

The role of agricultural marketing in achieving food security in Algeria and penetrating international markets - Empirical study for the period (2014-2022)

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University, Algeriay.boudella@univ-boumerdes.dz**Received:** 08/12/2025**Accepted:** 14/05/2026**published:** 30/05/2026**Abstract:**

penetrating international markets during the period (2014-2022), and ways to reduce economic dependency and the food gap, using descriptive and inductive methods. The study concluded that Algeria has significant potential to advance its agricultural sector, provided that a national strategy is developed to protect local products and increase self-sufficiency rates, allowing entry into international markets. Agricultural marketing contributes to achieving comprehensive agricultural development and ensures the distribution of agricultural products to various national and international markets. It has contributed to Algeria achieving high self-sufficiency rates in some sectors, such as vegetables and fruits. However, it faces many customs obstacles and protectionist policies that require addressing.

Keywords: Agricultural marketing; Agricultural exports and imports; Food security; Penetrating international markets.

Jel Classification Codes: : Q13, Q17, Q18, N37, F14.

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I. Introduction:

The agricultural sector is considered one of the most important productive sectors in Algeria, thanks to the availability of agricultural resources. Agriculture plays a fundamental role in the economic and social development of countries, as it is closely linked to people's lives and their sustainability. This agricultural sector also directly impacts individuals' lifestyles and incomes, and is a source of food and social security.

Agricultural production methods and techniques vary in Algeria, affecting the sector's efficiency and effectiveness. The sector faces challenges due to the lack of financial resources to adopt modern farming methods that reduce agricultural costs at the farm level. At the same time, Algeria seeks to increase its agricultural exports and reduce its dependence on oil as a primary source of revenue due to its extreme and unpredictable price fluctuations. To enhance the marketing of agricultural products, Algeria has taken several steps, such as increasing financial and technical allocations to support farmers' capabilities, providing material and human assistance for scientific research and agricultural extension activities, and developing and enacting a legal framework to protect national products and encourage their export abroad.

Marketing agricultural products to international markets differs from marketing in local markets, due to several influencing factors, including increased competition, in addition to the conditions of monitoring, quality, specifications and standards imposed by countries before Algerian agricultural products enter their territories. All of these matters make international agricultural marketing more important, pushing Algeria towards adopting an agricultural policy based on encouraging the penetration and export of Algerian agricultural products to international markets. Based on the above, we can pose the following research problem: ***How does agricultural marketing contribute to achieving food security in Algeria, and what are the mechanisms that allowed Algerian agricultural products to penetrate international markets during the period (2014-2022)?***

Based on the previous research problem, we pose the following **sub-questions:**

Q1 : What are the most prominent capabilities of the agricultural sector and the strategy adopted that enable Algeria to market its agricultural products internationally and improve the structure of its foreign trade?

Q2 : Has Algeria been able to employ agricultural marketing mechanisms to achieve its food security and reduce the food gap for basic commodities during the period (2014-2022)?

Q3 : What are the most prominent obstacles preventing Algerian agricultural products from entering international markets and breaking away from their dependence on the hydrocarbons sector?

Based on the previous sub-questions, we propose the following study hypotheses:

H1 : Algeria possesses significant agricultural resources. If utilized properly and effectively, this will enable it to enhance its food security domestically and, at the international level, develop its agricultural exports and help increase its non-hydrocarbon exports.

H2 : Agricultural marketing has contributed to the development of agricultural products in Algeria and the enhancement of its food security, by increasing production rates, ensuring the continuation of agricultural activity, reducing the food gap, and raising the self-sufficiency rate for some basic food commodity sectors during the period (2014-2022).

H3 : During the study period, Algerian agricultural exports didn't encounter any customs obstacles or restrictions on access to international markets due to their good competitiveness.

Agricultural marketing is one of the most important topics related to the agricultural sector. The efficiency of its activities is determined by reducing the cost of marketing operations, which may sometimes exceed the cost of production itself for some agricultural production sectors. Marketing costs have increased in many countries due to increased demand for agricultural sector products on the one hand, and the increased cost of providing marketing services accompanying this increased demand on the other.

The study aimed to uncover Algeria's potential in the production of basic food commodities and agricultural resources. It also presented Algeria's current position in achieving food security and ways to reduce economic dependency and the food gap. It also identified the reality of agricultural product marketing in Algeria and the path to its development, as well as the mechanisms of foreign trade in Algerian agricultural products and the most important challenges and obstacles facing it.

To cover the aspects of the study, we relied on the descriptive method to ground the study theoretically, in addition to the inductive method to self-sufficiency rates and production rates for various agricultural crops in Algeria during the period (2014-2022), and the analytical approach to interpret and analyze these indicators. Data from the Bank of Algeria, Algerian Ministry of Agriculture, Arab Organization for Agricultural Development, and the National Statistics Office were used as study tools.

Previous studies:

- Lalam L., Benoun K. (2023). *"An Analytical Study of the Food Gap in Basic Food Commodities in Algeria during the Period (2009-2020)."* The study aimed to analyze the food gap in the most important food commodities in Algeria during the period (2009-2020). It concluded that Algeria recorded a deficit in its

food trade balance during the study period due to its importation of most basic food commodities, whose global prices reached record highs, while it exported a limited number of food products, the food gap fluctuated but tended to increase. The largest gaps were in the wheat, dairy, oils, corn, and sugar sectors. These were followed by red meat, legumes, barley, while the vegetable and poultry sectors achieved a surplus. This situation necessitates intensifying efforts and utilizing available resources to achieve sustainable agricultural development.

- Dahou S., Bouchoul S. (2020). ***"International Marketing of Algerian Dates and its Role in Developing Non-Hydrocarbon Exports: A Study of a Sample of Date Exporting enterprises in the Southeast"*** The study aimed to analyze the importance of international marketing of Algerian dates and its role in developing Algerian exports outside the hydrocarbon sector. It concluded that while Algeria is making efforts to boost date exports, there are shortcomings in the implementation of the international marketing strategy for exported dates, which has resulted in weak and fluctuating overall exports. The main reason for this is that enterprises don't conduct practical studies on target markets, in addition to problems related to agricultural date production, including the lack of reliance on modern technologies. There are also difficulties related to marketing problems, including weak human resources, intense competition in international markets, weak banking services, and weak services at ports.

- Ashouri I., Bishari K. (2018). ***"External Agricultural Marketing and its Importance in Developing Agricultural Exports"***. The study aimed to highlight the role of external agricultural marketing in promoting exports. The study concluded that agricultural exports have witnessed remarkable development, but their contribution to total exports remains very weak compared with neighboring countries. As for food products, they have experienced fluctuations due to insufficient attention and effective application of external agricultural marketing activities, which aim to collect data related to targeted foreign markets regarding supply and demand for agricultural products, the specifications and characteristics that they must possess in order to meet the needs of consumers in the desired manner. In addition, international promotion to introduce products and distinguish them from competitors' products can contribute to the development of agricultural exports.

Research gap: Although there are many studies related to agricultural marketing in Algeria, our study focused on the relationship between agricultural marketing and food security by presenting the growth of the agricultural sector in Algeria during the period (2014-2022), analyzing the various policies related to marketing agricultural products in Algeria according to different sectors, highlighting the role of the agricultural sector in reducing imports, especially in light of Algeria's move towards a strategy to diversify exports outside the

hydrocarbon sector after the COVID-19 pandemic and the Russian-Ukrainian war.

The added value of the research: Presenting the results of the development of the trade balance for basic commodities in Algeria during the period (2014-2022), and focusing on the requirements of agricultural policy to enable Algerian products to penetrate international markets, in light of new global events and developments.

1. Theoretical framework:

Agricultural marketing is a system aimed at facilitating the flow of agricultural goods and related services from places of production to places of consumption, conditions, prices and varieties are appropriate and accepted by all parties to the agricultural process.

It is the science that studies the functions required to move agricultural products to the places of final consumption, the completeness of the conditions such as: shape, appropriate place, time (I. A. Al-Noussour, A. B. Al-Saghir, 2013, p. 337). It represents all the activities related to the production of goods and services for agricultural consumers from their primary sources (farms), including the profits from these activities. form or time or place desired by the consumer

As a result of the above, the concept of agricultural marketing is determined by the farms as the source of the main commodity or agricultural services. Any agricultural marketing process starts from the producer continues until the product or service reaches the consumer. Agricultural marketing includes all services and processes related to the delivery of agricultural and animal products, or the transfer of ownership from producer to consumer. This includes the functions of marketing operations, the factors affecting supply and demand, transportation costs and quality, and the manufacturing of agricultural products to facilitate their distribution and transfer from producer to consumer. Attention is paid to collecting the necessary agricultural statistics and information on prices, the markets in which agricultural products are sold, and the desired quality.

1.1. Types of agricultural markets:

The agricultural marketing process takes place through a group of agricultural markets that can be classified into: (A. Djadoua, 2010, pp. 222-223)

1.1.1. Collective markets: These include places where agricultural products are collected and are usually close to farms.

1.1.2. Central wholesale markets: These markets display and sell agricultural products in bulk, whether locally produced or imported. They are usually located in cities or population centers. Most agricultural products are

sometimes sold at auction, or by agreement between the retailer and a middleman without an auction, if the quality of the products is good.

1.1.3. Export markets: These markets are typically located near airports, ports, border crossings, and land ports controlled by countries. Their operating mechanisms are based on collecting agricultural products, sorting them, and packaging them in suitable containers for export.

1.1.4. Retail markets: These markets receive agricultural products from central wholesale markets, where they are sold in small quantities to meet the needs of the final consumer.

1.1.5. Speculative markets: These markets represent a type of wholesale market in which sales are made on credit according to specific regulations. In these markets, sales are made for the purpose of making expected profits from price fluctuations or to protect against and avoid the consequences of price fluctuations.

2.2. Elements of the agricultural marketing mix:

The elements of agricultural marketing represent a set of basic activities for transforming agricultural products from the farmer to the consumer. These activities include exchange activities (such as buying, selling, and setting prices), physical activities (transportation, storage, sorting, and packaging), and facilitating activities (financing, risk-bearing, and providing marketing information). These elements create added value for products, meet consumer needs, and ensure that the product arrives in good condition and reaches the final consumer on time. It's represent the basic foundation for any economic/agricultural activity. These elements are: (M. Ayed, 2015, p. 09)

2.2.1. Agricultural Producer: The responsible for producing agricultural goods and products.

2.2.2. Agricultural Intermediaries: The individuals responsible for delivering agricultural goods and products from agricultural producers to consumers. These include wholesalers, semi-wholesale traders, retailers, commission traders, brokers, and exporters.

2.2.3. Consumers: The individuals who satisfy their needs for these agricultural goods and products.

2.3. The relationship between food security and agricultural marketing:

Food security is when a country produces the largest possible amount of food it needs in an economic way that takes into account the comparative advantage of that country in producing the food commodities it needs, within the limits of its resources and capabilities, and that its products are able to compete with foreign products, and that agricultural exports or other foreign currency

income is available through which it can import food items in which it doesn't have a comparative advantage in producing, and that it provides its citizens with sufficient food in the quantity and quality necessary for activity and health, taking into account the fair distribution of food to all members of society, especially those with limited income, and at the same time achieves a sufficient stock of food for no less than three months to confront abnormal or emergency circumstances (A. Ben Nacer., 2005, p. 11) .

Food security is a crucial issue, especially in special political circumstances, continued population growth requires the careful development of agriculture and marketing. To understand the dimensions of this issue, we define first self-sufficiency, which refers to a society's ability to fully and completely rely on its own resources and capabilities to produce and market its food needs locally. This means that each country must produce food in quantities sufficient to or exceed its local needs. This concept is based on three pillars: the availability of food commodities in a healthy and sustainable manner, their constant availability in the local market and their suitability for consumption, and their prices that are affordable to consumers.

A number of factors influence the food crisis, the most important of which are demographic factors, natural factors, and major economic policies, which include the economic transformation from a situation dominated by agriculture to one in which the role of other economic sectors increases at the expense of the agricultural sector. Furthermore, there is a lack of focus and interest in promoting research and investment in the agricultural sector, as it is considered a non-growth sector. The labor force in the agricultural sector and its marketing play a significant role in overall development trends and are among the most important factors underlying the deepening domestic food deficit.

Production and marketing are integrally linked, the importance of agricultural marketing increases with the continuous growth in production and the intensification of competition in local and global markets. Failure to pay attention to agricultural marketing has negative consequences, the most important of which is the inability to compete, which incurs losses and the cessation of agricultural marketing activities. In light of this, agricultural marketing is concerned with undertaking all activities related to the flow of agricultural goods and services from primary agricultural production centers until they reach consumers. Changing the food marketing structure in favor of exporting countries, and the changes made by food-producing and exporting countries in agricultural policies and marketing, are the most important and closest factor to the global food crisis (M. Ayed, 2015, pp. 17-19)

2.4. The role of agricultural products marketing policies and systems in supporting food security in Algeria:

Algeria suffers from a growing food gap as a food importer, food imports are increasing due to population growth and growing needs. With regard to trade and market liberalization, the private sector has assumed the task of distributing all agricultural products, with the participation of government agencies of an economic nature. The private sector distributes many agricultural products, such as vegetables, fruits, dairy, fish, and eggs, in addition to partnering with the public sector in the distribution of various types of meat. The government regulates markets according to mechanisms to support farmers through incentive measures to increase and price production, particularly for basic products such as wheat, legumes, and potatoes. Livestock markets in Algeria also operate using traditional techniques, lacking health and quality control.

The organization of food markets in Algeria is generally not subject to the laws of supply and demand, due to a lack of knowledge of negotiation and price-setting mechanisms. The agents involved in the distribution chain include the farmer, the middleman, and the retailer. This structure is more suited to plant-based products or goods, such as fruits and vegetables. As for animal products, the market is more affected by major events such as celebrations, where farmers sell directly to consumers. The most prominent distribution policies and systems for basic commodities in Algeria can be identified as follows: (Arab Organization for Agricultural Development,, 2006, pp. 53-56)

2.4.1. Policies and regulations for the distribution of grain and legume products: The collection and storage of produce used to be carried out by agricultural offices. However, the government's gradual abandonment of these practices has limited the products collected and stored by government institutions to grains and milk. For cereal and dry legume crops, approximately 60% are marketed through the Algerian Professional Cereals Office (OIPC). Government agencies collect cereal and legume crops at points close to production areas, then store, process, and distribute them to wholesalers and retailers, from where they are distributed to consumers. The remainder is marketed by the private sector. The government regulates markets and supports farmers through incentives aimed at increasing production of certain crops, such as wheat and legumes. Agricultural products are generally marketed through the National Cereals Office, agricultural cooperatives, the private sector, designated points of sale, and neighborhood markets.

2.4.2. Policies and regulations for the distribution of fruit and vegetable products: The public authorities have taken it upon themselves to reorganize and control the routes, in the face of the quasi-chaos that prevailed, which in turn led to price fluctuations (F. Said Mansour, 2016, p. 30).

Fruits and vegetables are marketed in the wholesale market in all the northern wilayas, and there is a small section that is operated by retail trade. There is no control system for the products arriving at the market, despite the presence of a

committee to manage the market. There is also no information system about prices (although these prices are subject to the control of the Ministry of Commerce, and the state intervenes in some cases in order to maintain price stability in the local market). At the international level, the role of the state remains limited to providing support to exporters of agricultural products abroad (S. Dahou, 2016, p. 246).

The marketing of processed and fresh fruits and vegetables is similar, reflecting the fact that there is no specialization in the marketing channels for both. Manufacturers purchase either from the market or from retailers, depending on the best price (sometimes it is better to buy from the market, as the product must be sold immediately upon arrival at the market). Contracting for agricultural products in advance is important to avoid the problem of raw material shortages. Both private and public sector manufacturers can reduce their production if the price of raw materials is too high. Generally, farmers don't sort the produce; instead, they package it and transport it to the wholesale market, where it is sold at wholesale prices through public auction. Distribution channels change and are modified from time to time due to prevailing competitive conditions and, at other times, decentralization of production or distribution methods (K. Taleb, 2021, p. 51).

From the above, we note that among the obstacles to developing food distribution policies in Algeria are the lack of infrastructure and equipment at the wholesale market level, the absence of transparency, which results in a mismatch between quality and prices, the absence of information about wholesale markets, and the poor communication between producers and markets, which results in price discrepancies.

2.4.3. Milk and dairy products distribution policies: Milk distribution mechanisms in Algeria rely on a broad network of private and public dairies, as well as various points of sale. These are subject to strict oversight to ensure that subsidized milk reaches consumers at regulated prices. To this end, a digital platform has been created to monitor milk distribution nationwide, ensuring that this essential commodity is continuously available in all regions. To address the challenges facing the dairy sector in Algeria, the Audit Council has approved a set of recommendations, the most important of which are: (Audit Council, 2024, pp. 187-190) Paying attention to the informal sector, which produces more than two-thirds of local fresh milk production.

- Establish an information system for the milk sector, which will include all stakeholders. This system will ensure the tracking and reliability of technical, accounting, and statistical data.

- Strengthen internal control mechanisms related to monitoring the actual use of milk powder or local fresh milk used to produce subsidized milk for consumption by the state.
- Integrating fresh local milk into the production of regulated packaged pasteurized milk.
- Setting a minimum production price, equivalent to the milk production, to be reviewed annually based on international market prices and operating conditions.
- Working on an improved local breed better adapted to local conditions by opening this workshop for research and development.
- Strengthening the agricultural risk protection system, as establishing a legal system for protection against agricultural risks is an absolute necessity for developing the dairy sector.
- Developing productivity to achieve self-sufficiency, and establishing a regulatory body to monitor milk quality at the distribution level, with the aim of preventing health risks resulting from the physical, chemical, and microbiological characteristics of milk.
- Eliminating the milk shortage at the distribution level, as the production of sterilized (UHT) milk packaged in cartons is the optimal solution to stabilize the consumer milk market by offering solutions to current challenges.
- Reconsidering the pricing system to ensure profitable incomes for farmers and preserve the purchasing power of consumers, while ensuring the budgetary sustainability of public measures.

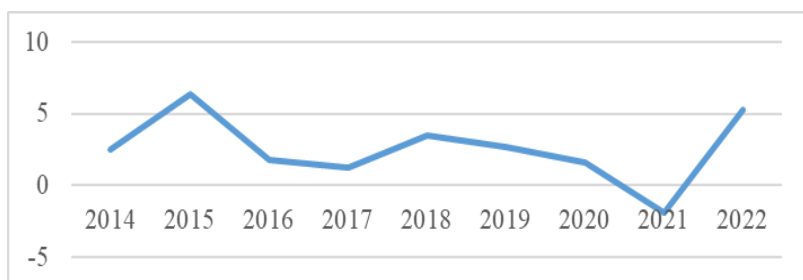
3. Applied and analytical framework:

In this section, we will discuss and analyze the development of the agricultural sector and agricultural production of the basic food commodities in Algeria during the period 2014-2022.

3.2. The development of the agricultural sector in Algeria:

The following figure shows the development of the agricultural sector growth rate in Algeria during the study period:

Figure (1): Development of the agricultural sector growth rate in Algeria during the period (2014-2022)



Source: Prepared by the researchers based on: (Bank of Algeria, 2015-2023)

We note from the previous figure that the growth rate of the agricultural sector was characterized by fluctuations throughout the study period, as the growth rate of the agricultural sector in 2014 reached 2.5%, rising during 2015 to reach 6.4%, advancing by 3.9 percentage points as a record rate, then the growth rate of the added value of the agricultural sector decreased during 2016 by 4.2 percentage points to reach a rate of 1.8%. To reach 1.2% in 2017, and in 2018 the agricultural sector contributed 42.7% to the growth of the gross domestic product, and also contributed to the employment of 1.067 million people, while the growth rate increased slightly to reach 3.5%. In 2019 the agricultural sector contributed about 40% of the growth of the gross domestic product and 17.1% to the growth outside of hydrocarbons. Statistics showed that the components of agricultural production growth (in terms of quantities) result mainly from the growth of horticultural production (7.4%), fodder crops, industrial tomatoes, and the production of trees and grapes.

The agricultural sector also witnessed positive growth during 2020, a year marked by an economic crisis resulting from the COVID-19 pandemic, reaching 1.6%. Despite this rate, it remains low compared to the 2019 level, with a decline of -0.8%. The agricultural sector also witnessed an unprecedented record low in 2021, despite the easing of health restrictions, with a negative growth rate of -1.9%. This was due to the scarcity of rainfall during the agricultural season and a 25% decline in dam reserves, in addition to increased prices for agricultural inputs and stricter import conditions. Agricultural production subsequently achieved positive results in 2022, due to improved weather conditions, accounting for 11.6% of the current GDP, with a growth rate of 5.8%.

3.3. Development of agricultural production of basic food commodities in Algeria:

Agricultural production in Algeria includes many crops, the most prominent of which are grains, legumes, vegetables and fruits, and marine fishery

products. It also includes industrial crops such as oils and fats, milk and dairy products.

3.3.1. Grain production: It was characterized by significant fluctuations and irregularity in terms of quantity throughout the study period. The average grain production in 2014 was about 34.35 million quintals, rising in 2015 to reach 38.29 million quintals, then declining in 2016 to reach 34.45 million tons. Grain production also achieved a record rate in 2018, reaching 60.65 million quintals. This is due to the efforts made to expand the areas allocated for grain cultivation. It then witnessed a noticeable decline, reaching its lowest quantity in 2021, 27.83 million quintals, due to the scarcity of rainfall during the agricultural season and the decline in dam reserves by 25%. As a result of improved weather conditions, grain and cereal crop production increased significantly by 59% in 2022, following a sharp 37% contraction in the previous year, reaching 47.17 million tons. The increase included all grain and cereal crops: durum and soft wheat production increased by 39.4% and 41.6%, respectively, in addition to increased barley and oat production, which recorded increases of 98.8% and 28.9%, respectively.

The results show that the amount of grain produced is still insufficient to meet local demand, leading to a reliance on imports. Grains top the list of agricultural products, including wheat, barley, sorghum, yellow and white corn. The leading wilayas in its cultivation are: Tiaret, Sidi Belabbes, Tissemsilt, Setif, Tlemcen, Batna, Relizene, Saida, Mascara, and Souk Ahras, which represent approximately 53% of the national grain production.

3.3.2. Legume production: Legumes are the primary source of vegetable protein in the daily diet of the Algerian individual, as increasing the production of any type of these crops contributes to enhancing food security. Legumes include dried beans, chickpeas, lentils, beans, and dried peas. The production of dried legumes fluctuated during the study period, with production reaching its lowest level in 2016, reaching 88.5 thousand tons. This was due to a decrease in the quantity and quality of seeds and a rise in prices. However, production subsequently began to increase and fluctuate until it reached its highest level in 2019, reaching 146.6 thousand tons.

3.3.3. Vegetable production: Vegetable cultivation witnessed fluctuating growth during the study period, with the vegetable sector recording a production of 135.55 million quintals in 2014, then reaching a record high of 173.15 million quintals in 2018. In 2022, the added value of the vegetable sector decreased in volume to 100.2 million quintals. The vegetable sector includes several crops such as potatoes, tomatoes, onions, beans, and carrots.

Potato production recorded a decline in production quantity, estimated at 38.5 million quintals in 2022, compared to 43.6 million quintals in 2021. Industrial tomato production witnessed a decline of 14.1% in 2022, compared to

a strong growth of 20.3% in 2021. Tomato production in 2021 was estimated at 16,416,400 quintals. Onion availability recorded a decline in production quantity in 2022, reaching 15.2 million quintals, compared to 17.1 million quintals in 2021. As for green beans and carrots, their available production witnessed a significant increase during the study period, reflecting Algeria's ability to produce the various vegetables needed for the Algerian individual's table.

3.3.4. Fruit production: Fruit production in Algeria fluctuated during the study period, with the highest production rate recorded in 2019: 5,006.1 thousand tons. Citrus fruits ranked first, with production increasing from 2016 to 2019, reaching 15,834,931 quintals. This is due to the Algerian climate's suitability for its cultivation, and it is concentrated mainly in the Mitidja Plain and Chlef. Dates followed, which saw a continuous increase during the study period, recording 11,888,030 quintals in 2021. This is due to the increase in the area of productive oases. The same applies to grapes, which saw an increase during the 2015/2016 season, before beginning to decline. After that, they achieved their lowest level in 2018, reaching 441,320 tons, before witnessing a significant increase thereafter, reaching 630,020 tons in 2021. This is due to the expansion of vineyard cultivation in desert areas such as Ghardaia and El Meniaa, and to the north in Boumerdes, due to the quality of water and climate that helps increase yields, in addition to the use of productive varieties and the renewal of vineyard lands. In general, we record a significant increase in the bulk of the fruit sector's production during the study period.

There are three main outlets for marketing fresh fruits and vegetables: point of shipment markets, speculative (wholesale) markets, and retail markets. In 2022, 5,081 wholesalers and 35,502 retailers were registered nationwide, in addition to 54,610 mobile fruit and vegetable traders.

3.3.5. Fish production: The marine fishery products fluctuated during the study period, with production reaching approximately 100.2 thousand tons in 2014. Production then began to decline and fluctuate, reaching its highest rate during the study period of 12.4 thousand tons in 2018, and then began to decline, reaching 83.97 thousand tons in 2022.

3.3.6. Meat production: Algeria has focused its efforts on the poultry industry for white meat production, in order to reduce the pressure on red meat consumption and meet growing consumer needs. Meat production reached 1,073.7 thousand tons in 2017, the best production rate during the study period, then began to decline, reaching 803.1 thousand tons in 2022. The reason for the increase in meat production is due to several factors, including: an increase in the population, an improvement in the standard of living for individuals, as well as a slight increase in the level of household income, which contributed to this. All of

these factors combined led to an increase in consumption, especially during seasons and holidays.

Despite the positive rate of red meat production, it remains limited for several reasons, most notably the impact of climatic factors on pastures and animal feed, the failure to adopt modern fattening methods, the weakness of the necessary infrastructure such as slaughterhouses, and the ineffectiveness of technical and financial support policies.

3.3.7. Greases and oils production: This sector includes all oils extracted from oilseeds, whether by traditional methods (mechanical pressing) or modern methods (based on chemical solvents). This sector requires huge investments and is dominated by a few large producers such as CEVITAL, unlike olive oil production, which is characterized by being distributed among numerous Sme enterprises. CEVITAL is considered one of the leading companies in the production of vegetable oil and margarine, and in the field of seed oil extraction, the brands CEVITAL, SAFIA, AFIA, and LABELLE represent the most important producers in Algeria during the study period.

We note that the production of oils and greases fluctuated during the study period, with production reaching its lowest level in 2014, reaching 57.16 thousand tons. However, production began to trend upward until it reached its highest level in 2020 (249.9 thousand tons), and during the year 2022, the production rate reached the equivalent of 195.3 thousand tons.

3.3.8. Milk and dairy production: The production of milk and dairy products witnessed a significant development during the study period, reaching its highest production value in 2015 with a production rate of 3,895 thousand tons. This is due to the increasing number of private enterprises especially in Bejaia, as well as the increase in consumption of the product due to the significant demographic growth witnessed by Algeria, and the government support directed to investment in these basic needs. During the year 2022, the production rate reached 3,263.6 thousand tons.

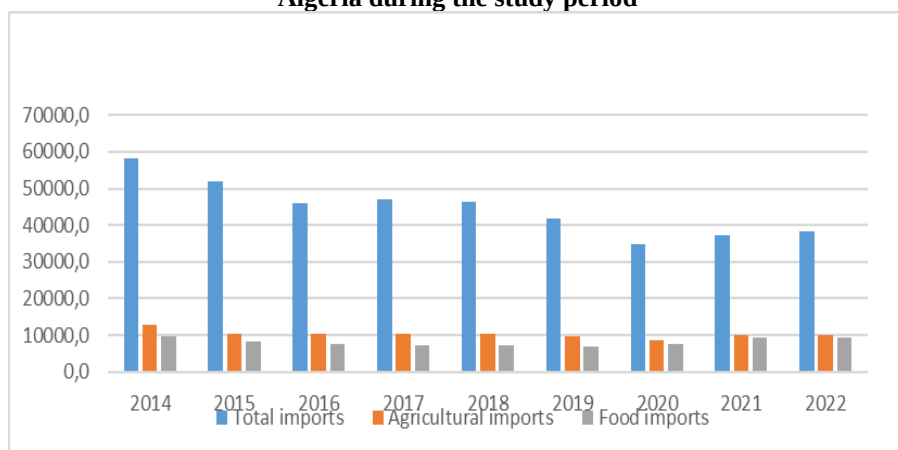
The Algerian consumer is one of the largest consumers of milk in the Maghreb region, consuming approximately 140 liters per person annually, equivalent to 5.5 billion liters, of which 3 billion liters are secured through imports. Consequently, milk production in Algeria is affected by fluctuations in global market prices. Algeria imports between 260,000 and 300,000 tons of milk powder annually, making it the third largest importer of milk powder in the world. In contrast, national production of cow's milk amounts to approximately 2.4 billion liters annually, with 0.9 billion liters of collected cow's milk directed to industry, meaning that national milk production covers only 30% of industry's needs.

II. Results:

1.1. The impact of the agricultural sector in achieving food security and reducing imports:

Algeria imports most of its agricultural products on a continuous basis and in increasing quantities, this increase explains why agricultural production doesn't cover the food needs of the population due to the increasing population growth and the rise in the average standard of living. The following figure shows the development of total agricultural and food imports in Algeria during the period (2014-2022) and their contribution to total imports:

Figure (2): The evolution of the value of total agricultural and food imports in Algeria during the study period



Source: Prepared by the researchers based on: (Arab Organization for Agricultural Development, 2017-2023).

From the previous figure, we note that the contribution of agricultural imports to total imports ranged between 19% and 26% during the study period. This decline is due to the import control policy adopted by Algeria during the 2014 oil crisis, as well as the COVID-19 pandemic, which caused commodity prices to rise globally. This led public authorities to reconsider the agricultural sector and consider it the cornerstone of achieving food security and food sovereignty.

The data in the figure shows that the total value of agricultural imports reached \$12.87 billion in 2014, beginning a downward trend until 2020, when they reached \$8.46 billion, the lowest value during the study period. In 2022, they reached \$10.16 billion. The same applies to food imports, which reached \$9.62 billion in 2019. The value of Algeria's imports in general amounted to

\$41.93 billion in 2020, a decrease of 4.49% compared to 2019. In general, Algeria's main suppliers are China, France, Italy, Spain, Germany, and Turkey. European countries remain Algeria's most important partners, accounting for 53.4% of Algeria's imports in 2020, equivalent to \$22.39 billion, compared to \$25.41 billion in 2019, representing a decrease of -11.87%.

During 2022, the import reduction policy continued rapidly, aiming to protect national production and limit the depletion of foreign exchange reserves, thus maintaining a balance in commodity imports. These results were achieved through several measures, such as mapping national production, which identified 419,000 national products, 13,600 importers, and 5,500 exporters. In addition, import activity was reorganized for immediate resale, with importers specializing according to homogeneous activity categories. Thus, the number of importers decreased by 68%, from approximately 43,000 to less than 13,600 in 2022.

1.1.1. The development of the global price index for imported consumer goods: Rising and falling food prices are a common behavior in international food markets, which have witnessed continuous fluctuations and an upward trend, especially after the COVID-19 pandemic and the Russian-Ukrainian war, which accompanied the rise in fuel costs and the international energy market, which affected the supply chain. The following table shows the evolution of the global price index for imported consumer goods in Algeria during the study period:

Table (1): Evolution of the global price index for imported consumer goods during the period (2014-2022)

Year s	Dairy Price Index		Meat Price Index		Sugar Price Index		Oil Price Index		Grain Price Index		Food Price Index	
	Real	Nomin al	Real	Nomin al	Real	Nomin al	Real	Nomin al	Real	Nomin al	Real	Nomin al
2014	120 ⁺ ₃	130 ⁺ ₂	103 ⁺ ₆	112 ⁺ ₁	97 ⁺ ₂	105 ⁺ ₂	102 ⁺ ₂	110 ⁺ ₆	107 ⁺ ₀	115 ⁺ ₈	106 ⁺ ₃	106 ⁺ ₃
2016	87 ⁺ ₉	82 ⁺ ₆	96 ⁺ ₉	91 ⁺ ₁	118 ⁺ ₈	111 ⁺ ₆	105 ⁺ ₈	99 ⁺ ₄	94 ⁺ ₀	88 ⁺ ₃	97 ⁺ ₈	97 ⁺ ₈
2018	105 ⁺ ₄	107 ⁺ ₃	92 ⁺ ₇	94 ⁺ ₄	76 ⁺ ₀	77 ⁺ ₄	86 ⁺ ₂	87 ⁺ ₈	99 ⁺ ₀	100 ⁺ ₈	94 ⁺ ₁	94 ⁺ ₁
2020	102 ⁺ ₉	101 ⁺ ₈	96 ⁺ ₃	95 ⁺ ₃	80 ⁺ ₄	79 ⁺ ₅	100 ⁺ ₅	99 ⁺ ₄	104 ⁺ ₂	103 ⁺ ₁	99 ⁺ ₁	99 ⁺ ₁
2022	146 ⁺ ₃	149 ⁺ ₅	115 ⁺ ₈	118 ⁺ ₃	112 ⁺ ₀	114 ⁺ ₅	183 ⁺ ₇	187 ⁺ ₈	151 ⁺ ₃	154 ⁺ ₇	141 ⁺ ₄	141 ⁺ ₄

Source: Prepared by the researchers based on: (Food and Agriculture Organization of the U N, 2025)

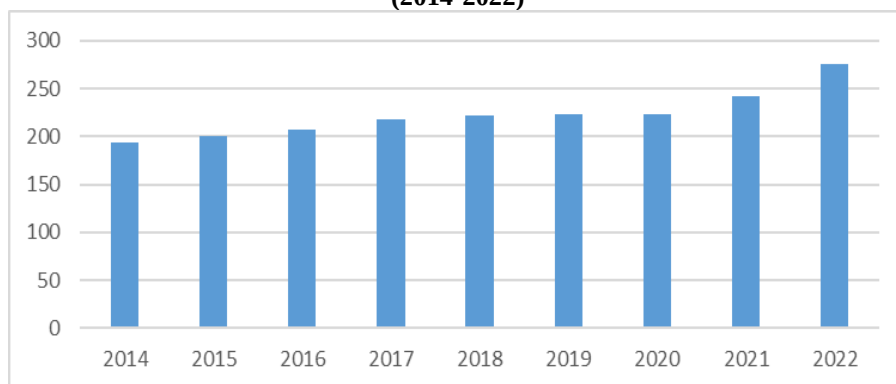
The above table shows that the average price change index for the most widely traded international food products has been on an upward trend over the period (2018-2022), both in nominal and real terms. The Food and Agriculture Organization of the United Nations (FAO) Cereal Price Index rose in 2022 to its highest level since 2011, reaching 154.7 points (base 100 for the period 2014-

2016). As for oil prices, their price index reached 187.7 points in 2022, up from 164.9 points in 2021. Sugar prices reached 114.5 points, their highest level since 2016 (111.6 points). Milk and dairy products prices also rose by 19.52% compared to 2021.

The continued rise in international food prices has led to a surge in food inflation in various countries, leading to increased food insecurity. International reports have confirmed the impact of rising food prices on countries that import their food, leading to increased poverty and malnutrition and inflationary waves across their economies.

1.1.2. The development of the food price index at consumption in Algeria: Due to its heavy reliance on imports of wheat, corn, sugar, oilseeds, and animal products to cover domestic consumption, Algeria has been significantly affected by rising global food prices. Imported food products are used either for direct consumption or as inputs in the local food and animal feed industries. The prices of basic food commodities in Algeria have been on the rise since 2014, impacting the stability of its markets through declining stocks and increasing price volatility, particularly in the grain and oil market. The following figure shows the evolution of the consumer price index in Algeria during the study period:

Figure (3): Development of the Consumer Price Index in Algeria during the period (2014-2022)



Source: Prepared by researchers based on data from the National Statistics Office (ONS) during the period 2014-2022.

The above figure shows that the overall consumer price index (CPI) in Algeria has witnessed a continuous increase over the study period, rising from 193.9% in 2014 compared to the base year 2001 to 275.2% in 2022. The market is supplied with widely consumed subsidized food items such as cereals and milk

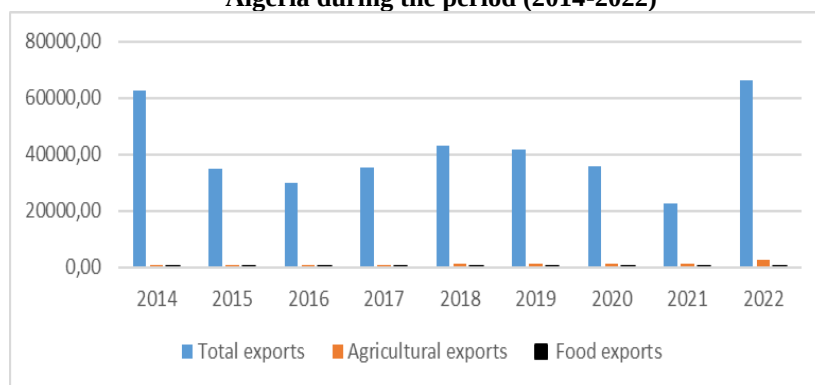
powder, with high import rates. Meanwhile, sugar and oils are imported by private enterprises, which is why their prices are constantly rising despite capping their profit margins.

Comparing domestic market prices with global market prices, we note that the rise in local food prices hasn't been at the same pace as global markets due to state intervention in regulating the market and setting price margins, particularly for subsidized items.

1.2. The impact of the agricultural sector in achieving food security and promoting exports:

The following figure shows the development of total agricultural and food exports in Algeria during the study period and their contribution to total exports:

Figure (4): Development of the value of total agricultural and food exports in Algeria during the period (2014-2022)



Source: Prepared by the researchers based on (Arab Organization for Agricultural Development, 2017-2023).

From the previous figure, we note that there is an increase in the volume of agricultural sector exports, while the value of agricultural and food exports is weak when compared to total exports and imports. In 2014, the agricultural sector's contribution to total exports amounted to 1.03%, and this percentage increased to 6.25% in 2021. This increase is due to the measures adopted by Algeria after the COVID-19 pandemic crisis, which aimed to encourage the agricultural sector as an alternative diversification strategy to the hydrocarbon sector. We note that the contribution rates of food exports to total exports did not exceed 2.12% in 2021. The low contribution rates of agricultural and food exports are due to the drought that Algeria experienced during the study period, the lack of experience in the field of export, and the reliance on traditional agricultural methods, which led to a decrease in the volume of agricultural production and weak competitiveness.

The value of Algerian agricultural exports in 2014 reached \$647 million, and exports began an upward trend until 2021, reaching \$1.404 billion, the highest value during the study period. In 2022, exports reached \$2.796 billion. The same applies to food exports, which reached \$302.6 million in 2014 and \$477.6 million in 2021. Overall, Algeria's top five customers in 2020 were France, Italy, Spain, USA, UK, and Turkey. European countries remain Algeria's most important partners, with 63.69% of Algerian exports going to these countries, including the E.U. Asian countries ranked second in terms of trade volume purchasing \$6.42 billion in 2021 compared to \$5.77 billion in 2020, an increase of 11.28%. African countries, including the Arab Maghreb Union, purchased Algerian products worth \$2.17 billion during the same year. Meanwhile, Algerian exports to the Americas declined by 44.85%, reaching a total of \$3.88 billion in 2020, compared to \$7.04 billion in 2019.

Similar to 2021, which saw a rise in the value of non-hydrocarbon exports of nearly \$5 billion, 2022 provided a further boost to these exports, with exports reaching \$6.6 billion (up 55%) in 2022. Regarding agricultural products marketed internationally, they mainly consist of raw sugar (45.99% of total agricultural exports in 2019), mineral and sparkling water, vegetables and fruits, particularly dates (27.30% of total agricultural exports). In addition to the above, Algeria exports fish (7.40%), vegetable oils and olive oil (3.38%), and dairy products (1.68%), despite Algeria possessing all the advantages that make it an agricultural powerhouse in the world in olive oil, due to the quality of its production.

1.3. The impact of agricultural marketing in reducing the food gap in Algeria:

The food gap is the difference between the value of imports and exports of various food commodity groups. This refers to the difference between the quantity of available domestically produced food commodities and the quantity imported from abroad, which is relied upon to meet the population's food requirements according to internationally recognized standards for calories and proteins necessary for human consumption. Food imports contribute to the provision of a variety of widely consumed food commodities or those that don't achieve self-sufficiency due to climatic or economic conditions. They also work to reduce price fluctuations, ensure food supplies for the population, and enhance food security. Developments in the international trade environment have a direct impact on the state of food security in countries due to prevailing climatic conditions, rising prices, international developments, and political and economic instability.

The following table shows the development of exports, imports and the trade balance of imported consumer goods during the period (2014-2022):

Table (2): Development of exports, imports and the trade balance of imported consumer goods during the study period

Consumer goods	Years	2014	2016	2018	2020	2022
Grains	Exports	1,04	4,59	12,4	36,5	57,36
	Imports	12497,65	13331,6	16734,56	13121,6	11041,58
	Trade balance	12496,61	13326,99	16722,2	13085,1	10984,2
Dry legumes	Exports	0	0,001026	0,009051	0,131	0,376
	Imports	193,6	197,3	238,4	191,5	234,161
	Trade balance	193,6	197,3	234,4	191,4	233,785
Vegetables	Exports	3,2	3,4	8	5	1,386
	Imports	54,2	66,4	37,7	29,7	16,5
	Trade balance	51	63,1	26,9	24,7	15,1
Fruits	Exports	25,8	28,3	92,2	130,6	0,73
	Imports	511,9	270,6	82,5	315,1	125,52
	Trade balance	486,1	242,3	-9,7	184,6	124,8
Fish	Exports	0,5	1	4,1	4,6	1,7
	Imports	34,1	31,4	19,1	14,3	10,9
	Trade balance	33,7	30,4	15	9,7	9,2
Meat	Exports	1,8	1	0,2	0,5	0,2
	Imports	82,8	66,8	51,8	33,8	3,1
	Trade balance	81	65,8	51,6	33,2	2,9
Oils and greases	Exports	0,4	13,91	14,21	1,73	11,12
	Imports	959,22	1061,55	1045,42	1003,92	592,07
	Trade balance	958,82	1047,64	1031,21	1002,19	580,95
Dairy and cheese	Exports	5,2	4	1,7	1,1	0,11
	Imports	1031,8	901,9	758	1271,8	516,02
	Trade balance	1026,7	897,9	756,3	1270,7	515,91

Source: Prepared by the researchers based on: (Arab Organization for Agricultural Development, 2017-2023)

We note that agricultural exports are fluctuating, and this is due to several reasons. At the forefront is quality, which the exporter must guarantee before entering foreign markets. This requires knowledge of international quality standards and consideration of them according to each market, along with knowledge of the size and type of foreign demand, and knowledge of consumer desires and culture as a basis for agricultural marketing. This is coupled with an in-depth study of export methods and procedures, given that the external environment is complex and differs from the internal environment. Here, the importance of agricultural marketing of agricultural products becomes apparent, to ensure entry into foreign markets and diversify agricultural exports.

As for agricultural imports to Algeria, they are mainly concentrated in grains, vegetable oils, sugar, meat, and dairy, which remain high despite efforts to meet the growing demand on the other hand. This is due to several reasons, the most important of which are:

- The demand for wheat is increasing due to population growth, and local production can't keep pace with this increase. In 2022, Algeria was among the largest wheat importing countries in the world, with imports valued at \$2.7 billion (3.7% of total global wheat imports).
- Economic and cultural significance, as wheat is consumed in a variety of forms, such as couscous, traditional bread, pasta, and sweets. American reports indicate that Algeria ranks second in Africa in wheat production, with a total production of 7 million tons in 2022, while annual wheat consumption reached 113.4 million tons during the same year.

Despite the aforementioned reasons, the Algerian authorities have taken several measures to develop strategic crops. These include raising the return price of grain to the Algerian Office of Agricultural Production (OAP), with the price of a quintal of durum wheat reaching \$45, a quintal of soft wheat reaching \$37, and a quintal of barley and carob rising to \$25. Algeria has also approved mechanisms to stimulate investment in grain cultivation by establishing the National Office for Saharan Agriculture, subsidizing fertilizers from 20% to 50%, financing smart irrigation systems, granting import licenses for spare parts, agricultural equipment, and reducing fees on agricultural products. Algeria is seeking to expand the cultivated area in the Greater South to 500,000 hectares through Qatari and Italian partnerships.

In general, changes in the quantities and values of food imports into Algeria are linked to several factors, including global price fluctuations and the trade policies pursued by the Algerian state, particularly with regard to encouraging and protecting local production.

III. Discussion:

Agricultural exports face numerous trade barriers, particularly those from developing countries destined for developed markets. These countries rely on numerous conditions and various protectionist methods to prevent developing countries' agricultural products from entering their domestic markets. Algeria is among the countries suffering from these problems, which lie in its inability to comply with imposed requirements. This negatively impacts its ability to increase its share of international agricultural markets, where it may have a comparative advantage. In addition, there are challenges arising from international agreements aimed at liberalizing the agricultural sector.

1.1. Obstacles to the development of agricultural exports in Algeria:

It can be addressed through the following two points: (A. Ziadi, 2024, pp. 282-284)

1.1.1. Obstacles related to the production process:

1.1.1.1. Obstacles related to legislation and agricultural property ownership: Vast areas of land across the country lack official documentation, whether private or public. This makes it difficult to finance production, despite the fact that the Algerian state has enacted an agricultural concession law that replaced the usufruct law, under which contracts are concluded that allow the owner to benefit from agricultural loans and thus guarantee the financing process.

1.1.1.2. Obstacles related to natural resources: This can be summarized in the following points:

- The expansion of land areas affected by salts due to the rise in groundwater levels near the ground surface, which leads to the accumulation of salts, thereby affecting the properties of the soil and the plants growing above it.
- Desertification is a serious threat to agricultural areas, leading to their shrinkage and impacting the quantity and quality of agricultural produce.
- Continuous, annual exploitation of the same agricultural area leads to a decline in its characteristics, which in turn leads to reduced yields and lower quality.

1.1.1.3. Obstacles related to water resources and climate:

During the study period, Algeria suffered from a severe heat wave, and most agriculture relies on rainfall, which impacts production. Therefore, new approaches must be adopted regarding modern irrigation methods. In addition to the above, there is another factor that affects the destruction of agricultural crops, forest resources, and livestock: fires.

1.1.1.4. Obstacles related to technology: Agriculture in Algeria relies on traditional methods, simple labor, and planting and harvesting

techniques that require time and effort. This has affected production costs and the ability to achieve food security for export.

1.1.1.5. Obstacles related to agricultural research and development: Agriculture has developed remarkably in recent years, particularly with the adoption of smart farming and digital transformation, which has achieved impressive results. However, the focus on agricultural research in Algeria has been somewhat limited, due to several challenges, including implementation and funding difficulties.

1.1.1.6. Obstacles related to human and organizational resources: Algeria's agricultural sector suffers from a labor shortage due to youth reluctance and a misconception about agricultural professions. This has raised worker wages and increased production costs, which in turn impacts production and export volumes. In addition, there are problems related to the organizational methods involved in managing this sector.

1.1.1.7. Obstacles related to financing: Although the Algerian state has paid great attention to financing the agricultural sector with the aim of improving it and attracting more investors, the results achieved haven't been commensurate with the efforts made. This is despite achieving food security for many people during the COVID-19 crisis, which demonstrated the lack of need to import many products. After that, the Algerian state began taking measures to encourage exports outside of hydrocarbons. The state faced problems related to the inadequacy of the financing process, especially regarding directing capital to non-real farmers and the lack of effective oversight despite the establishment of financing bodies and formulas targeting most farmers. In addition, some farmers fail to pay their debts, which sometimes led to the cessation or freezing of their activities. Banks are also reluctant to support agricultural investments, contenting themselves with entering as partners. On the other hand, international financing is facing a shortage due to the instability of investment laws, which discourages investors from coming.

1.1.2. Obstacles related to the export process:

Which can be identified in the following points: (A. Ziadi, 2024, pp. 285-287)

1.1.2.1. Inadequate agricultural insurance: Insurance is considered costly for financial institutions due to their inability to predict natural disasters, droughts, and international crises. This has led to a scarcity of this service during the study period, with it being limited to certain agricultural sectors or certain public banks. Furthermore, there is a lack of insurance culture among Algerian farmers.

1.1.2.2. Failure to fully benefit from tax and customs measures: As part of its efforts to promote non-hydrocarbon exports, Algeria has

implemented several measures, including customs exemptions and incentives for economic operators, to encourage them to produce for export through various available customs systems, such as the customs warehouse system, the exemption supply system, and the positive manufacturing improvement system. However, the lack of guidance, supervision, and export culture among Algerian economic operators has prevented them from achieving maximum benefit, as has the lack of training, information, and updating of laws.

1.1.2.3. Technological obstacles: Exporting agricultural products from Algeria faces several obstacles, including:

- Individuals' low technological skills, which forces them to rely on traditional methods and not adopt modern management and administration techniques.
- Weak use of available databases and information.
- Lack of use of technological programs, global platforms, and applications.
- The problem of not digitizing administrative procedures related to the export stages of agricultural products.

1.1.2.4. Administrative obstacles:

- Weak administrative skills and difficulty controlling public relations, communication, and coordination between units hinder the export process.
- Frequent changes in regulations and laws, and the difficulty of implementing them on the ground.
- Weak periodic performance evaluation and lack of oversight.
- The scarcity of specialized studies on forecasting external demand due to the lack of specialized research units.
- Administrative corruption, bureaucracy, decentralized decision-making, poor organization of the export process, and conflicting decisions have negatively impacted the facilitation of procedures.

1.1.2.5. Banking and financial obstacles: Algerian banks haven't fully supported the agricultural sector. Despite the existence of a single window for exports, its management hasn't achieved the objectives of promoting exports. Obtaining a loan still requires the interested party to obtain loan insurance from the Algerian Export Insurance and Guarantee Corporation. This insurance doesn't cover all risks associated with the export process, particularly the risk of exchange rate fluctuations. Furthermore, the bank domiciliation process isn't carried out by the relevant bank if the value exceeds a specific level, but rather is directed to the regional bank, not to mention the bureaucratic complexities that accompany the process. Furthermore, there are significant discrepancies between export and import procedures and a lack of clarity on costs. All of these factors prolong the process and increase costs of export operations.

1.1.2.6. Logistical obstacles: Logistics, through its branches of transportation, shipping, distribution, and supply, is considered one of the biggest obstacles to promoting Algerian agricultural exports, despite their global progress. Algeria experiences a severe deficit in this field and a dearth of specialized Algerian institutions, which raises the cost of logistics and reduces the competitiveness of Algerian agricultural products. The most significant logistical constraints can be identified as follows:

- Significant delays in delivering goods and adhering to the specified timeframe due to the aging of the maritime or air fleet.
- Unloading and removing containers from ports or airports takes a long time due to bureaucratic obstacles, which impact the scheduling of delivery and export of goods and reduce storage space.
- Algerian airports aren't ready for export operations, and there are few companies providing handling services.
- External highways face weak connectivity, which hinders the entry of containers into the ports.
- Export destinations covered by maritime transport companies are limited, forcing operators to resort to hiring foreign carriers at exorbitant prices.
- Inefficiency and lack of specialization of the labor force at ports and airports.

1.2. Agricultural policy requirements to enable Algerian products to be present in international markets:

1.2.1. Requirements for identifying national products:

Entering international markets requires a thorough understanding of their trends, regulations, institutional structure (exporting and importing entities), quality infrastructure, etc., in addition to the need to publicize exported products. This can only be achieved through: (C.Manazel, 2024, p. 269)

1.2.1.1. Integration into global value chains: The concept of global value chains is based on countries specializing vertically in a specific stage of the production process. Based on the concept of specialization, the final product will be manufactured in a number of countries, as each of them will manufacture a part of the final product according to its specialization, which will ultimately target the global market (N. Berkane, A. Derradj, 2022, p. 155).

Global value chains for agricultural products are defined as a series of interconnected processes through which primary or intermediate agricultural products move and flow through a chain in an interconnected order, such that at each end of each process the agricultural product gains added value until it reaches the final markets or end customers.

Given the importance of Algeria's integration into global agricultural value chains, it must work to make it a means to achieve another goal, which is to achieve and develop the competitive advantage of agricultural products, in a way that leads to increasing the market shares of its products in international markets, which opens up prospects for Algeria to enter international agricultural markets, in addition to benefiting from knowledge and technology, which will enable it to become more familiar with the standards imposed within the markets and the changes that occur in them, and to gain experience in dealing with these markets, and thus respond quickly to them and give its products the opportunity to be present in international markets, by fulfilling the conditions for presence in them.

1.2.1.2. Interest in the field of international marketing of agricultural products: Efficient implementation of marketing activities is the key to accessing international markets through: (C.Manazel, 2024, p. 278)

- **Adoption of international marketing research:** This means scientific analysis based on collecting and evaluating data on problems related to foreign markets and knowing the geographical distribution of exports and imports of agricultural products, as well as studying their markets and competing countries and the best ways to enter these markets, in addition to identifying available opportunities and timings for exporting crops. (I. Achour, K. Bichari, 2018, p. 80).

- **International promotion:** It's a marketing process that aims to introduce consumers in global markets to specific agricultural products, highlight their quality and advantages, and encourage their purchase. This process includes a set of methods aimed at reaching foreign markets and promoting agricultural products. Product promotion methods vary, including: commercial advertising, participation in exhibitions, television advertising, and participation in conferences. These methods contribute to promoting local products and attracting a segment of consumers. Agricultural e-marketing can also be adopted, which saves time and effort, reduces costs, provides freedom to choose alternatives, lowers prices, enhances competition, and enables effective communication with partners. It is also necessary to focus on providing the marketing capabilities, such as warehouses and transportation facilities. The government must encourage the establishment of collection and sorting stations to reduce waste and lower marketing costs.

- **Analyzing International Consumer Behavior:** Analyzing consumer behavior is essential, especially in light of the increasing competition and the emergence of numerous alternatives available to consumers. It's also helps us accurately identify consumer needs, particularly in terms of size and type, as well as current trends in global demand for agricultural products.

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- **Activating the Role of Economic Diplomacy:** With the changes taking place in international markets, it has become imperative for countries to expand their markets. To achieve this, they must understand the requirements necessary to enter these markets. Therefore, the importance of economic diplomacy increases as countries seek to expand their markets and influence.

Given the importance of economic diplomacy, Algeria must activate the role of its trade diplomacy in order to achieve positive effects on the foreign trade sector and agricultural exports through going beyond traditional trade relations and seek to attract foreign investment in agriculture to reduce imports in the short term and increase exports in the long term; provide diplomatic support to Algerian export operators by concluding agreements to facilitate entry into global markets; then pay greater attention to the economic dimension, which has become one of the most important requirements for diplomatic performance, with the aim of adapting to international changes and employing them to promote foreign trade and attract investment; strengthen bilateral relations by exploiting free trade zones, especially the Arab Free Trade Area, establishing free trade zones with a South African dimension, and concluding bilateral agreements with some African countries that could represent markets for Algerian agricultural products; organize trade missions to participate in international exhibitions and fairs to promote Algerian agricultural products, while emphasizing the quality and diversity of agricultural products; and finally, focus strategies to support economic diplomacy on enhancing its levels with active parties and regions where Algeria has influence, while seeking to establish new strong relationships (C.Manazel, 2024, p. 283).

1.2.2. Requirements for overcoming export problems:

The most important elements to overcome export problems can be summarized as follows:(C.Manazel, 2024, p. 285)

1.2.2.1. Recognition of geographical indications for agricultural products: Geographical indications (GIs) significantly contribute to paving the way for agricultural products to enter international markets. These indications highlight the product's origin, quality, and distinctive characteristics, providing producers with an effective marketing tool to promote their products in international markets and enhancing their reputation, allowing them to be distributed and sold at higher prices. In order to obtain more protection for geographical indications, Algeria has worked to enhance cooperation with countries at the international and regional levels, to benefit from experiences, especially the European Union countries, which are among the countries with the most protection systems for geographical indications. Algeria must work to enhance the protection of geographical indications by creating an appropriate system to protect them and establishing a legal and institutional framework that

would ensure this protection, while identifying products that are related to a specific region and represent a geographical indication and providing support to the producers of these products. Protecting geographical indications allows Algerian agricultural products to be distinguished in the markets and protects the rights and interests of producers and the development of the regions that produce these products. It is considered a quality mark that the product enjoys and has a high value in terms of fame or quality. It is necessary to prepare a unified label for Algerian products (B. Darouaz, 2017, p. 123) .

1.2.2.2. Follow good agricultural practices: Responding to the demands of international agricultural markets requires addressing various measures and procedures. Therefore, it has become imperative to adopt good agricultural practices and international initiatives to promote these practices, given their role in enhancing food quality and safety and preserving the environment. This gives agricultural products that incorporate these practices the opportunity to enter international markets.

The inability to enter international agricultural markets is due to the protection imposed on them, in addition to the measures and conditions imposed on agricultural product exports, which constitute an additional cost for exporting countries, including Algeria. To be able to enter these markets, it is necessary to adhere to the various conditions imposed, by applying good practices in agriculture and using products with geographical indications that enjoy protection and a place in the international market. Furthermore, it is necessary to diversify markets and not focus only on one market, namely the European market, which is considered the most protected market for these products.

1.2.3. Requirements for choosing the right markets:

During the last quarter of the twentieth century and the beginning of the twenty-first century, the world witnessed the emergence of economic blocs aimed at enhancing cooperation and increasing trade exchange in various regions. Within this global context, characterized by the increasing importance of trade at the global level, various countries worked to find different ways of economic integration, with the goal of protecting their resources, improving their economies, and encouraging trade among them. Therefore, Algeria joined numerous international blocs and agreements, including Arab, African, and European blocs.

1.2.3.1. Arab economic blocs: In order to gain new markets for Algerian products, Algeria joined two Arab blocs: (A. Mir, 2018, pp. 186-189)

- **The Arab Maghreb Union (AMU):** Founded in 1989, the Union comprises five Maghreb countries: Algeria, Tunisia, Libya, Morocco, and Mauritania. In the agricultural sector, the AMU countries signed an agreement on the exchange of agricultural products between the Maghreb countries in 1990,

signed by Algeria, Libya, Tunisia, and Morocco. However, the exchange rate remained low. An agreement on agricultural quarantine was then signed between the Maghreb bloc countries in Algeria, with the aim of preventing the entry and spread of pests and diseases harmful to agriculture. Algeria also sought to ensure the success of this initiative by exchanging existing systems, with the final ratification of this agreement occurring at the same time as the ratification of the previous agreement.

We note from the above that trade within this bloc remained very limited due to the political differences between Algeria and Morocco over Western Sahara. Therefore, the agricultural sector and trade in these products didn't have a significant place within the bloc.

- **Greater Arab Free Trade Area (GAFTA):** Arab countries began implementing the intra-Arab Free Trade Area in January 1998, and Algeria joined in 2009. With its accession, goods traded between member states are now exempt from customs duties. Despite this, Algeria's trade with the GAFTA remains low, averaging \$3.3 billion per year. Algeria must therefore leverage its potential to improve the competitiveness of its products.

1.2.3.2. African Continental Free Trade Agreement: The African Continental Free Trade Area (AfCFTA) is the first agreement encompassing all African countries. Through this agreement, countries aim to improve their global trade position by creating a unified market for goods and services, leveraging the continent's potential. The AfCFTA will contribute to enhancing intraregional trade in agricultural products by creating larger markets for small farmers. This will be achieved by removing tariff and non-tariff barriers. It will also ensure the continuity of agricultural and food supply chains and open trade channels in the medium and long term, helping meet the demand for food resulting from population growth, increased incomes, and urbanization in African countries. On June 23, 2021, Algeria officially became a party to the African Continental Free Trade Area (AfCFTA), following the President of the Republic's ratification of the AfCFTA's founding agreement (O. Saidane, 2021, p. 294).

It is noteworthy that Algerian-African trade is weak, both in terms of exports and imports. This is due to a number of factors, including the existence of tariff and non-tariff barriers with these countries, which affect the competitiveness of Algerian products. However, signs of growth in inter-trade with Mauritania have begun with the opening of the border crossing in Tindouf and the export of Algerian products to Mauritania and Senegal, and onward to the rest of West Africa.

1.2.3.3. Euro-Algerian Partnership Agreement: The Euro-Algerian Partnership Agreement was concluded on December 18, 2001, with the aim of creating opportunities for Algerian products to enter international markets.

Like many countries, Algeria sought to sign an association agreement with the European Union countries, given its status as a global economic and trade power. This agreement allows Algeria to benefit from the available expertise in various fields and helps it face competition by taking advantages and exemptions. Therefore, it is necessary to rehabilitate the agricultural sector in Algeria first, to improve product diversification and meet the conditions required for presence in the markets, which enhances the benefits of the association agreement.

The European Union is considered the most important market for Algerian agricultural products, as it dominates 60% of the total exports of vegetables, fruits, olive oil and dates. However, it imposes high specifications in the selection of products, especially agricultural products, which are highly protected within the framework of the common policy and the growing health and environmental standards imposed on these products. It is one of the most restrictive markets for agricultural products, which leads to the erosion of the competitive advantages of Algerian products in these markets. Therefore, the Algerian agricultural sector must be qualified in order to diversify products and meet the conditions and requirements for presence in the markets to benefit from the partnership agreement. In this area. We note that Algeria began requesting a review of the partnership agreement with the European Union countries following the COVID-19 pandemic, as it perceived it as being unfair and losing customs duty exemptions. Therefore, it began demanding a review of these provisions based on a win-win principle.

IV. Conclusion:

Agricultural marketing plays a vital role in achieving food security in Algeria by ensuring that agricultural products reach consumers efficiently from farms. It is divided into two types: domestic marketing, which seeks to provide food for members of society and thus achieve their food security within the country's borders; and international marketing, on the other hand, contributes to promoting international trade in agricultural products, which encourages farmers to increase their productivity and improve their income.

Algeria has great potential that makes it an agricultural country par excellence, and thus it can achieve surpluses in production that allow it to export its products to international markets, thus developing its exports outside of hydrocarbons and contributing to reducing the imbalance of the trade structure. Among the most important agricultural products in the vegetable sector, in which Algeria has achieved good production rates, are: potatoes, tomatoes, onions, carrots, cucumbers, beans, peppers and other vegetables. As for fruits, we find dates, citrus fruits, figs, watermelons, apricots, apples, grapes and other fruits at the forefront.

For agricultural products to find new outlets in global markets, they must address the obstacles they face and meet the requirements for a greater presence abroad. They must also enter new and emerging markets with less competition, particularly those in Africa and some Arab countries.

Algeria's agricultural policy during the period (2014-2022) focused on maximizing the exploitation of available resources and achieving an appropriate crop mix. However, it suffered from unstable agricultural policies and rentier problems in the Algerian economy, in addition to natural conditions, especially scarcity of rainfall. All of these factors resulted in production not growing at a pace that paralleled the growing food needs of society, the fodder needs of livestock, and the need of national industries for raw materials. The significant decline in the agricultural sector in Algeria was reflected in a decline in the level of meeting domestic needs and foreign exports.

- Algeria has significant potential to advance its agricultural sector. It boasts vast areas of agricultural land exploited and unexploited, with diverse climates and regions, advanced desert farming methods, and a range of measures, procedures, and agricultural support, along with lower energy costs. All of these factors will enable the development of this sector, provided optimal exploitation, good governance, and development of a national strategy that protects national products and improves self-sufficiency rates. This strategy also encourages the sector to enter international markets by providing the necessary support and guidance. This proves the 1st hypothesis.

- Agricultural marketing contributes to the overall development of agriculture, ensuring the distribution of agricultural products to various national markets. It's integral to the production process, ensuring the continuity of agriculture and increased production. If increased production isn't accompanied by an organized marketing process, it will not achieve the goal of food security. This is what Algeria has achieved in the fruit and vegetable sector, achieving high self-sufficiency rates. This prompted public authorities to ban imports to protect local products and encourage exports. As for widely consumed commodities, which didn't achieve satisfactory production results during the study period and witnessed a growth in demand, Algeria resorted to covering its deficit from the international food market, particularly in the grain, milk and dairy sectors. This partially proves the 2nd hypothesis.

- The increasing role of non-tariff barriers (NTBs) as the biggest impediment to agricultural products, imposed by external bodies responsible for international trade, such as phytosanitary, environmental technical and technological restrictions, some standards, and the resulting costs, such as customs procedures and dumping policies, on the one hand, and protectionist policies practiced by major countries through subsidy policies, on the other. This

increases production costs and reduces the price competitive advantage, despite the superior comparative advantage of Algerian products, such as dates and other fruits and vegetables. This proves that the 3rd hypothesis is incorrect.

This study **recommends** the following:

- ❖ Supporting agricultural investment and agricultural marketing in large areas, especially in the southern wilayas, in strategic crops such as wheat, corn, and barley, with the aim of exploiting available capabilities, reducing economic dependency, and narrowing Algeria's food gap.
- ❖ Developing an integrated national strategy for sustainable food security that integrates intervention tools in the agricultural sector and supports processing industries, with policies related to food systems and agricultural marketing, with the aim of increasing self-sufficiency rates in basic food commodities.
- ❖ Forming specialized committees for exporting agricultural products to emerging international markets and providing ongoing consultations and effective support to exporters.
- ❖ Establishing support mechanisms focused on agricultural marketing, one of whose tasks is to allocate investments specifically for production intended for export only, particularly in agricultural sectors where Algeria has a comparative advantage. This should be done while respecting the international conditions and standards imposed on Algerian products, particularly in European markets.

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