and morpho-structural conditions have allowed the existence of an appreciable hydrographic network (Oued Isser, Sahel, Oued Lakhel...) (Taïbi, 1993). It is characterized by a precipitation volume of 660 mm/year. Its theoretical potential comes from groundwater and surface water.

In this respect, one of the major challenges of the province of Bouira is to satisfy the ever-increasing needs of its population (drinking water) and its economic activities (agriculture, industry and tourism). This is possible thanks to the province's considerable water resources (surface and groundwater) (Hamenni, 2011). It is also crossed by major drainage basins with an average annual contribution of around 561 million m<sup>3</sup>, consisting of Isser drainage basins (135 million m<sup>3</sup>/year); Sahel Soummam (380 million m<sup>3</sup>/year); Hodna watershed (35 million m<sup>3</sup>/year); Humus (11 million m<sup>3</sup>/year) (Fig.2).

**Figure 2: The natural potential of the province of Bouira**

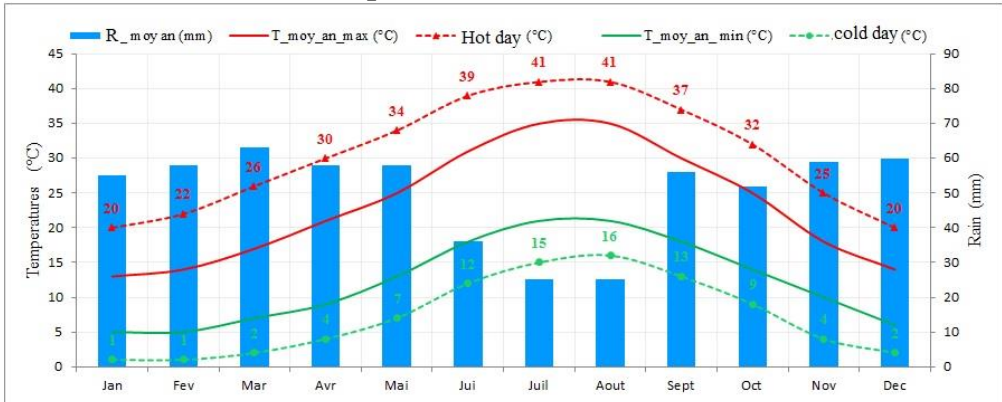


As can be mentioned three dams built to provide drinking water to the population Their water is also used in various economic fields like Kourdiat Asrdoun dam with a capacity of 640 million m<sup>3</sup>, which supplies four provinces and covers 820000 hectares, including the Mitidja plain (Mozas, 2013); Tiledit dam in Bechloul with a capacity of 167 million m<sup>3</sup>, which supplies 14 municipalities in the province of Bouira and 30 municipalities in the province of Bordj Bou Arreridj (Youcef, 2017); Oued Lakhel dam in

Ain Bassam with a capacity of 30 million m<sup>3</sup>; 22 collinear deductions (2.9 Hm<sup>3</sup>.) (ZERROUK, 1988).

In our research topic, it is very interesting to interpret the climate of the study region because it affects the nature of the soil and agricultural and industrial production in one way or another (Adams, 1998). According to Gausson, he proposed the combined representation of temperature and precipitation values through the year to display climatic patterns (Baltas, 2007). The lacks of data measured at stations are based on simulations of hourly weather models over a 30-year period (1985-2015).

**Figure 3: Umbro-thermal diagram of Gausson and Bagnouls of the province of Bouira**



**Source: Bouira Station**

The Umbro-thermal diagram of Gausson and Bagnoul in the province of Bouira showed in diagram 1 had explained that the minimum average temperatures are observed from December to March, they are in the order of 6°C and 7°C while the maximum average temperatures observed in July and August are in the order of 34°C. The annual average temperature is in the order of 18.5°C. The hot season extends from May to October (06 months). The rainy period from November to April and December was marked as the rainiest month with 68mm.

## 1.2 The human qualifications of the province of Bouira

The province of Bouira has a significant population estimated at 795,434 inhabitants in 2016. The majority of its inhabitants are between 15 and 35 years old, which represents 57.28% of the total population of Bouira State.

The growth of this young population represents a human potential for the development of the State. Inter-census growth rates were 3.43%, 1.59%,

1.0% in 1987; 1998; 2008 respectively. However, this situation also puts enormous pressure on the demand for housing (DPSB, 2016).

A statistical evaluation carried out by the National Statistics Office (ONS) (DPSB, 2016) shows that the province of Bouira is becoming an attractive site and a driver of economic growth. The population employed is arrived to 461014, representing an occupancy rate of 57.95%. The active population is attained to 526032, with an activity rate of 66.13% from the total population, giving unemployment rate of 12.36% (DPSB, 2016).

However, the economic activities are distributed at: trade with 8421 entities (51.05%), services with 6294 entities (38.17%), industry with 1604 entities (9.73%) and construction with 174 entities (1.05%) (DPSB, 2016).

## **2-RESULTS AND DISCUSSION**

### **2.1. Interesting agricultural potential but a deficit to be filled**

Since the independence, Algerian state has been interested in developing the economy, whether in the socialist or capitalist system. At the time, it took all the land of the colonist in accordance with the nationalization policy in order to make these lands work and improve agricultural production. In 1971, the province announced a new law 71/73 of 08-11-1971 which exposed the birth of the agricultural revolution (Knauss, 1977), so it aimed to achieve two objectives (Bedrani, 1987):

- Increase production and productivity of land, which remains the best in the country, and reduce food dependency;
- Gradually reduce the charges it imposes on the public purse due to its chronic deficit.

In fact, the agrarian revolution has not yielded the expected results because the Algerian state has spent enormous costs (126 billion Algerian dinars corresponded to 950 079 909,465 Euros) to revive the agricultural sector (Dahmani, 2015).

Following the privatization of the agricultural sector in 1990 (Aghrout, 2004), new types of individual investments have emerged, reaching 718 investors with an estimated area of 1513ha, as well as 236 collective agricultural agglomerations with an area of 23738ha (Daoudi, 2010),(Bessaoud, 1995).

In another sequence, the Algerian government has adopted reform programs to revive the agricultural sector since 2001 by allocating a huge budget summarized in the following table.

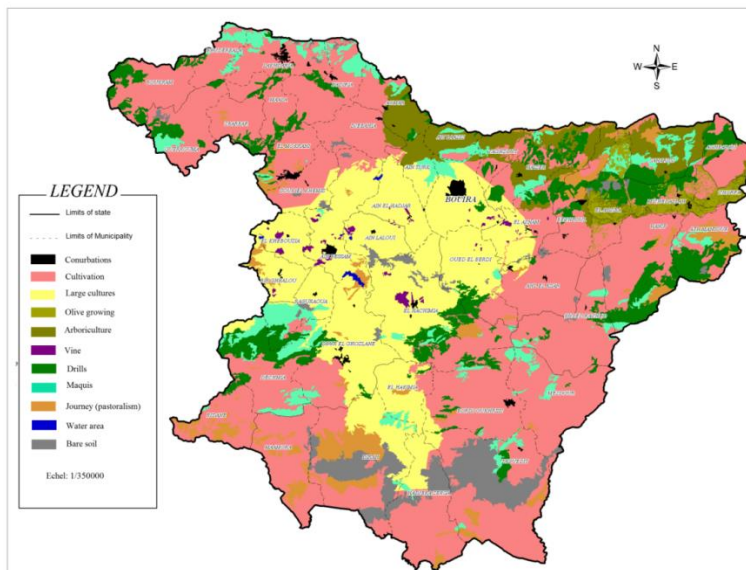
**Table 1:** Agrarian investments according to development plans in Algeria for the period 2001-2014

Development programs	PSRE Recovery Support Program (2001-2004)		Complementary program to support economic growth PCSCE 2005-2009		The five-year development plan (2010-2014)	
	prise (billion dinars)	prise (billion dollars)	prise (billion dinars)	prise (billion dollars)	prise (billion dinars)	prise (billion dollars)
Total investment	525	7	4202.7	200	21214	156
agriculture	65.4	0.872	300	14.27	1000	7.35
%	12.46		7.14		4.71	

**Source:** Treatment of researchers through, Benyoub, 2018

Despite the large envelope for investment in the agricultural sector, its percentage of total investment has decreased from 12.46%, in the PSRE program (Program to support the recovery of the PSRE 2001-2014), to 7.14% in the PCSCE program (Complementary program to support economic growth 2005-2009) and then to 4.71%, in the five-year period 2010-2014. This decrease proves that the Algerian State gives importance to other sectors besides agriculture.

**Figure4 .** Land use in the province of Bouira





The province of Bouira covers a total agricultural area of 293,544 ha, or 65.88% of the total area (DPSB, 2016), but the useful agricultural area (UAA) covers only 189960 ha and the irrigated area even less than 6% of the total UAA, or 11000 ha. The rest of the land consists of pastures and rangelands covering a total area of 76,686 ha (mountainous and steppe areas) and 26899 ha of non-productive farmland (Fig.4).

According to Department of Agriculture Statistics (DSA) of Bouira's province in 2016, the distribution of agricultural land by homogeneous area gives us the following situation:

- The mountain area (91,030 ha, or 31% of the UAA): This is an important area formed by part of the Djurdjura massif, the Biban foothills and some small mountains in the south of the state. The mountain complex is rich in diverse forest resources. It is moderately populated but widely cultivated in some of its enclaves. Most of the agricultural land in this difficult area consists of small and even very small farms with low production capacities.
- The plain and foothills area (117458 ha, or 40% of the UAA): It is an important area in terms of its agricultural surface and potentials. It forms essentially the median part of the province's territory and is composed of depressions, mountain foothills and rich hills, as well as alluvial plains. The southern part of this area is occupied by the high cereal plains.
- The agro-pastoral zone (85,157 ha, or 29% of the UAA): It essentially represents the part of the province's territory located to the south and including all the low-quality land reserved for the practice of the "cereal-growing-shepherding" system, as well as steppe and agro-pastoral land.
- Moreover, the forest potential remains remarkable (112,350 ha), it represents more than 25% of the province's surface area. It is dedicated to production, protection, tourism and scientific research. It includes the important Djurdjura Natural Park (PAW, 2012).

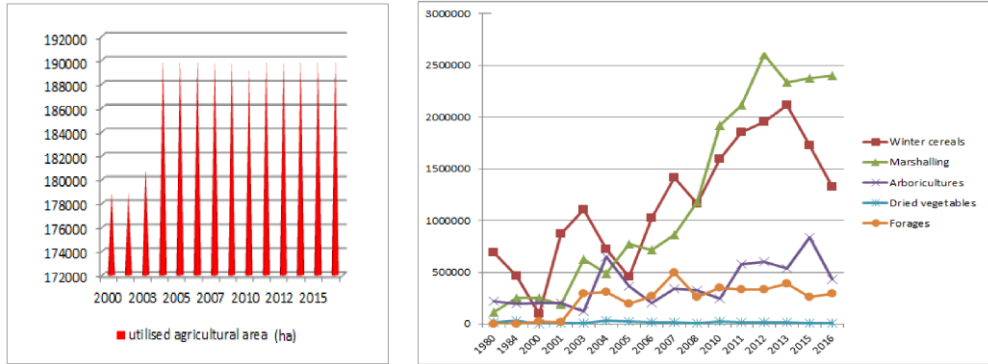
### **2.1.1. Vegetable production:**

The quantity of vegetable production increased in the province of Bouira, from 188,552 quintals in 2001 to more than two million quintals in 2016 (Figure5). It is explained by the concern of the officials for carrying out large production quantities, thanks also to the strong demand for this type of production.

Winter cereals are considered to be the State's leading agriculture, covering 70565 ha, or 55% of the area cultivated with cereals. This area is shared by the Ain Bassam daïra, the Sour el ghozlane daïra, the Bouira daïra and the M'chedellah daïra. It went from 99 99 quintals in 2000 to more than

2 million quintals in 2013; after that, the production decreased to 132,614 quintals.

**Figure 5: Changes in land use and agrarian production in the province of Bouira between 2000-2016**



Source: DSA Bouira, DPSB 1979

We also note a significant increase in the production of animal feed, which amounted to 295173 quintals in 2016. In particular, the production of dried vegetables thanks to the various technical support measures - particularly in terms of mechanization and diversification of crop rotation systems.

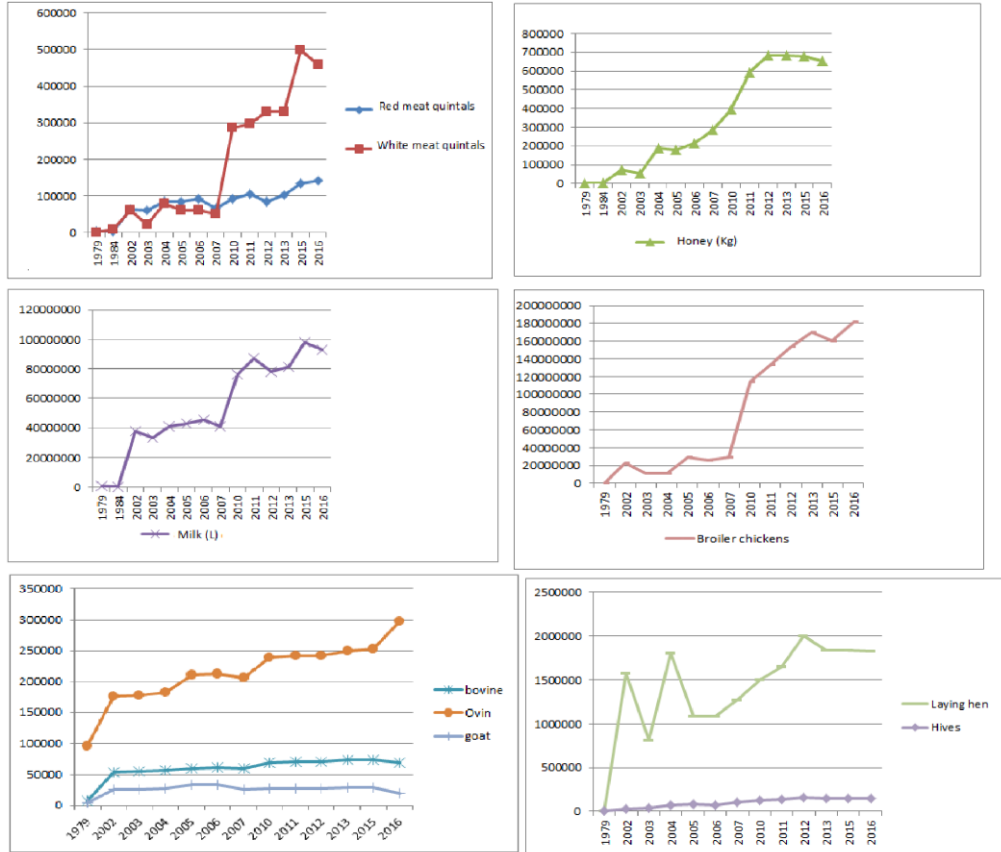
There is also an oscillating tree production from one year to another. This situation has led the public authorities to devote various aid programs to the extension of planted areas, the extension of technical routes and financial support for the PNDA/FNRDA, FNDIA.

However, there are 5 municipalities out of 45, namely Ahnif, Chorfa, Aghbalou, Mchedellah, Saharij, which represent 34.7% of the area planted with olive trees. This type of agriculture predominates, particularly in mountainous areas, and was neglected in the 1990s due to the deteriorating security situation. But after the situation improved, the inhabitants returned to their rural areas to revive their agriculture and trees (Labdaoui, 2016; Meziani, 2018).

### 2.1.2. Animal production

Livestock farming plays an important role in economics of Algeria (Carter, 1975). So, the province of Bouira has large cattle, sheep and goat farms.

**Figure 6: Changes in livestock production and livestock production 1979-2016**



**Source: DSA Bouira 2000-2016, DPSB 1979**

Despite the lack of data on some types of production for the period before 2000, we can observe in Figure 6.

- The number of broilers and laying hens has increased. It reached 18 million units in 2016. Broiler chicken is raised in almost all the municipalities of the province, but with a very high concentration in the foothills areas (Lakhdaria, Bechloul<sup>2</sup>, Mechdellah...), inland plains (Bouira, Dechmia) and high plains. This is mainly due to the region's favourable access conditions, which offer it better access to the regional market. In addition, the fluctuations recorded in the number of different types of chickens are due to the duration of rearing, as broilers for consumption remain 2 months, while laying hens remain 4 months.

- A considerable increase in the number of hives, reflecting the high honey production in the province. Let's say that this type was marginalized in the 1990s due to the deteriorating security situation in the country. Nevertheless, the number of hives reached 150000 after having been 23999 in 2002, mainly as a result of several forms of assistance and support, particularly for young people and women in rural areas (Smadhi, 2012)
- Livestock production has nevertheless undergone an increasing evolution, corresponding to the implementation of various programs, including the recent performance contract. In addition to the growth in red meat production, it rose from 4288 quintals to 142900 quintals in 1979, 2016 respectively. The same growth was observed in white meat, which ranged from 8450 in 1984 to 459400 in 2016. The milk production increased too, it reached 92600000 liters in 2016.

## **2.2. Programmed or anarchic industrial investment?**

Currently, the province of Bouira has a very important industrial land which is composed of Industrial area; Industrial parks; Activity zones.

### **2.2.1. Industrial zone**

It is a relatively large space, equipped and oriented towards the establishment of economic activities, defined as "economic real estate created and defined by the State to contain investment projects" (Mutin, 1980).

The industrial zones in Algeria were promulgated enacted by Act n° 45/73 of 28/02/1973 establishing an advisory committee for the design of industrial zones, which sets the conditions for the creation of 77 industrial zones at the regional level throughout the national territory. Decree n° 55/84 of 03/03/1984 established the terms of management of these industrial zones, which are distributed in Algeria as follows (Bouder, 2007; ANIREF Voice, 2015):

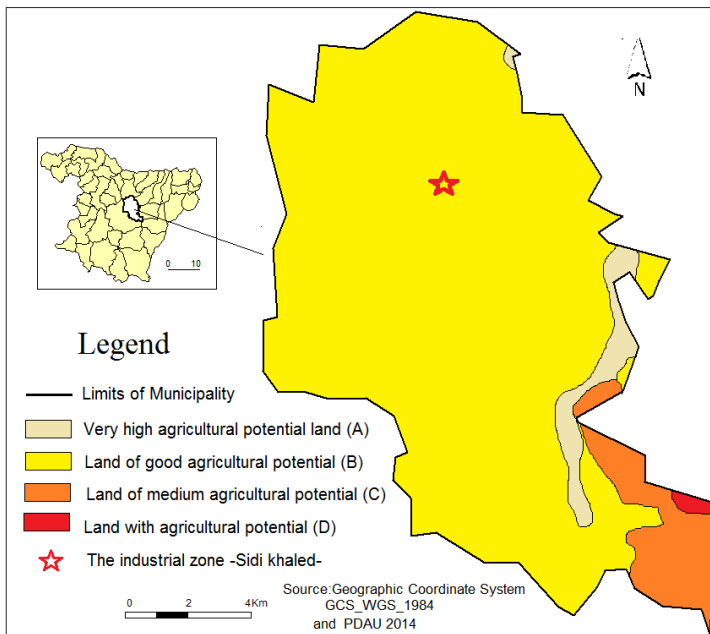
- 11 industrial zones were located in the northwest region, divided into 1416 industrial plots, spread over an area of 4381 ha;
- 20 industrial zones in the North-Central Region, divided into 1486 plots, spread over an area of 3625 ha;
- 14 industrial zones in the Western Highlands region, divided into 1204 industrial plots, spread over 2796.9 ha ;
- 04 industrial zones in the Central Highlands region, divided into 540 industrial plots, spread over an area of 773 ha; 07 industrial zones in the Saharan region spread over 1077 ha.

The province of Bouira has an industrial zone called Sidi khaled located in the municipality of Oued El Berdi, Daira of Hachimia, it was created by a decision of the Ministry of Construction and Housing in

09/11/1979. Its total area is 225 ha (DPSB, 2015) fragmented into 102 pieces, 99 pieces are distributed, 03 pieces remain are pending for later settlement. The industrial zone has a strategic position in terms of urban dynamics. Made via the motorway to the national road 08 (RN8).

According to (Figure 7), it is located in a land with good agricultural potential (class B), which means that the authorities have made a poor choice from the beginning, it is a land that can have an enormous agricultural yield, especially in cereal production.

**Figure 7: The agricultural lands values of the municipality of Oued El Berdi**



### **2.2.2. Industrial parks:**

It is an industrial property designed from various activities to encourage investment. The Ministry of Industry and Mines has entrusted the National Agency for Intermediation and Land Regulation ANIREF "in accordance with Article 4 of Executive Decree 12/126 of 19 March 2012, amended and supplemented Decree N° 07 of the Decree / 119 of 23-04-2007" (Taibi, 2013) to take into account the creation of the industrial parks project from 2011, which amounted to 50 parks spread over the 39 provinces, occupying an area of 11342 Ha (ANIREF, 2015).

In this context, the province of Bouira has benefited from two industrial park projects:

### 2.2.2.1. Extension of the Oued El Berdi "Sidi khaled" industrial zone

It is covering an area of 189.6 ha, bounded to the south by National Road 127 (ANIREF, 2015). In addition, 240 million dollars have been allocated to the restoration of this industrial park in terms of land preparation and its connection to various networks (gas, electricity, water) in order to enable investors to carry out their investment projects. Looking at this figure 8, we can see that the authorities have chosen to move closer to the main town, which contradicts international rules, because the population must be moved away from industrial concentration. This choice of terrain is poorly studied and the authorities do not think much about the health of citizens

By working closely with the industry and mining management, we were able to obtain the plot plan of the subdivision permit file prepared by the owner of the ANIREF structure and the owner of the COSIDER structure (Figure 8), which represents the boundaries of the various lots, a number of 35 lots.

**Figure 8: Parcel plan of the Oued El Berdi industrial park (Sidi Khaled Extension)**



### 2.2.2.2. LECHOUAF Park (Dirah):

In 2014, it is proposed to create an industrial park in the municipality of Dirah at Lechouaf locality. It spread over an area of 2025 ha. Bordered to the North by Oued Chiab and Turki family's private lands; to the South and East by private lands and the RN08, to the West Oued Guettirini and the Dirah oil field.

In addition, 120 million dinars (871396,413 euros) have been dedicated to create industrial property with various supplies of water channels, electricity and gas exchange, to ultimately attract local and foreign investors.

Initially, the province authorities had as a plan, an area of 1004 ha and 9 Are (Figure 9), when delimiting the land, but many constraints concerning the legal nature of the land lots have not yet been resolved. Unfortunately, however, due to the financial problems that the Algerian government has declared, the project is put on hold.

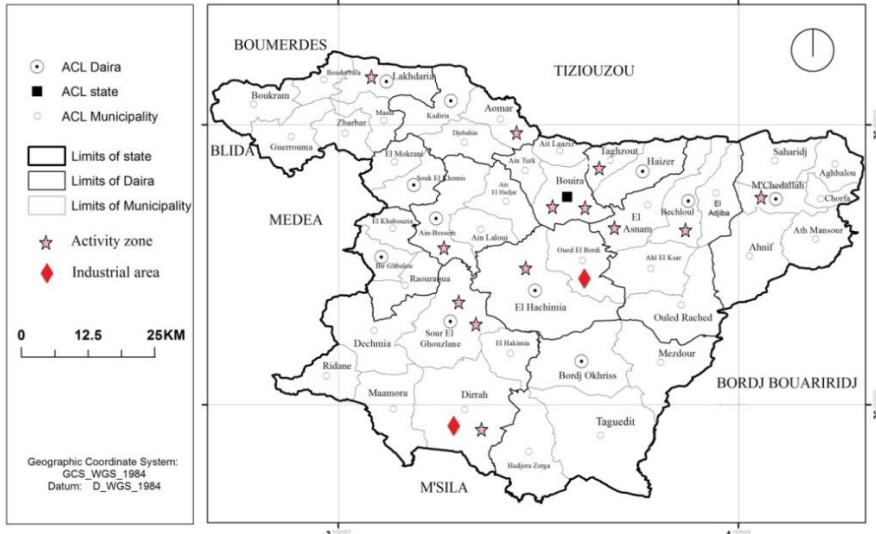
**Figure 9:** Location of the new industrial park in Dirah



**2.2.3. Activity zones:** The activity zones are considered as being the local space that is both essential and natural for the promotion of investment and local economic development in the province (Van Der Kaa, 2011; Hewes, 2008)

It has 13 activity zones on an area of 119 ha spread over several municipalities (Figure 10), spread over 599 lots of land. In 2015, they were able to receive 2112 employers, a figure that can be increased thanks to rigorous landscaping work.

**Figure 10: Industrial locations in the province of Bouira**



Since 2011, the province of Bouira has benefited from a considerable fund for the restructuring of existing business areas, which reached until 2014 to 1022739000 Algerian Dinars (7716076.49 euro<sup>1</sup>). In order to renovate the industrial sector, develop areas that include industries to become desirable places for investors, and will be a place that creates jobs. The following table shows the various operations carried out or planned for the rehabilitation of the business parks since 2011.

**Table 2: Financing of projects for the rehabilitation of activities zones (Complementary program) in the province of Bouira**

	year	The name of the operation	Amount (US dollars)	Avancement des travaux
Complementary program	03/10/2011	Development and development of the Bouira business park	632208,75	0,6
		Planning and development of the Taghzout business area	632208,75	0,9
		Planning and development of the Aomar business park	655297,01	0,6
	18/04/2012	Monitoring and development of the lakhdaria business area	842945	0,85

<sup>1</sup> 01 Euro =132.55 Algerian Dinars



*Evaluating the combination of agriculture and industry sectors in the province of Bouira (North Algeria)*

31/12/2012	Monitoring and development of the activity area under elghozlane	547914,25	1
	Monitoring and development of the Bechloul business park	1095828,5	1
15/04/2014	Study and monitoring of the activity areas of Dirah, Hachimia, Ain Bessem, el Asnam, M'chedallah	4214725	Frozen operation

**Source: DPSB, 2015**

We found after the observation to table.2 that the number of small and medium-sized enterprises (SMEs) has increased considerably, from 10,552 in 2010 to 17220 in 2016. In addition, the dominant activities of 50.4% are in the service sector, the construction and public works sector accounts for 22.07%, and the agriculture and industry sectors for 12.55% and 14.97%. According to our field survey, the number of companies specializing in the industrial sector has increased from 1492 companies in 2010 to 2579 in 2016. This increase is due to the new policy adopted by the State through creating various recruitment agencies, such as the National Agency for Youth Employment Assistance (ANSEJ) and the National Agency for Microcredit Management (ANGEM), aiming at developing the country's economic investment (Gharbi, 2011).

This increase in the number of small and medium-sized enterprises (SMEs) can be justified by the adoption of the various laws that stimulate investment for creating Support and accompanying institutions (Guechtouli, 2014; Merzouk, 2008) like:

- Establishment of the National Youth Employment Support Agency by Executive Decree N° 296-96 of 8 September 1996;
- The National Agency for the Development of Investment (ANDI) by virtue of Presidential Order N° 01-03 of 20 August 2001;
- Creation of the National Investment Council for the Promotion of Small and Medium Enterprises on 25 February 2003;
- Creation of the National Agency for the Development of Small and Medium-sized Enterprises (ANDPMI) on 3 May 2005;
- Supporting small and medium-sized enterprises (SMEs) through a number of agencies and organizations such as: National Industrial Land Agency (ANFI), National Investment Council (CNI), Chamber of Commerce and Industry (CCI);
- Financial support from the Export Promotion Fund (EPF), National Fund for Agricultural Development (FNRDA), Stability Guarantee Fund for Small and Medium Enterprises (CGCIPME), National Fund for the

Promotion of Traditional Crafts (FNPAAT), National Youth Employment Support Fund (FNSEJ), Common Sponsorship Fund to Guarantee Risks (FGGRM), Research and Development Fund (FRSDT), National Unemployment Insurance Fund (CNAC).

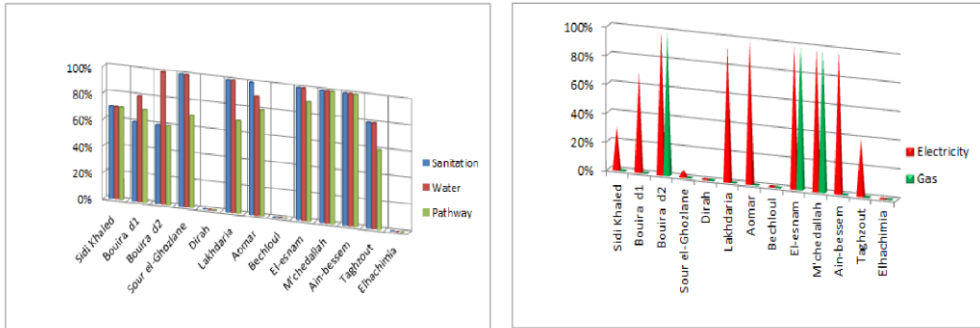
After interviewing the heads of Industry and Investment Development Department of Bouira's province stated that received during the period 2011 to 2016, about 500 investment files with a turnover exceeding 06 billion Algerian dinars (45267129.70 Euro), to create 45000 jobs, 127 of these files were approved.

From what we saw in the previous report, it is clear that, primarily, the province of Bouira has agricultural vocations, it is specialized in cereal and arboriculture, it ensures a significant annual production. It should be pointed out that despite the considerable efforts being made to develop the agricultural sector, the failure to control these agricultural areas is marked, especially with the existing gaps between official data on the areas in the province and the areas occupied by agriculture (UAA), adding that water needs for irrigation are not being met because of poor management of natural resources.

In addition, considerable efforts are being made to improve the industrial sector and create and develop land that will be available to local or foreign investors, this land that has theoretically evolved over time from 0.077% (344ha) in 2014, to 0.58% (2587ha) relative to the area of the province. On the other hand, the industrial sector is advancing at a very slow pace. The constraints that preventing this sector from standing up can be cited as follows:

- The non-use of industrial land and lots that are already being studied in Oued El Berdi Park, although study has been dated since May 2015;
- The Dirah industrial park project that was put on hold despite that the choice of land was for 27-10-2014, due to financial problems (the austerity of Algerian governance). To date, no study has been carried out for the division of the lots to be invested (absence of a subdivision permit)
- The sector's assessments indicate that development work has not been completed in most areas (Figure.11), due to a lack of necessary funding from the planning agencies (province Land Agency and Blida URBA). The following table makes it easy to observe these situations.

**Figure11: Equipment level of industrial concentration areas in Bouira in 2014**



**Source: PAW of Bouira**

According to the table, there is a total lack of sewage systems; drinking water; electricity, roads and gas in the activity areas of: Dirah, Bechloul and Elhachimia. There is a considerable lack of these networks in the other areas, as well as the industrial area of Oued El Berdi which is not permanently connected by gas.

The industrial zone is supplied by the only borehole that has a flow rate of 08 l/s and a depth of 200m (PDAU, 2014), and by a 2000m<sup>3</sup> reservoir which is filled by a discharge at a flow rate of 81 l/s from SP5 (receiving its water from the TILES DIT dam), via a 4711 ml linear supply pipe (PDAU, 2014).

## CONCLUSION

According to our research, it can be seen that the Algerian State and the local authorities of the province of Bouira had theoretically carried out development projects aiming at establishing a high-tech industry, while exploiting the industrial land in great strength. Indeed, the officials of the Directorate of Industry stated that the province of Bouira will want, in the short term, to have an explosion of the industrial sector accompanied by a large number of investments and large national and foreign companies. Not to mention that it has undergone considerable development in the agricultural sector thanks to the programs and the agricultural policy launched over the past twenty years.

But despite all these qualifications, the province of Bouira has a deficit and a very slow pace in the exploitation of its industrial land and even in the control of its agricultural land. Following obstacles that prevent the

achievement of the goal set by the authorities and the national spatial planning plan SNAT 2030, we citing:

- Mountainous and very steeply sloping terrain in the north and insufficient rainfall in the southern region;
- Limited groundwater resources and insufficient mobilization of surface water for agricultural use;
- Land use, not always in line with natural conditions (insufficient perennial plant cover, cereal farming on steep slopes and in agro-pastoral areas, etc.);
- Weakness in the extension and development of fodder and vegetable crops;
- Administrative problems making it difficult to obtain industrial property for investment purposes.

During our research, we formulated a set of recommendations and suggestions that we considered necessary to achieve a balance between the agricultural and industrial sectors in the province of Bouira:

- Preserve agricultural land and not using it for industrial investments, in order not to damage agricultural production and vegetation cover;
- The development of agricultural fertilizer resources and the training of young people in agriculture;
- Encourage investment by facilitating the administrative processes for obtaining industrial property in industrial zones, and combating bureaucracy of all kinds;
- Facilitate financial support for young people to obtain loans to enable them to start mini-projects;
- Creation of partnerships between the agricultural and industrial sectors;
- Lift the freeze on scheduled projects and work on the National Land Use Plan.

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