

Implications for Agricultural Reclamation Policies on the Dynamics of Desert Agriculture: A Case Study of El Oued, Algeria

Khiari Reguia¹, Adjlane Sabah², Mokhnane Tarek³, Chaib Warda⁴

^{1,2,3,4} Scientific and Technical Research Center for Arid Regions (CRSTRA) Algeria.

The Author's Email: reguia.khiari@crstra.dz¹, adjlane.sabah@crstra.dz², mokhnane.tarek@crstra.dz³, wardalita1@yahoo.fr⁴

Abstract :

The policy of agricultural land reclamation pursued by Algeria, and the piece of program and concession it has allocated since independence aims to achieve food security by increasing the area of irrigated land, raising and diversifying agricultural production, using new means and methods for the optimal use of the land; has given very significant results, especially in the desert areas which have known a great agricultural dynamism, due to its share of reclamation and agricultural concession programs. It has become an agricultural pole, by recently achieving a large production of crops (potatoes, wheat, barley, peanuts,...etc).

The current study aimed to reveal the role played by desert land reclamation operations in the agricultural field, and their impact on the agricultural dynamism in El Oued Wilaya.

The study sample included 120 investors, which were randomly selected, and distributed over five communes as they hit the first ranks in national production. And the questionnaire includes a set of axes, including the axis of agricultural reclamation.

The study found that agricultural reclamation programs that benefited El Oued had a positive impact on increasing the volume of plants and animal production, it also contributed to covering the needs of national markets with various agricultural products. This made it an open agricultural market that attracts traders from many regions inside and outside the wilaya, relying on the strength and quality of production.

Keywords: reclamation policies, desert areas, desert agriculture, food security.

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1. Introduction

The agricultural sector is having increasing attention from most of the world's countries, whether developed or developing, and this is due to the important role it plays in achieving economic development goals by increasing the contribution of agricultural output to GDP and increasing its per capita.

Also, provides jobs for various social categories, especially in rural regions, as well as provides the food needs, achieving food security, decreases the volume of imports, provides agricultural raw materials for industry, and represents an additional wealth for the country...

Algeria like other countries has strived to implement economic strategies aimed at diversifying its economic resources outside the hydrocarbon sector, to achieve development, and considering agriculture among the most important sectors that can contribute to this diversity in proportion to the process of economic and social activity on the one hand, and conditions imposed by development on the other hand, especially in desert areas due to the unique economic and natural characteristics of these areas, that make them able to drive economic growth.

Agriculture in desert areas is based on palm cultivation which is associated with other crops: fodder and fruit trees to form what is known as the oasis system(DADAMOUSA, 2007, p. 20). This old dominant system (ancient agricultural system) or old orchards (traditional oasis) is based on a group of family investments, these orchards formed a model of subsistence cultivation to meet only the needs of the investors and the family.

In recent years, desert agriculture has been able to revolutionize the agricultural fields, embodied in the emergence of a new agricultural system that includes individual and collective investors, and it is characterized by the introduction of new production techniques to increase returns, especially after the issuance of the decision to benefit from the ownership of reclaimed land in the south in 1983 (APFA)(BESSAOU, 2003, pp. 17-18) and the concession techniques, which allowed the distribution of many lands by transferring agricultural real estate ownership for a symbolic amount.

Under this law, the area of agricultural land in desert areas increased to about 44000 Hectares during the period (1988-2002), a growth rate of 84%(BENSAHA & ARBOUCH, 2016, p. 33). It also contributed to the distribution of 214277 Hectares to 45413 beneficiaries(DADAMOUSA, 2007, p. 20), increasing in 2013 to 605741 Hectares distributed to about 95512 beneficiaries(DAOUDI & ALL, 2015, p. 14). This has stimulated the spread of new patterns of agriculture, using new means and methods for the optimal use of the land, and it has given very significant results, especially in some southern regions such as Oued Souf, which has been known for its new agricultural activity, due to its share of agricultural reclamation programs since 1983, it has become an agricultural pole through its recent achievement of large production of agricultural crops (potatoes, barley, peanuts...etc).

In this context, we raise the following main question:

What are the implications of agricultural reclamation policies on the dynamics of desert agriculture in the wilaya of Oued Souf?

Sub-questions:

In order to answer the main question, we ask the following questions:

- What are the most important agricultural reclamation programs that benefited the wilaya of Oued Souf?
- What are the repercussions of the agricultural reclamation programs that benefited the wilaya of Oued Souf on the volume of plant production?
- What are the repercussions of the agricultural reclamation programs that benefited the wilaya of Oued Souf on the volume of animal production?
- What is the contribution of the agricultural sector in the wilaya of Oued Souf in supplying the local and national markets with various agricultural products?

Propositions :

- The wilaya of Oued Souf has benefited from various agricultural reclamation programs for desert areas.
- Agricultural reclamation programs had an impact on increasing the volume of plant production in the Wilaya.
- Agricultural reclamation programs had an impact on increasing the volume of animal production in the Wilaya.
- Agricultural reclamation programs have contributed to covering the needs of national markets for various agricultural products.

2. Methodology and study materials

2.1. Methodology used

to complete the study and answer the main question posed in the problem and sub-questions, we adopted the descriptive approach, which is appropriate in providing data, information, and facts about the research topic.

2.2.Data-collection and analysis tool

We used an interview form to collect information, where we prepared a pilot form in the first phase, to be modified and formulated in its final form which included three main axes: The first axis: general information about the farmer, The second axis: general information about the investor, and the third axis dealt with the impact of agricultural reclamation programs on plant and animal production and the extent to which it covers the needs of the national market with various agricultural products.

In data analysis, we also used SPSS for data processing, as well as ArcGIS for mapping and locating the study area after we raised the coordinates using a GPS device.

3. Research community and sample

Within the framework of the research project of an economic and social nature «Agricultural reclamation in desert areas; the sustainability of El Oued-Biskra-Ouargla» at the Scientific and Technical Research Center for Arid Regions RSTRA. The study sample included 120

agricultural investors which were randomly selected, and distributed over five communes as they hit the first ranks in national production (Hassi Khelifa, Tarfaoui, Rammas, Reguiba, and Taghzout), and the questionnaire includes a set of axes including the axis of agricultural reclamation.

In order to answer the problematic and in order to achieve the desired objectives of the study, it was divided into the following elements:

4. Reclamation of agricultural land and its importance

4.1. Definition of agricultural land reclamation

There are different definitions of the concept of land reclamation, as they vary according to the regions and the natural conditions of these areas, the extent of soil fertility degradation, and the latter determines the type of reclamation and its phases.

Land reclamation is defined as the treatment of one or more defects so that the soil is converted from an unproductive state to another productive, in an economic degree, by providing the necessary methods and supplies for that.

The land reclamation project, whatever its size, is an integrated economic process whose manifold pillars depend on different and overlapping factors (AHMMED & AHMED, 2006).

Land reclamation is an integrated manifold process, pillars, and elements, which are the land, quantity, and type of water needed to revive it, the availability of services, the scientific and technical expertise necessary to manage it, and the investments required to cover the expenses of obtaining its production. (ISMAIL & AL ANAFEE, 2017)

The process of land reclamation is one of the most important methods of horizontal and vertical expansion in the agricultural sector, which works to increase the effectiveness of investments on the one hand and accelerate the pace of production growth on the other hand. (OMRAN & KHADDAM, 2014)

Reclamation is also defined as any work that would make the land cultivable and exploitable, and these works can be focused on water mobilization, spatial planning, land purification, processing, irrigation, reduction, planting, and soil conservation in order to fertilize and cultivate it. (SAHI, 2020)

Land reclamation is also known as the process of converting barren land into arable land, often in desert lands by digging wells to fetch groundwater to carry out agriculture with this water, and irrigation is drip or sprinkler depending on the type of crop being grown (2023).

Reclamation is also defined as the works and field activities of the soil or the surrounding conditions that would work to transform the land negatively affected by one of its production factors into land with a high economic production capacity. (REDHA ABDELJABBAR, 2008, p. 216)

Through our presentation of the concept of land reclamation, we conclude that the process of reclamation of agricultural land needs practical and scientific experience based on scientific

recommendations and practices, knowledge of the technical aspects of the production process, and sound decision-making by the farmer in the application of new ideas and practices. The successful investor's path is the one who has the ability to make and implement his decisions on them.(ISMAIL & AL ANAFEE, 2017, p. 326)

The concept of reclamation should not be considered a purely technical and economic concept; but should create the appropriate conditions for all production, from land to water, settlement and urbanization process in reclamation projects, and making man an end and means of land reclamation as he is the one who will interact with his all operations and tools(REDHA ABDELJABBAR, 2008, p. 216).

In Algeria, reclamation is defined as any work that makes land cultivable and exploitable, and these works can focus on water mobilization, planning, land purification, processing, irrigation, planting, preservation of soil fertility, and cultivation.(HAJI, 2018, pp. 400-401)

4.2. The economic importance of agricultural land reclamation

The economic importance of agricultural land reclamation lies in the important role played by this policy in promoting the agricultural sector, granting opportunities to achieve food security, and supporting the national economy, in addition to exporting the surplus to some foreign countries, and we will address this importance in the following points:

- Increasing production capacity

The economic importance of agricultural reclamation lies in increasing agricultural production by increasing reclaimed agricultural areas, which leads to raising the rate of agricultural production, in addition to the cultivation of economic crops with mass consumption, whose products are raw materials in many industries or prepared for export.(REDHA ABDELJABBAR, 2008, p. 220) Which saves a lot of money spent on importing foodstuffs. (RACHID, 2014, p. 171)

- Achieving food security

The concept of food security has evolved and includes the provision of safe and secure food. Achieving food security has also become the focus of nations as it leads to the abolition of dependence on the outside.(SAHI, 2020, p. 07)

The implementation of the agricultural reclamation policy is reflected positively in achieving food security by increasing the area of arable lands, increasing strategic agricultural crops, especially cereals, and diversifying agricultural products with mass consumption such as vegetables, and dates which contribute to reducing the food deficit and achieving food security.(REDHA ABDELJABBAR, 2008, p. 220)

- Contributing to the elimination of unemployment

One of the most important objectives of the agricultural reclamation policy is to provide new job opportunities for the region's population, because the extensive reclamation process needs large numbers of manpower, whether in the reclamation phase or in the various phases of agriculture. The human factor always remains the most important reliable investment, and the advantages of

work within the framework of reclamation and agriculture require a diversity of human energy, depending on the phases that the reclamation process goes through, and the volume of work is subject to these phases and allocated investments in them.(RACHID, 2014, p. 173)

5. Reclamation of agricultural land in Algeria within the framework of the reclamation and concession systems in desert areas

Due to the problems that the agricultural sector suffered at independence in all its aspects, agricultural and pastoral lands consisted mainly of state-owned lands, private lands (colonial and Algerian sector), collective lands of the tribes, and Habous held by religious groups.(DAOUDI & ALL, 2015, p. 03)

The state set out to develop it through a series of reforms, from self-management to agrarian revolution to the restructuring of socialist farms.(MEBARKI, 2015, p. 32)

These reforms have been implemented in arable areas due to their high yield in agriculture by virtue of their fertility, and favorable climate. Which is also an important part of Algeria's area, and despite what these areas achieve in advancing economic development, this did not obviate the thought of exploiting desert lands in the agricultural field, in order to contribute to supporting the national economy, and implementation of national plans related to agriculture to achieve food security of the country. (SAHI, 2020, p. 02)

Therefore, the Algerian government resorted to adopting the approach of agricultural reclamation in the desert lands by expanding the circle of agricultural lands and developing ways to exploit them, and the patterns of agricultural reclamation in the desert areas can be limited to:

5.1. The system of reclamation of agricultural real estate within the framework of the 1983 law (APFA)

The system of tenure by reclamation was issued by law 18/83 of 13/08/1983, and this law provides for granting the right to any individual to acquire agricultural land for development through the development, purification, water mobilization, processing, and planting.(HADEID, 2011, p. 100)

It is the first land law that specifically targets agricultural land in desert areas, regulates for the first time the transfer of public land ownership (in symbolic dinars) to private ownership, and makes the promotion of agriculture in arid and semi-arid areas a priority focus of the Algerian agricultural development strategy(TAYEB & YEAL, 2013, p. 10). Agricultural land is acquired in two ways:(SULEYMAN, 2012, p. 89)

- Personal reclamation by individuals and financed by them with ownership, which is called off-ocean reclamation.
- Reclamation by the state, where it finances and provides water and work requirements, with ownership after five years, which is called reclamation within the ocean.

Within the framework of this law, 250,000 Hectares were distributed to 57,000 beneficiaries, 71,000 Hectares entered the actual production process, and the reclamation process spread in the

agricultural areas in the south, followed by the areas of high plateaus, and this law sought to achieve the following objectives:(MEBROUKI, 2011, p. 493)

- Revival of agricultural development in agricultural areas in the south, where 67.6% are located.
- Expanding and increasing agricultural areas by exploiting the vast lands located in the less fertile areas where rainfall is rare.

The system of tenure by reclamation **APFA** allowed for attracting new actors to agriculture. These actors, owners of small and medium-sized agricultural enterprises from different regions of the country and different sectors of activity, have contributed significantly to the new agricultural dynamism in the desert areas.(DAOUDI & ALL, 2015, p. 14)

5.2. Agricultural real estate reclamation system within the framework of the concession technique

The relative stagnation experienced by the process of reclamation of agricultural land and with the aim of horizontal expansion of land, and in front of the pot of agricultural real estate, the state opened up a wide way for investors in the agricultural field, and adopted the concession technique as a tool for reclamation, and in this context, the authority issued a Decree N° 97/483 dated 15/12/1997 specifying the modalities for granting concession in plots of land belonging to state property(RACHID, 2014, p. 170). which differs from the ordinary reclamation law, where concession is a form of public usufruct for a renewable period of 40 years.(BOUDJELKHA & AMAMRA, 2018, p. 167)

This Decree was included in line with the political, social, and economic changes that have occurred in the comprehensive development process that the country is experiencing.(HAJI, 2018, p. 402)

According to this law, the state contributes to the total or partial coverage of expenses, providing the necessary facilities for the completion of basic facilities (paths, electricity, and water fetching) as well as all the assistance necessary for the success of the reclamation process.(NASSIB & KARTHIOU, 2017, p. 52)

An area of four Hectares is granted to the reclamator, three of which are dedicated to palm cultivation (120 palm trees/ha), and the remaining hectare is used for vegetable cultivation, the ownership of the reclaimed plot is transferred to the reclamation owner by mutual consent.(NASSIB & KARTHIOU, 2017, p. 53)

6. The repercussions of agricultural reclamation programs on agricultural dynamism in the wilaya of El Oued

Land reclamation in Oued Souf relied in the past on planting palm trees by establishing the oases or what is known locally as **Ghout**, the nit developed over time and became based on the cultivation of crops surrounding the palm in the form of basins, then expanded and became semi-agricultural oceans.

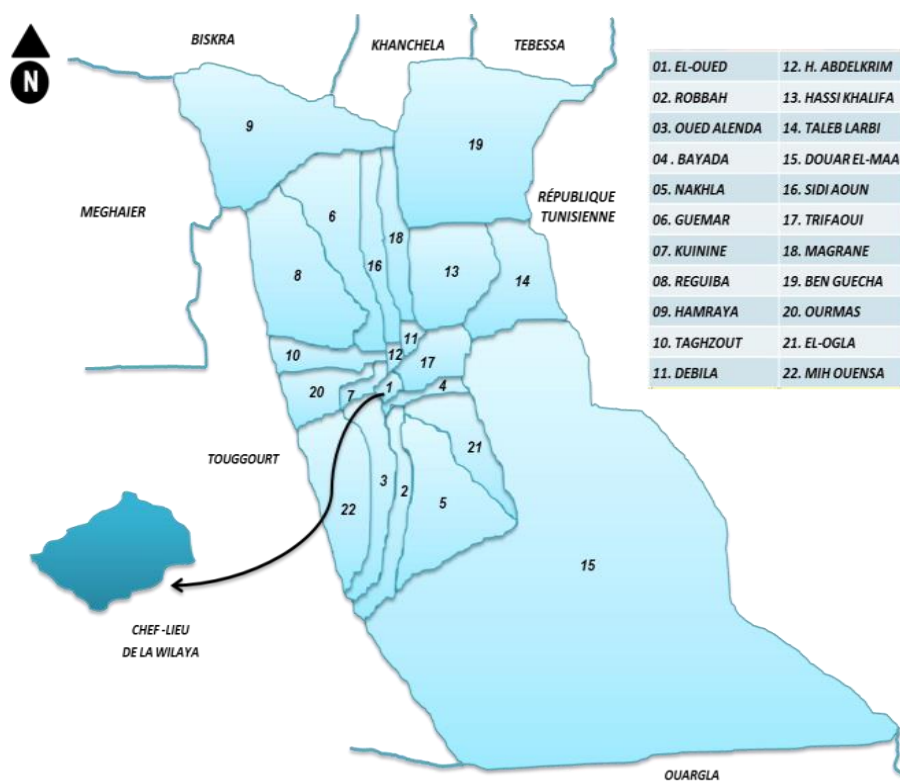
Here we will address the presentation of study area El Oued, the reality of its agricultural production, and the most important programs that the region has benefited from within the framework of agricultural reclamation programs:

6.1. Study area and its reality of agricultural production

The Oued Souf is a known Algerian province. The Oued Souf is located in the northeast of the Algerian south.(MOKHNANE, ADJLANE, & KHIARI, 2023, p. 06)

El Oued is the 39th wilaya of Algeria, its capital is El Oued city, which is known as a thousand domes and a dome, and it was established after the administrative division of 1984, it is located in the southeast of the country. The region spreads over an area of 35,572 Km², and its population at the end of 2021 reached 716905 people, bordered to the north by Khenchla, to the northeast by Tebessa, to the northwest by Al-Mughayir, to the west by Touggourt, and to the southwest by Ouargla. It has a land border of 260 km of distance from the Republic of Tunisia.(DIRECTORATE GENERAL OF THE D.P.B BUDGET , 2021, p. 04)

Figure 1: Geographic location and administrative boundaries of El Oued



Source: Monograph of El Oued, 2021.

6.2. Agricultural production in El Oued :

Despite the difficult desert climate of the region, it was not an obstacle to the development and diversification of agricultural production, both plant and animal.

- Plant production :

Agricultural production in Oued Souf has experienced a remarkable development, due to policies based on agricultural development programs and agricultural reclamation, which helped the emergence of products that were not known in the region such as peanuts, grains, olives, and potatoes, and crops have known diversity, change, and increase of some of them in area and production, which is what the following table indicates:

Table1: Evolution of plant productionUnit (area: Hectare, production: quintal)

	Agricultural season									
	2017/2018		2018/2019		2019/2020		2020/2021		2021/2022	
	area	production	area	production	area	Production	area	production	area	production
Dates	14991	1271080	15129	1167382	15238	1185104	15374	1216669	15402	1223200
Cereals	11841	283276	9833	266618	7479	208493	8966	264064	8050	131405
fodder	1921	261500	2584	360289	1984	290660	1934	438040	2114	497130
Industrial crops	5050	140910	5285	148770	5210	149125	5474	161810	5504	164358
peanuts	3240	97470	3405	104805	3380	104200	3946	124000	4003	127000
Field Crops	48173	15874922	49666	17124406	49090	17249967	48686	19257500	51893	17278600
Potato	36123	11335300	36948	12123300	36482	11959090	36199	12939100	40200	12050500
Tomato	3042	2103990	3298	2339010	3823	2627210	4365	3292230	3680	2550000

Source: Directorate of Agricultural Interests, El Oued 2023.

Through the data of the previous table, which indicates the development of plant production, we note that the region of El Oued, despite its fame for the production of dates, which witnessed a continuous increase in its production and area from year to year, the volume of production has doubled from 1271080 quintals in 2018 to 1223200 quintals in 2022.

But in recent years, it has known the production of several field crops which made it among the most important agricultural poles at the national level, and it topped the first ranks in potato production, which experienced a development in the area and volume of production. The largest cultivated area at the wilaya level in 2019 was estimated at 37000 Hectares with a production value estimated at 12,140,000 quintals, in addition to many other field crops, such as peanuts cereals, and tomatoes. This requires the need to move quickly in order to invest in the field of conversion, packaging, and export.

- Animal Production:

Livestock is an integral and complementary part of agriculture in desert areas and has always been associated with water resources like other sectors.(NAJAH, 1970, p. 80)

Where livestock in Oued Souf has known in recent years a continuous increase as a result of the policy pursued by the state in this area, by allocating large financial provisions to farmers to increase their livestock and products, which is shown in the following table:

Table 02: Animal census in the region of El Oued

Species	3549sheep	Cows	Goats	Camels
2017	530800	22228	421900	4101
2018	604500	24367	389700	44110
2019	608530	20533	375900	53720
2020	623300	20522	357380	53825
2021	638550	22891	338400	54000
2022	641400	19400	200200	54000

Source: Directorate of Agricultural Interests, El Oued 2023.

Through the table above, we note that animal production in the region has experienced a continuous increase in recent years, especially in sheep breeding, cows, and camels with some fluctuation in goat breeding, which reached its largest number in 2017 with a total number of 421,900 head.

The reason for this increase is due to policies adopted by the state in this field by allocating large financial provisions to support farmers, in addition to encouraging farmers to invest in this field.

6.3. The most important agricultural reclamation programs that benefited the wilaya of El Oued:

The process of agricultural reclamation has known several programs, laws and decrees came to frame it in accordance with the legislation in force, and the region of El Oued like the desert areas; has benefited from the following programs:

- Acquisition of real property by reclamation within the framework of Law 18/83 APFA:

Law N°18/83 of 13/08/1983 on the acquisition of property aims to encourage Algerian citizens to reclaim as much agricultural land as they can in the desert areas. On the other hand, the state recognizes the right to acquire real estate ownership for every citizen who has carried out the reclamation process, according to the legal frameworks in force.(Directorate of Agricultural Services of El Oued , 2018, p. 05)

Since the implementation of this law, 115612 Hectares have been distributed to 22684 beneficiaries(Directorate of Agricultural Services of El Oued , 2018, p. 05). concentrated in terms of number of beneficiaries and area in the communes of: Hassi Khelifa, Reguiba, and Rammas.

- Agricultural Concession

The agricultural concession is defined by Executive Decree N° 97/483 of 15 Shaaban 1418 AH, corresponding to December 15th, 1997. This decree determines how to grant a concession to a piece of land from the state property designated for reclamation.

Since the issuance of this law, great results have been achieved, as the reclamation process included the lands of all the Oued Souf's communes with a total area of 142971 Hectares for the benefit of 913 beneficiaries (Directorate of Agricultural Services of El Oued, 2018, p. 05). distributed according to the following communes: Debila, Muqrin, Reguiba, Hamraya, and Ben Kesha. In terms of area, the largest areas of agricultural concession were concentrated in the following communes: Hassi Khelifa, Reguiba, Rammas, and Ben Kesha.

El Oued has also benefited from other programs within the framework of Joint Ministerial Circular N° 108 of 23/02/2011, which includes the establishment of new agricultural surroundings, which are shown in the following table:

Table 03: agricultural surroundings established the framework: EXGCA, Grand travaux and 2011/108

Program	Number of agricultural surroundings	Total area	Distributed area	Number of beneficiaries	Number of contracts	Exploited area	Number of beneficiaries
Agricultural Concession	33	8702	6880	1650	387	2187	752
Major works program	08	340	340	170	00	267	128
Joint Ministerial Circular N° 108 of 23/02/2011	117	1339 29	43518	2343	1088	542	33
Total	158	1429 71	50738	4163	1475	2996	913

Source: Report 2018, p 06.

7. Field Study:

Based on theoretical side of the study, through which we dealt with the definition of the region and the reality of its agricultural production, the most important agricultural reclamation programs, and their distribution to farmers, we will address in this field part, which was conducted in Oued Souf region to find out the impact of agricultural reclamation programs that benefited the farmers of the wilaya on the agricultural dynamism witnessed by the region, and we have relied on a set of variables represented in age, educational level, the practice of another activity, the origin of the beneficiaries of the agricultural reclamation program, whether from inside the country or from outside the wilaya, and the results were as follows:

7.1. Age:

Through the field study and the table 04, it was found that 59 farmers from the study sample, 27 of them aged between (14-31) years, and 22 farmers aged between (42-52) years, which indicates that the dominant group within the youth category has an interest and orientation in the reclamation of agricultural land , despite the difficulty of the region and 83.72% of them benefited from the agricultural reclamation program, aged between (31-52) years, while 16.27% have benefited from the agricultural excellence program, and they aged between (31-52) years.

Table 04: Distribution of the study sample by age

		Age of the investor's owner				Total
		20-30	31-41	42-52	More than 52	
The legal status of the investor	Agricultural reclamation (APFA)	05	18	18	02	43
	Agricultural Concession (CON)	0	09	04	01	14
Total		27	22	22	03	57

Source: The study field.

We conclude from the study that the age-group of farmers benefiting from agricultural reclamation programs in the study sample is dominated by the youth group because they see agriculture as a successful economic investment and a means to improve their conditions.

7.2. Education Level:

Table 05: Distribution of study sample by education level

		Education level of the investor's owner					Total
		Illiterate	Quranic school	Primary/Middle level	Secondary	University	
The legal status of the	Agricultural reclamation (APFA)	01	03	28	05	06	43

investor	Agricultural Concession (CON)	01	0	05	03	05	14
Total		02	03	33	08	11	57

Source: The study field.

Through table (05), we note that 57.89% of the farmers benefiting the agricultural reclamation programs from the study sample have a primary and middle level of education, which is the dominant category, as it was found that since their interruption from the school, they went to the agricultural sector, so they have experience in this field.

We find that 19.29% of the beneficiaries have a university level, which is a significant percentage that indicates the awareness of university youth of the importance of benefiting from these programs.

While 14.03% of farmers have a secondary level, which allows them to manage the investor well.

7.3. Agricultural activity:

- Area of agricultural investors¹:

Table 06: Distribution of Agricultural investors by Agriculture

		The total area of agricultural investors			Total
		Small investors	Medium investors	Large investors	
Legal status of the investor	Agricultural reclamation (APFA)	07	21	15	43
	Agricultural Concession (CON)	0	06	08	14
Total		07	27	23	57

Source: the study field

Through table (06), we note that the area of most of agricultural investors is medium area by 47.36%, and this percentage is distributed between agricultural reclamation and agricultural concession by 77.78% and 22.22% respectively. While the agricultural investors with large areas

¹- Note : The division of agricultural investors from the point of view of farmers in Oued Souf
 Large investors of 20 hectares and above
 Medium investors from 05 to 20 hectares
 Small investors from 01 to 05 hectares

represent 40% of the total number of study sample, and this percentage is distributed on agricultural reclamation by 65.21% and by 34.78% on agricultural excellence. While agricultural investors with small area represent only 12.48%, most of which is within the framework of agricultural concession.

7.4.Sources of Funding:

Table 07: Sources of financing for agricultural investors

		Sources of funding			Total
		Private fund	Loan	Private fund/Loan	
The legal status of the investor	Agricultural reclamation (APFA)	38	03	02	43
	Agricultural Concession (CON)	14	00	00	14
Total		52	03	02	57

Source: Study field.

Table (07) shows that 91.22% of agricultural investors relied on their own money in agricultural investments, while 5.26% relied on loans, which is a very weak percentage indicating the religious scruples of the farmers, in addition to the lack of need to borrow as a result of the availability of the financial resource obtained from many sources which are: the change of agricultural activity by 54.38%, from the agricultural return 26.31%, and 14.03% of inheritance, or obtaining it with the help of the family by 5.26%, which is indicated in table (08) below:

Table 08: The way of getting money

		The way of getting money				Total
		Inheritance	Parents	Changing activity	Agriculture	
The legal status of the investor	Agricultural reclamation (APFA)	06	03	23	11	43
	Agricultural Concession (CON)	02	00	08	04	14
Total		08	03	31	15	57

Source: The study field.

7.5. Experience in the agricultural field:

Table 09: Experience in practicing the agricultural activity

		Practicing agricultural activity			Total
		01-10 years	11-20 years	More than 21 years	
The legal status of the investor	Agricultural reclamation (APFA)	10	26	07	43
	Agricultural Concession (CON)	03	9	02	14
Total		13	35	09	57

Source: The study field.

Through table (09), it was found that 61.40% of the farmers benefiting from agricultural reclamation programs from the study sample have an experience ranging between 11 to 20 years in the agricultural field, which is the largest category, then 22.80% have an experience ranging between 1 to 10 years in agricultural field. While the category who have an experience greater than 20 years represents 12.18%.

By analyzing the nature of agricultural reclamation programs, it was found through this study, that the largest percentage of farmers has benefited in APFA Program Framework by 75.43%.60.46% have experience in the agricultural field up to 20 years, and the high percentage is due to the obsolescence of this program, which is due to Law 13/18 on the acquisition of real estate (as mentioned earlier). While 24.56% benefited from the agricultural concession program, dates back to Executive Decree N° 97/483, which determines how to grant the concession to a piece of state property allocated for reclamation.

7.6. The nature of agricultural products:

- plant production:

Table 10: The nature of plant production

		Nature of plant production					Total
		Fruit trees	Dates	Field crops	Cereal	feed	
The legal status of the investor	Agricultural reclamation (APFA)	02	10	26	03	01	42

	Agricultural Concession (CON)	00	05	08	01	00	14
Total		2	15	34	08	11	56

Source: The study field.

Through our analysis of table (10), we note that field crops represent 60.71% of the total agricultural products, for the ease of field agriculture, its large production, low cost, and quick, in addition to high consumption and the lack of Obstacles to entry and exit for this type of agriculture.

Then, the production of dates by 26.78% which is a significant percentage due to the characteristics of the agricultural system that characterizes the Oued souf region based on palm cultivation.

The farmer has remained to this day interested in its cultivation with the help of the state in supporting this type of agriculture.

While the production of cereals, fruit trees, and fodder was at rate of 5.35%, 3.57%, and 1.78% respectively, which are small percentages due to that cereals and fruit trees cultivation is one of the new crops cultivation in the region, because farmers do not adopt it as a basic crop, and wheat cultivation is carried out only within the framework of agricultural cycle in order to renew the soil after several field crops such as potatoes.

-Animal production:

Table 11: The nature of animal production

		Nature of animal production		Total
		Sheep	Goats	
The legal status of the investor	Agricultural reclamation (APFA)	02	00	02
	Agricultural Concession (CON)	00	00	00
Total		02	00	02

Source: The study field.

Through our analysis of Table(11), it was found that only 3.57% of the farmers benefiting from the agricultural reclamation programs from the study sample, and the beneficiaries within the framework of the agricultural reclamation program (APFA) are raising sheep, which is a very

weak percentage, due to most of the farmers do not reside in the places of agricultural investors, in addition to their profession for other activities outside the framework of agriculture.

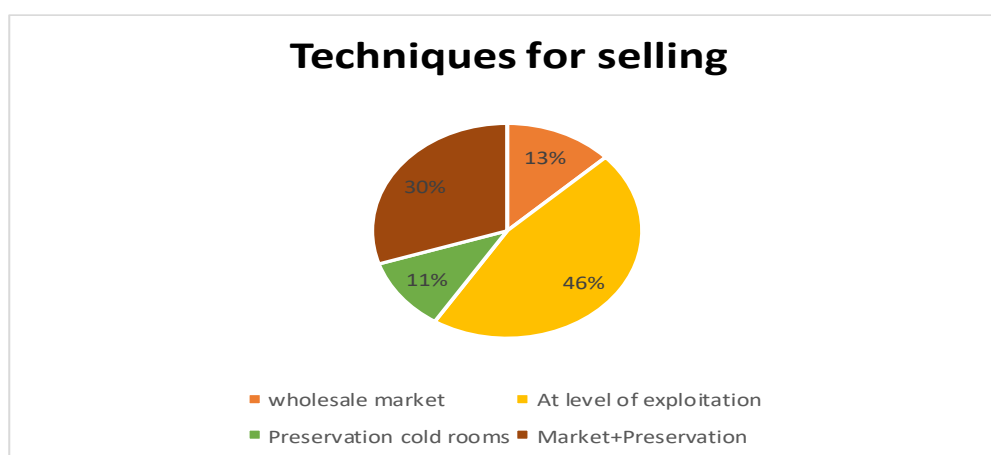
7.7. Marketing of agricultural products

Through the analysis of figure (02), it was found that the largest percentage of agricultural products are sold at the level of agricultural investors by 46%, and this is because most farmers have permanent customers dealing with them, and this method is less expensive than moving to the wholesale market.

43% of products are marketed in the wholesale market of Oued Souf, due to its availability on a number of wholesale markets, including: AL-Rabbah, Hassi Khelifa, and Taghzout market, and its proximity to agricultural investors.

While 6.11% of agricultural products are stored in cold rooms, and these percentages reflect the importance of Oued Souf in supplying the local and national market with various agricultural products, ranking first nationally in terms of agricultural products, especially potato production.

Figure 2. Techniques for selling



Source: The study field.

8. Conclusions and Recommendations

8.1. Results

The various agricultural reclamation programs that benefited the region of Oued Souf had a great positive impact on improving the performance of the agricultural sector, and this was embodied through the increase in the area of agricultural land exploited, which in return was reflected in the increase of plant and animal production.

Through our theoretical and field study we have reached the following results:

-The Wilaya of El Oued, like desert regions, benefited from agricultural reclamation programs, represented in the program of acquisition of real estate through reclamation within the framework of La 18/83 APFA, where 15,612 hectares were distributed for the benefit of 22,684

beneficiaries and the agricultural concession program, within which 142,971 hectares were distributed to 913 beneficiaries.

-The agricultural reclamation programs that benefited Oued Souf were reflected in the increase in the volume of plant production, as the region experienced an expansion in cultivated areas, and a significant intensification of some field crops, most notably the great boom in potato production. This made the wilaya hit the national lead in this crop, in addition to new crops in the region such as cereals and fruit trees, and maintaining the old agricultural system that characterizes the region which is based on palm cultivation, and most important of its varieties: Deglet Nour and Al-Ghars, which rank first in terms of quality.

-Agricultural reclamation programs were reflected in increasing the volume of animal production in the region, where El Oued is the main engine of the livestock market in the southeast, especially shpeep and goasts compared to the rest of the livestock, in addition to camel breeding.

-Agricultural reclamation programs have contributed to covering the needs of national markets of various agricultural products. This is what made it an open agricultural market that attracts traders from many regions inside and outside the wilaya, depending on the strength and quality of production.

The development of the agricultural sector in El Oued and its current indicators prove the success of the process of agricultural land reclamation in the region, and predict further progress and development in the agricultural sector, and the transition from agricultural production to industrial food production.

8.2. Recommendations

-The need for technical and administrative support for farmers who have benefited from agricultural reclamation programs, and the formation of official committees to follow up on the reclaimed investor.

-Expanding the area of agricultural reclamation granted to farmers in order to benefit from the vast desert areas, especially the success of Agricultural dynamism in it.

-Providing the necessary facilities to benefit from the reclamation surroundings, especially university graduates, and encouraging them to invest in the agricultural field in order to alleviate unemployment.

-Paying attention to the agricultural extension side, by directing them to apply the modern techniques in agriculture.

-Re-interest in the palm cultivation activity, and improve its exploitation as a great wealth abounding in desert areas, and a source of hard currency through export.

-Providing storage rooms for farmers in order to facilitate the production and marketing process of agricultural products.

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