

Rural and agricultural development in Algeria: what policies for what results?

- Selt Mohammed Mostefa¹: university lecturerA, University of Djelfa, Algérie -

Received:11/02/2025

Accepted :13/05/2025

Published :30/06/2025

Abstract

Agricultural development in Algeria has always been a strategic issue for the country, both economically and socially. Since independence in 1962, Algeria has implemented various agricultural policies aimed at modernizing the sector, ensuring food security and reducing dependence on imports. However, the agricultural sector continues to face many challenges, such as drought, water resource management, land fragmentation and low productivity. Since the 2000s, the government has launched ambitious programs, such as the National Agricultural Development Plan (PNDA), aimed at modernizing infrastructure, encouraging private investment and promoting Saharan agriculture. These policies have led to progress, particularly in cereal production and crop diversification.

In short, agricultural development in Algeria remains a priority, requiring coordination between public and private actors, as well as adaptation to global environmental and economic issues.

Key words: agricultural development, agricultural policies, food security, dependency, cereal production, crop diversification.

Jel Codes Classification:P21, Q10, Q14, Q18

التنمية الريفية والزراعية في الجزائر: أية سياسات لتحقيق أية نتائج؟

– سالت محمد مصطفى²: أستاذ محاضر أ، جامعة الجلفة، الجزائر

تاريخ النشر: 2025/06/30

تاريخ القبول: 2025/05/13

تاريخ الإرسال: 2025/02/11

ملخص:

لقد كانت التنمية الزراعية في الجزائر ولا تزال قضية استراتيجية للبلاد، سواء من الناحية الاقتصادية أو الاجتماعية. فمنذ الاستقلال عام 1962، نفذت الجزائر سياسات زراعية مختلفة تهدف إلى تحديث القطاع وضمان الأمن الغذائي وتقليص الاعتماد على الواردات. ومع ذلك، لا يزال القطاع الزراعي يواجه العديد من التحديات، مثل الجفاف، وإدارة الموارد المائية، وتجزئة الأراضي، وانخفاض الإنتاجية. منذ العقد الأول من القرن الحادي والعشرين، أطلقت الحكومة برامج طموحة، مثل البرنامج الوطني للتنمية الزراعية، الذي يهدف إلى تحديث البنية التحتية، وتشجيع الاستثمار الخاص، وتعزيز الزراعة الصحرائية. وقد مكنت هذه السياسات من تحقيق نمو بيّن، وخاصة في مجال إنتاج الحبوب وتنويع المحاصيل. وتظل التنمية الزراعية في الجزائر أولوية ذات أهمية، تتطلب التنسيق بين القطاعين العام والخاص، فضلا عن التكيف مع التحديات البيئية والاقتصادية العالمية.

الكلمات المفتاحية: التنمية الزراعية، السياسات الزراعية، الأمن الغذائي، التبعة، إنتاج الحبوب، تنويع المحاصيل.

التصنيف : P21, Q10, Q14, Q18,

Introduction:

Algeria, a country with vast natural and climatic resources, has always considered agriculture as a strategic sector for its economic and social development. Since independence, agricultural policies have evolved, seeking to address the complex challenges related to food security, the modernization of rural infrastructure and economic diversification. This article attempts to examine the main stages of agricultural reforms, the key objectives of government programs and the impact of these policies on agricultural production, while taking into account environmental constraints and socio-economic dynamics specific to the country.

Such a study is of great importance, both academically and practically.

The main objective of such a study is to analyze the agricultural policies implemented in Algeria, assess their effectiveness and propose avenues for improvement to meet current and future challenges. More specifically, the study may aim to:

- Understand the evolution of agricultural policies since independence.
- Assess the impact of these policies on food security, economic growth and rural development.
- Identify the structural, environmental and socio-economic obstacles that hinder the development of the sector.
- Propose solutions to modernize Algerian agriculture and make it more sustainable and resilient to climate change.

The central problem of this study could be structured around the following questions:

- What are the agricultural policies implemented in Algeria, and how have they evolved over time?
- Why, despite the efforts made, does the Algerian agricultural sector remain vulnerable and dependent on imports?
- What are the major challenges (climatic, economic, structural) that hinder agricultural development in Algeria?
- How can current policies be improved to meet the challenges of food security, sustainability and rural development?

I- Agriculture as a lever for economic and social development

I-1- Economic importance of agriculture:

a) Contribution to GDP

- Agriculture contributes directly to a country's Gross Domestic Product (GDP). In Algeria, although the oil sector dominates the economy, agriculture remains an important pillar³, particularly for diversifying sources of income and reducing dependence on hydrocarbons.

b) Job Creation

- The agricultural sector is one of the main providers of jobs⁴, particularly in rural areas. In Algeria, a significant portion of the working population works in agriculture, making it an essential lever for reducing unemployment and fighting poverty.

c) Reducing Imports

- By developing a productive and diversified agriculture, a country can reduce its dependence on food imports⁵. For Algeria, which imports a large part of its needs in cereals, milk and other basic foodstuffs, strengthening local agriculture is crucial to improving the trade balance.

d) Stimulation of other sectors

- Agriculture has spillover effects on other economic sectors, such as the agri-food industry, transport, logistics and services. It thus stimulates overall economic growth.

I-2: Social importance of agriculture

a) Food security

- Agriculture is the basis of food security⁶. Sufficient and diversified agricultural production ensures access to stable and affordable food for the population. In Algeria, where the challenges of drought and water resource management are significant, strengthening agriculture is essential to ensure food security.

b) Poverty reduction

- Agriculture is a powerful tool for reducing poverty, particularly in rural areas. By increasing farmers' incomes and creating economic opportunities, it helps improve the living conditions of the most vulnerable populations.

c) Rural development

- Agriculture is at the heart of rural development. It helps to boost rural areas by creating infrastructure, improving access to basic services (education, health) and reducing inequalities between urban and rural areas.

d) Preservation of traditions and culture

- Agriculture is often linked to cultural and traditional practices. By promoting it, we preserve cultural heritage and strengthen local identity.

I-3: Environmental and sustainable importance

a) Natural resource management

- Well-managed agriculture can contribute to the preservation of natural resources, such as soil, water and biodiversity. In Algeria, where environmental challenges (desertification, drought) are significant, sustainable agriculture is essential to preserve these resources.⁷

b) Fight against climate change

- Agriculture can play a key role in the fight against climate change by adopting environmentally friendly practices (agroecology, rational water management, reforestation).

c) Resilience to crises

- A robust and diversified agricultural sector makes a country more resilient to economic, health or climate crises. For example, during the COVID-19 pandemic, countries with strong agriculture have been more resilient to supply chain disruptions.

I-4: Strategic and political importance

a) National autonomy

- Efficient agriculture strengthens national autonomy by reducing dependence on other countries for food supplies. This is particularly important for Algeria, which is seeking to reduce its dependence on imports.

b) Social stability

- By ensuring stable incomes for rural populations and guaranteeing food security, agriculture contributes to the social and political stability of a country.

c) Regional integration

- Agricultural development can promote regional integration through trade and technical cooperation between neighboring countries.

Agriculture is much more than just an economic sector: it is a pillar of sustainable development, a tool to combat poverty and a factor of social and political stability. For Algeria, investing in modern, sustainable and resilient agriculture is a strategic priority to ensure its long-term economic and social development.

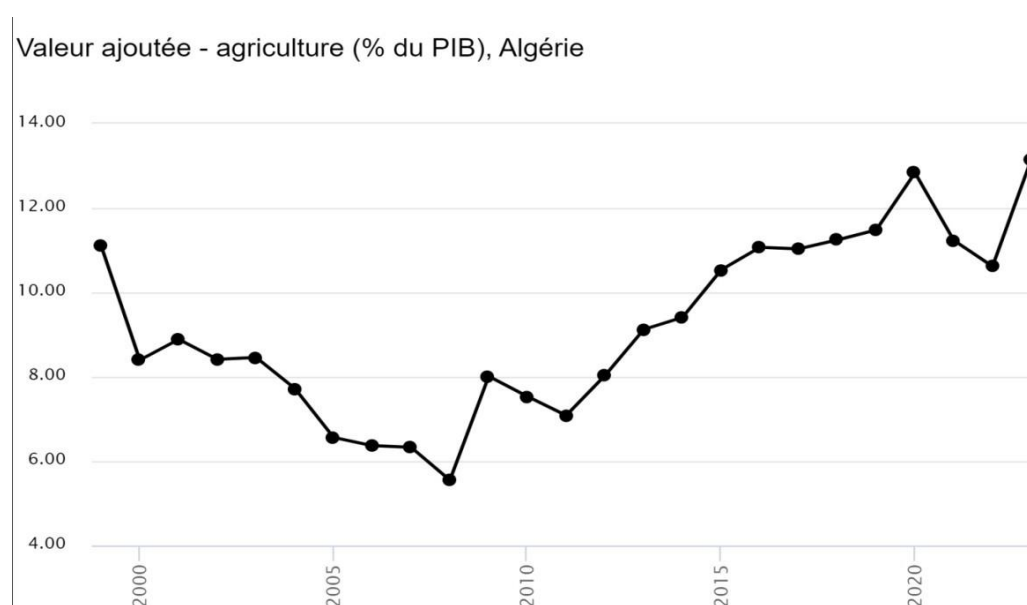
II- Advantages of Algerian agriculture:

Agriculture in Algeria plays an important role in the country's economy, although it faces structural challenges. Historically, Algeria has been a country where agriculture occupied a prominent place, but with the advent of the oil industry, the agricultural sector has lost its relative importance. Nevertheless, the government has relaunched programs to encourage its development.

II-1 Contribution to GDP:

According to the FAO⁸, the agricultural sector represents approximately 12 to 14% of Algerian GDP. This share has fluctuated in recent years depending on climatic conditions, particularly drought, which affects agricultural yields in certain regions. Agricultural GDP is dominated by the production of cereals, fruits, vegetables, and livestock.

Figure 1: Valeur Ajoutée- Agriculture en Algérie.

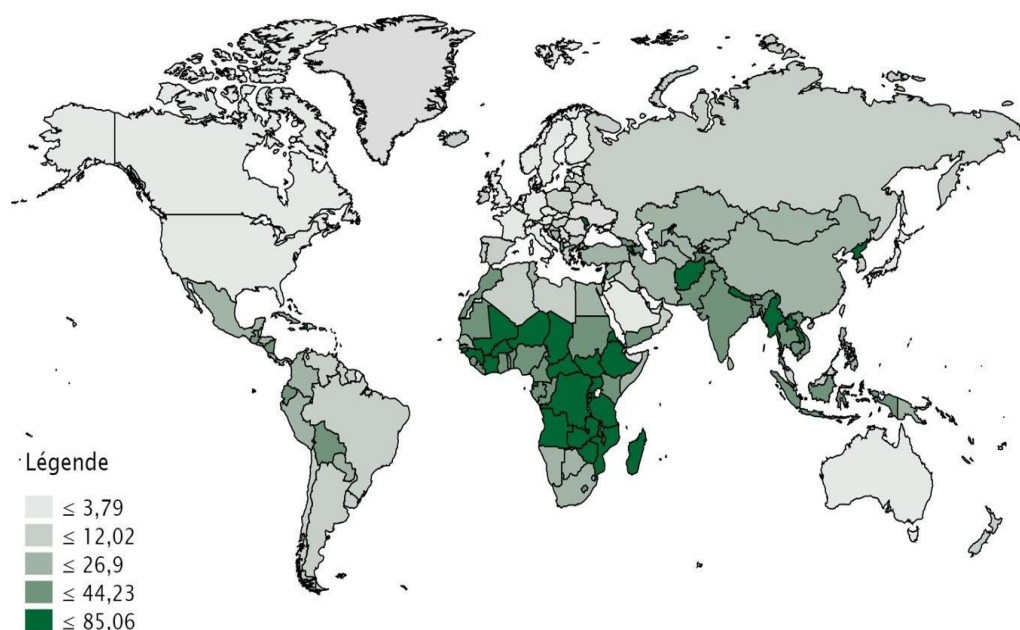


Source : FAO, 2022

II-2: Job

Agriculture is a major source of employment in Algeria. It is estimated that around 10–12% of the working population works in this sector. Employment in agriculture is concentrated mainly in rural areas, where farming is often the main activity. However, this employment rate is relatively declining, due to increasing urbanization and internal migration to cities in search of industrial or service sector jobs.⁹

Figure 2 : Emploi dans le secteur de l'agriculture (% de l'emploi total) en 2022



Source : La banque mondiale, 2023

II-3: Main productions

- Cereals: Cereal production, mainly wheat and barley, is essential but remains insufficient to meet national demand, forcing the country to import regularly.
- Fruits and vegetables: Fruit crops (especially citrus fruits, dates) and market gardening are also important, especially in the northern areas and in some Saharan regions where irrigation is used.
- Livestock: Cattle, sheep and goat farming play a crucial role in food security, particularly for the production of meat and dairy products.

Challenges

According to MADR¹⁰, Algerian agriculture faces several structural challenges:

- Climate: The sector is highly dependent on climatic conditions, with recurring droughts affecting yields.
- Under-exploitation of land: Despite a large potential agricultural area, a large part of the land remains under-exploited or poorly developed due to a lack of infrastructure, irrigation and modern equipment.
- Productivity issues: Agricultural productivity is relatively low compared to international standards, due to a lack of access to modern technologies, a low level of mechanization and limited access to quality inputs.

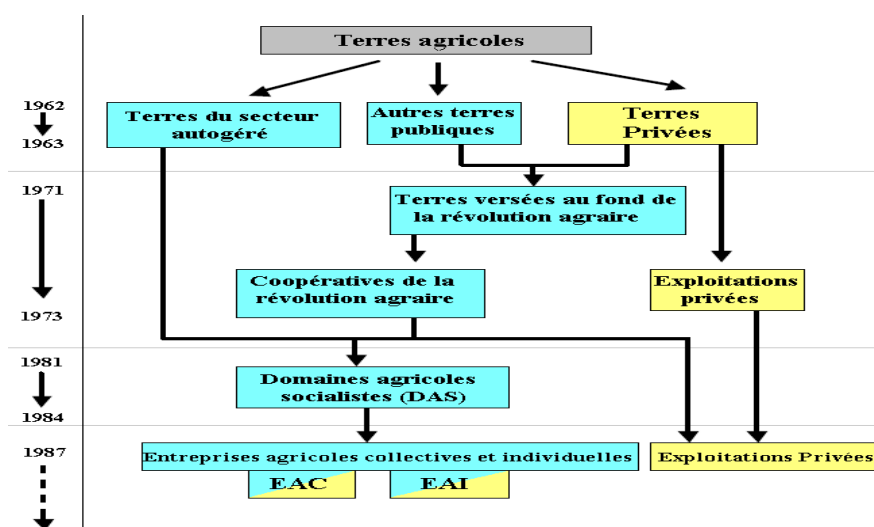
- Water management: Water management, particularly in arid and semi-arid areas, is a critical issue. The country has developed several dams and irrigation systems, but water resources remain insufficient for extensive agriculture.

III- historical framework of agricultural policies in Algeria

Despite successive reforms, the creation of self-management structures and investments in capital, agricultural equipment and awareness campaigns, the agricultural sector continued to deteriorate. This stagnation revealed the economic and social failure of self-management, leaving agriculture in a dead end. This first attempt to reorganize the relationship between land, means of production and producers failed, but would be relaunched and revitalized within the framework of the agrarian revolution.¹¹

The overall objectives of the agrarian revolution have not been fully achieved, as the phases planned for its implementation have not been completed. This is due to the inability of state institutions to boost agricultural holdings. This situation has had a negative impact on the revolution, resulting in low production, poor productivity and significant beneficiary withdrawal.¹²

Figure 3: Evolution of agrarian structures in Algeria since 1962-1987



Source: according to some summaries.

III-1: Algerian agriculture during the period 1980-1987

This period was marked by the restructuring of agricultural enterprises in 1982, followed by a law on access to land ownership in 1983 and another reform in 1987.

The 1982 restructuring had several objectives:

- To clean up and empower self-managed farms and former mujahideen cooperatives.
- To regroup these farms.
- To develop the agricultural resources of the public sector.

- To develop the rural environment of the socialist sector.

The second five-year plan (1985-1989) focused on the development of agriculture and water, with a strategy focused on food security. In 1986, the country's declining financial resources and the high level of external debt led to a policy of rationing of imports. Agricultural results during this period were disappointing, with a persistent deficit in the exploitation of agricultural estates.

- A deficit of 2 billion DA in 1980-1981.
- A deficit of 1.3 billion DA in 1983-1984.¹³

Cereal production in 1984 reached only 18 million quintals, against 30 million planned, with an average yield of 7 quintals per hectare. Cereal imports represented 49% of national needs.

- In 1983, production of pulses reached 520,000 quintals, while the target for 1984 was three times higher.
- Although market garden production increased, it remained below expectations.
- Only meat production (red and white) met the 1984 targets, and by the end of 1989, food dependency had been reduced to 30%, although the inputs required for this local production had increased considerably.¹⁴

III-2: Algerian agriculture from 1987 to 1999

The transformations of the agricultural sector during this period, marked by the reorganization of public production support structures, have led to a reduction in the role of public authorities in terms of direct investments. Agriculture, like other sectors, is now subject to the financing mechanisms of the market economy, linking savings and investment. Nevertheless, the public authorities continue to provide support to agriculture through various funds and interest rate subsidies.

In 1987, 3,264 DAS employed approximately 138,000 permanent workers and 200,000 seasonal workers. Law 87-19 (08/12/1987) promulgated the dismantling of the DAS, which marked the dissolution of the public agricultural sector transformed into the private domain of the State. This resulted in the creation of 22,356 collective status farms (EAC) covering an area of 2.2 million hectares and 5,677 individual status farms (EAI) covering 56,000 hectares¹⁵. Approximately 160,000 operators became perpetual concessionaires of 2.3 million ha of UAA attached to the private domain of the State. The status of concessionaire operators, neither farmers nor owners, is not clearly defined.

Since the end of the 1980s, the regulation of the ecosystem of input and product prices has been ensured by the market.¹⁶

The fragmentation of agricultural lands under the private domain of the State poses a major problem for the planning of agricultural activities, for the programming of investments, and for the sustainability of farms because of the diversification of internal strategies.¹⁷

The land orientation law 93-25 of 18/11/1990 allows large properties to recover in 1990 the land confiscated during the agrarian reform of 1971.

III-3: A new paradigm for agricultural policies in the 2000s

A new agricultural and rural policy, in different forms (PNDA, PNDAR, PRAR), is being implemented. It aims to strengthen food security, develop strategic sectors (such as cereals, potatoes, milk), enhance land, and revitalize rural areas.

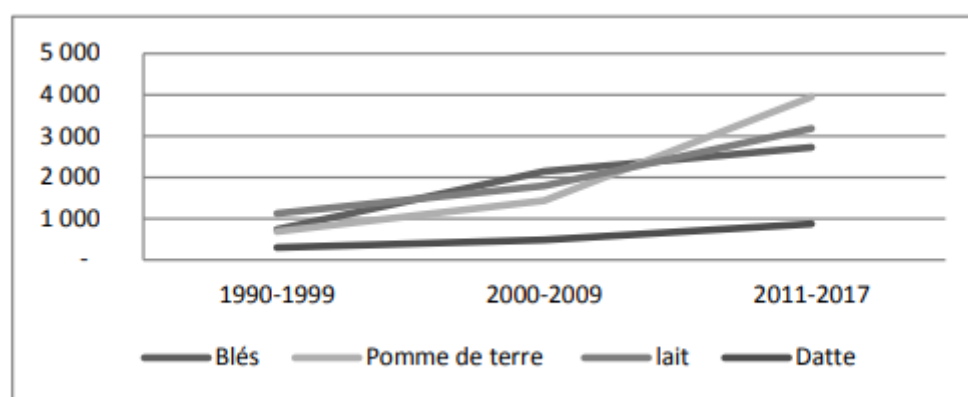
From the 2000s, there was a resurgence of investment, integration in favor of agri-food, while food coverage remained financed by hydrocarbon exports. Hydrocarbon export revenues quadrupled between 1994 and 2339. The shift towards urbanization that took place during the 1993s was reinforced by the rural exodus during the dark decade of terrorism.¹⁸

The agricultural and rural policy integrates both commercial mechanisms and multiple financing funds within the framework of the National Plan for Agricultural and Rural Development (PNDAR), launched on September 1, 2000, which aimed to improve the country's food security.¹⁹

The overall and sectoral context of implementation of the agricultural and rural policy (2000-2018) was marked by two distinct periods. The first, rather favorable thanks to the restoration of macroeconomic balances and the gradual return of security in rural and urban areas. The rise in international hydrocarbon prices will favor the revival of public development plans in the various socio-economic areas.²⁰ From 2015, the collapse of oil revenues will lead to the gradual decline of the various public and private investment programs. These programs are carried out at a "minimal" level using the surplus accumulated during previous periods.

In terms of horizon, the plans and programs were part of a "sliding program" based on the availability of public resources and consumption rates. The last period (2015-2019) saw the freezing of a large part of the programs and the definitive end of the rural renewal policy in 2017 (without formal announcement). The consumption of the various funds allocated to development (2000-2020) reached more than 917 billion dinars out of a total allocation of 1,067 billion, or 85.9%. In this context, 46% of the support consumed was devoted to investment in farms and businesses, 31% to regulation; 16% to rural development, the fight against desertification and small farms and livestock.

Figure 4: Production of the main agricultural sectors (1990-



2017)

Source: MADR 2018

Regarding the funds granted, the incentives differ according to two major periods. The first (2000-2008) concerns the establishment of the formula "credits linked to support" accompanied by the decentralization of the granting (CNMA-DSA Funds) and levels of support successively adjusted downwards; in 2333 by the amendment of the nomenclature of the actions supported and their capping and the integration of the BADR in the linked credits system, in 2006 by the reduction of the levels of support to 33%; in 2338 by the introduction of incentive prices for collection. From 2009, the second period of "decoupling of credit and support" is followed by new types of bank financing (RFIG, ETTAHADI, RFIG FEDERATIF, and ETTAHADI FEDERATIF); interest-free credits; credit guarantee funds; of the System for the Regulation and Storage of Large-Scale Agricultural Products (SYRPALAC).²¹

Concerning technological development and innovations remained modest despite the attempt to revive the classic extension system of "linear diffusion"²² among farmers. The technical and research and development institutes mobilized at the beginning of the 2000s were quickly overwhelmed by the scale of the programs and the lack of suitable human and material resources. The technological delay encouraged farmers to draw on exogenous resources for technical progress (international fairs, suppliers, etc.)

It can be added that climate risk has always been a major challenge for agriculture in Algeria. The quantitative assessment of previous agricultural policies, based essentially on the principle of intensification and price support, is positive and agricultural production has seen a gradual increase for almost all sectors. However, two facts characterize this trend,

on the one hand, the evolution is very irregular (growth rate varies from -4.6% to 25%) and strongly dependent on rainfall; on the other hand, a significant negative gap between the growth rate of agricultural production and the growth rate of national food consumption. It is observed that consumption (or food needs) evolves twice as much as that of production with a gap often covered by imports.

VI- reflections on the foundations of future public policies

According to the retrospective study of previous agricultural policies and in perspective the sustainability of Algerian agriculture (in its three dimensions: social, economic, and environmental), the foundations of future public policies should be based on a territorial approach based on local potentialities in order to define strategies adapted to each territory. In what follows, we develop some avenues of reflection.²³

VI-1 Rehabilitation of traditional agriculture:

The intensification of agricultural production systems - importing inputs, equipment and engineering services - has remained the reference model for agricultural development. At the same time, traditional oasis and mountain agriculture have been the subject of special development measures that have attempted to rehabilitate local product value chains in many regions²⁴.

The valorization of these products in Algeria has a positive effect on the populations of rural areas by creating added value and improving agricultural income and protecting local know-how. Most local products have not been promoted as specific products with quality and origin; this is due to several constraints, such as the lack of mastery of procedures and concepts related to the valorization of agricultural products by distinctive signs (labeling) and the slowness of these procedures, the abandonment of agriculture and the rural exodus.

VI-2: Preservation of the oasis agricultural development mode

Contrary to the desire to develop everything in the Sahara based on the excessive use of natural resources (water) and chemical inputs (pesticides and fertilizers), decision-makers must reconsider the long-neglected oasis environment. The oasis is an optimum model in terms of sustainability, health and equity in an arid environment, which has developed a perfect synergy between natural resources (land, energy and water), animals and humans for several millennia in an environment of extreme adversity. Preserving the oasis system and its ancestral know-how would help preserve the diversity of local cultivars and an ecologically functional model based on the balance between climate, water and energy.

VI-3: Promoting the association of cereal farming and livestock farming in the highlands

This association already practiced could also constitute a model of production in a semi-arid environment that optimally combines the sustainability of plant resources, synergy with sheep farming. This system that embodies the circular economy would make it possible to better enhance the use of land belonging to cereal farms by organic inputs mainly from sheep farming (cattle farming could be a link in the chain). Unfortunately, integrated production systems are not found in the nomenclature of public policies. The sustainability of this system could be promoted by revising the status of agricultural land falling within the private domain of the State and by encouraging cross-functional professional organizations.²⁵

VI-4: Use of unconventional waters and water policy

Public policy must shift towards innovative approaches for utilizing non-conventional water resources, particularly treated wastewater, which remains underexploited in a context of severe water stress exacerbated by climate change. Over a span of 15 years (2000–2016),

irrigated agricultural areas expanded significantly, growing from 350,000 hectares to 1,260,000 hectares—a 2.3-fold increase—driven largely by the adoption of water-saving technologies, such as localized irrigation (e.g., drip irrigation). The 2015–2019 crop irrigation plan set ambitious targets, aiming to reach 2.2 million hectares. By 2021, the action plan for 2020–2024 further outlined a goal to expand the irrigated area by 383,333 hectares, starting from a baseline of 1,430,000 hectares, with 800,000 hectares already equipped with water-efficient irrigation systems.²⁶

Beyond conventional water sources like dams and boreholes, the public strategy for wastewater reuse by 2033 prioritizes the utilization of one billion cubic meters of treated water, primarily in the High Plateaus region, to irrigate 160,000 hectares, largely supported by Small and Medium Hydraulics (PMH). To optimize this approach, enhanced collaboration with the agricultural sector is essential. This includes selecting irrigation methods suited to treated water (e.g., localized irrigation), implementing quality control measures, enforcing crop restrictions, and tailoring water treatment processes to the intended agricultural uses.

However, this supply-driven management approach should be reevaluated in favor of a demand-based strategy that prioritizes water allocation according to its intended use, particularly for strategic crops that significantly impact the balance of payments.

VI-5: - Financing investments

The current structure of financing options is hardly sustainable, primarily due to bureaucratic procedures and the lack of recognition of "concession rights" as viable collateral for public banks. To boost investment in the agricultural sector, particularly for new entrants, public authorities²⁷ must treat it like any other economic sector and facilitate access to diverse financing mechanisms—beyond subsidies. This includes Islamic finance, capital markets, investment funds, and other innovative financial instruments.

By liberalizing investment initiatives, the sector can attract not only agricultural capital but also funds from other economic sectors, including the informal economy. Additionally, fostering public-private partnerships through robust legal frameworks that ensure the rights of all stakeholders will encourage both national and foreign investors to engage in value-added activities. This, in turn, will stimulate local economic dynamics and drive sustainable growth.

V-Conclusion

The analysis of Algerian agriculture from independence to 1990 highlights that the state's political orientation had a detrimental effect on the sector's development, limiting its contribution to Algeria's hydrocarbon-driven economy. Agricultural policies underwent a gradual evolution, beginning in the early 1990s and progressively refined during the 2000s and 2010s. Despite these advancements, these policies remain anchored in the paradigm of "conventional intensification" of agricultural development.

Beyond the inherent limitations of this model—such as its environmental impact and lack of inclusiveness—Algerian agriculture now faces new and pressing challenges. These include ensuring food sovereignty in the context of unregulated and unpredictable globalization, building resilience to climate change, promoting the sustainable intensification of local production systems, and adapting to e From a global perspective, sustainable agriculture will

have to address several environmental, social, economic and technological challenges. This transition to a sustainable intensification model (also integrating agroecology and organic farming) will have to be accompanied by incentive measures to compensate for the yield losses (in the short term) borne by farmers. At the same time, this transition will have to be accompanied by actions aimed at changing eating habits, particularly in school canteens, in order to promote good nutritional practices (less sugar and fizzy drinks, factors of diabetes, and more water and legumes, for example) among the younger generations.

This vision has great potential in naturally disadvantaged areas such as mountains, the Sahara and even in urban environments. This agriculture will offer new products and services to the final consumer who wants a healthier diet.

References

¹1 - **Selt Mohammed Mostefa, Laboratoire de recherche :**

les Méthodes Quantitatives dans les sciences Economiques et les sciences Managériales et ses Application pour le Développement Durable « MQEMADD »

, m.seltold@univ-djelfa.dz

m.seltold@univ-djelfa.dz , MQEMADD، سالت محمد مصطفى²

³Ministère de l'Agriculture et du Développement Rural (MADR). (2023). **Rapport annuel sur la situation de l'agriculture en Algérie**. Disponible sur : <http://www.minagri.dz>

⁴Office National des Statistiques (ONS). (2023). **Statistiques agricoles : Contribution au PIB et emploi**. Disponible sur : <http://www.ons.dz>

⁵ Banque mondiale. (2022). **Algeria Economic Update: Diversifying the Economy Through Agriculture**. Disponible sur : <http://www.worldbank.org>

⁶ Fonds International de Développement Agricole (FIDA). (2022). **Rural Development in Algeria: Reducing Poverty Through Agriculture**. Disponible sur : <http://www.ifad.org>

⁷ Ministère de l'Environnement et des Énergies Renouvelables. (2023). **Rapport sur la désertification et la gestion des ressources naturelles**. Disponible sur : <http://www.meer.gov.dz>

⁸ L'Organisation pour l'alimentation et l'agriculture (FAO)

⁹ office national des statistiques, 2022

¹⁰ Ministère de l'agriculture et du développement rural

¹¹ A.Meister, **la participation pour le développement**. Paris, éditions Ouvrières.1977

¹² L.Baci, (1999). **Les réformes agraires en Algérie. Politiques foncières et aménagement des structures agricoles dans les pays méditerranéens** : à la mémoire de Pierre Coulomb. Options méditerranéennes, vol 36, CIHEAM-IAMM, pp 285-291.

¹³ Ministère de l'Agriculture et du Développement Rural (MADR). (2023). **Plan National de Développement Agricole (PNDA) : Bilan et perspectives**. Disponible sur : <http://www.minagri.dz>

¹⁴ L.Baci.op.cit

¹⁵ CNES, 2001

¹⁶ Bessaoud O., (2013). **Aux origines paysannes et rurales des bouleversements politiques en Afrique du Nord : l'exception algérienne**. Maghreb - Machrek 2013/1, 215, 9-30.

¹⁷ P.Adair &all. **l'agriculture algérienne : l'héritage du passé et les défis contemporains**. Les Cahiers du Cread -Vol. 38 - n° 03 – 2022

¹⁸ Bessaoud.op.cit

¹⁹ A.Daoudi. **La politique de mise en valeur des terres arides en Algérie : une lecture en termes d'équité**. Cah. Agric. 2021, 30, 4

²⁰ P.Adair &all.op.cit

²¹ P.Adair &all.op.cit

²² B.Benyamina et M.Benyamina. **Déplacements et mutations spatiales à Alger**. https://theses.hal.science/tel-02483175/file/86476_BENYAMINA_2019_archivage.pdf

²³ P.Adair &all.op.cit.

²⁴ I.Abdellaoui. **Les produits de terroir en Algérie : état des lieux, enjeux et efficacité des stratégies de développement**. Mémoire de Magistère.2015. Université de Biskra.

²⁵ P.Adair &all.op.cit

²⁶ https://www.oss-online.org/sites/default/files/2024-09/OSS-CREM_BP-Algerie.pdf

²⁷ M.Allili. **Guide de l'investissement agricole, forestier et de la pêche** ;Votre référence pour investir en Algérie. Editeur Universitaires Européennes.2018