2023

Sector Profile
Olive Sector -Pakistan

Turn Potential Into Profit

Small and Medium Enterprises Development Authority (SMEDA)
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Table of Contents

1. Introduction

Olive fruit has been a part of human diet for thousands of years especially in the Mediterranean areas of Europe. Olive belongs to a group of fruits known as drupes or stone fruits and is similar to mangoes, cherries, peaches, almonds pistachios. Olives have a high vitamin E content along with numerous other powerful antioxidants. By and large oil extracted from olive fruit is used for cooking purposes. Additionally, Olives are also consumed as table food in the form of pickles, salads and other delicacies. The most popular types of Olive varieties include Amfissa, Alfonso, Beldi Castelvetrano, Cerignola, Gaeta, Gordal, Kalamata, Liguria, Manzanilla, Mission, Nicosia, Nyon and Picholine. The olive sector in Pakistan is a relatively new industry, but it has the potential to be a major contributor to the country's economy. Pakistan has a large area of land suitable for olive cultivation, and the Government has been investing heavily in promoting olive production. In 2018, the Government launched the National Olive Development Program, which aims to plant 10 million olive trees over the next 10 years.

2. Olive Sector, Pakistan – Brief Overview

The olive sector in Pakistan is still in its early stages, but it has already made significant progress. In 2021, Pakistan produced 1,500 tons of olive oil, and this figure is expected to increase in the coming years. The Government is also working to develop a value-added olive industry, which will create jobs and boost economic growth. There are a number of challenges that the olive sector in Pakistan faces. One challenge is the lack of awareness about the benefits of olive oil. Many Pakistanis are not aware that olive oil is a healthy and nutritious food, and they are not used to using it in their cooking. Another challenge is the competition from imported olive oil. Pakistan imports a large amount of olive oil, and this competition makes it difficult for local producers to compete.

Despite these challenges, the olive sector in Pakistan has the potential to be a major success story. The Government's investment in olive production is a positive sign, and the growing demand for olive oil in the global market is an opportunity for Pakistan to export its olive products. With continued investment and support, the olive sector in Pakistan has the potential to create jobs, boost economic growth, and improve the health of the Pakistani people.

Table 1: Showing import and export of olives for last five years

Year	Import Quantity (tons)	Import Value (USD)	Export Quantity (tons)	Export Value (USD)
2018	1100	1.3 million	10	0.2 million
2019	1200	1.7 million	15	0.3 million
2020	1300	1.5 million	20	0.4 million
2021	1200	1.7 million	20	0.3 million

Source: Trade Map

The import of olives into Pakistan has been increasing in recent years. This is due to the growing demand for olive oil in the country. The export of olives from Pakistan has also been increasing, but at a slower rate. This is due to the fact that Pakistan is still a relatively small producer of olives.

The olive industry in Pakistan is still in its early stages, but it has the potential to grow in the coming years. The Government is committed to promoting olive production, and the demand for olive oil is expected to continue to grow. With continued investment and support, the olive industry in Pakistan has the potential to become a major contributor to the country's economy.

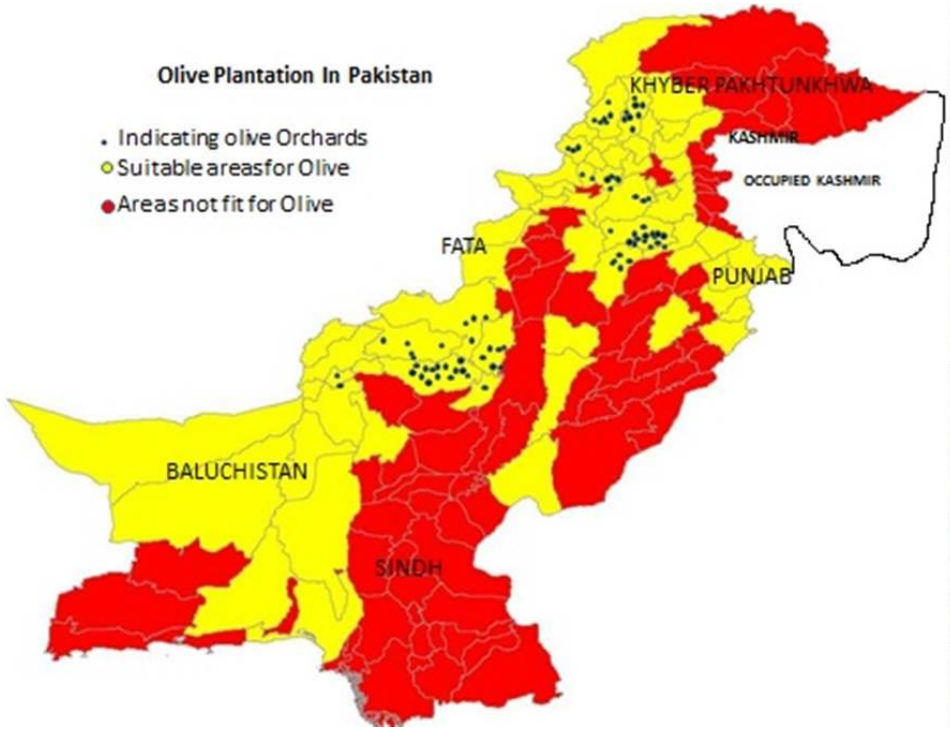
According to Trade Map[1], Pakistan exported 254k USD worth of olive oil in 2021. The top destinations for Pakistani olive oil were:

1. United Kingdom: 104k USD
2. France: 65.4k USD
3. Australia: 27.3k USD
4. Italy: 21.1k USD
5. United States: 8.53k USD

Table 2: Pakistan's Export of Olive Oil

Year	Export Value (USD)
2018	47k
2019	61.5k
2020	119k
2021	254k

2.1 Geographical Distribution of Olive Cultivation in Pakistan



[1] www.trademap.org

The total area of olive farming in Pakistan is estimated to be around 10,000 hectares. The majority of olive cultivation takes place in the northern provinces of Khyber Pakhtunkhwa and Punjab, as well as the southern province of Balochistan. The olive tree is a drought-tolerant crop that can thrive in a variety of climates, making it a good fit for Pakistan's diverse landscape[2]. Olive farming has the potential to be a major economic driver for Pakistan, as the country currently imports a significant amount of olive oil. The Government has recently launched a number of initiatives to promote olive cultivation, and the industry is expected to grow significantly in the coming years.

Below are the areas where olive farming is taking place:

Khyber Pakhtunkhwa: The Khyber Pakhtunkhwa province is home to the largest olive plantations in Pakistan. The most popular olive-growing areas in the province are Swat, Dir, Malakand, Haripur and Bannu.

Punjab: The Punjab province is also home to a number of olive plantations. The most popular olive-growing areas in the province are Chakwal, Khushab, Attock, and Rawalpindi.

Balochistan: The Balochistan province has a small number of olive plantations. The most popular olive-growing areas in the province are Quetta, Pishin, Loralai, Khuzdar, and Zhob.

The Government of Pakistan has recently launched a number of initiatives to promote olive cultivation. These initiatives include providing subsidies for olive seedlings, providing training to farmers on olive cultivation, and establishing olive processing plants. The Government's goal is to increase the area under olive cultivation to 100,000 hectares by 2025[3].

2.2 Olive Processing in Pakistan

Olive processing in Pakistan is a relatively new industry. The country has only been producing olive oil for a few decades, and the olive processing sector is still in its infancy. However, the industry is growing rapidly, and there is a lot of potential for growth in the coming years.

There are a number of olive processing plants in Pakistan. These plants use a variety of methods to extract olive oil, including cold pressing, centrifugation, and supercritical fluid extraction. The quality of olive oil produced in Pakistan varies depending on the method used to extract the oil. Cold-pressed olive oil is considered to be the highest quality, while supercritical fluid extraction produces a lower quality oil.

Table 3: Geographical Distribution of Olive Processing in Pakistan

Province	Districts / Cities
Punjab	Khushab, Chakwal, Attock, and Rawalpindi
Khyber Pakhtunkhwa	Swat, Dir, Malakand, and Bannu

[2] https://aari.punjab.gov.pk/olives_cropvarieties
[3] https://pakolive.com/

Baluchistan	Quetta, Pishin, Loralai, Khuzdar, and Zhob

3. Product Categories

The trade of Olive is broadly categorized in following three primary forms:

- Fresh Olives
- Olive Oil
- Pomace Oil
- Olive Preserves (Margarine etc.)

The harmonized Commodity Description and Coding System (referred as HS Codes) designated for trade of Olive is classified under the HS Code category 070992. The brief description of sub-categories falling under this product category include the following;

Table 4: Olive Product Categories

Product Category HS Code	Product Description
070992	Fresh or Chilled Olives
071120	Olives, provisionally preserved
071190	Vegetables & mixture of Vegetables provisionally preserved
1207	*Oil seeds*
1510	*Other oils & their fractions*
151010	*Crude olive pomace oil*

4. Analysis of Business Operations

4.1 Value Chain

Olive trees in Pakistan are a perennial crop that can be grown year-round. However, the majority of olive trees in Pakistan are planted in the fall and harvested in the fall or winter. This is because the climate in Pakistan is most conducive to olive growth during this time of year.

The olive value chain in Pakistan is the process of transforming olives into value-added products and services. It includes the following stages:

1. **Production:** Olives are grown in orchards and harvested in the fall or winter.
2. **Processing:** Olives are processed into olive oil, olive paste, olive brine, olive vinegar, and other products.
3. **Marketing:** Olive products are marketed to consumers through a variety of channels, including supermarkets, grocery stores, and online retailers.
4. **Consumption:** Olive products are consumed by people in Pakistan and around the world.

Figure: Value Chain of Olive Sector Pakistan

Source: Journal of Economic Impact (Economics & Marketing of Olives in Pakistan)

The olive value chain in Pakistan is still in its early stages of development. However, the industry is growing rapidly, and there is a lot of potential for growth in the coming years.

4.2 Production Operations:

According to Pak Olive Project Initiative, the production operations of olive in Pakistan are as follows:

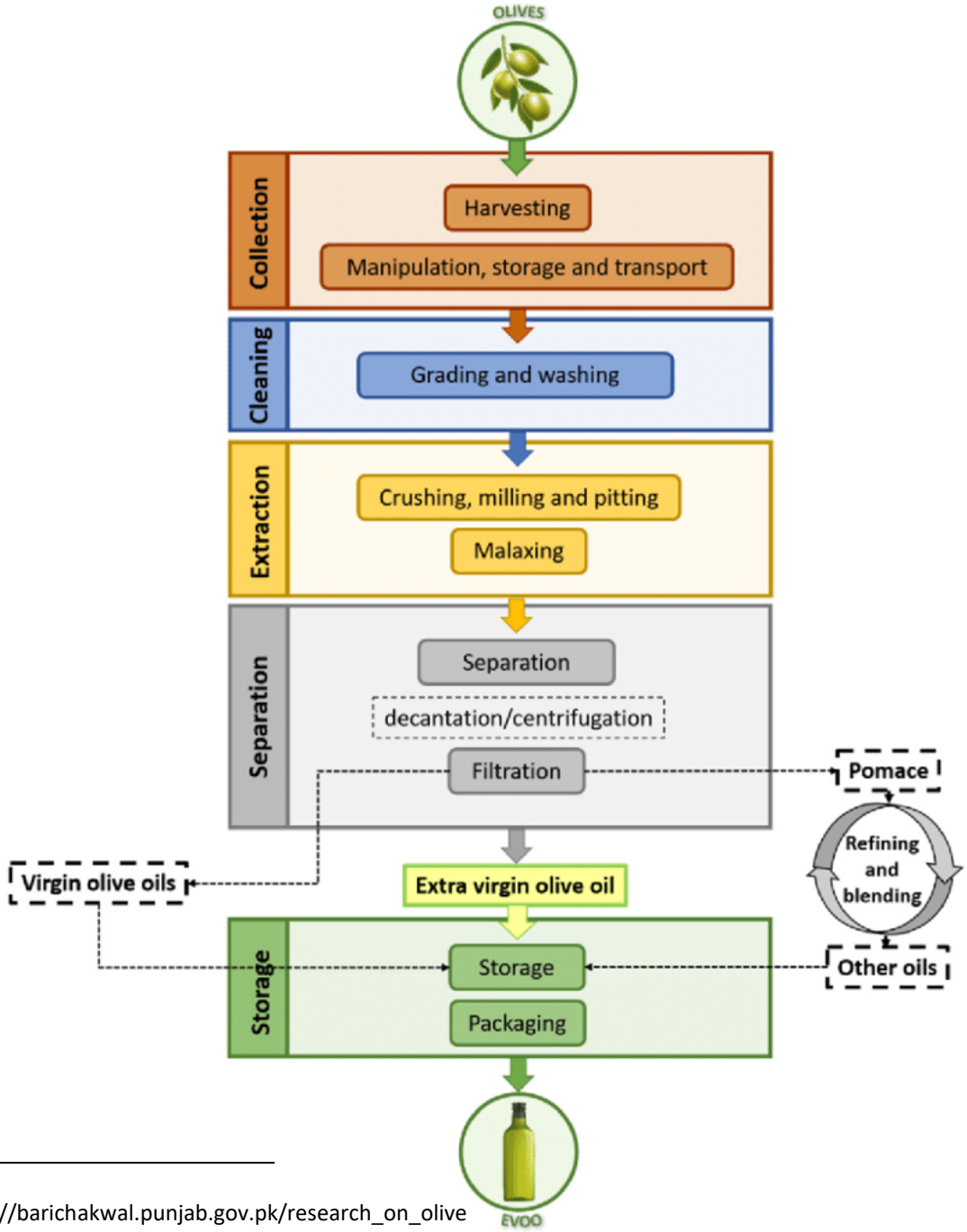
1. **Land preparation:** The land should be prepared by tilling it to a depth of 6-8 inches. The soil should be well-drained and free of rocks and debris.
2. **Planting:** Olive trees are planted in the fall or winter. The spacing between trees should be 15-20 feet.
3. **Irrigation:** Olive trees need regular irrigation, especially during the first few years after planting.
4. **Fertilization:** Olive trees need to be fertilized every year. The type and amount of fertilizer will depend on the soil and the age of the tree.
5. **Pruning:** Olive trees are pruned every year to keep them healthy and productive.
6. **Harvest:** Olives are harvested in the fall or winter. The olives are picked when they are black and ripe.
7. **Processing**: Olives can be processed into olive oil, olive paste, olive brine, and other products.

8. **Marketing:** Olive products are marketed to consumers through a variety of channels, including supermarkets, grocery stores, and online retailers.

4.3 The Olive Oil Manufacturing Process:

Based on above key steps[4], the complete manufacturing process of Olive Oil Production is elaborated in the below diagram.

Figure: Value Chain of Rice Sector Pakista



[4] https://barichakwal.punjab.gov.pk/research_on_olive

4.3.1 Harvesting

Olive harvesting in Pakistan typically takes place in the fall, when the olives are ripe. Olives are typically harvested by hand, using nets or baskets to collect them.

4.3.2 Washing

Washing is one of the most important steps in olive oil production. It removes dirt, debris, and other impurities from the olives, which can affect the quality of the oil.

The washing process typically involves the following steps:

- The olives are placed in a tank of water.
- The water is agitated to remove dirt and debris.
- The olives are rinsed several times to ensure that they are clean.
- The olives are removed from the water and placed in a centrifuge to remove any remaining water

4.3.3 Sorting

Sorting is carried out on factors of size, color, quality, maturity and variety. The sorting process is typically done immediately after harvesting. However, it can also be done at the olive mill. The sorting process is an important step in olive oil production. It helps to ensure that the olives are of the highest quality, which can result in a higher-quality oil. [5]The sorting process can be done manually or mechanically. The manual method involves using a team of workers to visually inspect the olives and remove any that are damaged or rotten. The mechanical method involves using a sorting machine to automatically remove damaged or rotten olives.

4.3.4 Crushing

Olives are crushed using a variety of methods, including:

- Stone Mills
- Mechanical Crushers
- Ultrasonic Crushers

The crushing method that is used depends on the size of the olive grove, the variety of olive trees, and the budget of the producer. Once the olives have been crushed, they are then mixed with water. This helps to break down the olive pulp and to release the oil. The mixture is then pumped into a centrifuge, where the oil is separated from the water and other solids.

[5] https://www.internationaloliveoil.org/olive-world/olive-oil/#frying

4.3.5 Extraction

Extraction is the process of separating the oil from the olive paste. There are two main methods of extraction:

I. **Centrifugation:** This is the most common method of extraction. The olive paste is placed in a centrifuge, which spins at high speed. The oil is heavier than the water and solids, so it is forced to the outside of the centrifuge, where it is collected.
II. **Malaxation:** This is a traditional method of extraction that is still used in some olive oil production areas. The olive paste is placed in a vat and is stirred for several hours. This helps to break down the cell walls of the olives and to release the oil. The oil is then separated from the water and solids by gravity.

4.3.6 Filtering

Filtration is the process of removing any impurities from the oil, as it helps to remove any remaining impurities and sediment (which is undesirable) from the extracted olive oil. This is done using a variety of methods, such as gravity filtration, pressure filtration, or vacuum filtration.

4.3.7 Packaging

The packaging step of olive oil production in Pakistan is the final step in the process. The oil is bottled or canned and then labeled with the producer's name, the variety of olive, the harvest date, and the expiration date. The oil is then stored in a cool, dark place until it is ready to be shipped to retailers or consumers.

4.4 Byproducts/Wastage

There are a number of by-products and waste products generated from olive oil production in Pakistan. These include:

- **Pomace:** Pomace is the solid residue left after the oil has been extracted from the olives. It is a high-fiber, low-fat product that can be used for animal feed, compost, or biogas production.
- **Water:** Water is used in the olive oil extraction process to wash the olives and to dilute the oil. The water can be recycled or disposed of safely.
- **Oil dregs**: Oil dregs are the solid particles that are left after the oil has been filtered. They are a high-protein, low-fat product that can be used for animal feed or for the production of soap and cosmetics.
- **Wastewater:** Wastewater is generated from the olive oil extraction process. It is important to treat this wastewater to remove pollutants before it is discharged into the environment.

The amount of by-products and waste generated from olive oil production in Pakistan varies depending on the size of the olive grove, the variety of olive trees, and the method of olive oil extraction. However, it is estimated that for every 100 kilograms of olives processed, approximately 20 kilograms of pomace, 10 kilograms of water, and 5 kilograms of oil dregs are generated.

4.5 Technology

The majority of olive oil production in Pakistan is still done using traditional methods, such as cold-pressing and centrifugation. However, there is a growing trend towards the adoption of more modern technologies, such as supercritical fluid extraction and nanofiltration. There are a number of reasons for the slow adoption of modern technology in the olive oil processing sector of Pakistan. One reason is the high cost of new equipment. Another reason is the lack of skilled workers who are familiar with the use of modern technology. Non-availability of local manufacturers in this sector is also one of the major issues.

4.6 Human Resource

Pakistan has a large pool of unskilled and semi-skilled labor available for the olive and olive oil production sector. However, there is a shortage of skilled workers in the sector, particularly in the areas of olive cultivation, olive oil extraction, and quality control.

Human Resource Skill Gap / Development Needs

- The lack of a formal training system for olive cultivation.
- The low wages offered in the sector, which makes it difficult to attract and retain skilled workers.
- Lack of technical knowledge of the volumes of water required for the crop needs with the time

The following are the main skill development needs of Olive/Olive processing sector;

Olive cultivation:

- Planting and grafting
- Pruning and training
- Irrigation and fertilization
- Pest and disease control
- Harvesting and post-harvest handling

Olive oil extraction:

- Milling
- Pressing
- Storing
- Testing
- Grading
- Packaging

Quality control:

- Sensory evaluation
- Chemical analysis
- Physical analysis
- Microbiology

The development of these skills will help to ensure that the olive sector of Pakistan is able to produce high-quality olive oil that meets the needs of domestic and international markets.

4.7 Sales & Distribution

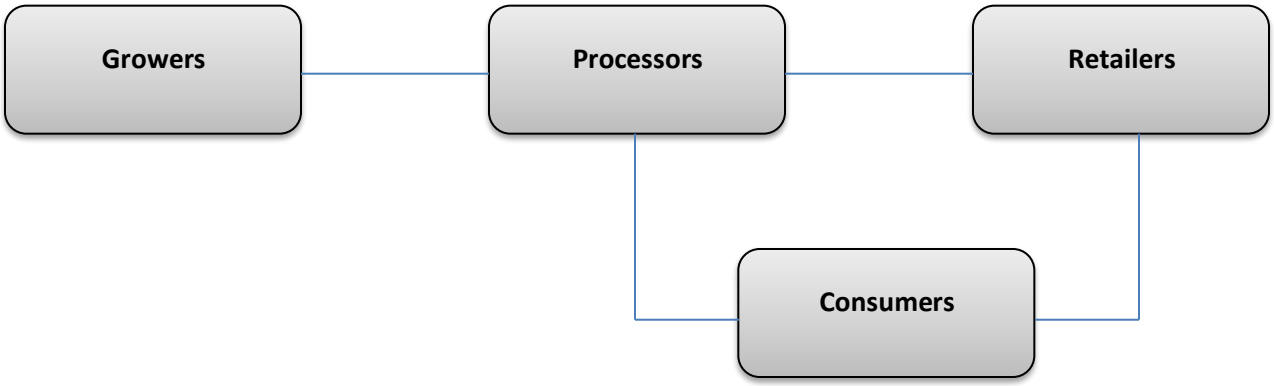
Olive and olive products are sold and distributed in Pakistan through a variety of channels, including[6]:

- Supermarkets: Olive oil and other olive products are sold in supermarkets throughout Pakistan.
- Specialty stores: There are a number of specialty stores that sell olive oil and other olive products in Pakistan.
- Online retailers: Olive oil and other olive products can be purchased online from a variety of retailers.
- Direct sales: Some olive oil producers sell their products directly to consumers through direct sales channels.

The growing demand for olive oil and other olive products in Pakistan is being driven by a number of factors, including[7]:

- The increasing awareness of the health benefits of olive oil.
- The growing popularity of Mediterranean cuisine.
- The increasing affluence of the Pakistani population.

Figure: Sales and Distribution of Olive/products in Local Market



[6] www.sbp.org.pk/events/2019/ACAC/Olive%20Value%20Chain%20Development-PARC.pdf
[7] www.scienceimpactpub.com/journals/index.php/jei/article/view/150/148

5. Major Stakeholders

The major stakeholders of the Olive Sector in Pakistan mainly comprise of the following:

- Ministry of Food Security and Research
- Pakistan Agricultural Research Council
- BARI Institute Chakwal
- National & International Development Partners
- Olive Development Group
- Agricultural Universities in Pakistan
- Provincial Agricultural Departments
- Provincial Agricultural Research stations

6. Major Issues and Problems

Major Category of Issues	Description
Issues in Value Chain	• Lack of awareness • High cost of production • Competition with imported olive / olive products • Inadequate infrastructure • Lack of skilled Labour
Business Development Support	• Poor Farm Management • Technical Experts for post-harvest handling • Packaging • Warehouse Management • Water Management • Branding and Marketing
Access to Finance	• Lack of sector specific or cluster based lending options • Non-availability of Crop Insurance
Infrastructure and Strategic Initiatives	• Inappropriate storage facilities • Inadequate Research & Development facilities and funding • Technological advancements
Marketing and Sales	• Limited Certification & Compliance • Cumbersome regulatory procedure for export • Lack of Branding & Packaging • Access to International Markets
Networking & Institutional Strengthening	• Lack of coordination and networking among Regulatory Bodies and Trade Association • Lack of coordination and support among Framers, Processor and Traders

7. Key Interventions

According industry stakeholders' inputs and secondary data analysis; following interventions are suggested to improve the performance and address the major issues and problems of the Olive Sector.

- Development of Climatic Resistant and Higher Yield Crop Varieties
- Seed Certification for Standardized Product Quality
- Technological Up gradation – Facilitation in Adaptation of Modern Technology at Farm Levels
- Adaptation of International Standards / Certifications
- Provision of Modern Storage and Warehousing Facilities
- Promotion of Fortification and Value Added Products
- Capacity Building and Skill Enhancement
- Reducing Regulatory Barriers
- Establishment of Logistics Education and Training Facilities
- Promote olive oil consumption, include it in government programs, and encourage businesses to use it

8. Useful Links

In order to facilitate the potential investors, web links of relevant organizations are given in this section.

Organization	Web Link
Pakistan Agricultural & Research Council (PARC)	https://parc.gov.pk
National Agricultural & Research Centre (NARC)	https://parc.gov.pk
Barani Agricultural Research Institute (BARI)	https://aari.punjab.gov.pk/rice_ksk
Ministry of National Food Security & Research (MNFSR)	http://mnfsr.gov.pk
Agriculture Department, Punjab	http://www.agripunjab.gov.pk
Agriculture Department, Sindh	https://agri.sindh.gov.pk
Agriculture Department, Khyber Pakhtunkhwa	https://agriculture.kp.gov.pk
Agriculture Department, Baluchistan	https://balochistan.gov.pk
Board of Investment (BoI)	http://boi.gov.pk/
Ministry of Commerce	http://www.commerce.gov.pk/

Pakistan Horticulture Development & Export Company	https://phdec.gov.pk/Export Company
Small and Medium Enterprises Development Authority (SMEDA)	http://smeda.org/
International Trade Centre (ITC)	https://www.trademap.org
Trade Development Authority of Pakistan (TDAP)	http://www.tdap.gov.pk/