

The Role of Food Value Chains in Developing Vegetable Oil Production – A Case Study of Arab Countries-

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Received: 24/11/2025

Accepted: 27/12/2025

Abstract:

This study aims to identify the role that food value chains play in the development of vegetable oil production in Arab countries, as well as to understand the current state of the global vegetable oil market. The study found that Indonesia and China are the largest producers of vegetable oils in the world, with four Arab countries ranking among the top ten producers of olive oil in Arab nations. For example, Tunisia is the largest producer of olive oil in the Arab world, with a production of 200,000 tons, placing it fourth globally. Morocco ranks sixth globally, with a production of 106,000 tons, and olive farms are widespread in the northern and central regions of the country. Syria produces 95,000 tons of olive oil, placing it eighth in the world, and is known for products with a strong and unique flavor. Ninth is Algeria, which produces 93,000 tons, while Egypt produced 40,000 tons, placing it tenth globally.

Keywords: Agricultural value chains, vegetable oils, Arab countries.

Jel Classification Codes: F39

1. INTRODUCTION

Arab countries' agricultural and food systems are negatively impacted by a number of factors, including rising natural resource degradation, exposure to climate change, high rates of food loss and waste, reliance on imports, conflicts, fast population expansion, and urbanization .

The region's vulnerability in the value chain has been made worse by the global increase in food prices, the recession in the economy, and supply chain disruptions brought on by the epidemic. The operation, duration, and effectiveness of value chains—which support rural livelihoods and give consumers in metropolitan regions in the Near East and North Africa region access to healthy eating patterns—reflect these consequences.

In the Near East and North Africa, improving post-harvest handling, storage, logistics, processing, packaging, distribution, and food service operations to increase the added value of agricultural food products is regarded as a key economic driver.

However, a number of challenges have prevented the region's agricultural and food value chain from reaching its full potential, which has had a detrimental impact on agricultural investment and limited access to financing for value chain participants in many Near Eastern and North African nations .

The global food business and the biofuel sector depend heavily on the market for refined oils including sunflower, rapeseed, and soybean oils. Macroeconomic variables and regional market conditions have a continual impact on its dynamics and structure .

The primary issue raised by the aforementioned is:

How can food value chains contribute to the growth of vegetable oil production in Arab nations?

The primary issue, which we address, has several sub-questions:

- What steps are involved in setting up the agricultural value chain?
- What are the variables influencing the vegetable oil market worldwide?
- What is the state of vegetable oils in Arab nations right now?

Research Objectives: The study's objectives are to:

- Determine the significance of food value chains
- Determine the elements influencing the global vegetable oil market.
- Evaluate how well Arab countries' crucial oil value chains are performing

Methodology Used

We used several tools and methodologies for the study, namely: the deductive method to understand the theoretical aspects of nutritional value chains, and the inductive method to analyze statistical data regarding developments in the global vegetable oil market as well as in Arab countries.

2.Fundamental Notions On Food Value Chains

2.1-Definition of the agricultural value chain and its importance for the agricultural supply chain:

it refers to all activities that add value from the process of converting inputs into outputs, and it aims to connect farmers to the market and, more broadly, to the global agricultural sector. The International Fund for Agricultural Development (IFAD) has indicated that smallholder farmers are the cornerstone of global food processing, a source of labor for rural development in other economic sectors, and increase their income while creating a market for services and products (Najera, 2017). The main functions of the agricultural supply chain are production, harvesting, storage, and distribution; decisions taken

in production relate to land cultivation, plowing, crop planting timing, and the provision of agricultural requirements. Harvest decisions include the timing of the harvest, determining the level of resources needed to perform this task, organizing labor, equipment, transportation means, and sometimes determining packaging methods (Keasey, 2005, p. 8)..

When certain crops must be stored prior to or during distribution, the inventory of agricultural crops is tracked during the storage phase. Determining the amount to be sold or stored at each planning stage and how inventory will be handled at each supply chain stage are decisions pertaining to the storage phase. Moving goods through the supply chain to deliver them to customers, choosing the mode of transportation and the route chosen, planning shipping, and delivering the goods are all part of the distribution phase. Because agricultural crops perish quickly, producers must deal with uncertainty in all of these functions. This emphasizes the significance of creating management models for each crop that take into account harvest policies, marketing channels, logistical activities, vertical coordination, and risk management. The shift in consumer tastes, which is evident in the growing demand for agricultural products that meet international standards for quality and safety, is the primary factor that draws attention to supply chain activities in agricultural food items today. (Yau, 2020)

2.2 Agricultural Value Chain Preparation Steps

The need for decision-makers to plan agricultural resources and coordinate the various activities necessary for crop cultivation in order to lower costs and make numerous strategic (long-term) or tactical (medium- and short-term) decisions, such as designing the agricultural supply chain network, financial planning, and choosing the technology to be used, has sparked interest in the agricultural supply chain in recent years. In order to maximize the supply chain surplus, a number of decisions pertaining to the movement of information, goods, and money must be made. As will be explained below, these decisions are separated into three stages based on how frequently they are made and how long they take .

A-Value Chain Strategy or Value Chain Design: The time frame for design decisions is long-term, and it involves setting configurations. Consequently, these configurations impose constraints on planning and operations. The company decides how the supply chain will be structured over the coming years, how it will obtain its resources, and what the processes are at each stage. Will the product components be purchased from outside or manufactured in-house? What is the location of production and its capacity? What are the warehouses and their locations? What transportation methods will be used, and what information system will be employed (Chopra, 2013)? Models at the strategic level aim to design supply chain activities and help decision-makers in financial planning, technology used, or equipment used in agriculture.

B-Planning the Supply Chain Value Chain: The timeframe for these decisions ranges from a quarter to a year. The company begins the planning phase by forecasting future demand for the upcoming year or production cycle, as well as predicting prices and costs in the markets it serves. Planning includes making decisions related to selected markets and their locations, contracting with manufacturers, inventory policies, timing of advertisements, and the scale of marketing activities and advertising, while taking into account the uncertainty associated with planning decisions regarding demand, exchange rates, and competition over a period shorter than design decisions (Chopra, 2013). Studies indicate that models at this level are among the most researched by scholars in agricultural crops, addressing medium-term planning decisions for agriculture, crop selection, harvesting policies, labor requirements, harvesting, and marketing .(Kale, 2017)

C. Operations Chain Supply, which includes decisions related to consumer purchase orders over a short period: weekly and daily. The aim of operations is to fulfill consumer orders in the best way, taking into account that the decisions made at the design level impose constraints on planning and operations. In it, production and inventory are redistributed according to consumer orders, determining order requests, order execution time, shipping time, and truck schedules (Chopra, 2013). Operational-level models are among the models most studied by researchers in highly perishable agricultural products such as vegetables and fruits .

2.3-Business Models for Agricultural Value Chains:

The business model refers to the way in which the activities of the value chain and the members of the chain are organized at the strategic level. The purpose of the business model is to organize producers and entrepreneurs to reduce transaction costs when obtaining financing, technology, or equipment used in agriculture, as well as accessing markets and inputs, enabling them to manage risks across the chain. The agricultural supply chain refers to a set of parallel and sequential activities or functions that link the production, processing, and marketing of food, and includes:

A-Product-driven Chain Management (the farms) refers to the way members of the chain are organized from the top, with the goal of reaching specialized markets to reduce transaction costs and to understand the buyer's bargaining power. It takes the form of a cooperative entity. Some researchers note that participants in this chain face difficulties in understanding consumer preferences and market dynamics and encounter challenges when obtaining loans from financial institutions. Examples of product-driven chain management include Cooperatives Dairy AMUL, which is a model for milk production in India and was supported by the government to develop the market. Its success is attributed to improving farmers' ability to negotiate prices when dealing with retailers and enhancing the chain's ability to interact with markets, with assistance from the World Bank in financing.

The chain has succeeded and expanded to collect milk at the village, unit, and regional levels. In 2012/2013, the number of farmers participating in the chain reached 5 million farmers from 155,000 villages, producing 12 million tons of milk.

B. In buyer-driven chain management, whether by buyers, traders, exporters, manufacturers, or retailers, the chain is organized so that they have quantitative and qualitative control over production processes to maximize the benefit from labor and infrastructure and increase market share in order to consider consumer preferences and reduce transaction costs. The main criticism of this model is the buyer's tendency to exclude small producers due to the high costs of dealing with them when receiving their crops or providing services to them. Contract Farming is considered the best example of buyer-driven chain management. It is a financial innovation, especially for perishable products or export markets that require adherence to international quality and safety standards. It transfers the sales proceeds from the farmers to the cooperative entity, which delivers them to the lending institution after accounting for unpaid obligations and transfers the remainder to the accounts of the borrowing farmers. In helping manage credit risks, the food manufacturing company improves contracts by seeking financing for farmers and repaying the loan amount from the proceeds of crop sales. Poultry farming in India serves as a model for chain management with the buyer through the Society Co-operative Poultry Kesla company, which started in 1988 and managed to transform it from a rural activity for farmers into a commercial activity. It played a role in providing farmers with good breeds, feed, and veterinary services. These inputs

represent three-quarters of production process costs, solving the liquidity problem for producers (farmers), confirming that technical and financial services can support rural activities and turn them into commercial ones. In addition, periodic monitoring ensures control over operational processes. Farmers received increasing wages in return for their contribution to cost reduction (wages for labor or shelter), and for their contribution to 70% of From the production of poultry meat from this series.(Pacific:, 2018)

C- Facilitation-driven chain: In order to integrate small producers into the supply chain, it is necessary to develop organizations and have government agencies, cooperatives, and production bodies that help incorporate them into chain activities. The full benefits of agricultural development for small-scale farmers cannot be achieved unless government support systems are established to provide necessary incentives, create economic opportunities, supply credit and inputs to small farmers, and assist them in contributing their resources and information to enhance their capacity to compete in specialized large-scale markets. The governmental institutional framework strengthens the relationship between them and the chain members and allows the flow of information and products between them (Hassan, 2006; Ho, 2018).

3.Global Vegetable Oil Market Trends

The global food business and the biofuel sector have been significantly impacted by the market for refined oils like sunflower, rapeseed, and soybean oil. Macroeconomic variables and regional market conditions have a continual impact on its dynamics and structure. The geopolitical environment, weather patterns, trade regulations, and shifting consumer tastes will all continue to present difficulties for the sector in 2025.

3.1-Elements Impacting the World Market for Vegetable Oil: These elements are separated into :

A. Growth in the Food Industry and Ongoing Product Development

During the projection period, growth will be driven by the global expansion of the food service industry and the growing use of vegetable oils in the manufacture of biofuel. As numerous companies worldwide concentrate on product advancements, the market is growing. Additionally, the market is expanding due to the rising demand for biofuels in both developed and developing nations.(Keasey, 2005)

B. Manufacturers' sustainable approach and growing use in a variety of industries

Vegetable oils have many creative uses, such as hair conditioners, paint removers, lamp oil, leather preservation, and home lubricants. The development of sustainable practices has been fueled by consumer audiences' growing emphasis on waste reduction and greater recycling initiatives .

Product usage is expected to increase during the forecast period due to the growing interest in do-it-yourself projects and the growing emphasis on sustainability. Because of UCO's special qualities, it can be utilized as a shield against outside elements like sand, dust, and other things. During the projection period, the product's numerous uses as lubricants, conditioners, preservatives, and more are anticipated to propel market expansion.

C: Opportunity

Globally, consumers' eating habits have changed as a result of the rising incidence of lifestyle diseases. Consequently, market leaders are providing substitutes for minimally processed and organic vegetable oils. The market is expanding as a result of this and several government programs to support bio-based goods like vegetable oils.

D.Constraints

The high fluctuations in vegetable oil prices lead to a shortage of the working capital required to continue the production process, which restricts the market and increases the challenges facing the vegetable oil market in the expected period.

This vegetable oil market report provides details on the latest developments, trade regulations, import and export analysis, production analysis, value chain enhancements, market share, the impact of local and international players in the market, opportunities analysis in terms of emerging revenue pockets, changes in market regulations, strategic market growth analysis, market size, growth of category markets, application outlets and dominance, product approvals, product launches, geographic expansions, and technological innovations in the market. For more information about the vegetable oil market, contact Data Bridge Market Research for an analyst brief, and our team will help you make an informed market decision to achieve market growth(Pacific:, 2018)(Vegetable, 2025)

3.2 Analysis of the Vegetable Oils Market and Its Size:

The Asia-Pacific region dominated the vegetable oils market. This is due to increased access to various food and beverage manufacturers, increased research and advancement in the food industry, and rising government initiatives. According to the Food and Agriculture Organization (FAO), per capita consumption of vegetable oils is increasing by 3.1% annually, and India is the largest importer of vegetable oils in the world, contributing to market growth. See Figure number.

After the emergence of the COVID-19 pandemic, consumers became more aware of the food they consume. People are more likely to use vegetable oil in home cooking because less animal fat is considered better. The convenience of vegetable oil has influenced many manufacturers to produce different types of products using vegetable oil.(Group MBF, 2025). Data Bridge Market Research analyzes that the vegetable oils market, which was valued at USD 241.4 billion in 2021, is expected to reach USD 345.93 billion by 2029, growing at a compound annual growth rate of 4.60% during the forecast period 2022-2029.

Figure 1: Development of vegetable oil production by region from 2022-2029



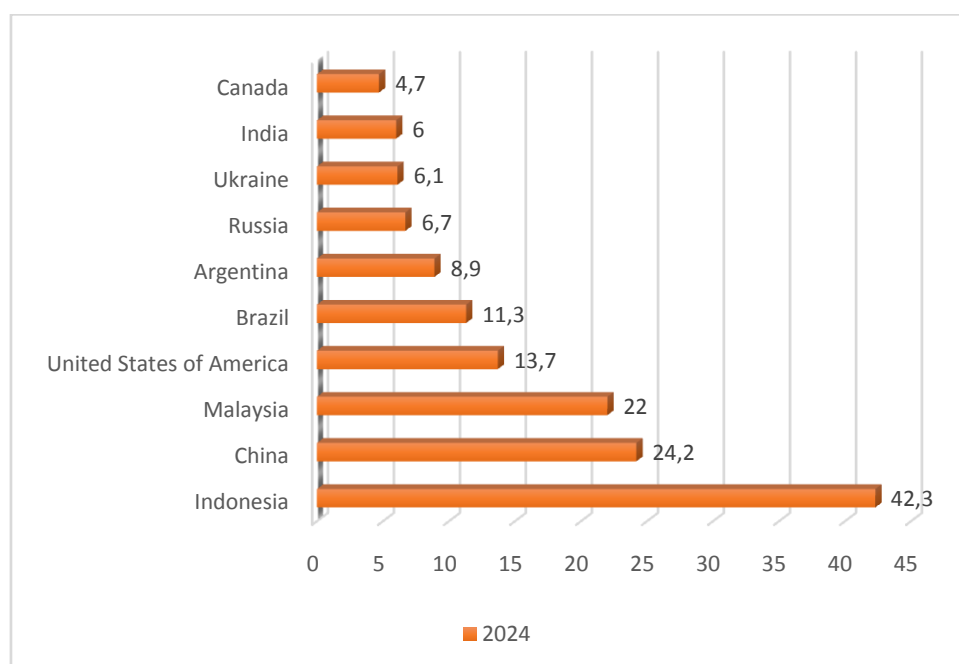
source:<https://www.databridgemarketresearch.com/ar/reports/global-vegetable-oil-market>

The COVID-19 pandemic has caused a series of unprecedented events that have affected all industries. However, since the food industry bears the responsibility of meeting emergency demands, especially during the lockdown period, edible vegetable oils were consumed in large quantities, and the market saw increased demand from the sector. Furthermore, various studies have shown that the demand for vegetable oils is expected to rise by 5.5 million in 2021, with demand projected to increase throughout the anticipated year.

3.3 The largest producers of vegetable oils in the world

Indonesia tops this list as it is among the leading producers of palm oil in the world, benefiting from its tropical climate and fertile soil. Here is a list of the top 10 vegetable oil producing countries in the world

Figure 2: The 10 Largest Vegetable Oil Producers in the World in 2024



Source: Prepared by the researchers based on the statistics of the International Trade Centre

- **Indonesia**, with a production of 42.3 million tons, leads palm oil production, benefiting from its tropical climate and fertile soil. The average palm oil production in the country is 40 million tons annually, the highest in the world. Indonesia also produces large quantities of palm kernel oil and soybean oil.

- **China**: 24.2 million tons: China is the largest producer of soybean oil in the world, with current production levels reaching 16 million tons. The country's agricultural terrain also supports the large-scale cultivation of rapeseed and peanuts. China's annual production of canola oil is nearly 2.9 million tons, while its peanut oil production reaches 1.9 million tons.

- **Malaysia**: 21.96 million tons: Malaysia is the second-largest producer of palm oil in the world after Indonesia, with current production around 19 million tons. Advanced milling and refining operations enhance the country's oil quality, strengthening its reputation as a leading producer of vegetable oils. The country also produces palm kernel oil and soybean oil thanks to its tropical climate.

-United States of America: 13.7 million tons: The United States is a major player in the soybean, corn, and canola oil markets. Its soybean oil production reaches 11 million tons annually, making it the second-highest producer in the world. Other prominent vegetable oils in the United States include corn oil, driven by the country's massive corn production, which exceeds 300 million tons.

-Brazil: 11.3 million tons: Brazil's tropical climate supports soybean oil production, which is nearly 9 million tons annually. Other vegetable oils produced in the country include sunflower, corn, and cottonseed oils. The country aims to ensure stable supplies to global markets through high-efficiency oil extraction methods.

3.4-Global Vegetable Oil Market Scope

Vegetable oils are extracted from a variety of plant seeds, including palm, sunflower, and mustard seeds. Vegetable oils consist of triglycerides of fatty acids, which are glycerol esters chemically known as fats. They are often used as alternatives to animal fats and petrochemicals in both food and non-food applications.

The global vegetable oils market, according to application (food, feed, industrial), product type (palm oil, soybean oil, rapeseed oil, sunflower oil, olive oil, and others), is divided based on product type into:

A- Palm Oil: Palm oil is an edible vegetable oil extracted from the fruit of the oil palm, originally from West Africa. It is the world's highest-yielding oil crop, producing 5 to 10 times more per hectare than other major vegetable oil crops. It is cholesterol-free, easily digestible, and rich in carotene and vitamin A, which provide numerous nutritional benefits.

The global palm oil market is divided according to:

- **Type:** such as: crude palm oil, refined palm oil, fractionated palm oil, palm kernel oil, and others;

- **Origin:** divided into: organic, conventional;

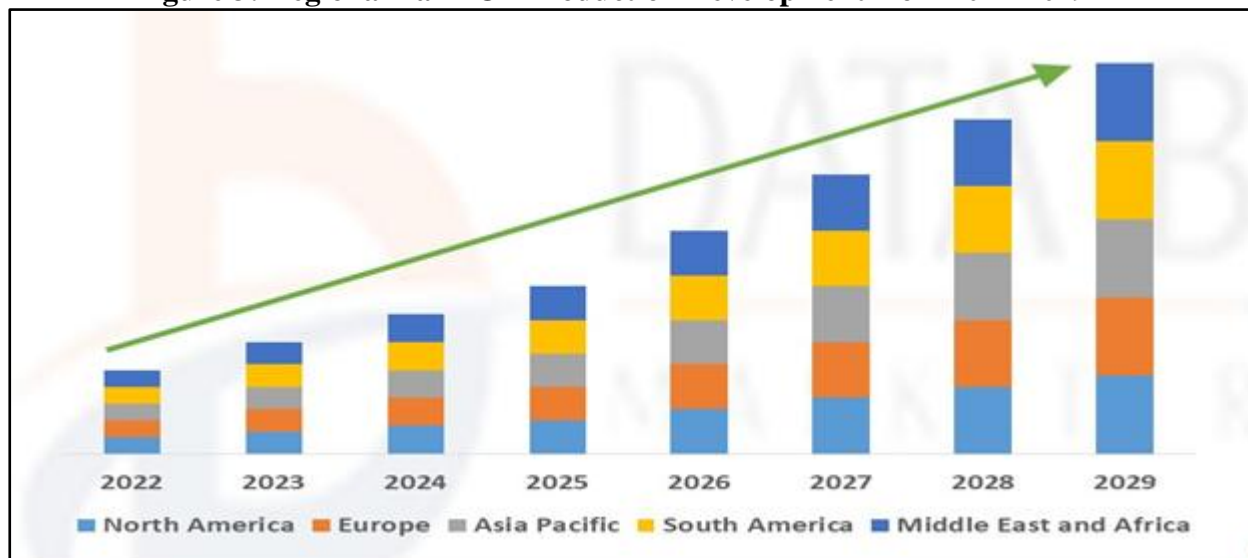
- **Use:** divided into: cooking oil, biodiesel, lubricants, cosmetics, and others;

- **Application:** divided into: home cooking, food and beverages, oleochemicals, personal care, animal feed, biofuels. In recent years, the edible oils industry has witnessed growth. ...

Globally, demand for and use of edible oil have grown in recent years. Numerous health advantages, including more energy, better vision, slower aging, stronger immunity, and a decreased risk of cancer and heart disease, are linked to this expansion and adoption. Because customers are becoming more aware of these health benefits, the industry is anticipated to grow profitably.

The market for palm oil was valued at USD 50.60 billion in 2021 and is projected to expand at a compound annual growth rate of 4.20% from 2022 to 2029, reaching USD 70.32 billion.

Figure 3: Regional Palm Oil Production Development from 2022-2029



source:<https://www.databridgemarketresearch.com/ar/reports/global-vegetable-oil-market>

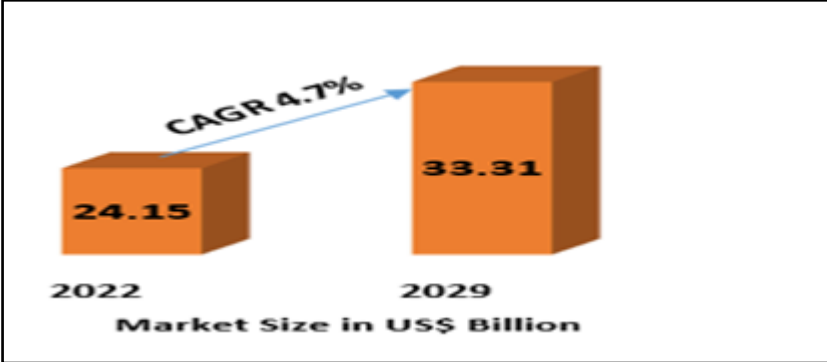
B-Soybeans: The soybean market size is estimated at USD 198.12 billion in 2024, and it is expected to reach USD 277.88 billion by 2029, with a compound annual growth rate of about 7% during the forecast period (2024-2029). Soybean production has continued to increase in recent years. The increase in production is expected to be partly due to the expansion of the harvested area of soybeans, driving the market globally. According to the Food and Agriculture Organization, global soybean production reached 336 million metric tons in 2019 and rose to 353 million metric tons, which are repeatedly used in cooking. The United States, Brazil, Argentina, Canada, Paraguay, and Uruguay are the largest producers and exporters of soybeans worldwide, accounting for more than 85.0% of global production. For many years, the United States was the main producer and exporter of soybeans in the world. However, South America has become the largest market for soybean production, with Brazil being the leading country. (Hassan, 2025)

The Food and Agriculture Organization reports that Brazil's soybean production rose dramatically in 2020 as a result of ideal growing circumstances bolstered by soil quality, weather, and water availability. The market for soybeans is fueled by Western nations' increasing reliance on plant-based diets due to their high protein content.(egatlasbig., 2025)

C. Canola Seed Oil: Despite price swings, the market for canola seed (rapeseed) oil is expanding as anticipated, with interest focused on its application as a versatile, healthful cooking oil and as a component of skincare and hair care products. In addition to its usage in cosmetics, the market is distinguished by the availability of a wide range of flavors and its application in cookery. Organic, non-GMO canola seed oil is the market's main focus.(zyotwdhon, 2025)

The value of the canola oil market was estimated at USD 24.15 billion in 2022. The global canola oil market is expected to grow at a compound annual growth rate of 4.7% during the forecast period.

Figure 4: Development of rapeseed oil production between 2022-2029



Source:<https://www.maximizemarketresearch.com/wp-content/uploads/2019/06/rapeseed-oil-market-64acfed040f0a.webp>

Canada, China, India, and Europe are the world's principal rapeseed production regions. Because rapeseed loves cool, temperate climates, these nations are among the biggest producers of the crop and its oil.

-North America : One of the major producers of rapeseed oil, also referred to as canola oil in North America, is Canada.

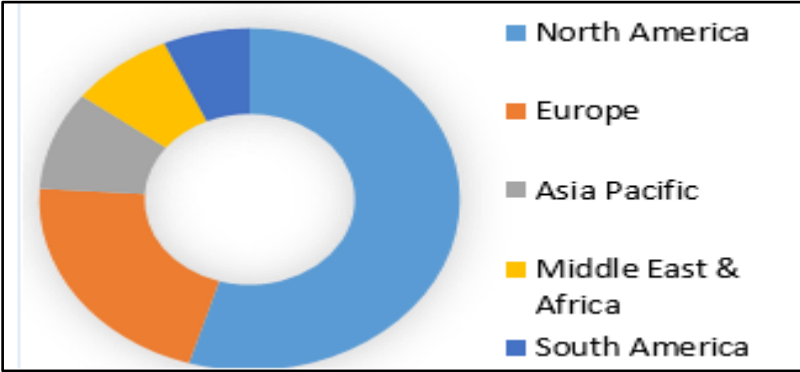
-Europe: With notable production in nations like Germany and France, Europe is regarded as a prominent region for rapeseed production.

In 2022, the European Union alone produced over 19.5 million metric tons of canola. The EU's canola productivity has stabilized in recent years rather than continuing to rise sharply. About 16.9 million tons were harvested in 2023, which was somewhat less than in 2022.(iso, 2025)

-Asia: Asian nations come in third, with China being a significant producer of rapeseed oil and viewing it as a necessary cooking oil. China is constantly working to create new, disease-resistant cultivars in order to boost yield. Another major producer is India.

Turnips are often planted in the fall or spring and are mostly grown in areas with a temperate climate that can tolerate low temperatures.

Figure 5: Regional distribution of rapeseed oilseed production in 2022



Source:<https://www.maximizemarketresearch.com/wp-content/uploads/2019/06/rapeseed-oil-market-64acfed040f0a.webp>

A.Sunflower Oil: The global sunflower oil market reached a size of \$23.29 billion in 2024. The market is expected to grow to \$37.74 billion by 2032, with a compound annual growth rate (CAGR) of 6.23% during the forecast period (2025-2032).

Ukraine ranked first globally in sunflower oil production with 6.08 million tons, slightly ahead of Russia with 6.02 million tons. Europe dominated the sunflower oil market with a market share of 33.53% in 2024. Furthermore, the U.S. sunflower oil market is expected to grow significantly, reaching an estimated value of \$261.72 million by 2032, driven by the continued use of the product in various animal preparations and other applications.(Mohammed Sanajla,, 2025)(See table)

Table 1: The top ten countries in sunflower oil production in 2024

Country	Ranking	Production (tons)	Production per capita (kg per person)
Ukraine	1	6,084,416	143.963
Russia	2	6,024,223.31	41.015
Turkey	3	1,147,000	14.194
Argentina	4	1,067,506	23.992
Hungary	5	652,700	66.8
Bulgaria	6	602,600	85.475
Romania	7	497,200	25.466
France	8	472,200	7.017
Spain	9	460,000	9.859
Kazakhstan	10	351,324	19.227

Source: <https://eg.atlasbig.com/albldan-aan-tryk-antag-zyt-aabad-alshms>

18 million and 337 thousand tons is the world's production of sunflower oil, with India leading the list of the top five importing countries of sunflower oil with a total of 2 million and 220 thousand tons of oil, while Ukraine tops the list of the largest sunflower oil exporting countries with a total of 5 million and 100 thousand tons of sunflower oil during the last season. (See the table).

Table 2: Top Exporting and Importing Countries of Sunflower Oil in the World in 2024

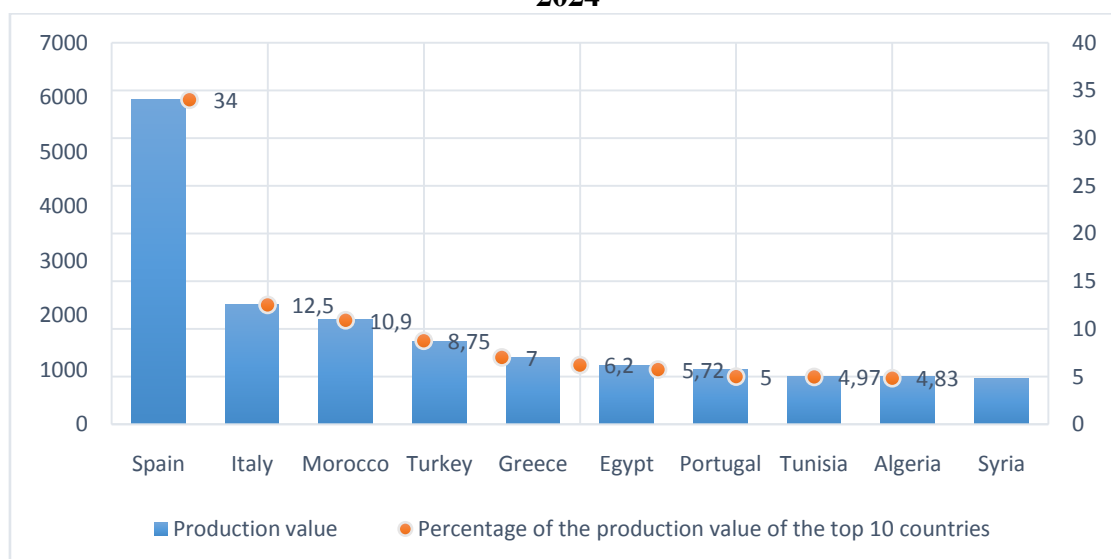
Country	Import Volume	Country	Export Volume
India	2220000	Ukraine	5100.000
European Union	1600000	Russia	2050.000
Turkey	700000	Argentina	830.000
Egypt	470000	European Union	481.000
Iran	440000		

Source : <https://www.fortunebusinessinsights.com/ar/industry-reports/sunflower-oil-market-101480>

The volume of global imports of sunflower oil reached 9 million and 690 thousand tons, while global exports of sunflower oil reached 9 million and 745 thousand tons of oil.

B.Olive Oil: One of the most well-known agricultural products in the world, olive oil makes a substantial contribution to the agricultural economies of many nations. Among these nations, Spain leads the world in olive output, with 5.96 million tons produced during the 2023–2024 season. The greatest olive plantations in the world are found in Spain, particularly in the Andalusia region, which accounts for over 75% of the nation's output and exports more than 43% of the world's total. Turkey comes in third with 1.52 million tons, while Italy comes in second with 2.19 million tons. A number of Arab nations have become significant producers of olive oil, including Tunisia, which ranks fourth in the world with a production of 200,000 tons. With 106 thousand tons produced, Morocco is ranked sixth in the world. The country's olive farms are dispersed throughout its northern and central areas. Syria ranks tenth in the world with 95,000 tons of olive oil produced, and it is well-known for its distinctively flavorful goods. Algeria, with 93 thousand tons, comes in ninth. Meanwhile, Egypt produced 40,000 tons, making it the tenth largest in the world. (Soybean & Mordor Intelligence Soybean, 2025)

Figure 6: Production of the Top Ten Olive Oil Producing Countries in the World in 2024



Source : <https://ae.atlasbig.com/aldol-mn-hyth-antag-alzyton>

4 Value chains' performance for vital vegetable oils in Arab countries

The market for vegetable oils in the Arab world is expanding, with nations like Algeria being the biggest importers of some oils, including soybean oil, and Tunisia being the top producer and exporter of olive oil. In particular, the region imports refined oils and soybean and sunflower oils from nations like Indonesia, Malaysia, Ukraine, and Russia in order to meet the market's increasing need.

4.1- The Market for Essential Vegetable Oils in Arab Countries.

The vegetable oils market in Arab countries is witnessing growth, with a heavy reliance on imports, especially for oils such as soybean oil and sunflower oil. Countries like Algeria and Morocco top the list of food oil importers, while Tunisia specializes in exporting olive oil globally.

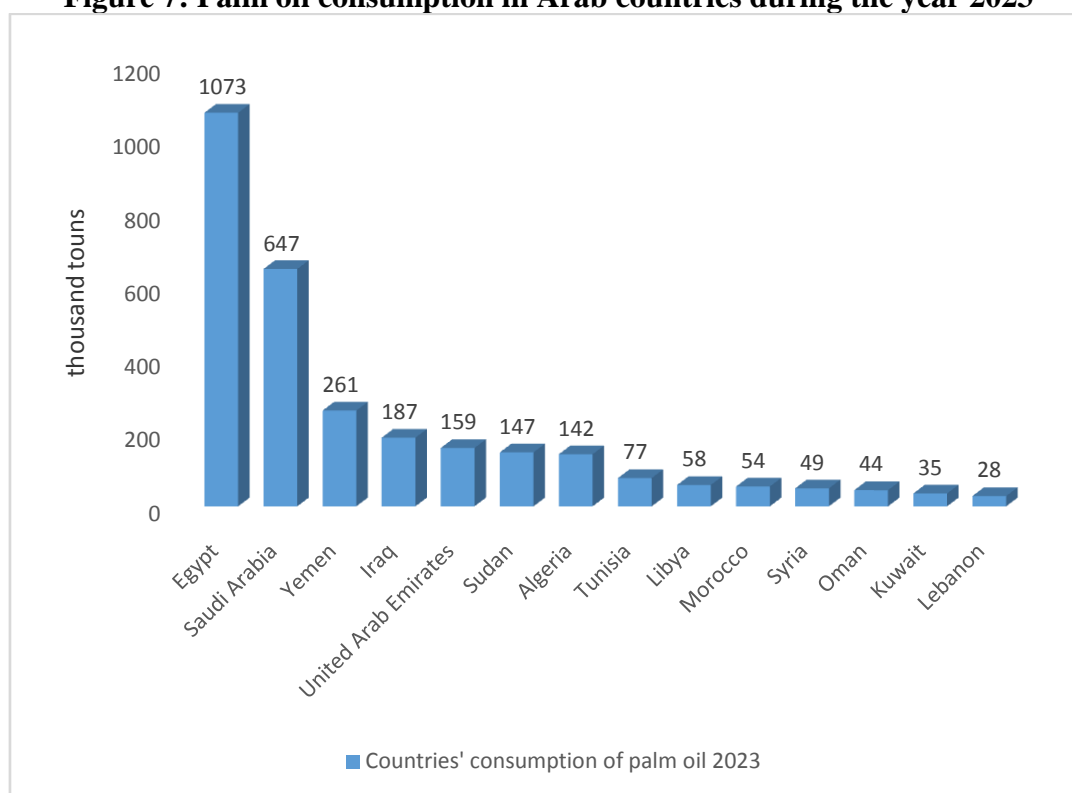
A- Palm Oil Market

Palm oil is considered one of the most consumed vegetable oils in the world and plays a significant role in cooking and the food industry. This article aims to highlight the consumption, production, and trade of palm oil in the Arab world for 2023, through an analysis of consumption, export, and import data. (Rapeseed Oil Market, n.d.).

*Palm Oil Consumption

The data indicates a significant disparity in palm oil consumption among Arab countries. The following chart shows the main consuming countries:

Figure 7: Palm oil consumption in Arab countries during the year 2023



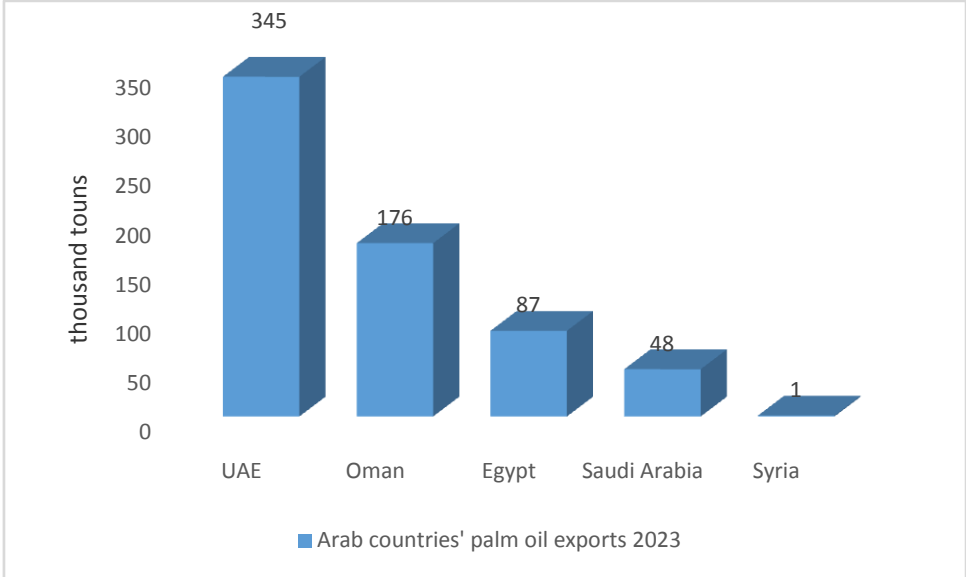
Source : <https://www.zyotwdhon.com/articles/sunflower-oil-in-the-arab-world>

- **Egypt:** Topped the list of consuming countries with a consumption volume of 1,072.3 thousand metric tons, showing a significant reliance on this oil in the local market.

- **Saudi Arabia:** Ranked second with a consumption volume of 646.9 thousand metric tons.
- **Yemen:** Recorded a consumption of 261.3 thousand metric tons, reflecting its importance in the diet.
- **Other countries:** Included Iraq (186.8 thousand metric tons), the UAE (158.7 thousand metric tons), and Sudan (146.5 thousand metric tons).

***Palm Oil Exports:** Data indicates active palm oil export movement from some Arab countries. The following chart shows the main exporting countries:

Figure 8: Exports of Palm Oil from Arab Countries in 2023

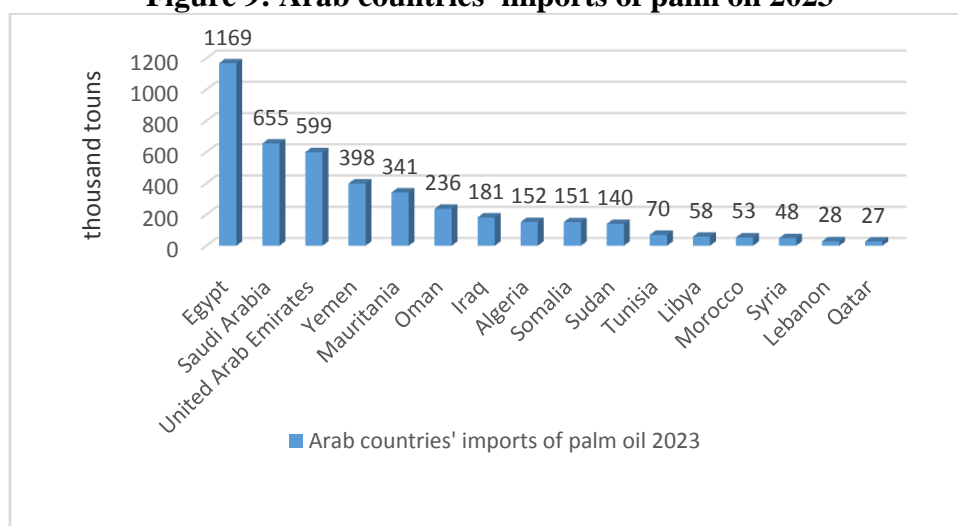


source <https://www.zyotwdhon.com/articles/sunflower-oil-in-the-arab-world>

- **United Arab Emirates:** Led exports with a volume of 599.4 thousand metric tons.
- **Yemen:** Ranked second with exports of 298.3 thousand metric tons.
- **Mauritania and Oman:** Mauritania recorded exports of 240.5 thousand metric tons, while Oman’s exports reached 236.1 thousand metric tons.
- **Other countries:** Included Iraq (180.8 thousand metric tons), Algeria (152.2 thousand metric tons), Sudan (140 thousand metric tons).

***Analysis of Palm Oil Imports:** Arab countries heavily rely on palm oil imports to meet domestic demand. The following chart shows the main importing countries.

Figure 9: Arab countries' imports of palm oil 2023



Source : <https://www.zyotwdhon.com/articles/sunflower-oil-in-the-arab-world>

- **Egypt:** topped the list of importing countries with imports of 1,169 thousand metric tons.
- **Saudi Arabia:** came in second with 655 thousand metric tons.
- **United Arab Emirates:** recorded imports of 599 thousand metric tons.
- **Yemen:** its imports reached 298 thousand metric tons.
- **Mauritania and Oman:** Mauritania recorded imports of 241 thousand metric tons, while Oman's imports amounted to 236 thousand metric tons.
- **Other countries:** included Iraq (181 thousand metric tons), Algeria (152 thousand metric tons), Somalia (151 thousand metric tons), Sudan (140 thousand metric tons), and Tunisia (70 thousand metric tons).

***Factors Affecting Palm Oil Consumption**

- **Population:** Population growth directly affects the increase in demand for palm oil.
- **Food Industries:** Palm oil is widely used in food industries, which increases its economic importance.
- **International Trade:** Exports and imports play a crucial role in meeting domestic demand in non-producing countries(world population , 2025).

With continued population growth and expansion in food industries, demand for palm oil in the Arab world is expected to rise. Increasing trade efficiency and enhancing strategic reserves can help stabilize markets.

B - Sunflower Oil Market.

Sunflower oil is considered a staple in the diet of many Arab countries. By boosting local production and improving supply chain efficiency, countries can reduce dependency on imports and ensure stability of food supplies in the future.(fortunebusiness , 2025)

Table 3: Sunflower Oil Production in Arab Countries in 2024

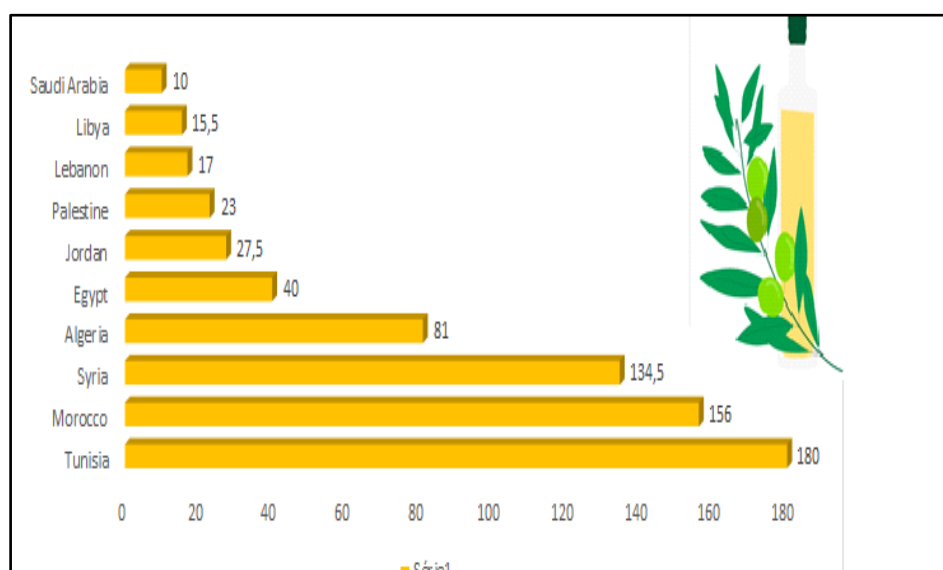
	Sudan	Iraq	Morocco	Egypt	Lebanon	Tunisia	Algeria	Syria
Production (tons)	37,800	26,300	16,600	9,300	4,800	2,300.84	2,100	500
Production per capita (as a benchmark)	0.927	0.669	0.477	0.095	0.788	0.201	0.049	0.027
Global ranking	30	36	41	47	56	64	65	69

Source : <https://eg.atlasbig.com/albldan-aan-tryk-antag-zyt-aabad-alshms>

C- Olive Oil Market

Olive oil has long been a staple in Mediterranean diets, and Arab countries play an important role in the production and trade of this valuable commodity. By 2024, the olive oil export and import sector in the Arab world is witnessing continuous development, with some countries experiencing notable growth in international trade (Nasser Abdel, 2025).

Figure 10: Olive oil production in Arab countries during 2024



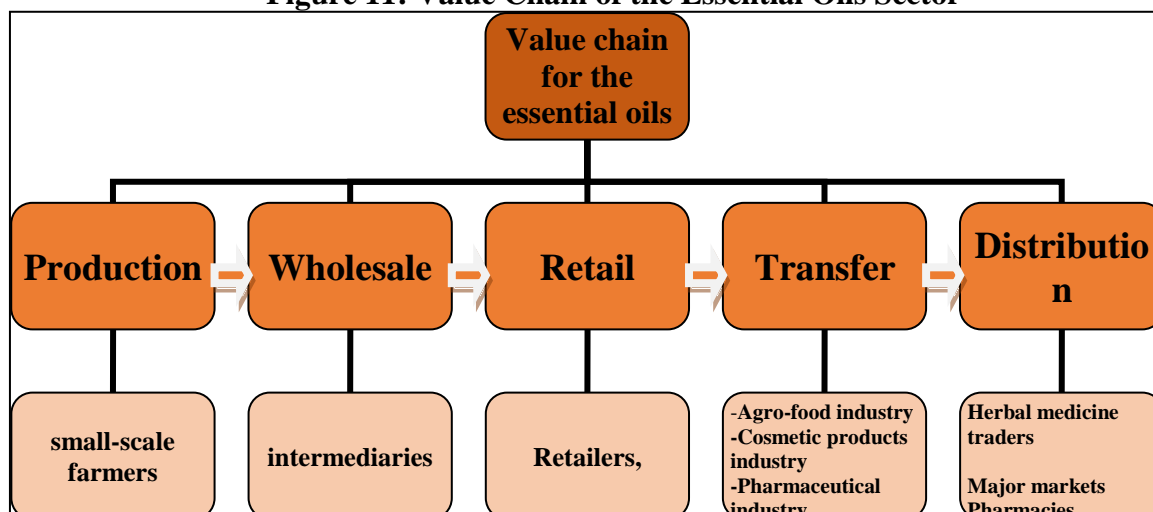
Source: International Olive Council

North African countries lead olive production in the Arab world, with Tunisia, Morocco, and Syria at the forefront, followed by Algeria and Egypt. In 2024/2025, Tunisia ranked second globally in olive oil production after Spain, with an estimated production of around 340,000 tons. As for global olive oil production, Tunisia led the Arab countries last season with an output exceeding 261 million liters, followed by Morocco with approximately 217 million liters, and Syria with around 115 million liters.

4.2-Value Chain of Essential Oils in Arab Countries

The value chain of the essential oils sector and its derivatives depends on the specific nature of the product in question. A simplified depiction of the value chain is shown in Figure 7, through which we will provide a brief description of each main part of the value chain.

Figure 11: Value Chain of the Essential Oils Sector



Source: Economic Commission for Africa - North Africa Office, Qualifications of Regional Value Chains in North Africa, Sectoral Diagnosis, North Africa Office of the United Nations Committee, 2018, 37

Farmers can carry out this step, which starts with the creation of different kinds of plants and flowers. It is sometimes possible to harvest plants in mountains and forests. The stage of wholesale and retail sales starts after the plants are harvested. Retailers and middlemen step in at this time to buy the plants from the growers. The plants are marketed in a system that does not follow regular measurements and calibration, and they go via a disjointed and disorganized supply chain on their way from farms to processing facilities. Since many North African nations have inadequate road transportation infrastructure, which lengthens the time it takes to transport flowers and degrades their quality, this usually includes unofficial markets.

The most used technique for extracting essential oils is still distillation. Depending on the type of plant and flower, essential oils can be harvested by the culinary, cosmetics, or medicinal industries. Essential oils may also be used by these sectors as inputs to create other kinds of products .

The following conclusions were drawn from the examination of North African nations' overall trade exchanges in this sector (see Table 4) :

The main importing nations for these goods are Algeria, Libya, and Mauritania, with coverage rates of less than 1%;

With coverage ratios below 50% (24.38% and 45.60%, respectively), Morocco and Tunisia are net importers. Despite this, the export quantities remain rather substantial (\$104 million and \$109 million, respectively);

With a coverage ratio of 114.3 percent and exports of over \$650 million in 2015, Egypt is the only nation in the area that is regarded as a net exporter.(amrach, 2025)

Table No. 4 International trade exchanges in the essential oils sector, Year 2020

Country	Exports	Imports	Coverage Ratio
Algeria	1681	552178	0.30
Egypt	654512	572630	114.3
Libya	138	257601	0.05
Morocco	104486	428602	24.38
Mauritania	22	16803	0.13
Tunisia	109746	240699	45.6
Sudan	964	125204	0.77

Source: International Trade Centre Database

Products like "essential oils and gums, perfume industry products, or skincare and cosmetic products" make up the largest share of overall exports, according to a more thorough analysis: 68 percent, 86 percent, and 79 percent in Egypt, Morocco, and Tunisia, respectively. The statistics for these three nations' top exports are shown in the table.

4.3-Prospects and Difficulties of Creating the Value Chain

in the Sector of Essential Oils and Derivatives The socio-economic stakes associated with the production of essential oils are substantial because it involves an economic activity that acts as a lever for economic growth because of the following features: - It is associated with an activity that requires available labor and generates job opportunities, which can reduce poverty rates among predominantly rural populations; - It offers local populations profitable incomes and represents added value that enables the development of specialized markets. As a result, the value chain will make it possible to take advantage of the rising demand for essential oils while also generating jobs locally. These figures show that there are differences between Egypt, Morocco, and Tunisia in terms of the kinds of goods exported, even though exports make up a small portion of domestic demand in North African nations.

This result demonstrates that these three nations are specialized in producing essential oils and their derivatives. We can spot opportunities that should be taken advantage of to create a value chain in the essential oils and derivatives industry, despite the lack of exact data on plant and flower output.

However, we can suggest conducting more precise analyses (or maps) for a well-grounded assessment of the potential for creating a value chain. For example, we can propose the following products: aromatic and medicinal plants, argan, rosemary, thyme, lavender, etc. This way, the value chain will become more efficient and based on segmenting the stages of essential oil production and its derivatives among North African countries. Accordingly, we can recommend the following:

- Rural populations should be encouraged and assisted in harvesting plants suitable for essential oil production in various North African countries. Farmers and beekeepers producing the plants and flowers from which essential oils are extracted should also be assisted;

- The supply and transportation infrastructure for plants and flowers should be developed. This measure will concern both national and international transport of plants among North African countries;

- The stage of converting essential oils into perfume and toilet water is sufficiently advanced in Tunisia. This country already has a comparative advantage in terms of technical expertise in the field. Tunisia's exports to Algeria in 2015 did not exceed 1.83% of the local demand for imports of these products;

- Egypt and Tunisia have a comparative advantage in developing the conversion of essential oils into cosmetic products and hair care products. Consequently, according to export statistics, Egypt has technical expertise in this regard. Table 5 reveals that exports of hair care products from Egypt and Tunisia to Morocco and Algeria did not exceed, at best, 10% of local demand. (Economic Commission for Africa - North Africa Offi, 2018, p. 39)

5. Conclusion:

Enhancing food self-sufficiency is directly proportional to the development of the country's agricultural resources and reducing dependence on agricultural imports. It involves using these resources efficiently and productively. In this context, options such as improving crop productivity, water use, and irrigation efficiency, reducing post-harvest losses, and encouraging the reuse of water in agriculture at the local level should be prioritized for consideration and implementation. Government cooperation with the private sector must be strengthened to overcome the issue of food scarcity, based on the comparative advantage in agricultural resources and investable capital, alongside coordinating and aligning agricultural policies and development strategies, paving the way to reduce our dependence on imports. Attention should also be given to the role of food value chains in providing food security, eradicating hunger and deprivation, and achieving all components of food security, which consist of availability, access, stability, and utilization.

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