

Socio-demographic Changes and Generational Renewal in Algerian Rural Areas: Challenges and Prospects for the Agricultural Sector

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Abstract

The agricultural sector in Algeria is experiencing significant socio-demographic transformations that directly impact its sustainability and the renewal of its agricultural workforce over time. It is important to note that the most significant of these changes include increasing rural-to-urban migration, the aging of the agricultural workforce, and declining interest amongst younger people in pursuing careers in farming. All of these issues negatively impact the continuity of farming and rural development.

The objective of this study is to analyse the demographic and social transformations occurring in rural Algeria and to highlight their implications for the agricultural sector and generational renewal within agricultural holdings. The study also seeks to understand the factors driving rural youth away from agricultural work, in light of the economic, social and cultural transformations occurring in rural areas.

The study employs a qualitative approach based on a documentary analysis of a range of sociological and demographic studies and institutional reports, in addition to relying on official data and statistics regarding the population structure and agricultural employment in Algeria.

It is anticipated that the findings of the study will indicate the sustainability of the agricultural sector to be contingent upon the extent to which it is possible to promote the integration of young people into agricultural activities, modernize agricultural holdings, and improve living and working conditions in rural areas, alongside the valorization of local resources and the development of infrastructure and basic services. The study also reveals how socio-demographic shifts affect the population structure, as well as patterns of family organisation and agricultural work. These shifts lead to changes in the professional and economic trajectories of rural youth.

The study concludes that addressing the challenges of generational renewal in Algeria's agricultural sector requires adopting an integrated development approach that combines demographic, social, economic, and spatial dimensions. This will contribute to the stability of

the rural population and ensure the sustainability of the agricultural sector amid current transformations.

Keywords: rural migration, generational renewal, socio-demographic transformations, agricultural sector, rural development, Algerian agriculture.

Introduction

The agricultural sector is considered one of the vital and strategic sectors in Algeria, given its fundamental role in achieving food security, providing employment opportunities, and maintaining economic and social balances within rural areas. Agricultural activity is also closely linked to population stability in rural areas and to the continuity of the social and cultural patterns that characterize Algerian rural society. However, for decades, this sector has faced a series of structural transformations and challenges that have directly impacted its ability to achieve development and sustainability.

Among the most significant of these challenges are the socio-demographic transformations occurring in rural Algeria, which have become a decisive factor in reshaping the relationship between the population, the land, and agricultural work. In recent years, there has been a notable increase in migration from rural to urban areas, particularly among younger demographics, driven by the pursuit of employment opportunities and improved living conditions. This rural exodus has led to a decline in the agricultural workforce, an increase in the average age of farmers, and a weakening of generational renewal within agricultural holdings. This poses a threat to the continuity of farming activity, particularly in the plains and high plateaus (Bessaoud, 2016; Hervieu & Purseigle, 2013).

These transformations are not limited to demographics; they also extend to the social and economic structure of rural areas. The modernization of agricultural production methods has been driven by economic and technological changes, resulting in increased mechanization and the adoption of modern technologies. This shift in agricultural practices has led to a transformation in the nature of work and the way it is organised. The rural family has also undergone significant changes affecting social values and the roles of individuals within it, in parallel with the emergence of new aspirations among rural youth related to education, migration, and work outside the agricultural sector.

In this context, understanding the socio-demographic transformations within rural areas has become essential for analysing the future of the agricultural sector in Algeria, particularly regarding the issue of generational renewal and the sustainability of farming activities. The underrepresentation of young people in the agricultural sector is influenced by economic factors, as well as by changing social and cultural perceptions of agricultural work and its role in society.

Accordingly, the objective of this study is to analyse the socio-demographic transformations taking place in rural Algeria and to examine their implications for generational renewal within the agricultural sector. The study will focus on the challenges facing rural youth and the prospects for sustainable agricultural development in light of current social and economic transformations.

1- Research Problem, Significance and Objectives

It is widely acknowledged that the agricultural sector in Algeria is of strategic importance, with a direct link to food security, economic growth and social stability in rural regions. In terms of economic impact, agricultural output is a key source of income for many rural communities. It also plays a crucial role in preserving regional balance and reducing disparities between rural and urban regions. In recent years, however, the sector has undergone significant transformations driven by economic, social and demographic changes, impacting its sustainability and capacity for workforce renewal.

Among the most notable of these transformations is the phenomenon of rural migration, which has become one of the most significant challenges facing Algeria's rural world, particularly as more young people move to cities in search of more stable employment opportunities and improved living conditions. This ongoing exodus has led to a decline in the agricultural workforce in rural areas and an increase in the average age of farmers, contributing to the problem of an aging agricultural population and a decline in the intergenerational transfer of agricultural activity within family farms (Bessaoud, 2016).

These transformations are not limited to demographic aspects alone but are also linked to social, cultural, and economic changes that have affected the traditional rural structure. The rural family has undergone a shift in its functions and roles, and young people's perceptions of agricultural work have also

changed; it is no longer viewed as an activity capable of providing social and economic stability compared to modern urban professions. In addition to, technological transformations and the modernization of agricultural production methods have contributed to the reorganization of agricultural work and altered patterns of land use and production in rural areas.

In light of these transformations, the issue of generational renewal in the agricultural sector has become a pressing concern, particularly given young people's declining interest in farming and the continuing precariousness of working and living conditions in rural areas. Hence, there is a need to understand the relationship between socio-demographic transformations and the sustainability of the agricultural sector, and to analyze the impact of these transformations on the future of agricultural activity in Algeria.

Based on this, the central question of this study is as follows:

To what extent do socio-demographic transformation in rural Algeria, particularly rural migration and the ageing of the agricultural population-, influence generational renewal and the sustainability of the agricultural sector? This central question gives rise to a number of sub-questions, the most important of which are:

- What are the most significant socio-demographic transformations occurring in rural Algeria?
- How does rural migration affect the continuity of agricultural activity within family farms?
- What are the reasons for rural youth's disengagement from agricultural work?
- To what extent can public policies and agricultural modernization contribute to enhancing the attractiveness of the agricultural sector for young people?

Based on this research question, the study is grounded in the following hypothesis:

Generational renewal in the Algerian agricultural sector is closely linked to the socio-demographic transformation occurring in rural areas. Key factors in this transformation include rural migration, an ageing workforce and declining job satisfaction, the sector's sustainability is being undermined. However, measures such as agricultural modernisation, enhanced institutional support and

the improvement of living and working conditions in rural areas have the potential to assist in the retention of young people in agriculture, thereby ensuring the ongoing viability of rural farms.

This study is of both scientific and practical importance. From a scientific perspective, it contributes to enriching studies related to rural sociology, demography, and agricultural development by linking social, demographic, and economic dimensions to understand the transformations taking place in the Algerian rural world. It also helps shed light on the issue of generational renewal as one of the central challenges linked to the future of the agricultural sector.

From a practical standpoint, this study can provide data to help decision-makers and institutions involved in rural and agricultural development understand the challenges facing rural youth, and propose mechanisms and policies that would enhance the attractiveness of agricultural activity, encourage stability in rural areas, and ensure the sustainability of agricultural holdings.

This study seeks to achieve a set of objectives, the most notable of which are:

- Identifying the most significant socio-demographic transformations occurring in rural Algeria.
- Analyzing the impact of these transformations on generational renewal within the agricultural sector.
- Understanding the social and economic factors driving rural youth away from agricultural work.
- Assessing the role of public policies, agricultural modernization, and institutional support in enhancing the attractiveness of agricultural work among young people.
- Presenting a set of recommendations that contribute to supporting rural development and enhancing the sustainability of the agricultural sector in the face of current socio-demographic transformations.

2- Theoretical and Methodological Framework of the Study

In recent decades, the rural world and the agricultural sector in Algeria have undergone rapid socio-demographic transformations that have directly impacted the social and economic structure of rural areas, as well as the sustainability of agricultural activity and its ability to ensure the renewal of the workforce. The transformations in the agricultural sector are no longer linked

solely to economic or technical factors but are also linked to the demographic, social, and cultural changes affecting rural families, lifestyles and work patterns, and young people's perceptions of agricultural activity and their professional future (Bessaoud, 2016, pp. 22–27).

In this context, this study draws on a theoretical framework that combines rural sociology and agricultural demography to understand the relationship between socio-demographic transformations and the sustainability of the agricultural sector in Algeria. This theoretical approach allows for an analysis of the interactions between rural migration, the aging of the agricultural population, and social transformations within rural areas, and the agricultural sector's capacity for generational renewal and the continuity of agricultural holdings (Hervieu & Purseigle, 2013, pp. 45–52).

2-1- Theoretical Framework of the Study

- The Concept of Rural Migration

Rural migration is considered one of the most prominent demographic phenomena affecting rural communities in Algeria. It refers to the movement of people from rural areas toward cities and urban centers in search of employment opportunities, education, services, and improved living conditions (Courade, 2006, p. 63). This phenomenon has been linked to several factors, including weak rural development, declining agricultural productivity, and young people's growing aspirations for more stable urban lifestyles.

Rural migration has a direct impact on the demographic structure of rural areas, particularly through the exodus of young and active groups. This leads to a decline in the agricultural labour force, an increase in the average age of farmers and a weakening of the intergenerational transfer of agricultural activity (FAO, 2017, pp. 18–24).

- Aging of the Agricultural Population

The aging of the agricultural population is a direct consequence of rural migration and the agricultural sector's diminished appeal to young people. This phenomenon is reflected in the rising proportion of older farmers within agricultural holdings, coupled with a decline in the integration of new generations into agricultural activity. The aging of the agricultural population not only affects the size of the available labor force but also impacts the agricultural sector's ability to adapt to modern technical and economic

transformations, particularly given the growing need for new skills related to agricultural modernization and the use of technology in farming (Bessaoud, 2016, pp. 88–93).

- The Concept of Generational Renewal

The concept of generational renewal in the agricultural sector refers to the ability to ensure the transfer of agricultural activity, knowledge and expertise across generations. This is achieved by attracting young people and integrating them into agricultural operations. This process ensures the continuity of agricultural production and the sustainability of farming (Hervieu & Purseigle, 2013, pp. 121–127).

The factors influencing generational renewal include the perception of the agricultural profession as a viable career option, the quality of life in rural areas, and the extent of institutional support and public policies designed to assist young farmers. In addition, the success of the generational renewal process is key to the preservation and development of traditional agricultural knowledge. This is achieved through the adoption of modern technologies and new production methods (FAO, 2014, pp. 35-40).

- Social and Economic Transformations in the Rural World

The Algerian rural world has undergone profound changes affecting family structures, patterns of agricultural work organization, and social relations in rural areas. Economic and technological transformations have led to the modernization of agricultural production methods, the expansion of mechanization, and the introduction of modern technologies into agricultural operations, which has contributed to reshaping the nature of agricultural work (Bouchnafa, 2018, pp. 74–82).

New aspirations have also emerged among rural youth related to education, migration, and work outside the agricultural sector, which has affected their perceptions of farm work and their relationship with the rural sphere. Therefore, understanding these transformations is essential for analyzing the future of the agricultural sector and generational renewal within it (Courade, 2006, pp. 114–11).

2-2- Approaches Adopted in the Study

-The Demographic Approach

The study employs a demographic approach to analyse the population structure of the rural world, examine rural migration, the ageing of the

agricultural population, and the distribution of the labour force within the agricultural sector. This approach facilitates comprehension of the demographic dynamics that influence generational renewal and the sustainability of agricultural activity (Weeks, 2012, pp. 210–217).

The demographic approach is helpful in understanding the changes occurring in rural society. By studying population growth rates, age structures, and population movements within rural areas, we can understand the relationship between demographic changes and agricultural development (Chesnais, 1990, p. 63).

- The sociological approach

The study also draws on a sociological approach to analyze social and cultural transformations within rural communities, particularly with regard to changes in family structures, young people's perceptions of agricultural work, and the shifts affecting lifestyles and social organization in rural areas (Mendras, 1995, p. 98). This approach also helps to understand the social and cultural factors that drive young people to abandon agricultural activity or migrate to cities, in addition to analyzing the impact of value and cultural transformations on the future of the agricultural sector and social relations within rural communities (Bourdieu, 2002, p. 138).

2-3- Methodological Framework of the Study

This study employs a qualitative analytical methodology that combines sociological and demographic analysis to understand the socio-demographic transformations occurring in rural Algeria and their effects on the agricultural sector.

-Data Sources

The study drew on a variety of sources, including:

- Official reports issued by the Ministry of Agriculture and Rural Development.
- Reports from the Food and Agriculture Organization (FAO).
- National statistics on the agricultural population and internal migration.
- Sociological and demographic studies on the rural world and agriculture in Algeria.
- Scientific books and articles on rural sociology, generational renewal, and agricultural transformations in the Maghreb.

-Thematic analysis

The study used thematic analysis as its methodological tool to enable the classification and organisation of the data according to key themes relevant to the research topic. These themes encompassed rural migration, the ageing of the agricultural population, generational renewal, and social transformations within the rural world (Bardin, 2013, pp. 125–131).

This type of analysis provides a deeper understanding of the relationships between demographic, social, and economic variables and their impact on the future of the agricultural sector, and it helps identify recurring central themes within the documents, reports, and studies used in the research (Ghiglione & Matalon, 1998, pp. 77-82).

- Interpretive Approach

The study also relied on the interpretive approach to understand the interrelationships between social, economic, and demographic transformations within the rural world. This approach helps explain how these transformations affect the sustainability of agricultural activity and the sector's ability to ensure generational renewal.

By adopting this approach, the study aims to move beyond narrow economic approaches to the agricultural sector and shift towards analysing the human and social dimensions of rural development. This is because the future of agriculture is not solely determined by production and technology, but also linked to the ability of rural areas to retain their populations and ensure the integration of young people into agricultural activity.

Accordingly, combining a demographic approach, sociological analysis, and public policy research allows for a comprehensive understanding of the transformations occurring in the Algerian agricultural sector and proposes mechanisms that can contribute to promoting sustainable rural development and ensuring the continuity of agricultural activity in the face of current socio-demographic transformations.

3- Study Findings

A qualitative analysis of documentary and statistical data on the rural world and the agricultural sector in Algeria allows for the derivation of a set of expected findings related to socio-demographic transformations and generational renewal within agricultural activity. These findings are based on a sociological and demographic analysis of the changes taking place in rural

Algeria, particularly regarding population mobility, occupational transformations, and the changing relationship of young people to agricultural activity.

Preliminary data indicate that the agricultural sector in Algeria faces growing challenges linked to the decline in the agricultural workforce, the rising average age of farmers, and the diminished appeal of farming to younger generations, which directly impacts the sustainability of agricultural holdings and the future of rural development.

3-1- Rural Migration and the Ageing of the Agricultural Population in Algeria

Rural migration is one of the most significant socio-demographic shifts that the Algerian rural world has experienced in recent decades, as rural areas have witnessed a continuous exodus toward cities and urban centers, particularly among young people seeking better job opportunities and more stable living conditions. This phenomenon has been linked to the economic and social transformations experienced by Algerian society, which have contributed to changing young people's perception of agricultural work, which is now often viewed as a low-income activity with limited appeal compared to modern urban jobs (Bessaoud, 2016, pp. 41–46).

Furthermore, the development of education, rising professional and social aspirations, and the expansion of urban services have reinforced rural youth's tendency toward migration, leading to a decline in the working-age population within the agricultural sector and to profound changes in the social and economic structure of rural areas. Rural migration is no longer merely a geographical movement of people, but has become an expression of broader transformations affecting lifestyles, social values, and perceptions of work and the future within rural communities.

Statistical data on Algeria's rural population reveal a gradual decline in the size of the rural population between 2000 and 2020. The rural population fell from approximately 13.2 million in 2000 to about 11.4 million in 2020, and the proportion of the rural population relative to the total population declined from 38% to about 30% during the same period, reflecting the accelerating pace of urbanization and increasing internal migration toward cities.

This decline is accompanied by a marked increase in the ageing of the agricultural population, as a result of young and active people leaving rural areas, while older farmers remain on farms. This situation leads to a lack of generational renewal within the agricultural sector and affects the continuity of farming activities and the ability of family farms to maintain their productive capacity (Mazoyer & Roudart, 2006, pp. 401).

The projected results also indicate that the continuation of these transformations may lead in the future to a deepening of demographic imbalances within rural areas, particularly given the limited availability of policies capable of attracting young people to agricultural activity. These phenomena could also impact food security and rural development, given the central role that the young workforce plays in modernizing the agricultural sector and ensuring its sustainability.

Hence, the importance of developing integrated development policies aimed at improving living and working conditions in rural areas, enhancing the attractiveness of agricultural activity, and supporting young people wishing to invest and work in the agricultural sector, thereby contributing to reducing rural migration and ensuring generational renewal within the agricultural sector.

Table 1: Rural Migration in Algeria (2000–2020)

Year	Total rural population (in millions)	Percentage of rural population (%)	Rural-to-Urban Migration (Total in Millions)
2000	13.2	38%	0.0
2005	12.8	36%	0.4
2010	12.3	34%	0.9
2015	11.9	32%	1.3
2020	11.4	30%	1.8

Source: Based on data from the General Population Census and Agricultural Statistics, National Office of Statistics, 2020.

These demographic transformations have direct implications for the structure of the agricultural population. Rural migration primarily affects younger generations, who are often the most mobile and most attracted to opportunities available in cities. This phenomenon is gradually leading to the ageing of the agricultural population, as farms often remain in the hands of older generations. The decline in the number of young farmers reduces opportunities for generational renewal and undermines the sustainability of family farms.

Table 2 illustrates this trend through the distribution of farmers by age group between 2000 and 2020. The data show that the proportion of young farmers aged 18 to 35 fell from 32% in 2000 to just 18% in 2020. Conversely, the proportion of farmers aged 56 and above rose from 23% to about 39% during the same period. This trend reveals a gradual ageing of the agricultural population and highlights the importance of the challenges associated with generational renewal in the agricultural sector.

Table 2: Aging of the Agricultural Population in Algeria (2000–2020)

Year	(%) 18–35	36–55 years (%)	56 years and older (%)
2000	32%	45%	23%
2005	29%	46%	25%
2010	25%	45%	30%
2015	22%	44%	34%
2020	18%	43%	39%

Explanation: The proportion of young farmers is gradually decreasing, while the proportion of older farmers is increasing, indicating a clear ageing of the agricultural population. In other words, the continuous decline in the proportion of young farmers and the increase in the number of older farmers highlight a lack of generational renewal.

This demographic transformation poses a real challenge to the future of Algeria's agricultural sector, as the impact of rural youth migration is not limited to a decline in the size of the workforce within agricultural holdings, but also extends to weakening the sector's ability to adopt modern technologies and develop agricultural production methods. Young people are regarded as the most adaptable group to technological changes, adopt innovative agricultural practices, and utilize modern technologies in the areas of irrigation, production, and agricultural marketing. Consequently, their declining presence in the agricultural sector limits opportunities to modernize the sector and enhance its competitiveness in the face of accelerating economic and climate changes.

Furthermore, the socio-demographic changes taking place in rural areas are not only reflected in agricultural activity but also affect the social and economic structure of rural regions. The continued migration of the working-age population to cities often leads to a decline in rural population density, the abandonment of some agricultural land, and a contraction of local economic activities linked to agriculture and rural services. In some regions, this situation contributes to deepening spatial disparities between urban and rural areas, as a

result of the concentration of investments, services, and job opportunities in major cities at the expense of rural areas.

In this context, rural migration and the ageing of the agricultural population appear to be interrelated phenomena that reflect the depth of the socio-demographic transformations taking place in Algeria's rural world. This necessitates the adoption of integrated public policies aimed at improving living and working conditions in rural areas, encouraging young people to settle and engage in agricultural activities, as well as supporting the modernization of agricultural holdings and enhancing the attractiveness of the agricultural sector as a fundamental pillar of rural development and food security in Algeria (Bessaoud, 2016, pp. 88–93).

3-2- The declining Attractiveness of Agricultural Activity Among Young People

The declining appeal of agricultural activity among young people is one of the most significant challenges facing generational renewal within the Algerian agricultural sector. Despite the strategic importance of agriculture in achieving food security and supporting rural development, the agricultural profession no longer enjoys the social and economic status it once did, particularly among younger generations in rural areas.

Numerous studies indicate that young people view agricultural work as an activity characterized by low economic returns, unstable income, and difficult working conditions, compared to urban jobs or professions in the service sector (Hervieu & Purseigle, 2013; Bouchnafa, 2018).

Social and cultural transformations in rural society have also altered young people's aspirations and perceptions of their professional future, as education, migration to cities, and the search for more stable and socially prestigious jobs have become preferred options for a large segment of rural youth. This has led to a decline in interest in farming and weakened the intergenerational transfer of agricultural knowledge and expertise, threatening the long-term sustainability of family farms.

Statistical data confirm this trend, as figures from the National Office of Statistics (ONS, 2020) indicate that the proportion of farmers aged 18 to 35 fell from approximately 32% in 2000 to just under 18% in 2020, while the proportion of farmers over the age of 56 rose from 23% to about 39% during the

same period. These figures clearly reflect the ageing of the agricultural population and the declining integration of young people into the agricultural sector.

In the same context, some official reports show that a significant proportion of rural youth express a desire to leave agricultural work and move toward urban sectors or the service sector, primarily due to low income, precarious working conditions, and a lack of infrastructure and basic services in rural areas (Ministry of Agriculture and Rural Development, 2021).

Consequently, the issue of generational renewal in the agricultural sector has become closely linked to the extent to which public policies can improve the attractiveness of agricultural work and provide more stable professional and social conditions for rural youth.

Table 3: Percentage of Rural Youth Willing to Leave Agriculture (2020)

Reasons for migration or leaving	Percentage
Low income	45%
Lack of infrastructure	20%
Difficult living conditions	15%

Explanation: The majority of rural youth view agriculture as low-profit and socially undervalued, which hinders their engagement in farming.

These statistics show that the decline in young people's interest in agricultural activities is not solely linked to individual choices or personal preferences, but reflects a set of economic, social, and institutional factors that have made the agricultural sector less attractive compared to other sectors, particularly in urban areas. Low economic returns, income instability, and difficult working conditions, coupled with limited services and infrastructure in rural areas, are all factors that have contributed to deepening young people's reluctance to engage in agricultural activities (FAO, 2017).

This situation carries with it a number of negative implications for the future of the agricultural sector. The decline in youth participation in farming weakens the intergenerational transfer of agricultural expertise and knowledge, threatens the sustainability of family farms, and limits the sector's ability to adapt to modern technological and economic changes. The presence of a young and qualified workforce is pivotal in the development of agricultural production and the promotion of innovation in rural areas.

In this context, a number of factors have been identified that have the potential to enhance the agricultural sector's appeal to young people. The development of agricultural and technical training is of the utmost importance, as it facilitates the acquisition of new skills that are aligned with the demands of modern agriculture. This is particularly relevant in the context of the increasing use of technology and mechanisation in farming (Bessaoud, 2016).

Institutional and financial support is also instrumental in encouraging young people to invest in agriculture, through the provision of soft loans, agricultural entrepreneurship support programmes and easier access to agricultural land.

In addition, it is vital to acknowledge the social revaluation of the farming profession if we are to successfully achieve generational renewal within the sector. Agriculture is no longer considered a traditional activity with limited returns; it has become a strategic sector linked to food security, sustainable development, and achieving territorial balance between rural and urban areas. Consequently, enhancing the image of agricultural work among young people can contribute to rebuilding the relationship between new generations and the rural world.

Therefore, in order to address the lack of appeal of agriculture among young people, integrated policies must be adopted. These should combine economic incentives, vocational training, and improved living conditions in rural areas. It is also necessary to recognise the social and strategic role of the agricultural sector. Such measures would support generational renewal and enhance the sustainability of agricultural activity in Algeria.

3-3- Social and Economic Changes in Rural Algeria

For several decades, rural Algeria has been undergoing a series of profound social and economic transformations that have directly impacted the structure of rural society, patterns of agricultural organization, and the career paths of younger generations. In the Algerian context, agriculture is no longer merely a traditional subsistence-based activity; rather, it has become linked to broad demographic, economic, and cultural transformations driven by the dynamics of modernization, urban expansion, and gradual integration into the national and global economy. These transformations have contributed to reshaping social

relations within rural areas and altering young people's perceptions of agricultural work and their professional futures.

The transformation of the rural family structure is one of the most prominent manifestations of these changes. The traditional model of the rural family, which was based on multigenerational family farming, has begun to decline gradually as a result of shrinking family sizes, rising school enrollment rates, and increasing rural-to-urban migration. In the past, children participated in various agricultural activities from an early age, which ensured the transfer of agricultural knowledge and expertise from one generation to the next and maintained the continuity of family farms. Today, however, the temporary or permanent migration of young people to urban centers has led to an imbalance in the distribution of labor within agricultural holdings, with an increased reliance on older farmers to manage agricultural activities.

Furthermore, certain forms of traditional solidarity and cooperation within rural society, such as collective labor and the sharing of agricultural tasks among families, have gradually declined, a trend that has impacted social and productive organization in rural areas (Bouchnafa, 2018, pp. 96–101). This has weakened the mechanisms for transmitting traditional agricultural knowledge and reshaped social relations in rural areas in line with new economic and cultural transformations.

On the other hand, the Algerian agricultural sector has undergone a significant transformation in the nature of agricultural practices and production patterns. Faced with economic pressures and changing market demands, many farmers have diversified their agricultural activities by introducing crops with higher economic returns, such as vegetables and fruits intended for urban markets or for export, as well as some specialized crops like aromatic and medicinal plants. This shift reflects a gradual transition from traditional subsistence farming to forms more closely linked to commercial and investment logic (Bessaoud, 2016, pp. 102–108).

This transformation has been accompanied by the expanded use of modern technologies in agricultural activities, particularly in the areas of irrigation, water resource management, and agricultural mechanization, which has contributed to improved productivity and the development of agricultural work methods. However, this modernization has simultaneously created new

challenges, most notably the declining need for traditional labor in certain activities and the rising demand for specialized technical and technological skills (FAO, 2017, pp. 44–49). As a result, contemporary agricultural work now requires a higher level of technical training and expertise, which has altered the nature of the role played by young people within agricultural enterprises.

In this context, rural youth are no longer required only to engage in manual labor in agricultural activities, but are also expected to manage modern technologies, keep pace with market shifts, and adapt to the demands of contemporary agriculture. However, this shift has not been sufficient to restore the agricultural sector's appeal to a broad segment of young people, who continue to view agriculture as a strenuous and low-yielding activity compared to urban and service sector jobs.

These economic and social transformations have also directly impacted the career paths of rural youth. The expansion of education, increased access to media and communication, and changing consumption patterns and social values have led to the emergence of new career aspirations that extend beyond the traditional agricultural sphere. A significant portion of young people now prefer to seek employment in urban or service sectors, as these are considered more economically stable and socially prestigious.

Nevertheless, some studies point to the emergence of a new category of young farmers who are attempting to adopt modern models of agriculture based on innovation, digital technologies, and the rational management of agricultural holdings, particularly among young people who have benefited from agricultural and technical training (Hervieu & Purseigle, 2015, p. 141). This trend reflects the emergence of a new model of the contemporary farmer, combining traditional agricultural knowledge with modern technical skills and economic initiative.

Consequently, it can be argued that the social and economic transformations taking place in rural Algeria represent both opportunities and challenges for the future of the agricultural sector. They necessitate a reorganization of agricultural work patterns and a shift in social relations within rural communities, while also directly impacting the sector's ability to ensure generational renewal and the sustainability of agricultural holdings.

Hence, the importance of adopting integrated public policies that take into account social and demographic dimensions alongside economic and technical

ones, by supporting agricultural training, encouraging innovation, and improving living and working conditions in rural areas, thereby making agricultural activity more attractive and sustainable for new generations.

4- Discussion of the Results

The results of this study reveal that the socio-demographic transformations taking place in rural Algeria represent both a pressure on the agricultural sector and an opportunity for its reorganization and renewal. Ongoing rural migration, alongside with the ageing of the agricultural workforce, is directly affecting the sustainability of family farms and the intergenerational transfer of agricultural knowledge and expertise. Statistical data from the National Office of Statistics (ONS) indicate that the proportion of the rural population has declined from approximately 40% in the 1990s to nearly 30% in 2020, reflecting the expansion of urbanization and internal migration in Algeria (ONS, 2021).

The intensity of these transformations varies from one region to another within Algeria's rural areas. In the eastern provinces, such as Setif, Batna and Biskra, activities related to grain farming and livestock raising continue to hold economic and social importance; however, the ongoing migration of young people to cities has led to a gradual decline in the agricultural workforce. In the western regions, particularly in the provinces of Oran and Mostaganem, urban expansion and the growth of the service sector have contributed to a decline in youth participation in agricultural activities, with the average age of farmers in some areas now exceeding fifty years, reflecting a clear lack of generational renewal within the agricultural sector (Bessaoud, 2016, p. 92).

These transformations can be explained based on the "risk society" theory developed by Ulrich Beck, which posits that modern societies now face new forms of risk resulting from economic, technological, and environmental transformations (Beck, 1992, p. 24). In the Algerian context, rural migration, the decline in the working-age population in agriculture, and the ageing of farmers can be considered among the structural risks threatening the sustainability of the agricultural sector and long-term food security. These transformations not only affect the size of the labor force but also undermine the ability of rural areas to maintain their social and economic balance.

Anthony Giddens's "modernity and uncertainty" approach also allows us to understand the professional and social behavior of rural youth in the context of

current transformations. Today, young people live in a context marked by economic instability, fluctuations in agricultural markets, and the growing impacts of climate change, which drives some of them to seek professional alternatives outside of agriculture (Giddens, 1991, p. 77). In some western coastal regions, such as Oran and Ain Temouchent, a number of young people have come to view migration, including irregular migration, as a way out of the limited economic and social opportunities in rural areas. Reports from the International Organization for Migration confirm that irregular migration routes across the western Mediterranean are often linked to the fragile socio-economic conditions in some rural areas of North Africa.

However, the study's findings show that these shifts do not necessarily signify the collapse of the agricultural sector; rather, they may present an opportunity to rebuild it according to more flexible and modern models. This highlights the importance of the theory of "*regional resilience*," which emphasizes the capacity of territorial areas to adapt to crises and transformations by developing local strategies based on innovation and the diversification of economic activities (Berkes & Ross, 2013, pp. 8–12). In this context, young farmers can play a pivotal role in modernizing the agricultural sector by adopting modern technologies, developing sustainable agriculture, and strengthening local value chains and linking them to markets.

Contemporary sociological literature emphasizes that the transformations occurring in the agricultural sector cannot be separated from broader social and cultural changes within rural society. Young people's perceptions of agricultural work, changes in family structures, and shifts in the labor market are all factors that directly influence their relationship with agricultural activity and their willingness to settle in rural areas (Hervieu & Purseigle, 2015, pp. 133). Agriculture is no longer understood solely as a traditional economic activity but has become a field where the economic dimension intersects with the challenges of modernization, sustainability, and social and cultural transformations.

In light of these findings, it appears that achieving sustainable rural development requires adopting a comprehensive approach that goes beyond narrow economic solutions, by combining the modernization of agricultural holdings, the improvement of living conditions in rural areas, the development of agricultural training, and the strengthening of institutional support for young

people. Comparative experiences in a number of Maghreb countries and the Middle East and North Africa (MENA) region also highlight the importance of public policies that provide financing mechanisms, support programs for young farmers, and technical training in mitigating the effects of rural migration and encouraging generational renewal within the agricultural sector (Courade, 2006, pp. 142–148).

Consequently, it can be argued that the future of Algeria's agricultural sector depends on the extent to which development policies can strike a balance between demographic and social transformations on the one hand, and the requirements of agricultural modernization and economic sustainability on the other. The sustainability of agriculture is no longer linked solely to production or natural resources; it now also depends on the ability of rural areas to retain their populations and create a social and economic environment that makes agricultural activity a viable career choice for new generations.

Conclusion

The study indicates that the agricultural sector in Algeria is currently facing complex structural challenges, primarily linked to the socio-demographic transformations taking place in rural areas. Rising rural migration, together with the ageing of the agricultural workforce and declining interest among young people in farming, has reduced the sector's capacity to ensure generational renewal and the continuity of agricultural holdings. Which has a direct impact on the future of rural development and food security in the country.

The study also demonstrated that these transformations are not limited to the demographic aspect alone, but extend to include the social, economic and cultural changes experienced by the Algerian countryside. These changes can be seen in terms of lifestyle and work patterns, shifts in young people's perceptions of agriculture, and the emergence of new career aspirations that go beyond traditional agricultural activities. This underscores the necessity for a multifaceted approach to address the pressing issue of generational renewal within the agricultural sector.

In this context, there is a need to adopt more integrated public policies aimed at improving living and working conditions in rural areas. Young people need to be encouraged to engage in agricultural activities by providing training, facilitating access to financing and agricultural land, and supporting innovation

and modernisation within agricultural holdings. Furthermore, strengthening infrastructure and basic services in territorial areas is a key factor in reducing rural migration and achieving greater social and economic stability.

The future of Algeria's agricultural sector is ultimately linked to the extent to which development policies can adapt to current socio-demographic transformations by adopting a sustainable development approach that integrates economic, social, and demographic dimensions. Such an approach would contribute to the revitalisation of rural areas, strengthening the resilience of the agricultural sector, and ensuring its continued role as a strategic sector in achieving national development.

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