

AGRICULTURE SAHARAN (ALGERIA): IMPORTANCE, CHARACTERISTICS AND ELEMENTS FOR A BETTER MANAGEMENT

**SALAH ZENKHRI¹, LAKHDAR KOURI², MOKHTAR KARABI³,
ABDELLAH KEMASSI⁴ & MOHAMED DIDI OULD EL HADJ⁵**

^{1,2}Biodiversity and Conservation of Water and Soil laboratory, Abdelhamid Ibn Badis University,
Belhacéne, Mostaganem Algeria

³Bio- Geochemistry Environments desert Laboratory, Kasdi Merbah University, Ouargla, Algeria

^{4,5}Ecosystem Protection in Arid and Semi- Arid laboratory, Kasdi Merbah University, Ouargla, Algeria

ABSTRACT

In Algeria, the Saharan agriculture has experienced a wide and deep transformation through the different agricultural policies of the State. The balance sheet of the current management of agricultural resources exploitable, reported their poor condition. The potential agro-pedological and socio-economic, show that these resources have a great potential for the revival of the old oasis and the creation of large agricultural poles up, ensure the self-sufficiency at the regional scale. The present study identifies the potential, strengths and constraints of agriculture of the Saharan regions, it highlights the contradictions between the reality of field and the many reversals in the choice of strategies for the development of public policies assigned to the agriculture sector Saharan agriculture.

KEYWORDS: Agriculture, Sustainable Development, System of Production, Sahara, Algeria

INTRODUCTION

Since independence (1962), the agricultural policies that have been implemented in Algeria, were characterized by the absence of continuity. The decade 1960 has been marked by the experience of self-management and a policy of partial conversion of the productive apparatus. The decade of the 1970s was that of an institutional intervention heavy of the State in the management of the sector and of the agrarian reform. The decade 1980 has made of breaks and has tried to ensure a transition to a market economy. The encouragement of private agriculture, the liberalization of the system, the withdrawal of the State in the context of the adjustment program adopted at the beginning of the 1990s, however, have not been able to improve the performance of the sector. The reforms that Algeria has undertaken sense each time be the best, have not allowed us to arrive at the desired results. The Algeria spent \$9.6 billion on food imports. Its agriculture represents 12% of GDP; it occupies only 25% of the active population. These three indications to they alone are sufficient to measure the efforts to be undertaken (MADR, 2013).

The northern areas of the country, faced with the weakness and a poor distribution of rainfall, are constantly under the threat of drought, which constitutes a permanent risk. Of this fact, any program of intensification of production will have to appeal to a mandatory supplementary irrigation for which the mobilization and use of the water resource is insufficient, very often irregular and reassigned in priority to the supply of drinking water and industrial (Zenkri S. , 2002).

The Saharan regions can contribute substantially to the extension of the UAA by the irrigation of large areas. Major opportunities in water and in soil exist. Their rational exploitation will contribute significantly to the increase of agricultural production (Dubost D., 1991).

The economy of the Saharan regions based primarily on agriculture. Which is the main source of income, for a rural population largely dominant (72% against 50.3 per cent at the national level) .concentrated in the Ksours and at the level of the oasis (Side M., 1996).

Equip the Saharan regions of methodologies and reliable tools to aid in the planning, will ensure the creation of a large number of jobs, and will help to meet the conditions favorable for the fixing of the populations, causing an occupation more rational from the territory, especially as regards the lands and inland border.

In a first part, the study will focus on highlighting the strengths and comparative advantage of regions Saharan regions. The second part will focus on putting the emphasis on the woes of the reforms, and reversals in the choice of development strategies as well as on the contradictions and difficulties encountered in the process of intervention. The constraints encountered, as well as the prospects for development will serve as a basic criteria for the subject of the third part.

BRIEF OVERVIEW ON THE SAHARAN REGIONS ALGERIAN

The Saharan regions whose surface area is equivalent to five times that of the northern regions of Algeria extend for nearly 2 million square kilometers, are characterized by a climate contrast with a hot and dry season and significant differences of temperatures as well as by the frequency and intensity of the winds. The rainfall is very low, which makes it impossible any practice of agriculture without irrigation (P.D. G. D. R. S., 2000).

The Saharan space includes 174 commons, form 9 wilayat (*table 1*). Located at the south of the Saharan atlas to the southern borders with a bead border of more than 5,000 km and 14 Natural Regions separate Saharan, related to 4 sets morphological namely, down Sahara, the dorsal mozabite the basin of the Saoura - Western Sahara and the central Sahara characterize the Algerian Sahara (*figure 1*).

In the Sahara, the areas the more favorable to agriculture are located in the valleys of fossil wadis, in depressions and the sandy plains. Two million hectares, have abilities of development. The water resources represent one of the major wealth on which rests any action for economic and social development and the Saharan regions in harbor significant potential. They differ primarily in the estimated reserves to nearly 60,000 billion m³. Currently, the overall volume used by agriculture Saharan Africa from the slicks under underground, is estimated at 5.2 billion m³/year through 9676 drilling, 36963 wells and 879 foggaras. (A. N. R. H., 2007).

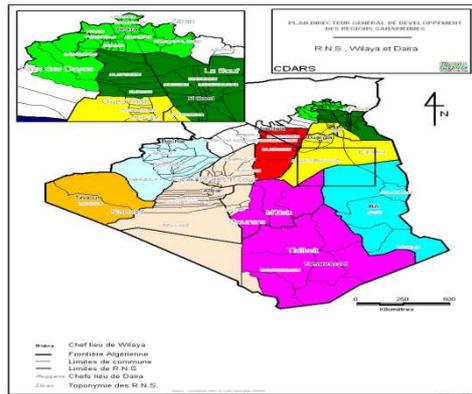


Figure 1: Location Map of the Natural Regions Saharan

Table 1: Correspondence between Natural Regions Saharan, Administrative Units and Assemblies Morphological

Administrative Unit (Wilayat)	Natural Regions Saharan	Morphological Sets
Biskra El Oued Ouargla	Ziban The Souf Oued Righ Ouargla	The Sahara down
Ghardaia Biskra (part) ((Part) Laghouat (part)	M'Zab The country of the Days	The dorsal mozabite
Bechar Tindouf Adrar	Saoura Tindouf Piedmont the Ksours Gourara Touat	The basin of the Saoura - Western Sahara
South of Adrar Tamanrasset Illizi	Hoggar The Tassili Ajers Tidikelt	The central Sahara

Importance of Agriculture in the Saharan Regions

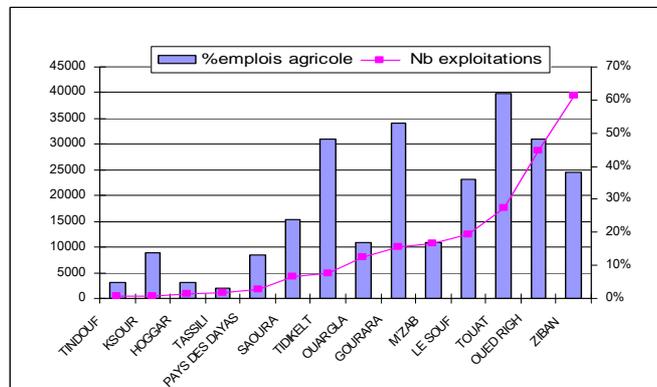


Figure 2: The Importance of Agriculture in the Regions

The agricultural activity (*figure 2*), is quite different according to the regions, with an insufficient distinction between regions to agricultural vocation which have a natural and human environment favorable, and the other who do not have these traditions nor these resources (P.D. G. D. R. S. , 2000).

Demographic Dynamics and Spatial Occupation of Saharan Areas

Paradoxically, to the immensity of the Saharan areas, facing a paltry occupation of population (*figure 3*), which currently represents only 10% of the national total (3.5 million inhabitants) and which will remain still, probably long since the projections to 2030 will be that of the order of 5 million.

It is currently observed high concentrations of populations, and even saturation in the plan developable land of good number of heads-places of wilaya and commons Saharan and the initial effects of competition concerning the resources are already perceptible (needs more accented in water consumption for households and other activities, considerable wastage heritage palm groves due to the advance of the urbanization (P.D. G. D. R. S. , 2000).

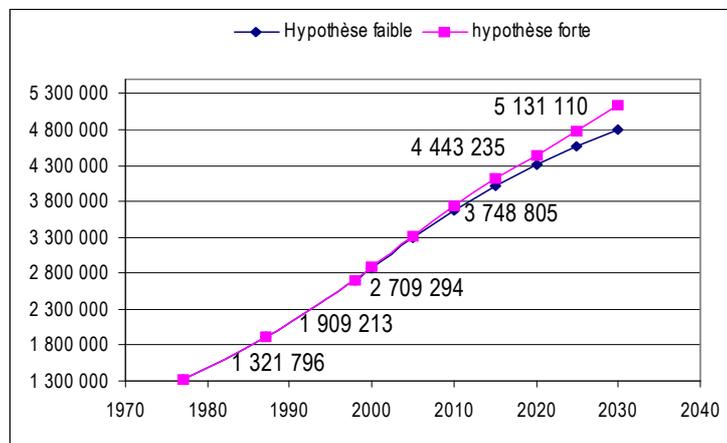


Figure 3: The Demographic Dynamics of the Saharan Regions

The Saharan regions as much as the rest of the country also have a potential considerable youth, since it represents more than 75% of the population and this trend will increase. This data is a major asset in the perspective of the development of these spaces, which must necessarily show a clear strategy, before open opportunities pleading a valorization of this human resource, has research, alternatives to reduce as much as possible the problem of unemployment that arises from increased manner, the public authorities have the appropriate solution through a presence more sustained agricultural development of Saharan regions.

The Constraints Encountered, and the Prospects for Development

The Algerian State, with capabilities in the beginning of this century which are far from having been gathered previously. He could in itself have answer to the enormous economic and social needs. Obligation is made to us, in the light of the aspirations of well being to which the populations aspire particularly those in rural areas of the Saharan regions to make the serenity one of the conditions in any approach to development and as requirement first the participation of these same populations which must be the precursors of any idea of development projects.

The profound socio-economic upheavals of observed by the world, and the inevitable changes engendered have well laid bare the shortcomings long concealed, of the agricultural sector in the Saharan regions. It is definitively considers

that development means not only the satisfaction of the primary needs of the population, but much more the design of participatory projects based on rules of rationality or the accession of the population remains the main axis, only guarantees of durability and stability (Bouammar B. , 2000).

We are allowed to assert today that a process must be initiated to support the concerns of the rural populations in the Saharan regions. In order to achieve a harmonious mesh in a framework of solidarity at local or even national projects advocating the spread of balanced development and the recovery of various spaces for development little or poorly known.

The agricultural activity in the Saharan regions which is the origin of the fixing of the populations has grown steadily in adequacy as well with the evolution of the latter and of its consumption needs of that with the pace of efforts. The contribution and the common work, of the community in these areas, as far as we can remember, has been the essential element that prevailed in all the steps taken for the development and improvement of living conditions of then and they still remain topical well that in various forms. There' a place to indicate that any development policy cannot find its strength that through the strategies put in place , themselves dependent on how many of the institutions responsible for their supervision and the efficiency of their operation. Also, the action programs future must register in line with the aspirations and major development axis related to these regions and it will materialize mainly by:

- Save and promote the potential of the OASES system traditional oasis faced with various constraints,
- The route leading to the improvement of the Oasis system traditional requires interventions to scale and fully supported, particularly as regards.
- The consolidation of the mobilization of the water to raise the flow rates per hectare of 0.7 to one l/s.
- The expansion of networks of electrification.
- The creation of networks of irrigation to ensure a rationality of use and a better
- Economic water particularly by the use of modern techniques.
- The opening of ways of penetration in the oasis.
- Plant protection and the fight against diseases (bayoud).
- Cleaning and mulching of the Palmeraie.

Support and encourage the installation of small and average exploitation, and gradually promote the development of agriculture of enterprise by the creation of large farms, whose main activity would be directed toward strategic productions,

The projections in areas for the new development will be located primarily in the potential areas recognized. These areas are currently isolated and relatively remote from urban centers. Their development will allow an occupation more balanced of the territory. Create the conditions for an integrated development to sustainable impact by a wise choice and thought of the actions to carry out particularly in the border areas, this system affects the rangelands and the border areas. Any objective of development in these areas must support the aspects politico-socio-economic as well as natural resources (water and soil) for each zone.

In addition, the agricultural production in Saharan zone should not in any way be perceived as the only element

that can contribute to economic and social development of the Saharan regions, but it must be integrated into the process of overall economic development (commerce, industry, services ...). The natural potential particularly the water resource control the definition of the objectives of production based on a reflection, which takes into consideration the following aspects:

- Population growth and these regions.
- The vast distances between the cities and communities in the south in relation to the main centers of supply to the north of the country.
- The exploitation of natural resources in a balanced manner allowing a sustainable development and the protection of the environment, taking into account the fragility of the ecosystem.
- The agricultural traditions and food of local populations.
- A contribution to the improvement of food security and to the reduction of imports of agricultural products.

It is well within this context and in view of the impossibility for our farmers to be able to them alone to overcome the many constraints given their complexity that the public authorities, must respond favorably to the grievances by implementing a set of beneficial actions, thought which seeks to engage the creation of employment at a time when the demand is strongly felt

CONCLUSIONS

The Algerian Sahara is an immense space, its regions are very different from each other, in all areas; the past trends and future must be addressed in particular to each of them. There have been important developments in the past few decades, and it should expect of others in the future. The dynamic that can be seen today have necessarily a impact in the future. The current constraints that affect the development of the Saharan regions Algerian, relate to the implementation of strategic projects of hydro-agricultural development. The Saharan regions must integrate gradually in the workings of a cross-border economy whose current level is far from reflect their true place, although with important assets for this. The growth of the develop of the Saharan agriculture cannot conceive and endure without a zone approach to develop which will allow the establishment of a strong agricultural and creative of wealth or the planning, implementation and monitoring of development program agricultural hydro must take a critical nature. We will give to recognize, that the agriculture of the Saharan regions must engage in operations or the rationality premium. This rationality which may not be that the combination of a set of parameters, often irreconcilable but carried out in a pragmatic manner because taking into account the natural and social conditions, specific to these regions. The develop of the Saharan agriculture must not be perceived as the only element that can contribute to economic and social development of these regions and cannot be considered as exclusive activity; but it must be integrated into the process of overall economic development (commerce, industry, services).

REFERENCES

1. N. R. H. , (2007) Note on the water resources in Algeria. National Agency of Water Resources, 189p.
2. BOUAMMAR B. , (2000) The changes in the economic environment since 1994 and their effects on the economic and financial profitability of neo-farms whom phonicicoles and cereal and on their become: case of the

region of Ouargla. Thesis of Magister, INA, Algiers, 124p.

3. Side M. , (1996) Country, landscapes, peasants of Algeria, C. N. R. S. , Paris, 267p
4. Dubost D., (1991) Ecology development of Algerian oasis, doctoral thesis of Geography, The University of Tours, 258p
5. M.A. D. R. , (2013) Ministry of Agriculture and Rural Development. Program to support economic recovery in the short and medium terms, Pp (01-07).
6. P.D. G. D. R. S. , (2000) study of the Plan Director General of development of the Regions. Global Synthesis, 29p.
7. Zenkri S., (1998) the professional organizations and the development of agriculture in the wilaya of Adrar (part of the south-western Algeria), Master of Science CIHEAM, IAMM, 132p.
8. Zenkri S. , (2002) The development of agriculture saharan Africa as an alternative to the exhaustible resources: international seminar, 102p.

