



## The Issue of Food Security in Algeria: A Critical Analytical Reading of the Reasons for Failure

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**Abstract:** Achieving state security is considered one of the essential traditional goals of political systems, as states seek to ensure their national security at all levels. The concept of security has evolved beyond the traditional military concept to include political, social, and economic areas. The study addressed one of the important axes in achieving security, especially in recent times, which is food security. This article examines the topic of food security in Algeria by highlighting the policies implemented to achieve it. The problem of food security in Algeria is multifaceted, and the article also examines the failure of various policies adopted by decision-makers to achieve food self-sufficiency. After reviewing different literature and conducting an analytical and critical study, research concluded that this failure is due to multiple internal and external reasons, particularly the rentier nature of the Algerian economy, which has led to continued reliance on rentier income for spending without considering serious policies to enhance food security. Therefore, achieving food security in Algeria requires a multi-dimensional approach that includes reforming the economic, political, and governance system and eliminating reliance on rentiers through investment in renewable energy and economic diversification.

**Keywords:** Security, Food, Algeria, Rentier, Challenges

## Introduction

Food security is one of the main axes for achieving human security and sustainable development. It is also an essential geopolitical component of a country's strength and progress, and this is what made it the subject of attention by researchers and decision-makers, especially in recent times with the transformations that the world is witnessing at various levels, as military and economic power are no longer the only axis of national security for countries. However, countries derive their strength from the extent to which they possess sovereignty in the production and distribution of food, which is expressed in food security. Food security is a comprehensive concept that provides sufficient, nutritious, and safe food for everyone. It reflects the urgent need to ensure the stability and availability of food supplies and the ability to access and use them effectively.

Algeria endeavors to implement comprehensive developmental policies to ensure food security, recognizing it as a crucial factor in achieving sustainable

development, particularly in light of numerous variables influencing the architecture of food security in the nation. The issue of food security in Algeria manifests in the country's significant reliance on foreign imports to meet dietary requirements. For instance, in 2014, food imports reached a staggering cost of \$11.005 billion. Furthermore, Algeria's agricultural food exports to the European Union amounted to \$2,491 million in 2019, escalating to \$3,573 million in 2022, and subsequently reaching \$2,799 million in 2023 (DG AGRI, 2023, pp. 1-8). According to the 2019 Global Hunger Index, Algeria ranked 47th out of 117 countries, with a moderate hunger score of 10.3. Children under five are most susceptible to malnutrition. The Food and Agriculture Organization (FAO) reports that one in ten children is underweight due to poor infant and young child feeding practices, with malnutrition cases rising dramatically. Severe hunger has also impacted the adult population in Algeria, with approximately 1.2 million Algerians suffering from malnutrition. These individuals experience partial food insecurity and undernourishment, exacerbated by escalating prices of imported goods (Reece, 2020). In the 2023 Global Hunger Index, Algeria's position improved to 33rd out of 125 countries with sufficient data for calculation. With a score of 6.8, Algeria's hunger level is classified as low, indicating progress in addressing food security concerns (Global Hunger Index, 2023).

An analysis of the literature addressing Algeria's current food security situation reveals an enduring instability. Rahmani's study (2020) illuminates how various factors, including economic volatility, climatic challenges, and insufficient investment in the agricultural sector impede Algeria's food security. The research emphasizes the necessity for a comprehensive policy framework aimed at bolstering food security through sustainable practices and enhanced agricultural productivity. Rabhi and Kermia's examination (2023) of Algeria's food security status, analyzing dimensions such as production, imports, and self-sufficiency rates from 2018 to 2023, diagnoses a recent deterioration. The study proposes strategic insights to surmount challenges and reduce dependence on food imports, highlighting ongoing governmental efforts to transition from a rentier economy to a more sustainable agricultural model. Belgaid and Ouchalal's research (2024) on the geopolitical ramifications of food insecurity in Algeria underscores the nation's import dependence and vulnerability due to reliance on hydrocarbon revenues. Their analysis elucidates how this dependence influences Algeria's sovereignty and global geopolitical standing, emphasizing the importance of achieving food self-sufficiency. Hanfaoui observes tangible efforts by Algeria to attain food security, reflected in improved Global Food Security Index results in 2022 compared to 2012. Nevertheless, these efforts still need to be improved to guarantee food security and sustainability, with Algeria's performance in specific indicators,

particularly nutritional standards and supply chain infrastructure, remaining subpar.

The literature provides a comprehensive understanding of Algeria's food security situation, highlighting its multifaceted nature and the need for an integrated approach to address challenges related to production, access, and stability of food supplies. Despite available agricultural resources, Algeria struggles to achieve self-sufficiency. The country's dependence on food imports emerges as a central theme, threatening food security and geopolitical sovereignty (Hafnaoui, 2023, pp. 11-30). So, while most of the existing literature primarily examines food security from economic or social perspectives, the multidimensional internal and external aspects, particularly the management of development policies, have been largely overlooked. This study's scientific innovation and originality lie in presenting a distinct analytical vision using a systemic approach. This approach allows for the analysis of direct and indirect dimensions affecting food security achievement, focusing on political and developmental aspects by highlighting the impact of development policy management and the state's political and economic orientation on achieving food security. Food security is not merely about providing sustenance for all inhabitants but necessitates autonomy and continuity in its provision for all. Therefore, this study addresses the following question: How can the deficit in achieving self-sufficiency and food security in Algeria be explained?

To answer, we start with the following hypothesis: The absence of attainment of food security can be ascribed to the insufficiency of the development methods and policies implemented, resulting in heightened reliance on external food sources. The study aims to explore and elucidate the reasons behind Algeria's struggle to achieve food security by analyzing the internal and external environment that influences its evolution. The country has failed to attain self-sufficiency and faces challenges related to food dependence. The study attempts to use the systems approach, one of the most important approaches in political science, to explain the phenomenon of food security in Algeria by analyzing the environmental determinants, both internal and external, and how they affect, either directly or indirectly, the various aspects involved in achieving food security. The research was conducted using a descriptive-analytical approach to understand the current status of food security and the measures Algeria took to achieve it. Furthermore, the systems approach was utilized to examine the internal and external factors that influence food security in Algeria. The article is divided into four main sections to analyze the problem and hypotheses. The first examines the policies and mechanisms employed to achieve food security in Algeria. Subsequently, we discuss the external and internal challenges to food security in Algeria. Lastly, the

final part explores and debates the prospects for attaining food security in the country.

The term food security has many definitions. In its most specific interpretations, food security refers to food availability at several levels, including global, national, community, or home. Initially, food security was employed to denote the extent to which a nation can obtain an adequate quantity of food to satisfy its dietary energy needs. National food security refers to the state's ability to produce enough food to meet its population's requirements or demands, hence achieving self-sufficiency. There has been limited clarification over the precise definition of self-sufficiency, specifically if it entails ensuring that all individuals have adequate access to food to meet their energy and nutritional needs or if the economic demand through domestic production alone is sufficient to assert self-sufficiency. According to the latter concept, any nation can assert self-sufficiency by allowing the local market to balance supply and demand at whatever price. The concept of national food sovereignty continues to be employed as a metric to assess a state's capacity to supply the essential or preferred food for its population, irrespective of whether the food is domestically produced or imported. Food sovereignty is not achieved by a state that can produce the necessary food or if its inhabitants cannot afford the necessary imports due to a shortage of hard money (Per Pinstrup, 2009, pp. 5-6).

The Food and Agriculture Organization later expanded this definition to include nutritional value and food preferences. Thus, according to the 1996 World Food Summit, food security is defined as the state in which individuals possess both physical and economic means to obtain safe and nutritious food that aligns with their dietary requirements and personal preferences, enabling them to lead an active and healthy lifestyle (Donkers, 2014, p. 95). In short, food security within a nation's economy is characterized by the consistent availability, accessibility, and utilization of food resources to satisfy individuals' dietary requirements (Iortyom and Kargbo, 2023, p. 11). Algeria's legislation defined food security according to Law 08/16, which includes agricultural guidance in its third article, as the easy and regular attainment and access by every person to sufficient and wholesome food that allows them to enjoy an active life (Law No. 21-15, 2021).

The concept of food security has undergone significant evolution and steady expansion in recent decades. First, it directed attention toward accessibility and the generation of sustenance. It has expanded to encompass the potential for acquiring food, including physical, economic, social, and cultural capacity. Subsequently, it evolved to assess food utilization, culminating in the Rome Declaration on World Food Security in 1996. This declaration encompassed several critical aspects (Cheeseman, 2016, p. 113). It was ensuring sufficient quantities of food for all individuals. Individuals must have adequate finances and physical means to access

food, including crucial infrastructure like roadways and reliable water sources. The provision of essential resources for handling, storing, and processing goods adequately, including safe and enough water and sanitary facilities and ensuring a continuous and uninterrupted food supply.

## **Policies and Mechanisms for Food Security in Algeria**

Algeria adopted the concept of self-sufficiency in food security immediately after its independence, attempting to rid itself of any dependence on foreign entities. It embodied many programs to achieve this, most notably the Agricultural Revolution program 1971 under the slogan 'the land belongs to those who cultivate it'. The adoption of the food security concept by Algeria became evident in the year 2000 in the objectives of the National Plan for Agricultural Development, within a document published by the Ministry of Agriculture at the time, which included a definition of the plan as "an operational strategy to respond to a crisis in the sector, specifically aiming to: improve the state's food security." After that, institutions and government documents used the idea extensively and in many different ways (Touijini, 2017, p. 363).

Algeria is considered one of the international parties that have committed through international documents to achieving food security at the national level. Algeria is a member of the Food and Agriculture Organization of the United Nations. It has also cooperated with the World Food Program since 1986 and signed the Arab Food Security Strategy 2021, which aims to enhance food security in Arab countries. To achieve food security, Algeria has enacted legislation and established a specialized mechanism in this field, the Ministry of Agriculture. It has given attention to the agricultural sector as an important contributor to achieving food security and has adopted reform policies in agriculture, starting with the self-management policy and moving to the Agricultural Revolution. These policies help restructure the agricultural sector, which culminated in the National Strategy for Food Security and Agricultural Development as an integrated plan to improve the country's agricultural situation.

In the context of achieving food security, Algeria has worked within its strategy of developing agriculture by seeking to expand agricultural areas and reclaim unused agricultural lands. In addition, Algeria encourages farmers through tax benefits and other incentives such as measures to provide the state's strategic stock of grains. The Secretary-General of the Ministry of Agriculture confirmed that they had granted farmers benefiting from support loans a moratorium on debt repayment while guaranteeing the provision of all agricultural inputs (seeds and fertilizers) to farmers for the sowing and planting campaign of the 2023-2024 season, as well as subsidies for farmers affected by climate-related losses. Moreover, the government

has increased the purchase price of grains from farmers by 30%, raised the subsidy for dry legume collection, and limited the importation of dry legumes to the Algerian Professional Board for Grains to protect domestic production and eradicate chaotic imports, as explained (Algeria press service, 2023). Furthermore, the Minister of Finance, Aziz Faid, highlighted the government's encouragement of farmers to boost national production by increasing the purchase price of grains from farmers and local producers. Specifically, the price of hard wheat has been raised from 4,500 DZD per quintal to 6,000 DZD per quintal, soft wheat from 3,500 DZD per quintal to 5,000 DZD per quintal, and barley from 2,500 DZD per quintal to 3,400 DZD per quintal. To achieve this objective, over 6 billion DZD have been allocated in 2024 to cover the gap between the sale price of crops to mills and their purchase price from farmers (Bashar, 2024).

The government provided significant facilities for young people wishing to invest in agriculture after resolving one of the toughest obstacles to developing agriculture in remote areas: the census of agricultural lands and preparing for their redistribution to small agricultural investors. Algeria has also implemented laws to prevent speculation with consumer goods, especially subsidized ones, and has encouraged smart agriculture to achieve food security. Another focus has been developing natural resources and optimally exploiting those, including developing water resources (Khazar, 2022, p. 79). The government is working to reduce migration from rural areas by setting up programs for these groups, especially in the shadow zones.

In addition to adopting the Sustainable Development Plan Horizon 2030, the Algerian authority is working to achieve the Sustainable Development Goals, especially eradicating poverty and ensuring food security. The Ministry of Higher Education also demonstrates its commitment by adopting the Algerian Strategy for Research and Innovation in Food Security 2020-2030. This strategy, resulting from the efforts of many researchers specialized in various fields, aims to enable the higher education and scientific research sector to outline plans and programs in research, innovation, and training. It aims to respond to existing challenges and invest in available capabilities to achieve national food security, adapt to the needs of society, and provide a scientific and knowledge base for stakeholders to overcome various problems and obstacles related to food security (Hafyani, 2023, p. 300).

These efforts have had positive results in ensuring the stability of food security in Algeria in recent times. Algeria has been classified among the countries that witness stability in their food security and do not suffer from the food shocks that the world knows due to various shifts in food prices and different global crises. However, achieving food security and food sovereignty in Algeria faces many

challenges. Algeria has yet to achieve self-sufficiency in food production, which affects the country's entire food security. The following sections will address the most important reasons for this.

## **External Challenges and Food Security in Algeria**

Algeria's achievement of food security is impacted by a series of external challenges linked to the international order and various political, economic, and military interactions, which collectively influence global food security, particularly in the context of the modern world system, which exhibits a hierarchical power structure between the core, periphery, and semi-periphery. The concepts of core and periphery delineate the unequal distribution of wealth, power, and resources within the global economy. Advanced economic development, cutting-edge technological capabilities, and substantial political influence characterize the core nations. In contrast, the peripheral countries lag in development, possess limited technological prowess, and hold a weaker political standing. The "core societies" tend to dominate and exploit the weaker and less affluent "marginal societies." This dynamic renders developing nations, including Algeria, highly susceptible to the myriad shifts within the global system (Yıldız, 2024, p.77). Climate change, the Russian-Ukrainian crisis, and the COVID-19 health crisis are among the most significant factors.

Climate change, defined as long-term statistical fluctuations that persist for decades, results from natural variations and human activities (Ben Qassir and Boumendjel, 2022, p. 64). Climate change influences the availability of food by causing adverse effects on crop yields and the productivity of fish and animals. Regions heavily reliant on rainfall for agriculture will see disproportionately severe impacts from climate change, rendering them highly susceptible to climate variations and drought. Wiebersiek and Wilson believe that "African economies are closely linked to natural resources and heavily dependent on agriculture, which relies greatly on rainwater. Africa is expected to be especially susceptible to climate change and the associated climatic variations leading to loss of biodiversity, food insecurity, water scarcity, and increased frequency of droughts" (El Bilali et al., 2020, p. 199).

Climate changes, closely linked to food security, result from global warming, which causes increased gas emissions and a rise in both maximum and minimum temperatures. This warming poses threats like rising sea levels, water scarcity affecting agriculture and desertification. All these climatic changes lead to alterations in the foundations of the food system, food production, and changes in storage, transportation, and marketing, as well as the assets of farm animals. This, in turn, could lead to changes in the food consumption system, which then impacts

human health by affecting the rates of dietary sufficiency and changes in nutritional values (Ben Yazza, 2018, pp. 23-24).

Among the manifestations of climate change's impact in Algeria (Hafyani, 2023, p. 272) is drought, with Algeria suffering from increased drought periods in recent years, affecting the harvest of crops, especially rain-fed grains, and causing economic losses for farmers. Floods, where seasonal floods negatively impact the harvest of seasonal crops, particularly grains, due to damage caused to the produce by unexpected seasonal rains after the harvest period. The latest climate changes in Algeria reveal that a significant margin exceeds the rate of global warming. While the global temperature rise was 0.74 degrees Celsius over the 20th century, Algeria's temperature increase ranges between 1.5 and 2 degrees Celsius, placing the country 11th globally in terms of temperature rise, with an average temperature of around 33 degrees Celsius. Algeria is one of the 24 hotspots worldwide most vulnerable to climate change, situated in a geographically precarious position. The country faces a growing intensity of weather phenomena each year, exacerbating its fragility. The repeated occurrence of prolonged droughts has exacerbated the desertification phenomenon, with over 50 million hectares of land currently at an advanced stage of desertification. Due to soil degradation and water scarcity, rural populations migrate to major cities for survival (Tayr et al., 2024, p. 31). The National Agency for Water Resources revealed the impact of climate change on Algeria's water resources through an analysis of rainfall data in 1990. The findings show that rainfall has decreased by 40% in the west, 30% in the center, and 20% in the country's east. Climate change has also disrupted the rainfall's temporal and spatial distribution, posing a constant threat to soil, agriculture, and sedimentation in reservoirs, resulting in decreased storage capacity. Climate change has affected surface water resources and subsurface water, which has significantly dropped its water table. According to recent developments, the water deficit is expected to worsen, driven by the impact of climate change and rainfall shortages. Statistics show that the annual rainfall was 557.6 mm<sup>3</sup> in 2011, 405.9 mm<sup>3</sup> in 2016, and 490.5 mm<sup>3</sup> in 2020. Experts predict a further 10-20% decrease by 2040 compared to the 2011 level (Tayr et al., 2024, p. 32).

The ongoing military conflict between Russia and Ukraine, two of the world's most important producers of agricultural commodities, particularly barley, wheat, and corn, has both directly and indirectly affected food security. Its direct impacts are manifold, including the destruction of infrastructure and equipment, livestock deaths, damage to agricultural lands, and preventing producers, distributors, and consumers from accessing markets. Indirectly, the conflict discourages productive agricultural investment, thereby reducing food availability. It also deprives the



government of tax revenues, which prevents the establishment of social safety nets that enhance security. Russia's military invasion of Ukraine since February 24, 2022 has had grave effects on food security as together, they account for approximately 30% of global wheat exports, and Russia is the largest exporter of fertilizers.

These developments will likely have a clear impact on global food security through the effects on the prices of these commodities and their derivatives, resulting from the reduced supply and fluctuating available quantities amid the ongoing political and military conflict. Subsequently, this will affect the food security of many countries, including Algeria, which relies on imports to cover its needs for the products above (Mazoun, 2022, pp. 396-397). The impact of the crisis on Algeria is evident through its economic relations with Russia and Ukraine. According to Ahmed Kacim (2023), citing preliminary data from the Russian Federal Customs Service, Algeria significantly increased Russian wheat imports by 290% to approximately 1.3 million tons in 2022, up from 330,000 tons in 2021. This surge in wheat imports also represented a 290% increase in value, positioning Algeria among the top five purchasers of Russian wheat in 2022. In January 2022 alone, Russia exported about 363,500 tons of wheat to Algeria.

Algeria holds the position of being Ukraine's second-largest economic and trade partner in Africa, following Egypt. The crisis' impact is starkly evident in the decline of bilateral trade volume between the two countries, which fell to \$360 million in 2020 from \$620 million in 2019. In 2019, Ukraine's mineral product exports to Algeria were valued at \$273 million, accounting for approximately 45% of the total Ukrainian-Algerian trade that year. In 2020, due to the COVID-19 pandemic, Ukraine's ferrous metal exports to Algeria amounted to about \$100 million, representing over 25% of the total trade volume for that year. Algeria has emerged as a key destination for Ukrainian grain exports. Data revealed that Ukrainian grain exports from ports reached 1.14 million tons during the last week of January 2020, with wheat exports rising to 201,000 tons from 69,000 tons, while corn shipments decreased to 931,000 tons from 1,050,000 tons. China, Spain, and Algeria received most of Ukraine's grain exports, with total grain exports jumping to about 35.5 million tons during the 2019/2020 season from 23.9 million tons in the 2018/2019 season (Bekhiti, 2024, p. 226). These figures underscore Algeria's significant reliance on Russian and Ukrainian agricultural imports, mainly wheat and other grains.

Despite sufficient supply levels, the COVID-19 health crisis also disrupted global food supply chains. The state of food availability in North Africa, and particularly in Algeria, is generally satisfactory. However, the region's dependence on grain imports makes it susceptible to the repercussions of disturbances in the worldwide

markets. Furthermore, experts anticipate declining grain production in the Maghreb countries due to droughts and increasing heat. In response, each country in the region, including Algeria, has expanded economic stimulus packages, created funds, and supported social protection programs to mitigate the economic impact of the crisis. Authorities have deferred taxes on the agricultural sector, established new credit facilities for farmers, and issued new legal texts. These measures aim to maintain the stability of food security indicators and combat abusive practices, such as monopolistic behaviors and illegal speculation that have worsened the crisis (Rabiai and Wassmer, 2022, pp. 266-267).

As part of its efforts to maintain food security and address the consequences of the COVID-19 pandemic, the Algerian government has enacted several decisions (Mazoun, 2022, p. 396): Prohibiting the export of goods unless prior approval is obtained from competent authorities, considering it a matter of food security. Facilitating customs and banking procedures for imported foodstuffs. Combating speculation by intensifying campaigns against traders engaging in monopolistic behaviors and illegal speculation. Increasing the supply of soft wheat to mills.

### **Internal Challenges to Food Security in Algeria**

The governance of food security in Algeria faces several internal challenges. One key challenge is the food gap; an observer of the agricultural sector related to agricultural production, exports, and imports in Algeria will notice the extent of Algeria's considerable dependence on foreign sources to meet its food and agricultural needs. Due to its inability to rely solely on local provisions, Algeria has become one of the largest importers at the Arab level. Despite efforts to reduce the size of the food gap, Algeria needs an increase in the food gap percentage across various food commodities, especially grains (Hafyani, 2023, p. 214). Algeria has experienced variations in the self-sufficiency rates of different food commodities due to local production and consumption fluctuations. This is due to the variation in the size of local production on the one hand and the variation in the rate of local consumption of these products on the other hand. The increase in demand for food at the expense of locally produced food products has led to a decline in self-sufficiency rates for many agricultural products (Hafyani, 2023, p. 216). So, an increase in demand for food at the expense of locally produced food products has led to a decline in self-sufficiency rates for many agricultural products. This is a serious problem, as it can lead to food insecurity and price volatility.

Among the challenges that have constituted a concern for strengthening Algerian food security are those challenges resulting from the failure of development policies implemented for decades to achieve their desired goals, especially agricultural development policies, which did not achieve the necessary results as

the indicators of the food gap, food deficit, dependence, and its legacy continued. In addition to the failure of social policies to contain poverty and unemployment and their inability to raise the purchasing power of the ordinary citizen, as well as the failure of economic policies to achieve good economic growth rates, provide jobs, and preserve natural resources, etc., all these policies failed to meet the aspirations of the Algerian society and the state alike. This is due to many reasons, including mismanagement, the absence of an accurate diagnosis of the Algerian economic and social situation, and the adoption of confusing simulation models that need to consider the local environment. In addition to the spread of bribery, corruption, and theft of public money, especially during the period of high oil prices and rent revenues etc., which ultimately led to a miserable reality at all levels and fields, including food security, which was greatly affected by these policies (Hafyani, 2023, p. 276). On the other hand, what distinguished the Algerian state institutions in the previous period is the state of instability due to the government changes every period, and this is nothing but a reflection of the political vacuum and the weakness of political life, and even trade unionism, in addition to the spread of corruption and the spread of the parallel market on a wide scale, with the absence of a national economic project caused by the absence of a comprehensive strategy to activate the role of scientific research in promoting the national economy (Amouri and Maldi, 2023, p. 77).

Food security is affected by the state's general political and economic system, in addition to the political instability Algeria has experienced, which has influenced the lack of attention to activating programs and policies within the framework of food security. The stability of food supplies for individuals is also a fundamental pillar for ensuring food security in Algeria, which relies heavily on food imports from abroad, especially for staple foods. This reliance exposes it to the risk of disruption of its food supplies due to political and economic crises, such as the decrease in the supply of food in the international market or the increase in its prices, in addition to the external factors mentioned previously (Maakal and Touijini, 2023, p. 77). The nature of the state's political and economic system also constitutes one of the most essential internal challenges to food security in Algeria. The political and economic structure of the state, along with the effectiveness of development strategies as a whole and the food sector in particular, significantly influence the accomplishment of food security. An effective state strives to establish an economic and political system that provides structures enabling its citizens to live more prosperous lives, while ensuring the protection of fundamental rights and freedoms and guaranteeing political participation in the process. This reflects the concept of governance and the redefinition of state boundaries around the axis of economic efficiency and transparent and accountable resource management. In this context, effective states execute diverse policies to augment human capital,

enhance the efficiency of goods and factor markets, deepen financial markets, elevate technological capabilities, and introduce varied innovations to improve global competitiveness while adapting to evolving circumstances (Saygın and Yamak, 2017, p. 19).

Algeria is a rentier state that relies on rent as the primary funding source for its programs. This is one of the main obstacles and challenges to Algeria's achieving its food security. Many studies by political economy experts have shown that rent revenues help strengthen the country's import tendency and contribute little to expanding the productive base (Bouladane and Foul, 2021, p. 490). This is what makes the strategy of economic diversification and exploitation of other sectors necessary for achieving food security in Algeria. The oil sector employs only 2% of the workforce, so the challenge for Algeria, like other oil-exporting countries, is to strengthen its resilience toward any shock of declining oil revenues while diversifying its economy, as happened with the recent decline in oil prices, given the rapid increase in the number of active population. Providing a better business climate, a solid economic base, and quality training are among the most important measures to diversify the economy, encourage growth in non-oil GDP, reduce the unemployment rate, and increase non-hydrocarbon exports (Bouladane and Foul, 2021, p. 490).

Focusing on petroleum rent and neglecting productive work contributes to weakening food security, as the national economy almost entirely depends on importing most products from abroad. This has contributed to forming a managerial and consumer culture that does not rely on and encourages local production but on consumption based on imports financed by the state's public treasury. It is worth noting that in 2013, food imports reached approximately 10 billion dollars. The state has been trying to rectify this situation for decades but has failed (Ashouri, 2024, p. 336). Thus, the Algerian political system's reliance on rents in designing its economic and social policies is one of Algeria's most prominent obstacles to achieving complete and absolute food security. The state's rentier nature made decision-makers content with exploiting rents to import what they needed without considering policies and programs to promote food self-sufficiency.

### **Analysis and Discussion: Prospects for Food Security in Algeria**

Achieving food security in Algeria requires addressing a set of factors, both politically and economically, and especially working to achieve self-sufficiency to eliminate external food dependence. The sustainability of food security is linked to the government's ability to ensure the delivery of healthy food to everyone through the state's available capabilities without harming the rights of future generations.

Despite the considerable financial prosperity and remarkable expansion that modern agriculture and the global food system have attained, they still need to address the global food crisis effectively. The global food crisis is predominantly a social issue. Experts do not expect a resolution to this issue through a progressive increase in production volume and financial prosperity. Furthermore, the proliferation of large-scale agricultural operations in developing nations has resulted in the dispersion and increased impoverishment of small-scale farmers, exacerbating the global food crisis. Recognizing individuals' need to exert authority over their food and its cultivation can surmount these challenges. Hence, nations must possess the entitlement to food, the authority to cultivate food, and the prerogative to safeguard their borders from undesirable imports. When regions or nations have the authority to govern their food production and consumption, they effectively include food security as a fundamental aspect of their food policy. Maintaining food security and eradicating hunger are regarded as essential concerns by prominent global organizations (Donkers, 2014, p. 95). Accordingly, we can summarize some of the mechanisms upon which the future of food security in Algeria depends as follows.

The future of food security in Algeria depends on several mechanisms and strategies. Firstly, Algeria needs to review its development strategy and move toward economic diversification and exploiting renewable energy. The progress of many sustainable development goals presents new challenges for communities, decision-makers, and scientists alike. In order to address the complexities of food security and its complex interaction with other key issues, such as energy consumption and climate change, it is possible to achieve the three pillars of food security simultaneously if countries switch to exploiting renewable energy sources. In this context, Sánchez-Zarco et al. conducted a study that examines the evaluation of food, energy, and water security in a region undergoing significant economic expansion while also grappling with resource depletion resulting from adverse weather conditions. A comparative analysis was conducted between Türkiye and Germany to examine the lessons Türkiye might glean from Germany's shift from fossil fuels to renewable energy. Germany has recently declared its commitment to achieving a 65% reliance on renewable energy sources by 2030. Furthermore, the country has set the long-term objective of attaining a minimum of 60% of its total energy and 80% of its electricity (Derouez and Ifa, 2024, p. 4). Therefore, Algeria needs to work on leveraging investment in renewable energies, especially since it possesses many significant assets in this field, and to enhance their utilization, particularly in the agricultural and farming sectors.

Water security is an inevitable part of food security and requires focused attention. Enhancing water security can be achieved through granting the presence of ample

and dependable water resources of satisfactory quality to offer water services for all societal and economic endeavors in an ecologically sustainable manner; mitigating water-related hazards such as floods, droughts, and pollution; and resolving conflicts that may arise from disagreements over shared water resources, particularly in situations of escalating tension, and converting them into mutually beneficial resolutions. Water security can serve as a uniting factor for water managers. The process of operationalizing the notion of water security entails the identification of its diverse facets, establishing objectives, and examining strategies to attain these objectives (Mishra et al., 2021, p. 5). Therefore, it is vital to support public investment in water resources to develop the agricultural sector by expanding irrigated areas through dams and water complexes in the northern regions and high plateaus and rationalizing water consumption.

Accompanying the industrial sector with the agricultural sector to utilize manufacturing, production, storage, and processing capabilities can help reduce waste and spoilage during seasons of abundant production. Additionally, benefiting from Algeria's vast human resources, particularly its broad young workforce, can contribute to strengthening food security (Ashouri, 2024, p. 336).

Involving all official and unofficial parties in formulating food security policies is necessary to achieve effective governance. Civil society organizations and the private sector can play a significant role in supporting and promoting food security. Benefiting from regional and international partnerships, especially with Arab countries, through joint agricultural projects, attracting Arab capital for investment, and adopting flexible economic and trade policies can also enhance food security. In addition to the above, it is necessary to benefit from regional and international partnerships, especially with Arab countries, and take advantage of the benefits of the Arab Free Trade Area through joint agricultural projects aimed at exporting food between Arab countries and attracting Arab capital for investment. Adopting flexible economic and trade policies can develop trade between Arab countries in food products. This development simplifies import procedures by easing administrative and customs restrictions and facilitating banking operations.

Lastly, it is crucial to leverage modern technologies within agricultural and farming policies and encourage scientific research in this context. Algeria can benefit from technological advancements to improve the efficiency and productivity of its agricultural and farming sectors, ultimately contributing to the country's food security.

## **Conclusion**

Pursuing food security is of utmost importance for a nation's stability, social equity, and sustainable development. Since its independence, Algeria has implemented various strategies to achieve food security, however, it has yet to attain self-sufficiency in food production. This study analyzed the factors contributing to Algeria's failure to achieve its food security goals. By employing an analytical approach and adopting a systemic perspective, it examined both internal and external challenges that impact food security in the country. The research revealed that many external factors contribute to this failure, including climate change, global financial and health crises, and internal factors primarily stemming from the failure of managing food security policies. This is a natural consequence of the country's reliance on oil revenues and the absence of investment in alternative development strategies.

Thus, pursuing food security in Algeria necessitates a multi-dimensional approach encompassing economic and political system reform, governance, and eliminating rentier dependence through investment in renewable energy and economic diversification. This will contribute to economic growth and strengthen other sectors, particularly agriculture, which forms the foundation of food security, with the participation of all official and non-official stakeholders. Based on the preceding discussion, we recommend the following:

The food security crisis is complex and influenced by political and economic factors. Therefore, any strategy aimed at achieving food security must consider these factors. Liberating the Algerian economy from rentier dependence is a crucial first step toward ending food dependency. Moreover, Agricultural and agrarian policies should be re-evaluated and adapted to the diverse capabilities of Algeria's regions. Supporting scientific research and promoting food security projects is essential, as they provide valuable solutions to the challenges faced by decision-makers in the food sector. We should further leverage technological advancements and transfer modern techniques to enhance the performance of the agricultural and agrarian sectors. Empowering the private sector, civil society, and local administration will facilitate the development of innovative methods to boost food production.

In conclusion, the food security crisis in Algeria goes beyond policies directly related to food provision. However, it is intertwined with the political and economic system of the state, which requires governance and a policy change to move away from oil rentiers and external dependence on meeting citizens' essential needs. Food security has evolved to encompass not only the provision of adequate food but also its sustainability. Therefore, there are numerous future challenges that decision-makers in Algeria must recognize to ensure the stability of food security,

which necessitates further studies to analyze the future of food security in Algeria, such as the importance of transitioning to renewable energy and its impact on the sustainability of food security.



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