



**Ministry of National
Food Security & Research**
Government of Pakistan



Pakistan National Olive Value Chain Policy



Along with
**The Implementation Strategy and
Road Map for 2024 - 2030**

FOREWARD

It is a matter of great satisfaction to present the Olive Value Chain Policy, a strategic framework designed to harness Pakistan's vast potential in olive cultivation and to promote a competitive, sustainable, and investment-friendly olive industry.

This policy is the outcome of extensive consultations and collaborative efforts of Government of Italy and Pakistan involving provincial governments, research institutions, development partners, private sector stakeholders, and farming communities. I extend my sincere appreciation to all those who contributed their expertise, experience, and valuable insights into shaping this important document.

I particularly acknowledge the efforts of CIHEAM Bari, Italy, Ministry of National Food Security & Research, the Pakistan Oilseed Department, technical experts, and development partners whose commitment has been instrumental in advancing the olive sector in Pakistan. Their contributions have helped establish a strong foundation for transforming olive cultivation into a driver of economic growth, rural development, and edible oil self-reliance.

The Olive Value Chain Policy reflects the vision of reducing the national edible oil import bill, enhancing farmers' incomes, promoting value addition, attracting investment, and positioning Pakistan as an emerging player in the global olive industry.

I am confident that with continued cooperation among all stakeholders, this policy will serve as a catalyst for the sustainable growth of the olive sector and contribute meaningfully to the prosperity of our farming communities and the national economy.



H.E Rana Tanveer Hussain
Federal Minister

Ministry of National Food Security & Research
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Road Map for 2024 - 2030**

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List of Acronyms

AICS	Italian Agency for Development Cooperation
AJK	Azad Jammu & Kashmir
AP&PR	Action Plan and Policy Recommendations
CIHEAM	Centre International de Hautes Études Agronomiques Méditerranéenne
CRI	Climate Risk Index
CSA	Climate Smart Agriculture
EAD	Economic Affairs Division
EU	European Union
EVOO	Extra Virgin Olive Oil
FAO	Food and Agriculture Organization
FSC&RD	Federal Seed Certification & Registration Department
GAP	Good Agricultural Practices
KP	Khyber Pakhtunkhwa
IFAD	International Fund for Agriculture Development
MNFS&R	Ministry of National Food Security & Research
MoCC	Ministry of Climate Change and Environmental Coordination
MoCom	Ministry of Commerce
MoFE&PT	Ministry of Federal Education and Professional Training
MoPD&SI	Ministry of Planning, Development & Special Initiatives
NOPIU	National Olive Policy Implementation Unit
NOVCP	National Olive Value Chain Policy
NRSP	National Rural Support Programme
NSDRA	National Seed Development and Regulatory Authority
OCP II	Scaling Up OliveCulture Value Chain and Promoting Climate-Resilient Rural Development in Pakistan / OliveCulture II
OPO	Olive Producer Organizations
PakOlive	Promotion of Olive Cultivation on Commercial Scale in Pakistan – Phase II
PARC	Pakistan Agricultural Research Council
PEEF	Pakistan Education Endowment Fund
PIDSA	Pakistan Italian Debt Swap Agreement
PKR/Rs.	Pakistani Rupees
POCCSP (I)	Promotion of Olive Cultivation on a Commercial Scale in Pakistan – Phase I
POD	Pakistan Oilseed Department
POOC	Pakistan Olive and Olive Oil Council
PPAF	Pakistan Poverty Alleviation Fund
PSDP	Public Sector Development Programme
RSP	Rural Support Programs
SOP	Standard Operating Procedure
SWOT	Strengths, Weaknesses, Opportunities and Threats
TVET	Technical and Vocational Education and Training

Preface

Pakistan stands at a pivotal moment in its agricultural development trajectory. Faced with significant expenditure on edible oil imports and the increasing impacts of climate change on traditional farming systems, there is an urgent need to diversify and adopt resilient, high-value crops. Olive cultivation presents a unique opportunity in this context. With vast marginal lands suitable for its growth and the plant's inherent resilience to climatic stress, the olive sector holds great potential for socio-economic upliftment, environmental conservation, and bolstering national food security.

This National Olive Value Chain Policy (NOVCP) 2024-2030 provides a comprehensive framework and strategic direction for harnessing this potential. It builds upon significant governmental efforts and outlines the need for a coordinated approach involving federal and provincial governments, the private sector, research institutions, academia, and farming communities. The policy emphasizes sustainability across the entire value chain – from enhancing production using climate-smart practices to improving processing quality, developing robust market linkages, and fostering inclusive growth, particularly for women and youth.

The development of a structured olive sector aligns directly with national priorities, including the National Economic Transformation Plan and commitments under the Sustainable Development Goals and the National Adaptation Plan. By promoting olive cultivation, Pakistan can reduce its import bill, create employment opportunities in rural areas, contribute to carbon sequestration efforts, and offer consumers a healthy, domestically produced alternative.

Implementing this policy requires a concerted, collaborative effort. It calls for strengthening institutional frameworks, promoting public-private partnerships, investing in research and development, and building the capacity of all stakeholders. This document serves as a tool, guiding actions and investments towards establishing a competitive, sustainable, and thriving olive sector for the benefit of Pakistan.

Executive Summary

Pakistan National Olive Value Chain Policy

Along with

*The Implementation Strategy and
Road Map for 2024 - 2030*

1. Executive Summary

Introduction: Pakistan possesses considerable potential within the global olive market, attributed to favorable agro-climatic conditions, extensive marginal lands where olive can be cultivated, and rising domestic demand for olive products driven by health awareness. This National Olive Value Chain Policy (NOVCP), together with its Implementation Strategy and Roadmap for 2024-2030, aims to capitalize on this potential by establishing a structured, sustainable, and robust olive sector. The policy focuses on a holistic value chain approach, encompassing the enhancement of production through Good Agricultural Practices (GAP) and Climate Smart Agriculture (CSA), improvement of processing standards and human resource capacity, attraction of private investment, comprehensive support for stakeholders, boosting domestic consumption of locally produced olive oil and table olives, and increasing competitiveness in both national and international markets. The policy formulation process involved extensive consultations with federal and provincial authorities, research institutions, farmers, private industry representatives, and development partners.

Context & Rationale: Agriculture remains a cornerstone of Pakistan's economy, yet the nation faces a substantial food import bill, particularly for edible oils. Approximately 90% of national edible oil requirements are met through imports, costing the exchequer significantly (e.g., \$3.33 billion estimated for FY 2023-24). Within this, olive oil and table olive imports amounted to nearly 4,500 tons, valued at approximately \$22 million. Traditional oilseed crops face numerous constraints, including uncertain marketing channels, low profitability, inadequate input support, susceptibility to climate change impacts, and lack of appropriate technology adoption. Promoting olive cultivation represents a strategic alternative, as well-suited to Pakistan's diverse agro-ecological zones, particularly utilizing marginal lands less suitable for conventional crops. As a low-delta, drought-tolerant, and stress-resistant crop, olive cultivation aligns with national climate adaptation needs and presents significant potential for socio-economic development, poverty reduction in rural areas, and import substitution, thereby reducing the trade deficit. Furthermore, the olive value chain demonstrates sustainability across health-nutritional, economic, social, and environmental dimensions, including recognized potential for carbon sequestration and contributing to landscape restoration.

Policy Alignment: The NOVCP is strategically aligned with key national policies and international commitments:

- **Uraan Pakistan** (13th Five-Year Plan): Contributes to 'Agriculture and Food Security' priorities (Productivity, Quality, Innovation, Market Diversification, National Branding) and 'Environment & Climate Change' priorities (Water Security, Food Security/Green Revolution 2.0, Climate Change Combat/Carbon Markets).
- **Sustainable Development Goals (SDGs):** Directly supports progress towards Goals 1 (No Poverty), 2 (Zero Hunger), 5 (Gender Equality), 8 (Decent Work & Economic Growth), 12 (Responsible Consumption and Production), and 13 (Climate Action).
- **National Adaptation Plan (NAP) 2023:** Complements NAP objectives related to the Agriculture-Water nexus (promoting CSA, efficient irrigation), Natural Capital (sustainable land management, forestry), and enhancing adaptive capacity, particularly focusing on Gender and Youth Inclusion.

- **Other Policies:** Consistent with the National Food Security Policy (2018), National Climate Change Policy (2021), National TVET Policy (2018), the Pakistan Climate Change Act (2017), and the National Forest Policy (2015).

Market Insights: A Market Study conducted in 2023 confirmed high consumer demand for olive products in Pakistan, primarily driven by perceived health benefits. Due to limited local offer, the market is dominated by imports and 74% of consumers prefer anyway imported options due to established brand reputation, perceived higher quality, and the lack of visible certification for local products. Despite this, there is a significant willingness among consumers and retailers to purchase locally produced olive oil, provided it meets quality standards and is competitively priced, indicating substantial growth potential for domestic production. Addressing challenges related to processing efficiency, standardization, certification, branding and targeted marketing is crucial to capturing this potential and building consumer trust.

Current Status & Challenges: Approximately 5.5 million olive trees have been planted across Pakistan since 2012, covering roughly 50,000 acres, primarily through government and donor initiatives such as the PIDSA program (2012-2016) and the subsequent PSDP "PakOlive" projects (Phase I & II), alongside parallel provincial efforts, Punjab in particular. These endeavors provided subsidized or free inputs like seedlings and irrigation equipment to promote the introduction of the new crop. While these initiatives have laid a foundation, the sector, which has shown great potential, faces significant bottlenecks in its growth. Average yields remain considerably low (estimated at around 30% of potential) due to suboptimal orchard management. Key challenges hindering the development of a viable value chain include: underutilization of vast potential growing areas, low productivity linked to inadequate GAP adoption, underdeveloped nursery systems lacking certified planting material, improper input use (water, fertilizer, pest control), limited institutional coordination and support, lack of skilled labor for specialized tasks (pruning, harvesting, processing), inadequate processing infrastructure capacity and management (especially for quality preservation), underdeveloped marketing strategies and branding for local products, weak regulatory framework, enforcement, of robust quality control and certification mechanisms, and limited applied research tailored to local needs.

Policy Objectives & Strategy: The NOVCP aims to establish a sustainable and competitive olive value chain with the overarching **Mission** to develop a thriving olive sector that contributes significantly to Pakistan's economic growth, national food security, rural livelihood improvement, and environmental resilience. The **Vision** is that the growing businesses of the Olive Sector significantly contribute to a vibrant rural economy in the country. **Key Goals** include: (1) Substantially increasing the area under olive cultivation and national production volume; (2) Significantly improving the productivity of olive orchards; (3) Enhancing the quality and standards of Pakistani olive products; (4) Developing effective market access, branding, and promotion strategies; (5) Strengthening the institutional, regulatory, and research framework; (6) Promoting inclusivity and equitable benefit distribution, particularly for smallholders, women, and youth; (7) Fostering environmental sustainability throughout the value chain. Strategic objectives focus on expanding cultivation area onto suitable marginal lands, boosting yields through widespread adoption of GAP and CSA, modernizing processing infrastructure with stringent quality controls (HACCP), establishing robust certification systems for planting material and end-products (including the PakOlive Brand), developing effective marketing and communication strategies, fostering targeted R&D, building human resource capacity through TVET,

promoting public-private partnerships (PPPs), valorizing olive by-products, and integrating wild olive resources sustainably.

Implementation Framework: Implementation requires a coordinated, multi-stakeholder approach led by the Ministry of National Food Security & Research (MNFS&R) at the federal level, in close collaboration with Provincial Agriculture Departments, research institutions (PARC, Universities), the proposed Pakistan Olive and Olive Oil Council (POOC) as a regulatory and coordination body, and active engagement of the private sector (farmers, nursery operators, processors, marketers). Key action areas detailed in the Implementation Plan include: Crop Production Enhancement (area expansion, yield improvement, certified nurseries), Processing and Quality Improvement (infrastructure upgrade, HACCP implementation, lab strengthening), Marketing Development (PakOlive Brand promotion, market linkages), Carbon Credit Generation framework development, specific support mechanisms for Women and Youth Groups, and comprehensive Human Resource Development programs.

Provincial Road Maps will detail specific targets, activities and budgets tailored to the local contexts through the Action Plan that will be jointly formulated between the MNFS&R and the Provincial Governments. Monitoring and evaluation mechanisms will track progress against defined indicators.

2. Acknowledgment

The present Pakistan National Olive Value Chain, along with the Implementation Strategy and Road Map for 2024 – 2030, is one of the key outputs of the Project OliveCulture Scale-Up, funded by the Italian Government, monitored by AICS, and implemented by CIHEAM Bari.

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Introduction

Pakistan National Olive Value Chain Policy

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3. Introduction

Although agriculture is one of the government's top priorities, during 2023-2024, approximately \$ 7.57 billion was spent on importing food items, of which around \$ 3.33 billion was for purchasing edible oil. Pakistan ranks fourth among the importers of edible oil, as 90 percent of its requirements are met through imports .

Therefore, Pakistan is looking for ways to diversify its agriculture sector on a sustainable basis. In this context, the introduction and development of **Olive cultivation** into the national cropping system has the potential to generate significant socio-economic rewards and environmental benefits for the country and contribute to minimizing the import bill of edible oils. Above all, olive products, particularly extra virgin olive oil, are highly beneficial for health due to their nutraceutical properties.

Building upon the pilot initiatives supported by the Italian Development Cooperation that demonstrated the viability of olive production in the country, the ongoing national endeavors attest the Government's continuous commitment to developing the olive sector i.e. olive oil, the table olive, and the value added products and by-products in a Value Chain approach, as a source of economic diversification, rural development, environmental preservation, and social cohesion for a food supply that aspires to the nutraceutical and organoleptic quality edible oils at the base of the population's diet.

Within this context, the **"National Olive Value Chain Policy"** along with the **"Implementation Strategy and Road Map for 2024 -2030" (NOVCP-Road Map)** reflects the assessed needs and the identified measures to support a viable Olive Sector in Pakistan.

Context

Pakistan National Olive Value Chain Policy

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4. Context

4.1 National edible oils scenario

Edible oilseeds and vegetable oil are among Pakistan's largest food and feed imports, contributing significantly to the foreign exchange drain, as approximately 3.33 billion dollars were spent on purchasing edible oil in 2023-2024.

The imports included approximately 4,000 tons of olive oil worth about 19 million USD and 1,500 tons of olive products costing approximately 3 million USD.

Domestic production has been regularly fluctuating, as depicted in Table 1; it has not only been stagnant but has decreased in some of the major crops, especially cotton, sunflower, and canola, the main contributors of edible oils, while the domestic consumption is increasing at an annual rate of 4.26%. This divergence between demand and domestic production is further outstripping the supplies due to the ever-increasing population and enhancing per capita consumption of edible oil.

Table 1 - Edible oil production, imports, requirements, and availability in Pakistan (Million tons)

Year	Local Production	Import	Total availability	Local production (import ratio)	Industrial use	Available edible oil	Available per capita (kg/year)
2002-03	0.641	1.558	2.199	29:71	0.110	2.089	13.99
2007-08	0.833	2.233	3.066	27:73	0.153	2.913	17.50
2012-13	0.567	2.502	3.069	18:82	0.153	2.916	15.82
2013-14	0.573	2.627	3.200	18:82	0.160	3.040	16.17
2014-15	0.556	2.967	3.523	16:84	0.176	3.347	17.46
2015-16	0.462	3.264	3.726	12:88	0.186	3.540	17.81
2016-17	0.431	3.191	3.621	12:88	0.181	3.440	16.95
2017-18	0.533	3.735	4.268	12:88	0.213	4.055	19.58
2018-19	0.477	4.041	4.518	11:89	0.226	4.292	20.33
2019-20	0.554	3.765	4.319	13:87	0.216	4.103	18.82
2020-21	0.374	4.147	4.521	8:92	0.226	4.295	19.17
2021-22	0.462	3.571	4.035	11:46	0.202	3.851	16.40
2022-23	0.504	3.771	4.275	11:79	0.214	4.061	17.22
2023-24	0.471	3.854	4.325	8:18	0.221	4.032	18.55

Source: Pakistan Bureau of Statistics

The major oilseed crops cultivated in Pakistan are cotton, sunflower, canola, and rapeseed/mustard. Of these, cotton plays a leading role with about a 60% share, followed by rapeseed-mustard (28%), sunflower (9%), and canola (5%), for an overall cropped area of 2.37 million hectares (Government of Pakistan, 2023-24).

Major and minor constraints affect oilseed production, which discourages farmers: aleatory marketing, low economic returns, inadequate support on essential inputs including credit, quality seed, and fertilizer, inadequate production technology, and lack of appropriate farm machinery for harvesting and post-harvest processing.

Also, oilseed crops have been considered by public Institutions as "minor crops" since the '70s, whereas wheat, rice, maize, cotton, and sugarcane are getting reasonable privileges as "major crops" in terms of credit, machinery, and promotion campaigns at the initiation of sowing and harvesting stages.

4.2 Potential for olive cultivation

The introduction and promotion of olive as an alternative crop in the predominantly rural context of Pakistan have the potential to generate significant socio-economic rewards and benefits for the country and contribute to minimizing the import bill of edible oils. It is believed that olive has no competition with any crop in Pakistan in utilizing marginal lands, as well as can better match the increasing need to plant low-delta crops.

Therefore, the interest of the farmers has rapidly increased, as well as the federal and provincial authorities are encouraging olive cultivation due to the availability of land and the potential of the crop. Its development as an olive value chain is seen as sustainable from the main dimensions: health & nutrition, technical & economic, social, and environmental. As follows:

Health and Nutrition - It is undisputed that Extra Virgin Olive Oil (EVOO) possesses highly valuable natural properties that support the health of human beings, for which has been created the worldwide motto "An EVOO spoon a day keeps the doctor away". The EVOO is classified as a nutraceutical product¹, helping to strengthen the immune defenses and protect from viruses (thanks to the oleuropein and hydroxytyrosol) and bacteria attacks (thanks to the polyphenols), having the following properties:

- rich in monounsaturated fats, improves HDL (good) cholesterol, and lowers LDL (bad) cholesterol. It reduces the risk of heart disease and stroke by 30-40% (as per Mediterranean diet studies) and contributes to lower blood pressure when consumed regularly.
- rich in high levels of polyphenols that reduce inflammation and oxidative stress, support brain function, and slow down age-related cognitive decline, as well as lower the risk of Alzheimer's disease.
- contains oleocanthal, which has anti-inflammatory effects and thus reduces the risk of chronic diseases like arthritis, diabetes, and cancer.
- lowers the risk of developing type 2 diabetes by up to 40% and improves insulin sensitivity, reducing blood sugar spikes after meals.
- reduces oxidative stress, slowing down aging and skin damage.
- supports bone density and helps prevent osteoporosis.
- stimulates bile production and a healthy gut microbiome, reducing bloating and digestive issues.

Technical & Economic - During the last seven decades, Pakistan has shifted from an agrarian country to a service-led economy. From 2013 to 2023, the services sector replaced the dominant agriculture sector of the economy with 57.23 percent, as the contribution of the latter to GDP declined from 46 to 23.37 percent.

Some of the major problems adversely affecting agricultural productivity include fixed cropping methods, dependence on major crops, narrow genetic pools, low quality of seeds, and inefficient utilization of water and water management systems. Consequently, rural areas of the country remain underdeveloped and, in many instances, are facing abject poverty and food insecurity.

¹ Nutraceuticals are substances that have both nutrient and therapeutic effects.

Within this context, it can safely be said that Pakistan has great potential to fully realize opportunities in olive oil production by strengthening the capacity of public and private sectors in the areas of orchard management, nursery production, value addition, business planning, and marketing of olive oil, which is in high demand, nationally and internationally.

A study done by the Pak Olive project² underlines an estimated economic annual return from 50,000 acres of olive orchard at Rs. 14.58 billion (from the 11th year of age onward), with an estimated cumulative income based on 25 years equal to Rs. 249.125 billion³. At the farm level, the profit margin for the whole olive production is beneficial, as with an internal rate of return at 10%, the discount rate was found to be 31%, indicating that the investment is feasible as the IRR is greater than the market rate of interest.

The processing of olives, which includes the production of oil, pickles, and other by-products, is aimed at enhancing the income, living standard, and health of youth, gender, and rural communities. The goal is to develop the olive value chain. A lot of investment opportunities exist in this sector for the entire gamut of agriculture and especially olive value chain stakeholders.

Social - Pakistan's agriculture sector is a major source of employment for a significant proportion of the Pakistani labour force. It contributes about 23 percent of the Gross Domestic Product (GDP) and accounts for half of the employed labour force and is the largest source of foreign exchange earnings (Economic Survey of Pakistan), but it is vital to rethink agricultural priorities and policies to improve this 'poorly organized and inefficient' sector and address the increasing challenges posed by climate change.

Pakistan has a large labour force that stands among the top 10 largest in the world. According to the Labour Force Survey FY2023, it has increased from 65.5 million in FY 2018 to 80.99 million in FY 2023 (Economic Survey of Pakistan).

The availability of opportunities refers to the range of livelihood options that people can avail. For Pakistan, where 64% of the population is under 30 years old, opportunities become even more significant. The creation and expansion of employment opportunities in rural areas have remained part of the government agenda for inclusive and sustainable development, especially since the 1970s; however, given the increase in population, rural-to-urban migration, and rapid urbanization, more needs to be done to create additional employment opportunities, for which the following steps can be envisaged:

- i. increase in cultivated area.
- ii. increase in cropped area as a result of technical changes and infrastructural investments.
- iii. changes to crops that emphasize labor-intensive products.
- iv. changes in the pattern of landholdings towards smaller units that can engage more workforce, but only if labor-intensive.

² "Promotion of Olive Cultivation on Commercial Scale in Pakistan - Phase II/PSDP" project

³ "OliveCulture- Holistic and Multi-professional Mechanism for a Pakistani Olive Oil Value Chain" project – Assessment of the Olive value chain in Pakistan, Project Progress, November 2022

As previously mentioned, there has been a persistent shift from the agriculture sector to non-farm-related employment, with about half the working population now involved in non-farm-based jobs⁴, due to a myriad of reasons, including an increase in peri-urban agglomerations, increasing connectivity, low returns to agriculture, and scarcity of land due to skewed land ownership.

Indeed, olive cultivation can go a long way in reducing poverty and improving the socio-economic conditions of Pakistan's predominantly impoverished rural population, and in the development of cottage industry with the involvement of youth and gender.

Also, the promotion of the olive crop is contributing towards the National Development Agenda 2030 of the Sustainable Development Goals (SDGs), adopted by unanimous resolution of the Parliament of Pakistan which is committed to their compliance, specifically on the following Goals: No. 1 (No poverty), No. 2 (Zero hunger), No. 5 (Gender equality, empowerment of women and girls), No. 8 (Sustainable economic growth, employment and decent work for all) and No 13 (Urgent actions to combat climate change and its impacts).

Environmental - For the last two decades, Pakistan has been among the top ten most vulnerable countries on the Climate Risk Index (CRI). While the global climate crisis is literally and disproportionately destroying the 'Global South' in general, Pakistan has suffered the most due to climate crisis and climate change-induced natural disasters in the form of extreme weather patterns like droughts or flash floods, inundating crops, houses, and loss of invaluable lives, affecting, in particular, the agricultural sector, significantly impacting food insecurity, nutritional deficiency, and gender.

The devastation from the 2022 floods, which covered three-quarters of the country, leaving close to a million people without access to safe and adequate housing, as well as the catastrophic climate change-induced floods in Pakistan from March to July 2023, refocused global attention on this critical issue. It is worth mentioning that Pakistan was a promoter at the Climate Change Conference (COP) 27 held in Sharm-El-Sheikh (Egypt) in November 2022 of the establishment of a dedicated "Fund for Loss and Damage" in developing countries, which are particularly vulnerable to the adverse impacts of Climate Change. Now, the Fund has been fully operationalized.

As a long-term strategy, Pakistan needs to focus on high-value and better-yielding crops, in plants that are heat and drought-resistant and suitable for cultivation across many agro-climatic zones of the country. As some of the most resilient plants to withstand extreme conditions, olive plantation and cultivation appear to be the most cost-effective choice in the long run and can complement climate change mitigation and adaptation strategies.

Olive plants are naturally endowed with properties that make them resistant to harsh weather and changing climatic patterns. Environmentally, sustainable olive oil production helps to mitigate climate change and reduce greenhouse gas emissions. Also, as a great source of carbon absorption, olive plantations are eligible for Carbon Credit schemes, besides contributing to the achievement of a clean and green ecology.

Also, the role played by the olive trees in safeguarding biodiversity, improving soil, and as a barrier to desertification can be significant. In Pakistan, there are vast areas characterized by water erosion where olives can be planted. Moreover, around 16 million hectares of land

⁴ Ullah, Rafi. The Changing Rural Landscape in Pakistan: Labour Markets and Consumption Patterns. No. 2021: 11. Pakistan Institute of Development Economics, 2021.

(about 20% of the total area) are affected directly or indirectly by soil erosion, which could be significantly reduced by massive olive plantations. Similarly, olive plantations can reduce desertification and can take place in some semi-arid and hilly lands with poor fertility and water erosion, though the productivity of fruits will be limited.

4.3 Olive introduction in Pakistan and its development

Pakistan's interest in the olive crop has been evident in the past. However, it has only been in the last decade that a structured approach to modern cultivation has been developed, leading to the creation of the olive sector. Pakistan has been undeterred in its efforts to introduce the modern olive culture since it was assessed that the survival rate of some 5.5 million wild olive plants that were grafted/topworked under a project of PODB (2001-2008) was less than 1%.

The opportunity was given by the "*Pakistan Italian for Development Swap Agreement (PIDSA)*" which financed the project "*Promotion of Olive Cultivation for Economic Development and Poverty Alleviation*" executed by the Pakistan Agricultural Research Council (PARC). It represented the first significant public investment in the country in the Olive sector, as about 580,000 imported Mediterranean olive trees, certified true to type, were planted over 2,200 hectares (5,436 acres) in farmers' fields (2012-2016).

Then, adopting a similar scheme, in 2014 the Government financed, within the PSDP framework, the landmark project "*Pak Olive-Phase I*", followed by Phase II to be completed by 2025, having an overall target for olive plantations of 75,000 acres (30,351 hectares) covering Balochistan, Khyber Pakhtunkhwa including the Merged Areas, and Punjab (Potohar), as well as the potentially suitable areas of Azad Jammu & Kashmir, Gilgit-Baltistan, and Sindh.

This project represents the leading federal government investment to promote olive plantation in the country, involving the supply of inputs, such as olive seedlings and drip irrigation systems at subsidized rates, the development of nurseries, installation of oil mills, and capacity building. Meanwhile, provincial initiatives were also developed, in particular in Punjab, thanks to the Barani Agriculture Research Institute (BARI) Chakwal, to promote olive cultivation at the farmers' level.

To extend and qualify the development of the olive sector, the Government of Italy financed on a grant basis, from January 2022 to June 2024, the project "*OliveCulture - Holistic and Multi-professional Mechanism for a Pakistani Olive Oil Value Chain*" (**OCP**, from now onward), entrusted to the International Centre for Advanced Mediterranean Agronomic Studies of Bari (CIHEAM Bari, Italy), in cooperation with the Ministry of National Food Security and Research (MNFS&R), through the Pakistan Oilseed Department (POD).

Based on the positive results achieved and to ensure continuity, on the same pattern has been financed the project "*Scaling Up OliveCulture Value Chain and Promoting Climate-Resilient Rural Development in Pakistan/OliveCulture II*" (**OCP II**, from now onward), for 3 years duration (August 2024 – July 2027).

Within its mandate, the OCP prepared and finalized in June 2023, with the involvement of a "*Pakistani Stakeholder Olive Group*" an "*Action Plan and Policy Recommendations for a holistic development of the Pakistani Olive Value Chain*" (AP&PR), which has provided innovative and creative insights, highlighting the challenges and prospects of Pakistan's burgeoning olive sector. The AP&PR constitutes the foundation of the present "*National Olive Value Chain Policy*" and it is available at www.oliveculture.org

Market Analysis

Pakistan National Olive Value Chain Policy

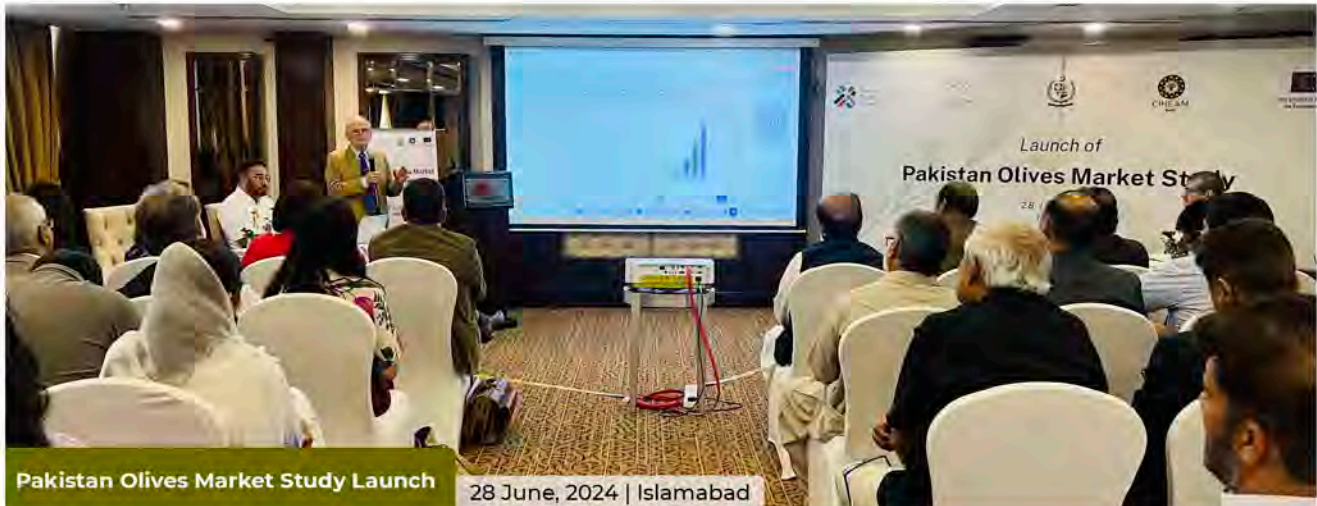
Along with

*The Implementation Strategy and
Road Map for 2024 - 2030*

5. Market Analysis

5.1 Domestic Olive Market

At the end of June 2024 was launched, in the presence of the Secretary, the “Pakistan Market Olive Study” conducted by the MNFS&R through the Italian OliveCulture Project, the European Union, and the International Trade Centre (ITC) of UNCTAD (United Nations Conference on Trade and Development) - WTO (World Trade Organization).



During July and August 2023, 546 Pakistani consumers were surveyed, along with 60 retailers and six importers/distributors, to map the current landscape of the olive sector. The Study delineates the consumption patterns, evaluates the present trends, and identifies future growth opportunities. Additionally, it has identified the market-related challenges and opportunities within the olive products value chain.

The findings from the survey have indicated a notable trend: there is a high consumer demand for olive products in Pakistan, primarily driven by their recognized health benefits. And as the local production of olive products is still modest, the reliance on imports to satisfy consumer needs is heavy. This dependency is illustrated by a steady increase in olive oil imports, grown at an annual rate of 12% over the last decade.

Furthermore, a substantial 74% of the consumers expressed a preference for imported olive products over local ones, highlighting the perception that imported goods offer superior flavour and variety, but above all, a significant negative impact is due to the lack of quality certifications on local products.

The Study has also provided significant insights into consumer behaviours, such as the willingness to pay premium prices for high-quality olive oil. This indicates a substantial potential for growth in the local olive product market. However, to tap into this potential, the Study highlights the challenges to be met for improving the processing efficiency, standardization, and quality certifications for local products.

A key aspect is also the promotion of local consumption by raising awareness about the health benefits of olive oil through targeted marketing campaigns. These targeted efforts are crucial for driving economic growth and advancing sustainable agricultural practices, thereby setting a solid foundation for the substantial growth of Pakistan's olive sector.

5.2 Global Olive Market Overview

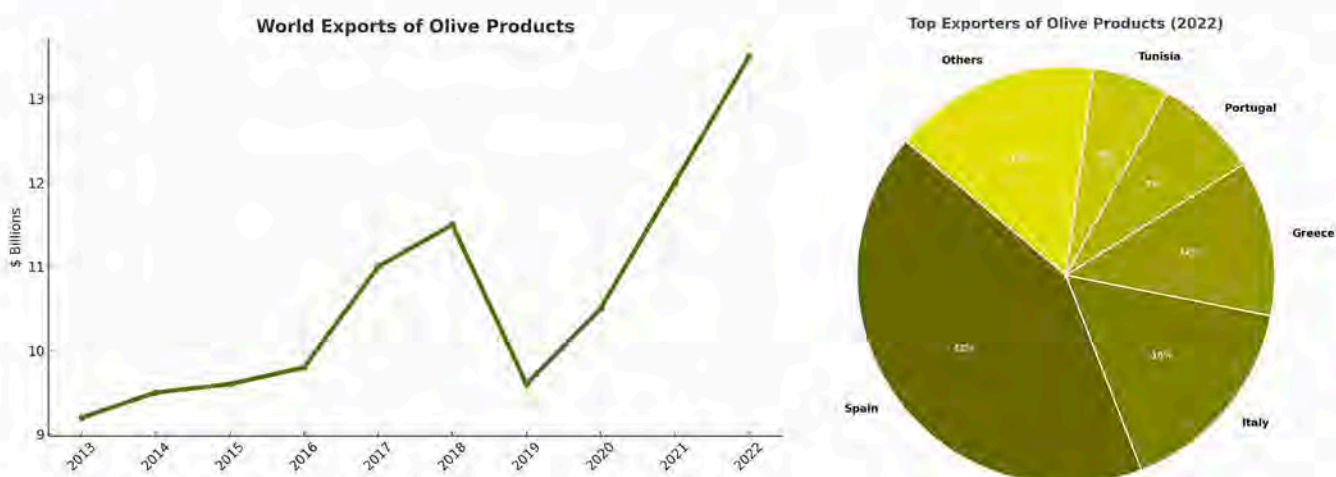
The global export of olive products is currently experiencing robust growth, fuelled by several key factors, such as the health benefits of olive oil, the influence of the Mediterranean diet, and its increased use in the pharmaceutical and beauty industries. The export market reached a value of \$13.2 billion in 2022, showcasing a growth of 4% (CAGR) over the last decade (ITC Trade Map, 2022)⁵.

Most of the olive cultivation and oil production are concentrated in the Mediterranean region, where the European Union accounts for 80% of the global output. Besides the EU, Tunisia, Turkey, Syria, and Morocco are significant producers.

Both export and production by countries are depicted in **Figure 1** below.

Extra virgin and virgin olive oil constitute 60% of the market's focus, with table olives making up another 18%. Furthermore, global exports of olive oil have grown by 5% in the last decade, while table olives have seen a 3% increase, indicating an expanding global demand.

Figure 1 - Global export trends of olive products and countries of production

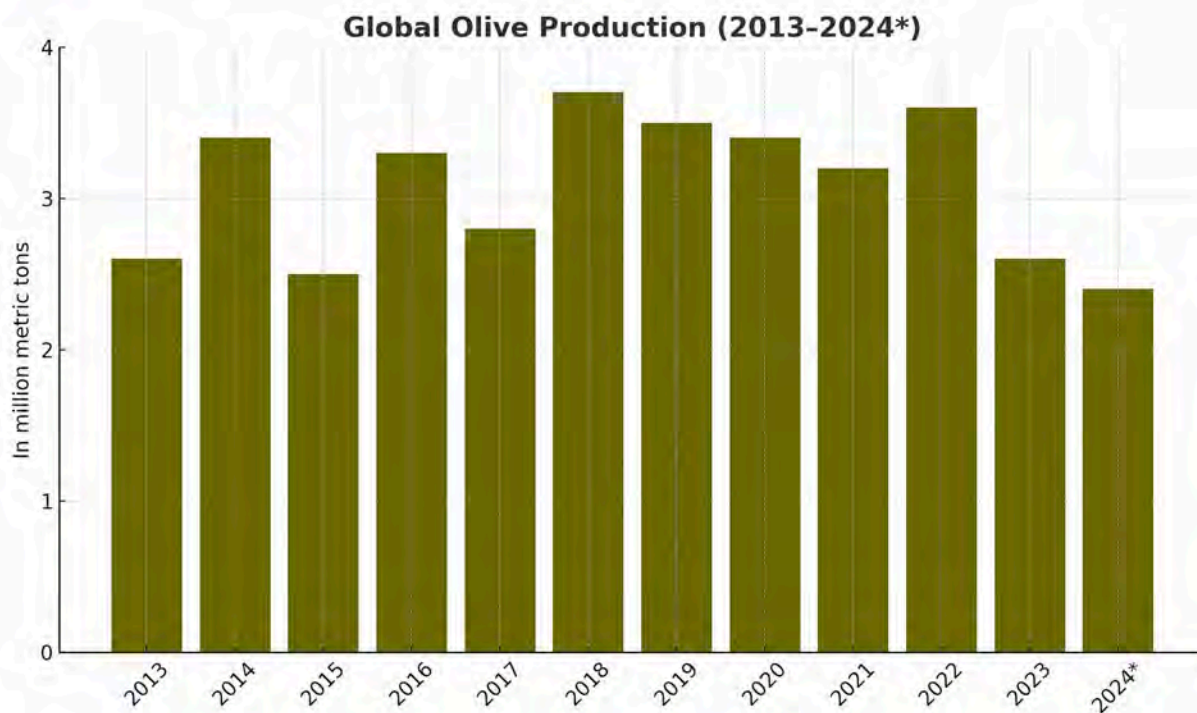


ITC - Calculations based on UN COMTRADE and ITC statistics.

In 2023, the global production of olive oil has been around 2.4 million tonnes, with a modest contraction with a 6% compound annual growth rate (CAGR) declined over the past five years (**Figure 2**). This downturn can be attributed to the disruptive impact of the COVID-19 pandemic, as well as climatic adversities such as extreme heatwaves and droughts. Despite facing these challenges, market revenue and export trends are a testament to the resilience and dynamic adaptability of the global olive oil market (**Figure 3**).

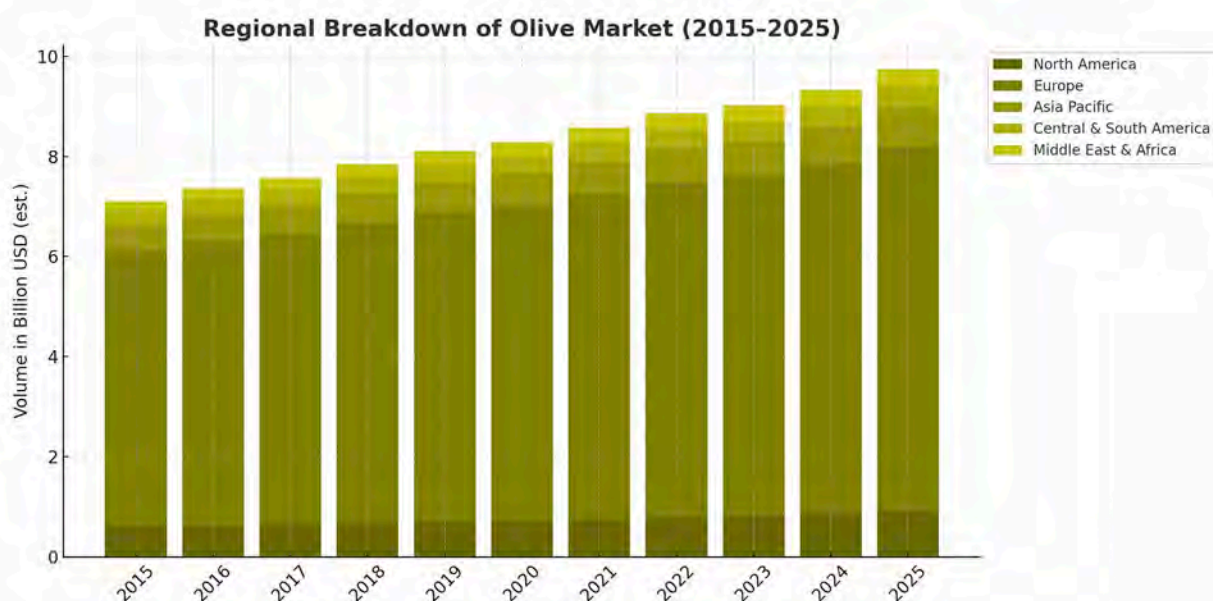
⁵ In 2023, \$12.14 billion of olive oil (Tradeimex)

Figure 2 - Worldwide production of olive oil



Source - US Agriculture Department -USDA Foreign Agricultural Service * Forecast

Figure 3 - Global olive oil revenue by region (\$ Billion) – Actual & Forecast



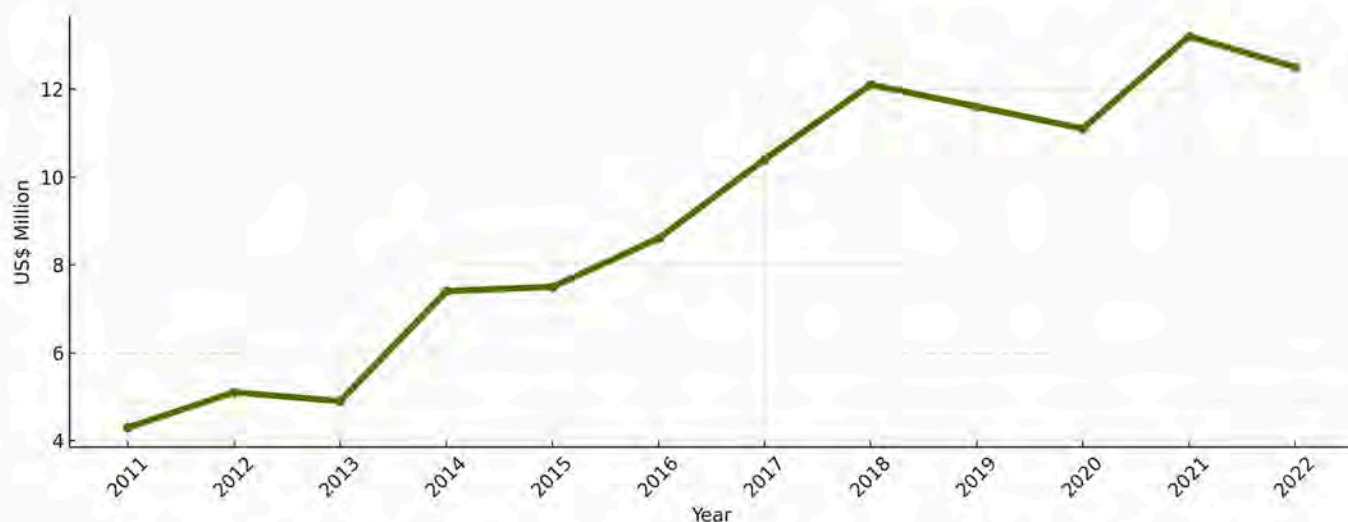
Source - Hexa Research - Olive Oil Market Size, Share, Forecast, 2019-2025
Industry Report ([hexaresearch.com](https://www.hexaresearch.com))

5.3 Domestic market trend, retailers' behavior, challenges, and export potential

In this context, Pakistan's olive industry is at a crucial point, with potential for significant growth given the global market dynamics and evolving domestic consumer preferences.

The trend of Pakistan's import of virgin olive oil (HS Code 150910) for the past 12 years is depicted in the following **Figure 4**.

Figure 4 - Import of olive virgin oil in Pakistan



Despite the substantial results, the Pakistani olive sector faces obstacles that undermine its competitiveness. It is necessary to implement a comprehensive strategy aimed at enhancing affordability, raising consumer awareness of the benefits of locally produced olive products, and creating a favorable environment for industry growth through conducive policies, investments, and incentives. Additionally, understanding the sector's strengths, weaknesses, and market opportunities is crucial for companies aiming to enhance their adaptability and meet the evolving market demands.

The survey has also analyzed the specific subject "Opportunities for the local market to replace the imports" from the commercial point of view. Significant findings are the following:

- The majority of olive product retailers source their inventory regularly, presenting a considerable challenge to local producers striving to establish dependable supply chains and customer loyalty to compete with these imports. According to the survey, 50% of retailers purchase imported olive products from their distributors every week, while 38% place orders monthly, reflecting a strong dependency on imported goods. In contrast, a marginal 4% make purchases only occasionally throughout the year.
- The pattern suggests that the majority of retailers maintain a steady stream of imported olive goods, leaving limited room for local products. However, even though 68% of retailers report high satisfaction with their current imported supplies, there remains a significant 18% of retailers who are very dissatisfied, signaling an opening for local suppliers to potentially gain market share by targeting these discontented retailers.
- Despite the hurdles, 39% of importers would not contemplate changing their suppliers, and 27% find such considerations inapplicable due to a lack of significant challenges.

Yet, a combined 34% of the market is open to new suppliers, actively or passively, highlighting an opportunity for local suppliers to present themselves as viable alternatives by tackling the specific challenges the importers face (**Figures 5 & 6**).

- The data indicates a clear preference among retailers for key business strategies. A substantial 80% rate of competitive pricing is a critical factor when sourcing imported olive products, implying that local suppliers must offer attractive pricing to make significant inroads into the market.
- Concurrently, the retailers, who are aware of market dynamics, consider certifications vital, with 79% indicating their importance in the selection of imported olive products. These certifications are a cornerstone in their strategy, potentially used to justify premium pricing as they assure consumers of product quality and origin.
- By acquiring certifications, local suppliers can not only meet retailer expectations but also take on the role of educators to elevate consumer appreciation for the high-quality standards of local olive products. In doing so, they may bridge the gap between the factors influencing retailer stocking decisions and the current consumer understanding of product quality (**Figure 7**).

Figure 5 - Top challenges faced by importers in olive product supply

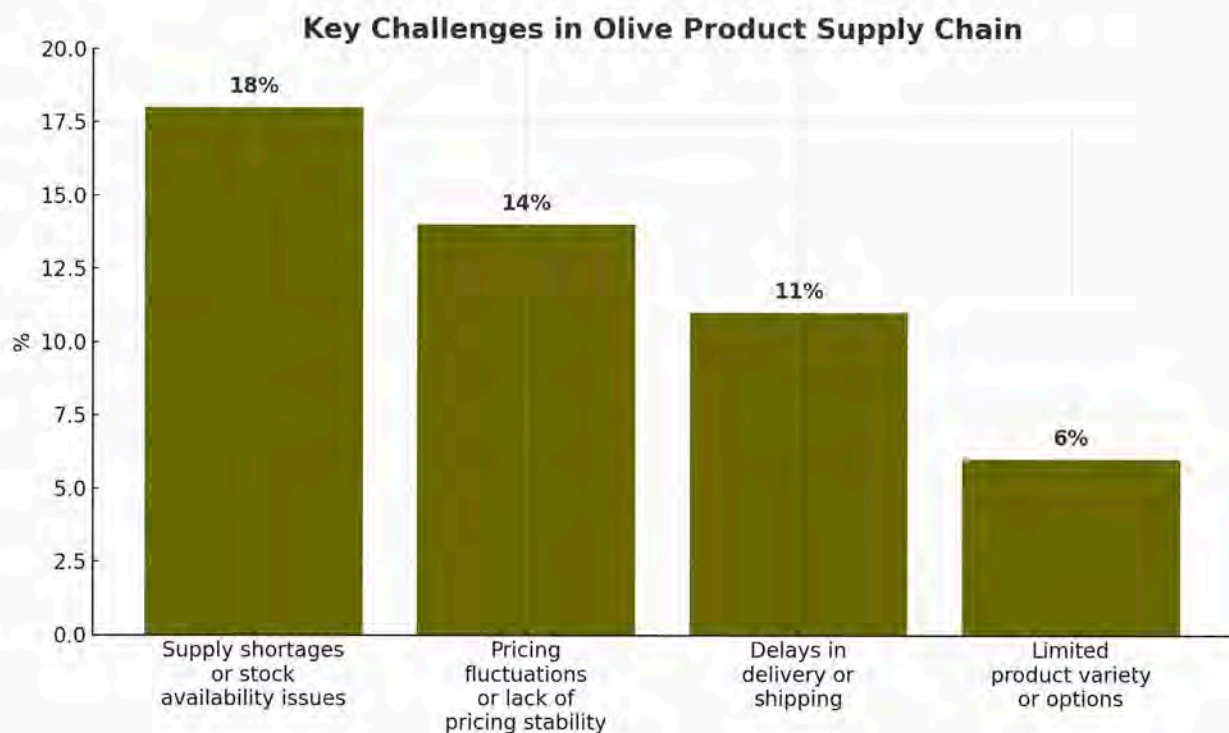


Figure 6 - Willingness to change suppliers among olive product importers

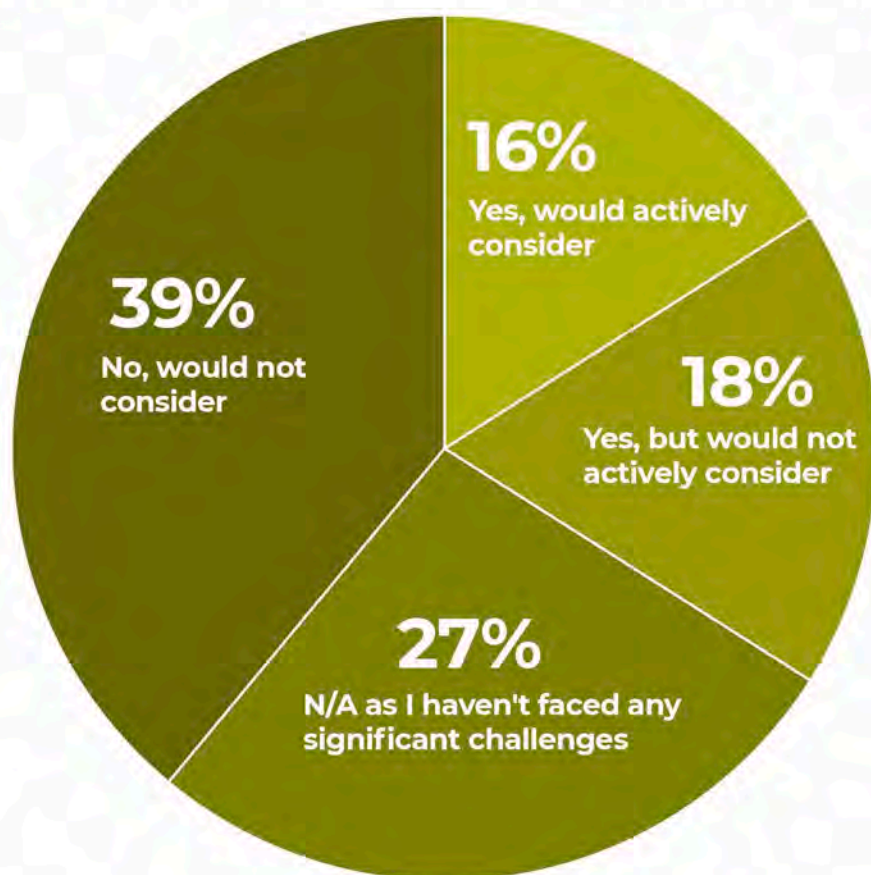
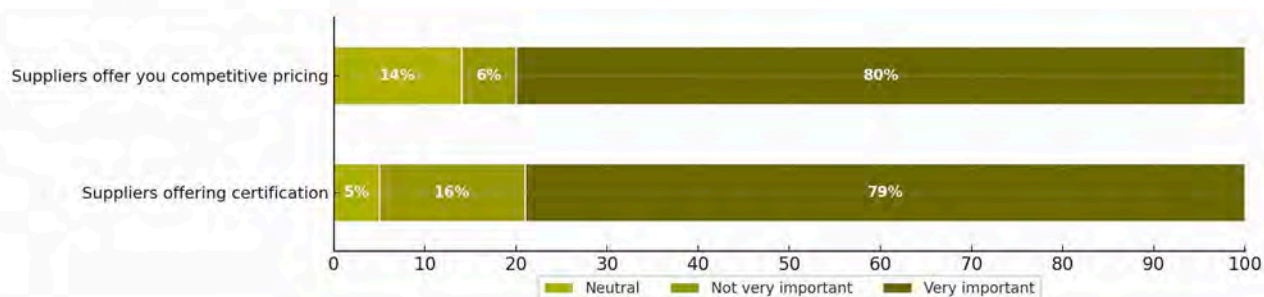


Figure 7 - Importance of competitive pricing & certification for retailers of imported olive products



Source - Pakistan Olives Market Study - Consumer survey data collected in Pakistan

The Study suggests that the global increase in olive consumption presents a unique opportunity for Pakistan. Domestic consumption is on an upward trajectory, reflecting a growing appreciation and demand for olive products within the country, but in light of the burgeoning global demand for olive oil, there also exists a significant opportunity to tap into international markets through exports.

However, the current production capacity of local olive oil falls short of substantially reducing the nation's reliance on imported edible oils. This gap between local production and the potential to meet both domestic and international demand underscores the need to mobilize private sector investment, particularly in bringing foreign olive oil brands into the Pakistani market.

It is the view of ITC that partnerships with foreign investments could not only enhance the variety and quality of olive products available domestically but also bolster Pakistan's position as a player in the global olive oil market.

As consumer demand for quality continues to rise, Pakistan's olive production sector is poised for significant growth in both cultivation and output within the next 5 to 7 years, as shown in the production data. However, with national demand expected to rise alongside quality and production, imports of olive oil can complement domestic supply rather than displace it, at least in the medium run, and ensure balanced market dynamics that support consumer needs for premium olive products.

The Study is available at the OCP II portal "www.oliveculture.org".

5.4 "Success Stories" of the two major worldwide olive-producing and exporting countries, Spain and Italy.

As depicted in Figure 1, in 2022, Spain and Italy were respectively the 1st and 2nd olive-exporting countries; the same rating is confirmed in February 2025: Spain leads the world in olive oil export volume with 944,000 metric tons, whereas Italy comes in second with 307,000 metric tons.

As a potential reference for Pakistan and a possible source of inspiration, an outline of their olive sectors providing information regarding the context, status, strengths, and challenges of the olive value chain, the table olive, and additional features of economic value, are attached at Annex 1. Their main takeaways are as follows:

Spanish Olive Sector

Spain's leadership in olive oil and table olive export is a result of joint efforts from the Government and the private sector, its high production capacity, favourable climate, research & development, advanced agricultural technology, and strong global demand. The value chain is well-integrated, ensuring efficiency from farm to internal and international markets, for which the country is working on several strategies to maintain and expand its global leadership. These strategies focus on branding, sustainability, technology, and market diversification.

The cooperative system is integral to Spain's olive sector, dominating the production side, enhancing efficiency, ensuring product quality, and supporting rural economies.

Whereas the private industry plays a vital role in innovation, branding, quality assurance, and international market growth, driving competitiveness and profitability, ensuring that Spanish olive oil and table olive remains a global leader in both volume and prestige.

Regarding Table Olive, although the olive oil industry is larger, it represents a key pillar of Spain's agro-farming sector, characterized by large-scale production, mass market, and low-cost olives

Italian Olive Sector

The success story of olive cultivation in Italy is a rich and centuries-old journey that has made the country a global leader in olive oil production. The Italian Olive Value Chain is a perfect example of heritage, quality, and innovation working together. From small family-run farms and cooperatives to large-scale producers, Italian olive oil remains a symbol of excellence and tradition worldwide.

The challenges that the Olive Sector faces are many, but they are tackled with the spirit of entrepreneurship and innovation that characterizes the modern economies. The continued support of public institutions (Italian Government and EU) is essential and harmonized.

Regarding Table Olives, the industry is mainly artisanal, with a focus on quality, tradition, and unique regional varieties, whereas the industrial production supplies supermarket brands and exports. Overall, despite industrialization, Italy's emphasis remains on premium, high-value products.

Potential reference for Pakistan

Both olive sectors offer numerous and various examples of success stories, inspiration, and ideas, along with challenges that are to be continuously met by the stakeholders. The main lesson to be learned in comparing Pakistan with the two leading countries is that it possesses a high potential in the olive sector, which is, anyway, at the infancy stage, and that to scale up the olive value chain in a harmonized structured manner a synergic efforts is needed with a major involvement of the private olive industry and in parallel the aggregation of farmers, supported by the public institutions in their defined roles and capacities.

It is worth mentioning the subject of Carbon Credit to be earned by olive orchards (also dealt through OCP I and II), which is not in advanced implementation phase in both countries because the matter is new and complex, but it is addressed by combined efforts (university, research, farmer association) of both countries.

Problems and Constraints in Developing the Olive Sector

Pakistan National Olive Value Chain Policy

Along with

The Implementation Strategy and Road Map for 2024 - 2030

6. Problems and Constraints in Developing the Olive Sector

6.1 Status of olive crop production

The various initiatives, listed in Table 3.2 of the AP&PR, have generated an olive-planted area of approximately 5 million olive trees, covering an estimated area of about 40,000 acres, as depicted in Table 2 below.

Table 2 - Olive plantation in Pakistan - Number of planted olive trees and area

Provinces/ Region	PIDSA (2012-16)	PSDP (2014-22)	Olive Valley (2015-20)	5 million Olive Plants (2013-19)	Private Plantation	Total Plants (acre)
Balochistan	159,379	1,147,982	-	-	2,500	1,309,861 (10,475)
Khyber Pakhtunkhwa	265,273	538,202	-	590,000	25,000	1,418,475 (12,925)
Punjab	116,772	577,250	1,210,411	-	10,000	1,914,433 (14,617)
ICT	35,768	114,621	-	-	-	150,389 (1,215)
AJK	421	65,795	-	-	-	66,216 (507)
G.B.	2,545	30,751	-	-	-	33,296 (253)
Sindh	-	61,904	-	-	-	61,904 (460)
TOTAL (acre)	580,158 (5,802)	2,536,505 (19,410)	1,210,411 (8,965)	590,000 (5,900)	37,500 (375)	4,954,574 (40,450)

Source: PSDP: "PakOlive project" phases I & II-2022

The olive orchards suffered an average high mortality rate in the initial years, estimated at 18%, whereas 10% is considered acceptable in Pakistan. This was due to several factors, mainly: (i) being a new crop, there was for both technicians and farmers limited knowledge of the agricultural practices despite some training done, (ii) the seedlings were distributed free of cost for promotion, and this resulted in less care from the farmers in planting, irrigating, protecting against animals, etc. (iii) the failures were not re-planted, due to lack of availability of plants, coupled with the approach adopted of not providing further free assistance in case of negligence, and (iv) the plantation done with marginal and small-holders farmers was highly significant. As a result, the effective population of olive trees on the ground at the end of the financial year 2021-2022 has been estimated at 4,230,698 olive trees out of the 4,954,574 planted.

During the financial season 2022-2023, the plantation continued from the PakOlive project, reaching a total amount of 3,763,042 trees, equivalent to 28,476 acres⁶, whereas the provincial shares of the overall plantation (5.37 million olive trees) were the following (in acres): Balochistan – 17,000; Punjab – 16,556; Khyber Pakhtunkhwa – 13,994; AJ&K – 1,241; Islamabad Capital Territory – 964; Sindh – 767, and Gilgit-Baltistan – 557.

⁶PakOlive – 2025

Regarding the production of olive oil and table olives for the calendar year 2022, it was estimated respectively at 110 tons and 40 tons. In 2023, it increased, respectively to 121 tons⁷ and 65 tons⁸. For the year 2024, reliable estimates are not yet available.

It must be noted that it is very difficult to collect reliable data regarding the production of olive fruits, olive oil, and table olive at the national level because the registration of fruits entered and oil extracted is mandatory only for the public extraction units, which anyway can suffer of significant distortions, mainly due to mismanagement. Whereas table olives are processed almost entirely by private traders. As a result, the absence of a reliable monitoring system in a difficult infrastructural situation due to the dispersion of the extraction sites, distances, accessibility, and transparency hampers the collection of statistically reliable data. Therefore, “estimated” must be intended in full letter and spirit.

Based on the available data for 2022, the OCP prepared a detailed estimated assessment of the situation in terms of the number of olive trees, the area covered, the average yield per plant, the total production in fruits, oil, and table olives, and future projections. The elaboration is depicted in the Table attached in **Annex 2**.

It is worth highlighting the following:

- i. In Pakistan, the olive plants typically begin producing significantly after 6-7 years according to the variety, and they achieve substantial yields after 10 years, with full production from 12 years onward.

Therefore, out of 18,500 hectares covered with olive orchards, but 16,669 hectares effective after subtracting the dead tree, it was estimated that only 2,700 hectares were substantially productive, mainly from PIDSA plantations (11 years the age of the oldest trees) and from the other initiatives (9 years the age of the oldest trees), altogether contributing to around 17% of the total land under olive orchards. Therefore, a significant portion of this land was, and still is, at the juvenile stage

- ii. Based on: (i) the olive oil and table olive production; (ii) the distribution of the existing plantations and olive trees according to their age; and (iii) the yearly target set of 18 kg of fruit yield per plant of 12 years (reasonable average for Pakistan), it has been estimated that the average current yearly yield of olive fruit per plant of 10 years is 4.5 Kg, to be projected at Kg 5.4 for a plant of 12 years (+20%) at full maturity, equivalent to about 0.5 kg of oil per plant⁹. Therefore, the average yield is about 30% of the optimal. The elaboration is given hereunder in Table 3.

⁷ ITC- CIHEAM Bari - Pakistan Olives Market Study in Pakistan - 2024

⁸ Brief on Olive Sector Development in Pakistan, PSDP - "Promotion of Olive Cultivation on Commercial Scale in Pakistan (Phase II) 2021 – 2026"

⁹ It has been adopted an extraction rate of 10% from olive fruit to oil. It is a conservative average. Although in some cases 20% has been exceeded in Balochistan, at the planning stage a cautious approach is always recommended.

Table 3 - Average yield per olive tree in Pakistan

2022 Olive Fruits Production (Ton) 1,140.0

Age	Tree Count	Olive Tree Productivity Per Tree			
		Expected		2022 Real kg	2022 Total ton
		Expected %	Expected kg		
12.th	0	100.00%	18		
11.th	0	90.00%	16.2		
10.th	109620	80.00%	14.4	4.5	493
9.th	219240	60.00%	10.8	1.69	369.7
8.th	374693	30.00%	5.4	0.49	184.9
7.th	826430	10.00%	1.8	0.07	61.6
6.th	1168547	5.00%	0.9	0.03	30.8
5.th	1510664				
4.th	2206683		Σ		
3.th	2515118		33.3		
2.nd	3180938				
1.st	3768998				
	4230698				1140

iii. Thanks to the impact of OliveCulture II as the leading force, an increase in yield of 30% is expected after three years of its activities; thus, from 5.4 kg/plant, the expected yield for a plant from 12 years and above will reach 7.2 kg/fruits/plant, which means 40% of the average optimal yield. It is also expected that the impact of other initiatives in addition to PakOlive will generate a multiplier effect for a progressive enhancement of production.

iv. Overall, considering the existing plantation of 4,230,698 plants and the estimated yields progressively induced by the Project, by the year 2030, the estimated production will be about 25,000 tons of olive fruits, out of which will be extracted 2,419 tons of oil and processed 949 tons of table olive¹⁰. The productive area will be 95%, equivalent to approximately 37,000 acres.

v. Considering the plantation assessed in 2022, it is estimated that the import substitution of the olive products imported during the financial year 2023-2024, i.e., 4,000 tons and 1,500 tons of olive products, will theoretically be achieved by the year 2033.

It may be further elaborated that out of the corresponding quantity in olive fruits of 38,950 tons, the market will guide on the transformation into olive oil or in processing olive pickles. It may be mentioned that the oil is utilized for different purposes, in addition to food, such as cosmetics, soaps, and medical products.

¹⁰ The estimated subdivision on oil and table olive was based on the current trend.

6.2 Problems and bottlenecks in olive crop production

According to the SWOT analysis carried out by the AP&PR and the information progressively experienced in the field and others acquired from a wide range of sources, the most important problems and bottlenecks of the Pakistan olive value chain have been identified and described hereunder¹¹.

The potential olive-growing area, mainly marginal and wastelands, has not yet been adequately exploited.

Although the promotion of olive production has never targeted the land cropped for staple food, which is of primary importance for the country, the potential areas suitable for growing olive are still very vast. Moreover, the effects of climate change are compelling many growing areas in Balochistan and elsewhere to look towards smart climate crops that consume less water, therefore, olive is the best option in such situations. The introduction of olive cultivation on marginal and wastelands/barren lands also represents an opportunity for poverty alleviation for many communities and resource-poor farmers, which in association can develop segments of the value chain, including the processing at an advanced stage. Besides the economic aspects of producing more olive harvest, as the olive trees reduce erosion and stabilize the soil, as well as they are source of carbon sequestration, more positive effects on climate change are subject to the expansion of the olive-covered area.

The average olive plant yields are low, and the quality of harvesting is often sub-standard

Despite the huge potential of the olive crop, Good Agricultural Practices (GAP) are not yet fully followed, from nursery to harvesting. Among the different cultural practices that impact the yield, are worth mentioning the poor fertilization, the non-adoption of pruning - that also increases the alternate bearing and the development of pests and diseases - the poor control of the diseases, such as insects, fungi, bacteria, viruses, and nematodes, although limited to some areas. Altogether, the non-adoption of GAP causes average low and erratic production and sometimes poor quality of harvests.

The above analysis applies to medium-large farms, which have the means and capacity. Whereas, marginal farms and part of the smallholders, due to their intrinsic typology and constraints, can't usually sustain the full adoption of GAP, and their production and yields must be evaluated in their specific context.

The olive nursery system has not been developed as required

The country has failed, so far, in establishing a nursery system at the country level for supplying the certified plant propagating material (true to type and healthy)¹² to the olive growers in an affordable manner. The negative effects are impacting the smooth development of olive production at different levels. The main reasons are the weak institutional mechanism in place at the central level and its poor imprint in the provinces.

The result is that only eight nurseries have so far been registered in the country, and all are in Punjab. Moreover, among the seven private nurseries, one is certified and in a dominant position. Thanks to investment and enhancement of human resources has grown to the level that could enter the international market.

¹¹ In this section, there is no mention, generally, of the related activities already undertaken at the scale of the projects to prevent and overcome the problems because their impact has been limited so far, although significant. They will instead be included in the Actions to be undertaken.

¹² Concerning the sanitary status of the propagating material, there is a lack from the phytosanitary authorities to indicate the harmful pests and diseases for which the plant propagating material should be free, checked, verified and certified.

It is worth mentioning that all the nurseries have received strong support from the Institute of BARI Chakwal and CEFORT, which owns and manages the other certified nursery. The Institute, it may be recalled, received in the recent past support from USAID, which was conducive to the creation of CEFORT.

Although some progress has been made in Balochistan and KP, where some nurseries are potentially eligible for certification in the short run, the problem is still acute. Moreover, the current success rate for plant multiplication is around 20-30% only, and the seedlings are weak due to the adoption of techniques that require a drastic improvement, with the consequence of planting seedlings that will start producing slowly and late. Another relevant aspect is the absence of laboratory screening with certified methodologies for pests and diseases, which entails the risk of their diffusion.

The application of inputs required (fertilizers, pesticides, water, and farm machinery) is not properly done. Moreover, they are often not available or affordable

Overall, productivity depends on adopting the GAP, which implies the use of inputs and often water for irrigation. The lack of reliable information to the growers regarding fertilization and the recommended phenological stages for their application, as well as on the use of pesticides, are all together factors that, coupled with the poor quality of inputs sold in the market, represent serious threats to productivity. In such a context, the lack of training for the technicians and farmers on how to assess the validity of the use of fertilizer and pesticides, as well as the real accessibility to laboratories (starting from the soil analysis before the plantation), represents current limiting factors on olive cultivation. Another serious problem is the misuse or unbalanced use of pesticides, as it has been assessed a frequent application of products that are forbidden. Therefore, there is also a health risk to the users, consumers, and the environment.

Regarding water, there is a need for capacity building on the usage and maintenance of the drip irrigation system, which is not, anyway, the most practiced method, as flood irrigation still exists and is popular.

A common basic problem is the lack of knowledge from technicians and growers of plant phenology and the quantity of water required during different phases, with the consequence that the water irrigation rate applied is either excessive or insufficient. It is worth mentioning that the limited capacity of subsidizing the installation of drip irrigation systems by the Public Sector is a severe limiting factor on the diffusion of this recommended method of irrigation.

Moreover, drip irrigation is a practice that has been newly adopted in advanced olive-growing countries as supplementary irrigation at critical phenological stages such as flowering. In fact, it has been assessed that in recurrent hot conditions due to climate change, flowering has failed due to water shortage, and the practice has been introduced in Pakistan by the OCP but needs competence.

Another factor that impacts olive production is the farm machinery and equipment; their use in the olive orchards is currently limited to soil preparation and some passages of the tiller between the rows by using traditional implements.

The low level of farm mechanization in the country is one of the main hindrances to agriculture development, particularly for the smallholders; therefore, the need and scope for introducing modern farm machinery and equipment to help the farmers reduce the hard labour and enhance the quality of the olive produce shall be a general objective.

Limited support from public Institutions

Whereas the planting is subsidized, there is a general feeling of abandonment by the farmers of support from the institutions throughout the production cycle, and the absence of reliable and organized information on cultivation techniques, cultivar performances, marketing, and monitoring. The farmers face problems with the provision of inputs, and when drip irrigation is subsidized, it is to a limited extent. Another limitation is the absence or limited capacity of providing quality services from laboratories for pests and diseases, which coupled with the low knowledge of the farmers, often results in heavy losses of produce. Similarly, analysis of the oil is not done due to the absence/very limited availability of specific laboratories. Overall, there is a lack of reliable and consolidated information/database provided on the entire olive value chain.

Non-availability of trained and skilled workforce

The medium and large farms rely on workers, mostly hired on daily wages, in particular for harvesting. Over time, the farms will enhance their level of knowledge, and the activities will be intensified, as currently, little care is given to the orchards, from planting to pruning. The requirements for labor will, therefore, increase, which needs proper skill enhancement of the workforce on all aspects of olive husbandry practices. The loss of skilled labor due to migration from rural to urban areas and from Pakistan to more developed countries also constitutes a serious challenge in the long run.

Absence of cooperatives/associations/cluster farming

Though farmers do not feel major problems with their fragmentation, the Problem Analysis and the CIHEAM consolidated experience suggest that the union among farmers, in whatever form, could solve many of the problems and challenges they currently face along the olive value chain.

The need is highest for the smallholders, which represents the existing bulk of olive growers, as depicted in Table 5, which portrays the data of the Pakolive project (1st & 2nd phases) for the plantation done from 2014 to 2023, representing half of the overall planted olive trees in the country, therefore highly significant, with 9,139 farmers recorded.

Table 5 – Acreage-wise Olive plantations under PakOlive I&II from 2014 to 2023

Province	Number of Farmers							Total Farmers	No. of Plants	Acreage	%age
	0-04 acre	05-10 acres	11-20 acres	21-30 acres	31-40 acres	41-50 acres	> 51 acres				
Punjab	414	247	68	20	8	2	5	764	669,087	5065	21.40
Balochistan	2384	462	130	25	9	6	5	3021	1,514,698	11572	48.90
Khyber Pakhtunkhwa	1500	133	31	17	6	2	2	1691	615,186	4694	19.84
ICT	137	17	4	2	0	0	0	162	60,647	458	1.94
AJK	2130	3	0	0	0	1	0	2134	126,464	952	4.02
Gilgit-Baltistan	1315	5	3	0	0	0	0	1323	60,751	450	1.90
Sindh	24	11	3	1	0	2	2	44	66,209	471	1.99
TOTAL	7904	878	239	67	24	13	14	9139	3,113,042	23662	
%age	86.49	9.61	2.62	0.73	0.26	0.15	0.15				

Source – PakOlive project

Notably, 86 % of the overall farmers (n.7904) are within the range of 0-4 acres of land; 9.61% (n. 878 farmers) within 5-10 acres; 2,62% (239 farmers) within 11-20 acres; 0,73% (67 farmers) within 11-20 acres; 0,26% (24 farmers) within 31-40 acres; 0,14% (13 farmers) within 41-50 acres; and 0,15% (14 farmers) are above 51 acres.

By analyzing the provincial figures of the farm size within 4 acres, it may be noted that AJ&K represents 23% of the farms and Gilgit Baltistan 14%, thus together more than 1/3rd of the overall farms, reflecting their very marginal typical agriculture.

Balochistan represents 26% of the farm size within 4 acres, which is in line with the 36% of the farms below 5 acres reported in the statistics, stating 129,414 farms out of a total of 359,562¹³.

In terms of the development of the olive sector, Balochistan has the highest number of small farms, which represents 79% of the overall olive farms of the province; Punjab, 54%; KP, 89%; Gilgit Baltistan 99% and AJ&K nearly 100%. These data confirm that the olive growers of Gilgit Baltistan and AJ&K are almost exclusively very small holders.

The real olive growers show that the trend of the core range of farm sizes is within 5-10 acres and 11-20 acres, which are respectively 32% - 10% in Punjab; 15% - 4% in Balochistan, and 8% - 2% in KP.

The large farms that grow olive orchards are mainly in Balochistan, with 45 farms above 20 acres, followed by Punjab with 35 farms and KP with 27 farms. They represent the progressive olive growers, who are prone to progressively adopt the GAP and are potential partners for establishing the agro-food industry, in terms of acquiring their olive extraction unit as well as facilities for treating the table olive (in Punjab particularly).

Lack of knowledge and awareness on the importance of Climate and soil-specific requirements for suitable olive varieties

The lack of research done on the olive crop in the country is the basic cause of the insufficient knowledge regarding the characteristics of the varieties in terms of adaptation to the ecological zones and soils. The negative effects are multiple, impacting the expansion of the crop, yields, quality of the products, and revenue.

6.3 Problems and bottlenecks in harvesting, processing, and post-processing of olive fruits and olive oil

Substandard harvesting techniques affecting fruit quality

Farmers harvest olive fruits by hand picking, which causes the least amount of damage to the fruits, but without any mechanical tool, the activity is very laborious, lengthy, and finally expensive. Furthermore, for the transport of the fruits from the field to the olive mill, plastic or polypropylene used bags are commonly utilized instead of perforated plastic crates, causing the heating of the fruits, which consequently affects the quality of the oil. Other problems include the excessive time often elapsed between the harvest and the crushing, which is recommended within 24 hours, and the storage in hot and non-ventilated conditions.

Existing capacity for processing the olive fruits

The support from the Federal Government and the provinces has been instrumental, through subsidized services and goods, in the establishment of most of the 39 Olive Extraction Units Oil Mills operating so far in the country. In fact, out of the 39 existing Units¹⁴, 30 (77%) are operated by the public sector and 9 by the private sector (farmers/entrepreneurs/nonprofit organizations/ community). Details are provided in **Annex 3**.

The fleet of extraction Units, mostly (29) manufactured in Italy, the world's leading country in the olive machinery/equipment, is theoretically more than sufficient, rather under-utilized, to address the processing need of the present production. By analyzing the harvesting season 2023, in which the olive fruit production of 840 Metric Tons (MT) was transformed into 121 MT of olive oil, it can be assumed that in merely 8 working days, the crushing was completed, as depicted in Table 4. Distributed in about two and a half months, starting the harvesting in October (Punjab) and ending in mid-December (Balochistan). However, the distances and effectiveness of the mills are not equally distributed, as explained later on.

Table 4 - Working Capacity of Olive Oil Extraction Units

Capacity/Unit (Kg/hour)	Units	Hourly Processing Capacity (Kg)	Daily Processing Capacity ¹⁵ (Kg)	Provincial Daily Processing Capacity (Kg)		
				Balochistan	KP	Punjab ¹⁶
50	5	250	3,000	2,400	-	600
80	2	160	1,920	1,920		
100	9	900	9,600	1,200	3,600	4,800 ³
200	6	1,200	14,400	2,400	7,200	4,800
250	6	1,500	18,000	9,000	9,000	
300	4	1,200	14,400	10,800		3,600
500	3	1,500	18,000	-	18,000	-
600	4	2,400	28,800	14,400		14,400
Total	39	9,110	108,120	42,120	37,800	28,200
Total (MT)			108.12	42.12	37.8	28.2

Low productivity of the olive extraction units

Out of 39 olive mills established in the country, 30 (equivalent to 77%) are owned and managed by the public sector. Although the operators and managers have acquired sufficient skills to operate the units with reasonable competence thanks to the training provided by the OCP, still the services provided to the farmers are lacking due to management issues, specifically originating from the intrinsic nature of the public research structures which are unable to ensure the timely availability of resources for operating in optimal conditions. Likewise, such circumstances hamper the adoption of the SOPs, such as working at the recommended temperatures, as well as they can't ensure the operation and maintenance, the continuity of the trained personnel, and flexibility in their employment.

Another problem is that the facilities available for oil filtration in most of the olive mills at 2-phases are not provided to the farmers because the individual quantities of olive fruits are too small and there are no forms of associations/cooperatives, as the filters must be activated for quantities of thousand liters processed in a day, otherwise, the operation becomes too costly.

¹⁴ Some units have been installed in the past in Sindh, but their operations have been occasional and are not known; moreover, the personnel have never been trained by the OCP, therefore, they have not been included.

¹⁵ Based on 12 daily working hours

¹⁶ 1200 kg of AJ&K are included

Although many consumers appreciate the veiled appearance of the freshly produced oils, filtration represents an important stabilization process for the EVOO and avoids deposit on the bottom of the bottles, which is not very acceptable to many consumers.

There is no awareness and compliance with the HACCP standards because the activity is considered a simple routine duty, but not a requirement comparable to the management of the laboratories for which SOPs are consolidated over the years.

Above all, there is still limited knowledge, and awareness, also among the insiders about the healthy nutritional values of EVOO and olive oil at large, and about the care that must be taken to obtain quality results.

Also, the processing fees charged to farmers are not uniform among the extraction units operating in the country, creating a sense of frustration among the farmers and, worse, provoking an irrational transport of the olive produce towards the cheapest units, irrespective of the distances to the farms. This causes several negative effects such as of overloading one mill while reducing the work on others, more damage to fruits, and more cost of transportation.

The olive processing units are often located at long distances

Although the establishment of the olive mills has been based on the surrounding olive plantations, an effective and uniform territorial distribution is still lacking due to the current inconsistent good-quality supply of the produce, which impacts the creation of a balanced network of olive mills. Moreover, the farmers pretend to have the mills at their doorstep, which is not possible.

Considering that small olive mills are less efficient than medium and big units, the topic requires due care in the present situation and for future development.

Lack of packaging and storage for olive oil

The appropriate bottling of olive oil is a major problem, as the tinted glass bottles are not available in the market and must be imported at a high cost. Thus, plastic is widely used. Storage is another major issue, as refrigerated stainless steel tanks must be imported and are not being utilized at all. The usual storage in small plastic tanks quickly deteriorates the oil if not stored in a cool refrigerating system. Other forms of containers, such as metal cans and packing boxes, are not utilized.

To avert the problems mentioned above, the farmers usually sell the oil immediately after extraction, fetching a lower price. As the production will progressively increase in the country, as well as the offer of oil in the market, the immediate sale will decrease the negotiating power of the farmers.

6.4 Lack of focus on the reuse of vegetation waste from the olive extraction units

Nowadays, the wastewater/pomace is a big headache for the olive mills, as these wastes must be disposed of to avoid pollution. However, they can have multiple uses, such as a fertilizer (although of low value), which is the simplest way, but it must be done under prescribed conditions. Besides the lack of knowledge on the values of wastewater and pomace for the application on the soil, the farmers lack knowledge about the correct techniques and recommended doses, and the equipment.

For the industry, the current fragmentation of olive mills and their limited production represent an obstacle to stepping in for producing refined pomace oil, which requires a chemical process of treating the pomace with solvents.

6.5 Constraints in the marketing of olive oil and olive products

The Market Study has revealed the following main weaknesses:

The quality standards for olive oil are unknown by most of the stakeholders and consumers

Little has been done so far to promote locally produced olive oil, except for the recent olive and gala festivals where some processors and retailers can market and sell their products, as well as communication has been widely used by the main olive projects. Thus, at the level of consumers, knowledge is limited to the benefits of olive oil but not on the quality.

At the level of operators, olive farms and processors have not acquired any certifications such as GAP (Good Agricultural Practices), HACCP, or ISO. There are hence no traceability standards, which will be required in the local market, and are necessary for the international market as well. The increase in the import of olive oil and olive products could pose a serious threat to local production if the required steps for the certification of local oil are not undertaken and the quality is not improved.

Lack of cost-effective packaging for olive oil

As previously mentioned, the tinted glass bottles needed to preserve the quality, are imported and, therefore, expensive; when available, they are around Rs. 350 for 250 ml, Rs. 385 for 500 ml, and Rs. 425 for 750 ml capacity, respectively. This contributes to the improper utilization of plastic or used bottles, which is also unattractive compared to imported packaging.

Absence of equipped laboratories for testing the olive oil as per IOC standards

The local olive oil is usually not tested before sale in the country, and it is not known whether it qualifies as extra virgin olive oil. Laboratories and other testing facilities of international standards for olive oil don't exist in the country, and as such, it is difficult for the consumers to trust the local production.

Inadequate participation of commercial players from the private sector in marketing domestically produced olive oil

The processors/industry in Pakistan would require between 100 to 400 tons of olive oil per annum, which is difficult to source from a regular and consistent supply. This is why large retail and wholesale chains do not sell locally produced olive oil. The absence of private processors is a serious limitation of the value chain, as currently, the extraction units do not purchase the oil, which is instead a common practice in the developed oil sectors,

done by cooperatives or industrialists. It is worth mentioning that there is instead a good distribution system for the imported oil.

Lack of knowledge of market dynamics for olive oil and table olives

The market dynamics are unknown, except by the importers that are passively following the demand, as they are not actively promoting the use of olive oil and olive products.

Absence of branding of Pakistan's olive

Similarly, very little has been done to explore the international markets or participate in trade shows and exhibitions where olive oil produced in Pakistan can be displayed and sampled, although it is not possible, in principle, to export products that do not comply with international standards. However, it is noticeable the interest recently taken by the Trade Development Authority of Pakistan (TDAP) towards the olive sector and the emphasis given in the events.

Absence of market linkages

Another weak area is the absence of business linkages among farmers, processors, wholesalers, and retailers. Currently, most of the retail chains do not sell locally produced olive oil, which is generally being sold through word of mouth and food shops, or online through social media platforms, mainly for houses, hotels, cosmetics, and home consumption.

Inadequate attention to non-food products from olives (e.g., soap, cosmetics, skin cream) and olive wood

Whereas the national market is increasingly offering foreign products such as soaps, shampoos, cosmetics, and skin creams based on/or containing olive oil, local production is almost absent, and only OCP has addressed this opportunity. Also, olive wood is not used for commercial furnishings and artifacts.

6.6 Policy, Legislation, and Certification Gaps

Absence of a policy for the olive sector

The AP&PR delineated the framework to set up an operational mechanism for implementation, taken forward to draft the current Policy. The Policy is not, however, the panacea for establishing a viable Olive Sector if it is not implemented as a tool that simply facilitates the planning and implementation of needed actions, agreed and synergic among stakeholders.

Lack of regulatory framework for the olive sector

Registration of business and ensuring compliance with international olive and olive oil-related standards (sanitary, quality, trading, export, etc.) are urgent needs to be initiated and implemented. Currently, olive farmers and processors have not acquired any certification such as GAP, HACCP, ISO, and organic agriculture.

Absence of a body (mixed public-private) that proactively steers the development of the olive oil value chain

AP&PR proposed the creation of the Pakistan Olive Oil Council (POOC), which is included in the Policy for approval and adoption. The creation of the POOC will facilitate the role of public institutions by reducing their presence while supporting the private sector in leading the development of the olive value chain.

6.7 Deficiencies in Research, Extension Services, Education, and Training

Limited contribution from Research

The Research Departments have been very active for the promotion of the olive crop, being the provincial institutions tasked to implement the PSDP PakOlive and most of the ADP initiatives but have been very limited in their primary role of scientific Research and Development, including the absence of follow up on the Adaptability Trials established under PIDSA. Significant efforts done by the Punjab Government in BARI Chakwal deserve nevertheless due commendation.

Poor extension services

Despite the efforts made in all the agricultural sectors throughout the years, the provision of adequate services to farmers is still inadequate, including for the olive growers. The basic reason is the lack of effective training imparted to the technicians, which is more scholastic than focused. Since olive cultivation in the country is a new subject, therefore, the lack of knowledge is more serious. Another factor behind the low performance of the extension services is the poor support and facilities availed, mainly in transport and equipment. Above all, the public sector carries a heavy burden, as the private sector, which can also play a significant role, has only focused on commercial avenues.

An additional critical aspect of both the Research and Extension Departments regarding olive development in Pakistan is the lack of coordination and collaboration between the two institutions at the provincial levels. The involvement of the Extension in olive is more dependent on willingness and personal relationships rather than on formal understanding and agreements. On the other hand, the Extension is acting as the reference for some donor-funded programs/projects, which were developed with little or no participation of the Research. Given the in-built weaknesses of both Research and Extension, but also considering the respective strengths, the dichotomy is harmful, particularly in Balochistan and Khyber Pakhtunkhwa.

Lack of focus on olive by Education and Training

Despite a growing interest in the universities toward olive studies, not a single PhD in olive-related disciplines has been earned abroad so far. This is one of the main obstacles in acquiring the latest knowledge on olive management and its by-products by local institutions.

Similarly, the training imparted so far regarding olive to the existing staff of the Extension was almost absent in the past curriculum, therefore, the services provided are not effective.

6.8 Limited participation and empowerment of Women and Youth

Several challenges deter the active participation of both women and youth in the olive crop, for which they don't have any traditional involvement. Some of these constraints are given below:

Malnutrition

In developing countries, including Pakistan, women mostly face malnutrition, affecting their overall health and productivity. Pakistan faces one of the highest prevalences of women malnutrition compared to other countries of the region, which leads to weakened immunity, poor cognitive development, and increased risks, especially during pregnancies, hence affecting their health and likewise restricting them from participating in the activities.

Low education

The widespread illiteracy and the low level of education are critical factors preventing women from acquiring the necessary skills for value addition and business development.

Gender norms

In developing societies, including Pakistan, societal norms, patriarchy in particular, play a crucial role in women's participation in several activities. These norms restrict or limit the mobility of women's decision-making power and their easy access to resources; hence, they cannot excel in everyday activities. Moreover, the norms play a significant role in limiting women's control over income, which discourages them from actively participating in business and also reinforces their economic dependence.

Technical and skill limitations

Lack of know-how and accessibility to the latest equipment due to illiteracy, coupled with training cum skills, are the main obstacles to women's participation in agriculture-related businesses, including olive by-product preparation, hence limiting their participation and involvement in olive culture entrepreneurship.

Financial challenges

For any enterprise, small, medium, or large, the availability of financial resources is a must. In this field, rural women and youth are the most affected because they have very little or no access to traditional banking microfinance, which hinders their self-sufficiency and hence cannot initiate any profitable business of their choice.

6.9 Institutional Weaknesses

The institutional framework has always played a key role in utilizing the available resources in any system. The country's poor status of Agriculture Research and Extension services, the reference services to deal with the olive crop, lacks skills and appropriate tools and is affected by chronic insufficient and erratic financial resources. For olive production, the hardship is even higher, as the system must deal with a new crop within an entire institutional structure that is weak and inadequate.

The current setup for the oilseed sector is herewith analyzed, as the Public Sector still represents a strategic player in the development of the Olive Value Chain:

- i. The institutional setup for oilseed crops has been on the decline since the milestone report "Oilseed Development Strategy" published in 1995 indicated that 148 scientists were working in the oilseed research programs and institutes of the four provinces and at NARC, Islamabad. Over time, this number reduced to only 69, where most of the scientists either retired or were posted somewhere else with no replacement. The situation is reported in Table 6 below

Table 6 - Province-wise position of scientists working on oilseed crops

Province	Year 1995 ^{a/}					Year 2022 ^{b/}				
	Ph.D	M.Phil	M.Sc	B.Sc	Total	Ph.D	M.Phil	M.Sc	B.Sc	Total
Federal	07	02	23	01	33	03	01	03	00	07
Punjab	03	01	40	04	48	07	21	00	00	28
Sindh	00	00	32	04	36	03	00	12	00	15
KP	03	00	18	00	21	04	06	00	00	10
Balochistan	00	00	06	03	09	01	04	00	04	09
Total	13	03	119	12	148	18	32	15	04	69

a/Ministry of Food, Agriculture & Livestock, PARC- Oilseed Development Strategy, 1995

b/Provincial Agriculture Departments

ii. It is worth mentioning that the human resources' strength in research and development in Pakistan is quite low when compared to the world scenario. The highest number of scientists per million population¹⁷ is working in Egypt (8,400) followed by Denmark (8,066), South Korea (7,980), and Sweden (7,536), whereas Pakistan is at 336. It is also interesting to note that India has a minimum number of scientists per million population (253), but the scientists working on oilseed crops are more than 50,000.

iii. Being part of the above-mentioned framework, the full-fledged Pakistan Oilseed Department (POD) operating under the MNFS&R, in charge also of the olive crop, is similarly in bad shape, with almost no human resources and scarce operational finances.

iii. Overall, the research activities on all oilseed crops and olive have suffered from the progressive decline in scientific manpower and funding. Whereas, the olive development activities have been performed in the already established departments of the provinces and specifically entrusted to the Research, in isolation and not under the umbrella of an institutional setup. As a result, the interventions made through the federal PSDP, the provincial ADP, and the donors have been fragmented and not coordinated, despite the efforts made by the POD in this regard, causing concern and confusion in some cases, such as giving by some parties the inputs free of costs instead subsidized.

Therefore, the olive sector can't be developed to create a reasonable position in the research organizations in the country until and unless an institutional framework and trained manpower are made available.

iv. To sustain the results of the work done for more than a decade, to remove the weaknesses and hurdles, and to make the olive business further grow, it is recommended to make the olive crop an integral part of the existing institutional set-ups, with continuous and ensured flow of financial resources and policy back-ups. Therefore, the provinces must plan and manage the resources needed in light of their mandate.

¹⁷Source: <https://starnano.com/report/s90#ixzz7PkfcVbM1>, 2018 a/Number of scientists per million population

Mission Vission Goals and Objectives

Pakistan National Olive Value Chain Policy

*Along with
The Implementation Strategy and
Road Map for 2024 - 2030*

7 Mission, Vision, Goals and Objectives

7.1 Mission: To develop a competitive, inclusive, and sustainable olive value chain in Pakistan, contributing significantly to national economic growth, improved livelihoods, food security, and environmental health.

7.2 Vision: The growing businesses of the Olive Sector significantly contribute to a vibrant rural economy in the country.

7.3 Goals:

- Increase the national production volume and productivity of olives significantly.
- Enhance the quality and standards of Pakistani olive products to meet domestic and international market requirements.
- Improve market access and develop effective branding and marketing strategies for Pakistani olive products.
- Strengthen the institutional and regulatory framework governing the olive sector.
- Promote inclusivity, ensuring benefits reach smallholders, women, and youth.
- Foster sustainability across the health, nutritional, economic, social, and environmental dimensions of the value chain.

7.4 Business Goals:

- Create a consolidated market for olive, olive oil, and olive products in Pakistan.
- Diversify and expand the business market for olive oil and olive products in Pakistan.
- Reduce the import burden of olive products through quantity and quality production.
- Create health awareness among the masses on the use of olive oil.

7.5 Policy Objectives

The strategic objectives for the holistic development of the Pakistani Olive Value Chain are described below for each thematic area, combining the identified strengths and weaknesses:

Production and Processing

- i. Expand olive growing areas through the use of marginal, wastelands, and cultivated lands in suitable climatic conditions in all the provinces where olive cultivation is more favorable than other cash crops, coupled with the availability of a sufficient working force, considering also as a pathway for mitigation of climate change.
- ii. Improve knowledge, expertise, know-how, and adoption of GAP about olive oil and table olives at farm and processing levels.
- iii. Improve and modernize mechanization with the appropriate equipment for more effectiveness and competitiveness in farming, processing, transport, storage, packaging, and marketing.
- iv. Increase utilization of new and more efficient water irrigation methods (smart irrigation systems), considering water as increasingly a scarce and expensive input of production.

- v. Improve the profitability of farmers, hence their income along with the rural labor, to curtail the migration from rural to urban areas and/or other countries.
- vi. Promote cooperation among farmers to improve the business in the form of village organizations/ community organizations and associations.
- vii. Encourage cooperation among operators in the supply chain to improve management and competitiveness.
- viii. Establish a viable and efficient national data collection system for olive oil and olive products.

Marketing

- i. Increase consumption through communication, education, and promotion of olive oil and table olives, in line with the increase in cultivation and production, and a positive trend of consumer demand for healthier foods.
- ii. Improve the quality of olive oil through certification and standardization at the farm and olive mill levels to respond to the demand for a healthier diet and to be competitive with the imported olive oil and seed oils, through the establishment of a Consortium/Association managing the PakOlive Brand.
- iii. Promote the locally developed Pakistani brand “PakOlive” and improve the quality standards for fair competition with imported olive oil in the market, as well as for export.
- iv. Develop and promote new recipes of value-added products to enhance consumers' demands.
- v. Modernize the marketing techniques and strategies, develop communication tools for the local products, and use electronic and social media to expand the market.

Policies, Legislation, and Certification

- i. Approve, adopt, and implement the “National Olive Value Chain Policy” along with the “Implementation Strategy and Road Map for 2024-2030” as a strategic tool for the development of the Olive sector on a sustainable basis.
- ii. Improve the regulatory framework for plant propagating material (i.e. seedlings), quality standards (e.g. organic farming, geographical indications, Global Gap), certification system (genetic and sanitary plant, and quality products), food safety, traceability, import, and export.
- iii. Establish the Pakistan Olive and Olive Oil Council (POOC) to address all the regulatory, certification, and policy issues about the olive sector.
- iv. Establish the Consortium/Association for the Protection and Regulation of Olive Oils and Table Olives produced under the “PakOlive” brand name.
- v. Establish a National Observatory of Prices of the olives, olive oils, and table olives produced and traded on the entire national territory to monitor the market.

vi. Develop a joint approach bringing together the MNFS&R, Ministry of Planning, Development & Special Initiatives (MoPD), Ministry of Commerce (MoCom), Ministry of Climate Change and Environmental Coordination (MoCC), and the Ministry of Federal Education and Professional Training (FE&PT) to chalk out development programs and financial resources for the development of the Value Chain and Supply Chain in the olive sector.

A National Olive Policy Implementation Unit (NOPIU) would be established for Coordination and Monitoring.

vii. Increase and ensure public subsidies to the needed actors of the olive value chain and incentivize the constitution of cooperatives and associations, horizontally and vertically.

viii. Mobilize financial resources from international agencies, foreign countries, and local public and private banking systems for local investments in the olive sector at public and private levels.

ix. Update the legislation and implement an efficient national framework for the organic sector (e.g. National Action Plan for Organic Agriculture).

x. Pakistan to join, as a full Member from the current Observer status, the International Olive Council (IOC), the intergovernmental organization that promotes olive oil and table olives.

Research, Extension Services, Education, and Training

i. Establish and enhance working partnerships among international and national research organizations for capacity building and sharing information and material of the olive sector.

ii. Boost research, based on new and efficient structures (e.g. laboratories), with emphasis on human resource development.

iii. Strengthen the Extension services both financially and in manpower, to transfer knowledge and information to operators along the supply chain, also using new ITC systems.

iv. Avail in full the strength of the TVET project (Professional Capacity Building and Extension in Agriculture - TVET National Reform Programme), financed by the Italian Government and due to begin during the first semester of the financial year 2025-2026. In particular, it will enable to delivery of specialized training and the granting of certified titles for technicians who will be employed by the private sector.

v. Avail the opportunities offered by the Pakistan Education Endowment Fund (PEEF) in financing scholarships in Agriculture & Climate Change, in close coordination with the MNFS&R, provinces, and OCP II.

Enhancing Inclusivity (Support to Women & Youth):

Promote targeted programs supporting Women and Youth for capacity building, enterprise development, and access to resources in the olive value chain.

Leveraging Environmental Benefits

■ *Carbon Credit Generation*

Develop frameworks for supporting olive growers to access carbon markets (Compliance and Voluntary) based on CO2 absorption.

■ *Olive Tourism*

Develop frameworks for stakeholder engagement for starting and managing sustainable and environmentally innovative olive tourism at the local level for the benefit of the growers, communities and territories, and its benefit sharing.

Fostering Human Resources Development

Developing and delivering targeted training programs (TVET) and TOT for technicians, farmers, women & youth, nursery workers, mill operators, relevant departmental staff, and researchers. Provide opportunities for PHD and Master degrees in olive related fields.

Characterization of Wild Olive Tree/Forest

Identify the potential for valorizing the wild olive trees, that besides their inner value as a forest tree contributing to biodiversity, soil conservation, etc. are largely utilized on grafting the modern olive varieties and on extracting the wild oil from the fruits.

Institutional Framework

Pakistan National Olive Value Chain Policy

*Along with
The Implementation Strategy and
Road Map for 2024 - 2030*

8. Institutional Framework

Pakistan Development Context

The development of the Olive Sector consists of the following Plans and Policies formulated and adopted by the Government:

Uraan Pakistan: 5Es National Economic Transformation Plan 2024-2029.

The 13th Five Year Plan aims to address key economic challenges through five key pillars called the "Five Es Framework" designed to guide Pakistan towards non-inflationary, sustainable growth and long-term national prosperity: Exports, E-Pakistan, Environment and Climate Change, Energy & Infrastructure, and Equity, Ethics & Empowerment.

The most relevant pillars of the strategic priorities relevant to the Olive sector are the following:

Exports: Agriculture is one of the eight key sectors aligned to the top global export categories. Three "Priorities" are pertinent to the Olive sector:

Under Priority 2, *"Augment productivity, quality, and innovation for global competitiveness"* a specific objective is to "Promote advanced industrial and agricultural practices by ensuring compliance with global certification and integrating automation".

Under Priority 4, *"Expand and diversify product mix and market access"* a specific objective is to "Develop export-oriented clusters for industrial and agricultural products to enhance value chains".

Under Priority 6, *"Enhance Pakistan's National Brand"* a specific objective is to "Promote Pakistan and the branding of its products and services".

Environment and Climate Change:

Under Priority 1 *"Build a water secure future for Pakistan"*, specific objectives "Implement water conservation measures and increase public awareness" and "Modernize irrigation systems across the country" are pertinent to the GAP for olive cultivation to be adopted by investing in proven methods and technologies to the minimize wastage, such as the adoption of drip irrigation systems instead the common flood methods.

Under Priority 2, *"Enhance food security through Green Revolution 2.0"* three specific objectives are pertinent: (i) "Promote sustainable and large-scale agricultural practices" by the adoption of value addition and sustainable farming techniques that boost agricultural outputs while minimizing environmental impact supporting the growth of agro-based horticulture and industries; (ii) "Strengthen smallholders farmer integration and modernization" and (iii) "Drive agricultural innovation and research", by investing in research and technological innovations to drive the development of new agricultural methods clusters and certified seed development that enhance productivity and sustainability

Under Priority 3, “*Combat Climate Change*”, the specific objectives (i) “Promote climate change initiatives and support and finance green projects” and (ii) “Harness carbon markets for emission reduction” through the “Carbon Finance Framework” from which the olive orchards can generate carbon credits and foreign exchange for the country and allow Pakistan to meet the mitigation and adaptation targets are both pertinent.

National Adaptation Plan (NAP), Pakistan 2023 - The seven-year Plan spanning from 2023 to 2030 addresses the detrimental consequences of Climate Change on the country. Inspired by the growing and cross-cutting challenges, the NAP has envisioned adaptation and building resilience strategies addressing climate risks in Pakistan's development and planning frameworks by reducing its economic losses and the level of climate-induced risks, enhancing business continuity, and pursuing sustainable economic development. The NAP is relevant to the Olive Sector in many aspects:

Agriculture-Water nexus will promote activities on the “Sectoral Context” and “Climate Change Impact” within the following priority areas: Climate Smart Agriculture Practices (CSAs), Modernizing the Irrigation System, and Formulate Long-Term Agriculture Growth Strategy, with a focus on productivity improvement and climate resilience.

Natural Capital – Climate Change Impacts will contribute through the olive plantation to “Sustainable Land Management” and “Integrated Watershed Management”.

Gender, Youth, and Social Inclusion will contribute to “Supporting Capacity Development of Vulnerable Groups” in promoting climate-smart agriculture and nature-based enterprises.

National Food Security Policy (2018) - Developed by the MNFS&R with the related Action Plans for Food Security and Agriculture at national and provincial levels, sets the goals of halving malnutrition by 2030 and eliminating food insecurity by 2050. An essential part of this policy is to ensure food security and increase levels of economic growth for all social classes. The policy recommends the adoption of more sustainable cultivation techniques adapted to local conditions, as well as an improvement in food conservation and post-harvest technologies in the arid highlands, as sites of potential interest for crops of low water demand, like the olive.

National Technical and Vocational Training and Education (TVET) Policy (2018) - Developed by the MoFE&PT it aimed at equipping young people with employable skills, providing mechanisms for formulating national standards for the development of qualifications, and offering people the opportunity to obtain formal certification. TVET is an integral element in achieving the relevant goals set out under Vision 2025. The Policy was developed with the technical assistance of the European Union.

Pakistan Climate Change Act 2017 – Has been formulated by the Mo CC& EC to activate the necessary conditions for the sustainable development processes envisioned later on in the National Adaptation Plan. It also focuses on the triple strategy “Youth Engagement-Women Involvement-Community Ownership”. The Act is relevant for the Olive Sector in many aspects, such as the involvement of the communities and CO₂ sequestration.

National Forest Policy (2015). Formulated by the Ministry of Climate Change with the support of the Asian Development Bank to expand the national coverage of forests, protected areas, natural habitats, and green areas for the restoration of ecological functions and maximizing economic benefits while meeting Pakistan’s obligations to international agreements related to forests. Its interest to the olive sector is mainly linked to the wild olives.

Sustainable Development Goals, Agenda 2030 - The Agenda was adopted by the UN Summit on September 25, 2015, where the countries committed to leading the world towards a sustainable and equitable future, from January 1, 2016, and continuing until 2030. The identified 17 Sustainable Development Goals (SDGs) "shall transform the world". They are a call to action to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice, and prosperity as "No one must be left behind".

Pakistan confirmed its commitment to the Agenda through a unanimous National Assembly Resolution in February 2016. Since then, the country has made considerable progress by mainstreaming these goals in national policies and strategies and developing an institutional framework for the SDGs implementation. Units (SDG support) have been established at federal and provincial levels with the planning institutions (Ministry of Planning, Development, and Special Initiatives/M/o PD&SI) and the Provincial Planning and Development Departments/P&D Depts) to guide SDG implementation and monitor its progress.

It is worth mentioning the event "One-day National SDGs Conference-2024" organized by the Mo PD&SI on 16th May 2024 in Islamabad, bringing together experts, parliamentarians, national and international stakeholders, UN representatives, civil societies, academia, and specialists from diverse fields, aimed to assess the effective implementation strategies and policies to achieve the targets.

The conference reiterated Pakistan's ownership of the SDGs, emphasizing their integration into the national development vision and the need for multi-stakeholder engagement to accelerate progress toward a sustainable future. The deliberations focused on the environmental, economic, and social aspects of sustainable development, which are relevant to olive development, through the following working groups:

- The Environmental session emphasized the need for effective implementation of environmental policies with clear milestones, sharing data sets on environmental indicators, adopting carbon credit policies to boost exports, inclusion of marginalized communities in policies and plans, and establishing technical and apex committees.
- The Economic session stressed the need for inclusive development, enhancing women's role in labor participation, and allocating resources to address poverty.
- The Social session focused on the need for inclusive education policies, implementing behavior change communication strategies for family planning, achieving universal health coverage targets by 2030, and decreasing social and income inequalities for women in agriculture.

The Olive Sector will make a significant contribution to achieving the following objectives and sub-objectives of the Agenda 2030:

Goal 1. End poverty in all its forms everywhere.

Goal 2. End hunger, achieve food security and improve nutrition, and promote sustainable agriculture.

2.1 End hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious, and sufficient food all year round.

2.3 Double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family

farmers, pastoralists and fishermen, including secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

2.4 Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters, and progressively improve land and soil quality.



Goal 5. Achieve Gender Equality and empower all women and girls

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.



Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high value-added and labor-intensive sectors.

8.3 Promote development-oriented policies that support productive activities, decent

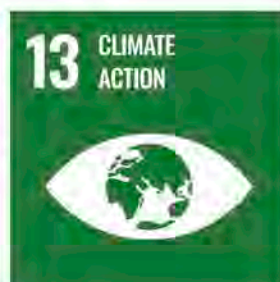
job creation, entrepreneurship, creativity, and innovation, and encourage the formalization and growth of micro, small, and medium-sized enterprises, including access to financial services.

8.5 Achieve full and productive employment and decent work for all women and men, including young people and persons with disabilities, and equal pay for work of equal value.



Goal 13. Take urgent actions to combat climate change and its impacts.

13.2 Integrate climate change measures into national policies, strategies and planning.



Proposed Institutional Structure for Olive Sector Development

Pakistan National Olive Value Chain Policy

*Along with
The Implementation Strategy and
Road Map for 2024 - 2030*

9 Proposed Institutional Structure For Olive Sector Development

9.1 Role of Ministry of National Food Security & Research (MNFS&R)

The role of institutions is of critical importance in development. The MNFS&R will continue to play a central role in the development of the Olive Value Chain, as per its federal mandate on policy formulation, planning, Research & Development, and economic coordination in respect of food grain and agriculture, as well as the specific oversight of federal initiatives for the olive (like PakOlive, OCP II), thus pursuing the significant efforts exerted since the new crop was launched in the country.

On the grounds of the weaknesses previously mentioned, considering the role of the provinces and the recent Rightsizing measures adopted at the Federal Level, which have impacted the POD, a new institutional setup could consider the following:

i) Constitution at the MNFS&R of an **“Oilseed Crops Cell”** dealing with cotton, sunflower, canola, rapeseed/mustard, soybean, sesame, and new promising crops, encompassing two dedicated Sections, one for the Olive crop, and one for the Oil-bearing trees (coconut palms, Jatropha, etc).

ii) The mandate will be to further strengthen and promote the olive business, including its expansion in the area, improve the adoption of the GAP, processing and quality of products, and create value addition.

The Cell will result in a strategic entity to rationalize the ongoing interventions from POD for achieving self-reliance in edible oil as the preliminary condition for developing the oilseed sector. As far as the Olive crop concerns, the task is to put definitively in the national and international markets competitive oil and olive products through quality control, branding, and best packaging.

iii. The Cell would carry out the following main functions for the oilseed crops:

- To assist the MNFS&R in the oilseed sector in providing policy coverage to development work, identifying and setting priorities, monitoring and evaluating ongoing projects, and undertaking proper planning for the future.
- To assist the MNFS&R in edible oil requirement, availability of stocks, import/export, and survey of local and international market prices of edible oil and oilseed for sowing and crushing purposes.
- To monitor the solvent and banaspati manufacturing industry, edible oil refineries, and expellers to ensure quality edible oil availability in the country.
- To monitor the implementation of quality standards of edible oil/cooking oil and banaspati and propose amendments if required.
- To propose duties/tariffs on the import /export of edible oil and oilseeds to safeguard the local farmers and suggest indicative prices of oilseed crops to stabilize the local market.
- To keep close liaison with the ongoing PSDP “National Oilseed Enhancement Project (NOEP)” to monitor the changes in area and production of sunflower, canola, and sesame under the Government cash subsidy program.

- To evaluate provincial project proposals on different oilseed crops, research, and development, and recommend funding out of collected cess from edible oil imports. Then, follow up the process of completion of the projects, to further consider new funding upon positive evaluation.
- To keep liaison with National and International fora for coordination and policy formulation on the oilseed sector.
- To keep close coordination with the National Technical and Vocational Training and Education (TVET) organization for equipping young people with employable skills, providing mechanisms for formulating national standards for the development of qualifications, and offering people the opportunity to obtain formal certification. Moreover, liaise and fulfill the institutional requirements for any potential new funded project to be implemented under the TVET reform in the Olive sector.
- To propose duties/tariffs on the import /export of edible oil and oilseeds to safeguard the local farmers and suggest indicative prices of oilseed crops to stabilize the local market.
- To keep close liaison with the ongoing PSDP "National Oilseed Enhancement Project (NOEP)" to monitor the changes in area and production of sunflower, canola, and sesame under the Government cash subsidy program.
- To encourage the private sector to increase its role in the oilseed production-consumption system.
- To facilitate the coordination with provinces related to production, research, development, and other matters about the oilseed crops, including the promotion of investments.
- To evaluate provincial project proposals on different oilseed crops, research, and development, and recommend funding out of collected cess from edible oil imports. Then, follow up the process of completion of the projects, to further consider new funding upon positive evaluation.
- To keep liaison with National and International fora for coordination and policy formulation on the oilseed sector.
- To keep close coordination with the National Technical and Vocational Training and Education (TVET) organization for equipping young people with employable skills, providing mechanisms for formulating national standards for the development of qualifications, and offering people the opportunity to obtain formal certification. Moreover, liaise and fulfill the institutional requirements for any potential new funded project to be implemented under the TVET reform in the Olive sector.

iv. Regarding Olive, although the approach to be adopted for its development will follow the same pattern for the provinces in terms of the general mandate, the donor-funded project OCP II, the PakOlive project, and other future federal endeavours will require a focused central reference to be handled by the Cell. The tasks will include:

- To collect, collate, and disseminate information related to olive, olive oil, and olive by-products.
- Coordinate with the provincial Agriculture Departments for the promotion and area expansion of olive cultivation.
- To be the referent for the OCP II project at the MNFS&R, as well as for all other initiatives involving the Olive crop.
- To be the referent of the MNFS&R for the POOC and Consortium/Association to be established with the support of the projects OCP II, PakOlive, and MNFS&R.
- Coordinate activities within and outside the country related to research, development, publicity, and other matters about the olive business.

- To keep close liaison with the ongoing PakOlive project and donor's sponsored projects in Olive, to get feedback on their benefits and due role in enhancing the olive sector.
- Promote and coordinate activities for the improvement of olive oil and olive product technology to increase yields and profits for olive farmers.
- Promote and coordinate activities aimed to improve the processing and post-harvest technology that can increase the oil yield and quality.
- Promote and coordinate activities aimed to strengthen support services to the farmers, particularly in supplying technology, plants, fertilizers, pesticides, irrigation, subsidies, credit, etc.
- Promote and coordinate activities aimed to improve the post-harvest services, including price support to farmers, marketing, financial, and other support to the processing industry.
- Promoting and coordinating the R&D endeavors and ensuring rationalization and best use of the resources of research institutions and universities.
- Coordinate the Civil Society on community participation in the promotion of olive and olive products.
- Promote seminars, field days, and refresher courses for farmers and technicians to create awareness about the latest technologies in olive and olive products.
- Develop marketing and advertising strategies to increase public attendance and engagement with markets.
- Develop an effective communication system for the development of the olive sector.
- Ensure a seamless interface between local producers and consumers.

9.2 Role of Provinces

The provinces shall play a primary role in the olive oil value chain in light of the 18th Amendment of the Constitution. However, close coordination with the MNFS&R is required and mutually beneficial. Moreover, the bodies to be established at the national level, i.e., the POOC and the Consortium/Association for managing the PakOlive Brand, will mainly be constituted by the relevant provincial stakeholders. Therefore, provincial legislation would consider the bodies meant to facilitate the Private Sector and decrease the public involvement. The provincial governments would deal, through the relevant Departments, with the following:

Policy and Regulations

- Establishing guidelines for land use, water management, and quality standards, which will create an enabling environment for the promotion of the olive crop.
- Formulating policies and regulations related to olive cultivation, production, and processing¹⁸.
- Formulate policies and regulations for the provision of timely and sufficient quantities of quality inputs, technical back-ups, and subsidies, in close coordination among the provinces and with the central level, to avoid disparity in approaches and subsidies.
- On the establishment of the Consortium/Association for the managing of the PakOlive brand, ensure the full participation of the province with farmers and operators.
- Establish in KP, Sindh, AJ&K, and Gilgit Baltistan a specific "Consultative Forum" and operationalize in Balochistan and Punjab the respective "Provincial Consultative Group/PCG for the Olive Value Chain Development in Balochistan" and the "Potohar Olive Development Zone/PODZ" of stakeholders. The aim is to support the exchange of

¹⁸ Till present, only the Balochistan Government has prepared, through GRASP, an "Olive Sector Strategy" which would be published anytime.

information, shared planning, and integration of resources among the endeavours that are dealing with the development of the olive sector.

Research and Extension Services

- Conduct research on olive varieties, agronomic practices, insect-pest management, and other crop husbandry practices;
- Provide extension services to farmers, disseminating knowledge about best agriculture practices, disease control and yield optimization, post-harvest techniques, storage, and processing;
- Creating awareness among the producers, buyers, processors, retailers, and other stakeholders about the economic returns and health-related benefits of the olive crop.

Infrastructure Development

- Facilitate investments in nurseries, research centers, and provision of state lands for such enterprises and processing facilities;
- Promote the establishment of olive orchards through subsidies and technical support;
- Ensure financial and human resources for the running and sustainability of laboratories for control of olive quality, pests, and diseases, providing the required services to farmers and olive operators;
- Ensure the smooth transfer of the olive extraction units to the private sector under the PPP model.

Capacity Building and Training

- Ensure full coordination of the relevant Departments with the TVET program to fully avail the provincial share;
- Organize workshops, seminars, and training programs for farmers, processors, and other stakeholders;
- Enhance skills related to olive cultivation, harvesting, post-harvest activities, and value addition of the produce.

Market Linkages and Promotion

- Facilitate market linkages by connecting farmers with buyers, exporters, and retailers;
- Plan and implement communication campaigns availing provincial skill and facilities, such TV, radio, etc.
- Promote local olive oil and olive products through awareness campaigns, organize festivals, and support the participation of farmers and operators in trade fairs and expos.

Quality Control and Certification:

- Ensure adherence to quality standards for olive oil and olive products by keeping close liaison and collaboration with certification agencies/departments to maintain product quality and integrity;
- Ensure the adoption of the Hazard Analysis Critical Control Points (HACCP) in all the olive extraction units in the provinces;
- Traceability and labeling help track the entire supply chain from cultivation to packaging of the product;
- Ensure through the involvement of the relevant entities, such as the Food Authority, adequate control on the local markets against mislabelling, fraud, adulteration, etc, of the local and imported olive oils.

9.3 Role of Research & Development

Agriculture Research Centres (provincial ARIs and PARC/NARC), as well as Universities, shall be entrusted with undertaking research activities on olive. Specialized centres such as CEFORT should be equipped for research. It has been observed that, currently, many of the above-mentioned structures are doing something in olive, but the results are irrelevant. This is obvious, as the scanty resources, both human and financial, are not synchronized and not synergized. To overcome the funding issues, the activity could benefit from the cess collected on edible oil every year or from an endowment created from the available cess already collected from 1995 to 2023.

Private R&D in the olive sector can be expected in Pakistan in product development but not at the level of varietal development. Whereas, the local industry for fertilizers and pesticides could be interested in partnering with the public institutions previously mentioned for experimental and R&D activities. They are facilitated in their activities by being linked with foreign suppliers and/ or subsidiaries of multinationals.

Olive is a new sector where extensive R&D activities are the need of the time, addressing the following main topics:

- Development of high-yielding varieties and their selection, most suitable to local agro-ecological zones of the country, through genome sequencing-based molecular profiling of currently cultivated olive varieties, which have been imported from Mediterranean countries;
- Development of disease-resistant varieties;
- Development of the latest management practices in olive orchard management to be climate-smart and friendly;
- Establish adaptability trials for the use of wild olives as rootstock and an ad-interim genetic improvement program for new Pakistani endemic olive varieties.

9.4 Role of the Agriculture Universities

It is usual for the universities in Pakistan to practice, along with research activity, extension, and dissemination, to show their existence and their presence. However, to be significant, serious programs must support such activities, introducing courses with relevant syllabi, conducting seminars/workshops, distributing publications, and doing appropriate communication through social media. Some foreign Universities have been present in Pakistan for decades, leading research programs in development, and have shown the significant impact that the academia possesses.

The agriculture universities can play a central role in the olive sector in the following areas:

- Conduct research on the most relevant subjects upon coordination with the research institutions and the Oilseed Crops Cell.
- Introduce academic courses on olive and olive products with relevant syllabi in universities at undergraduate and graduate levels, upon validation from research institutions and TVET programs.
- Provide capacity building for researchers, extension workers, farmers, and other stakeholders.
- Disseminate knowledge about the olive crop through refresher courses, seminars, workshops, publications and by facilitating collaboration among academia, farmers, and the processing industry.
- The Oilseed Crops Cell would play a proactive role in coordinating the identification of topics between research and universities to ensure rationalization and optimal use of resources.

Research organizations and agriculture universities, in a coordinated manner, can play a central role in the olive sector in the following areas:

- Development of high-yielding cultivars and their selection,
- Development of disease-resistant cultivars,
- Development of the latest management practices in olive orchard management to be climate-smart and friendly,
- Quality testing of newly developed cultivars.

9.5 Establishment and Role of the Pakistan Olive and Olive Oil Council (POOC):

The AP&PR suggested the creation of the Pakistan Olive and Olive Oil Council (POOC) on the grounds of lessons learned by the PakOlive project in meeting serious bottlenecks hampering the establishment of the olive value chain in the country.

The proposed POOC, to be established through an Act of Parliament (or a Presidential Ordinance), will act as an apex body structured with representation from the public and private sectors, including growers, researchers, the processing industry, the food industry, distributors, and importers, to oversee the Olive Sector, dealing with regulatory, certification, policy advocacy, quality standards, promotion, and coordination. The structure of the Council will mainly revolve around the General Assembly, the Board of Directors, the Chairman, and the Committees constituted for different purposes. The list of Activities envisioned by the Council in Art.1 are as follows:

- a) Submit all the decisions taken annually to all relevant stakeholders.
- b) Develop plans, implement plans, collect data, and determine a common strategy within the framework of the developments in the olive and olive oil sector.
- c) Carries out research and investigations on olive and olive oil and related sectors at national and international levels and transfers these to relevant stakeholders in the Olive value chain.
- d) Carries out activities to improve the production, consumption, and trade of olives and olive oil.
- e) Cooperate with organizations that perform similar activities in other countries.
- f) Take urgent functional measures according to the conjuncture of olive and olive oil-related sectors and monitor the results.
- g) Regarding the purpose and field of activity: organize meetings, symposiums, panels, seminars, conferences, congresses, and workshops; promote olive and olive oil products and by-products and establish advisory groups to participate in all these activities.
- h) Contribute to the determination and implementation of the necessary policies for the realization of high-quality production, standardization and certification, monitoring of the market, and development of quality control systems in the Olive sector.
- i) To ensure necessary measures are taken and implemented, including production planning and diversification of production, to solve the structural problems of the olive sector, meet the needs, and increase international competitiveness within the framework of production and industrial activities in the sector, the environment, public health, protection of producers, consumer rights, and rural development.
- j) Organize campaigns and promote the consumption of the product, encouraging the branding. Contribute to the determination and application of national and international rules for the trade of olives and olive oil products and by-products.
- k) To inform olive and olive oil producers and consumers about organic farming and good agricultural practices and to encourage production and consumption.
- l) To increase the marketing power of olive and olive oil and finished products at national and international levels, take measures to improve the continuity, profitability, trade, consumption, and standardization of the industry and to ensure the reconciliation of all segments of the sector in the determination of national policies.
- m) Coordination and Collaboration with other allied Ministries and International organizations to carry out subject-related activities beneficial to the public sector as well as to the Olive sector".

The proposed Act for the constitution of the POOC is attached in **Annex 4**.

Private Sector in the Olive Value Chain

Pakistan National Olive Value Chain Policy

*Along with
The Implementation Strategy and
Road Map for 2024 - 2030*

10 Private Sector In The Olive Value Chain

10.1 Role of Farmers/Growers

The olive farmers/growers are the main pillar from whom the value chain originates. They are the most sensitive category because they operate on an individual basis, which is problematic, especially for the smallholders. Thus, forms of aggregation must be sought. They can be profiled as follows:

Individual Farmers

In Pakistan, plantation is entirely carried out by the private sector, a standard policy among developed olive-producing countries. Private medium and large olive farms are mostly self-financed with careful investments. These farmers can afford the olive production cycle without financial constraints. Moreover, they have easy access to subsidies for the inputs, such as seedlings and possibly financial support for drip irrigation, therefore, the only constraints they face are technical.

The small farmers instead are facing more problems than cultivating the major crops, and their fragmentation represents the major hindrance to the expansion of olive cultivation. It should also be kept in mind that for the expansion of the area, the large potential is in remote areas, especially hilly tracks, which are not easily accessible, with few patches of block plantations. However, since the tree has no competition with other regular crops, it could open avenues for better business, helping, in particular, the resource-poor farmers. Regarding the existing typology of olive farms, analyzed in section 6.2, the data helps in delineating the configuration of the development of the olive sector at the farm level:

- o *Mixed marginal plantations.* These are small-scale production units on marginal lands, having less than 4 acres of land. Olives are for self-consumption, in-house processing as table olives/pickles/oil, and/or sale on the local market as fresh product. It encompasses the poorest segments of the rural population. In terms of economic return, the costs per kg of product are higher because of the small scale. The value of the olive is significant in terms of dietary improvement, tree plantation against soil erosion and desertification, and carbon credit.

- o *Smallholders and family producers,* having up to 10 acres of land. Growing olive for self-consumption and sale, availing the network of olive extraction units. The production costs are midway between the marginal orchards and the commercial farms. The investment will pay off if the GAP are adopted.

- o *Medium and large-scale farms* (above 11 acres). Owned/managed by progressive olive growers, with the employment of farm managers in case of large-scale, have shown encouraging progress and improvement through the progressive adoption of GAP. The production costs are lower due to the size of land and rationalization of resources, and profit is already significant.

Associated Farmers

As the cooperative model has failed in too many cases, it is essential to find ways and means to support small farmers to successfully access olive cultivation.

“Contract farming” - Based on the scheme of merging several smallholder farms attached to the Hub farm, constituted by a solid entrepreneurial group, it presents several advantages, including: (i) increasing cooperation between the public and private sectors, fostering integration in agricultural strategy development, (ii) enabling small farmers to have higher productivity, more market-oriented production and better market access, (iii) facilitating the diffusion of innovation in agriculture driven by better access to training and adoption of modern technologies, and (iv) leveraging synergies and collective efforts to promote sustainability and improve farmers' competitiveness.

In the Olive Value Chain, the Contract farming would be primarily developed around the processing facilities owned by the Public Sector, with a private party in the lead, through a Public-Private Partnership scheme. The key is to competitively engage a leading private party to execute a list of end-to-end value chain upgrade investments under a project co-invested by the private party and the public sector. Upon a successful implementation of the scheme, to be expanded to other models where only the private sector and farmers are partnering, it is envisaged that the public sector banks (National Bank of Pakistan at the federal level and the Bank of Punjab, Sindh Bank, Bank of Khyber at the provincial level) will be interested in supporting the scheme. Once they have done a couple of transactions, private banks can be attracted. Moreover, the model would be developed in compact production Clusters, which have already shown in Pakistan the creation of a virtuous cycle attracting inputs and services providers.

The advantages include:

- Increased cooperation between the public and private sectors and fostering integration in agricultural strategy development, especially olive in this case.
- Enabling small farmers to have better market access, as well as higher productivity and more market-oriented production.
- Facilitating the diffusion of innovation in agriculture driven by better access to training and adoption of modern technologies.
- Leveraging synergies and collective efforts to promote sustainability and improve farmers' competitiveness.

The process will require preparatory work (including a financial model) which will identify the investment requirement from the private party, tax breaks, duration of the partnership, etc. Therefore, the commercial terms, investment horizon, and duration of partnership need to be changed for every cluster.

All stakeholders—public sector (government/provinces), private sector, and farmers - have pivotal roles to play in the success of such clusters development, namely:

- I. The government/provinces will play a critical role in supporting cluster development by funding gaps through subsidies.

II. The private sector is the main actor; therefore, it needs to be solid and reliable. Will contribute by aligning production practices with international standards for the local market and exports by investing in three main verticals to support farmers on the following phases:

- *Pre-production and Production*, which includes access to quality inputs, promoting the adoption of (GAP) and integrated pest management (IPM), testing labs, crop insurance, specialized machinery, etc.
- *Post-harvest* management and value addition, including establishment / management of processing facilities, integrated packhouses, cold storages, collection centers, etc.
- *Logistics, marketing, and branding* include suitable transport vehicles, branding and marketing for promotion of the cluster's outputs, domestic and international markets, etc.

III. The farmers are integral to the success of the contract farming and must adopt high-quality planting materials and modern agricultural practices to enhance productivity. They can further strengthen the supply chain (and their bargaining position) by participating in farmer groups, ensuring a reliable and consistent supply of produce to processors.

The steps to develop around olive processing facilities will include:

i. Preparation

To identify all the investments required for upgrading the olive farming operations as well as the processing and marketing of industrial outputs based on the olive production. Among these investments, some would be commercially viable investments (e.g., the processing facility), while others would have a high economic return for the country but low financial return for any private investor (e.g., GAP certification for the olive farms, crop insurance, mechanization, etc.). Based on this, an integrated multi-year development program will be drafted, under which the commercially viable investments would be programmed by the private party (to be selected under step 2) while the viability gap for the investments with high economic return and low financial return would be subsidized /by the government/provinces.

ii. Selection of private party

The integrated multi-year development program for each cluster is then competitively tendered with clear identification of all the investments required and the support that the government/provinces are committing. The winning party commits its own investment funds towards clear targets for the cluster (e.g., increased farmer profitability, value chain development, higher output, branding and sales, etc.).

iii. Execution

During the term of the cluster program, the private party is responsible for the execution of all investments, including those for which viability gap funding/subsidies are being provided by the government/provinces. The government/provinces oversee the execution to ensure that agreed targets are being met by the private party.

The “*Olive Producers’ Organization (OPO)*” could be a model to be encouraged. It derives from the mobilization of the communities and their development into tiers of organizations, an activity that the Rural Support Programs (RSPs) have been experiencing for almost 35 years throughout the country.

Global best practices show that olive producers work in unison to achieve economies of scale through the production process, from nursery raising to marketing. The OPOs could be established, handling the growing of olives, processing, and marketing in a cooperative effort.

The National Rural Support Program (NRSP) could also avail farm credit as part of its Microfinance operations. Engaging relevant expertise to organize and manage the OPOs is a routine practice, therefore the farmers could be supported throughout, from the selection of the olive cultivar to the sale of the products.

The OPOs can then be federated into a second tier (Provincial OPOs/POPOs), following the size and the operational opportunities (number of farmers, total area covered, number of plants, olive processing units required, etc.). The OPOs/POPOs would be eligible to receive seedlings and micro-irrigation at subsidized rates from the PSDP projects and other sources.

Moreover, whenever applicable each POPO could be treated as a “Special Economic Zone” and be allowed all relevant exemptions on import duties and income tax (particularly important for importing equipment, such as the olive extraction units and others). The POPOs would be immediately involved in participating in the tendering process to acquire some olive extraction units under the PPPs scheme

Other potential models of small farmer aggregations can be inspired by endeavors of international organizations, such as the ongoing IFAD scheme in KP, structured in “Professional Farmers Organizations/PFOs” of 300-500 persons and in “Public-Private-Producers-Partnerships/4Ps” with a minimum of 1,000 producers, which in turn they become stakeholders of the “New Farm Service Centres (NFSCs) to be established in the districts, under “Farm Service Companies (FSCs).

10.2 Role of Processors and Other Potential Entities

The olive industrial private sector has tremendous potential for expansion in the country, but at the same time faces several obstacles and hurdles in its implementation. Therefore, it is still reluctant to enter into the olive business on the processing, handling, and commercialization, as olive oil and olive products have a very meagre share of the market, without ensuring its investment.

Nevertheless, on the grounds of the positive production and consumption trend, the predictions and estimations made by different sources of the market not only for domestic use but also for export, the private sector can be encouraged to play a primary role in this vibrant olive economy. Moreover, replacing the imports by the industries that are utilizing olive products is not only a matter of immediate savings but of circular benefits to the entire nation. In general, the private sector will bring the following significant contributions:

Investment and collaboration: there is the potential to invest in area expansion (cultivation), processing, and distribution. This is possible through active collaboration with olive farmers, buyers, producers, and other stakeholders.

Quality improvement, and innovation: the quantity and quality of olive oil and other olive products shall be improved. These are possible through modern agriculture practices, the use of modern machinery with quality control measures, and trained manpower.

Value Addition: since olive has several by-products, there are large opportunities to develop this segment of the market, such as olive-based soaps, cosmetics, and other health supplements.

Market development and export: developing a strong distribution network by private companies will help open avenues for export options in the international market while ensuring international quality standards, which are not only essential but are also prerequisites.

Research & Development: an important role can be played in this domain, as previously mentioned, in R&D activities on olive, olive oil, and other olive products.

Promotion and awareness: companies can invest in a very professional and passionate manner for promoting consumption through marketing campaigns, cooking competitions, arranging galas, using TV and radio talk shows, etc.

Links with international organizations: a very constructive role can be played for the country in maintaining very close and active collaborations with the International Olive Council (IOC), Food and Agriculture Organization of the UN (FAO), IFAD, etc. to ensure the development of the sector and a more vibrant, efficient and sustainable olive industry.

It is a primary task of the public sector to inform, communicate, promote, and create a friendly environment to facilitate the involvement of the private sector. Among the potential areas of business, the following may be considered:

- Olive cultivation
- Olive nursery industry (plant production business & plant nutrients)
- Olive farm management (inputs, tools business)
- Orchard management service providers
- Olive oil industry (extraction units, branding, marketing)
- Olive food industry (pickles, tea, vinegar, etc.)
- Olive bakery (biscuits, jam, bread, cakes, etc.)
- Olive cosmetics (soaps, cosmetics, creams, lotions, shampoos, etc.)
- Olive pharmaceuticals (olive leaf extracts, tablets & capsules, olive fruit extracts, olive toothpaste)
- Olive restaurants (Olive Biryani & Halwa, steam roast, Olive Roti, salad and olive tea)
- Olive animal feeds (poultry & cattle feed)

10.3 Potential impact of Public-Private Partnership (PPP) model

The model, consisting of an agreement between a government agency and a private firm to offer public services or assets, can perfectly work in the current scenario of the Olive sector. The process of adopting such a mechanism was investigated with the relevant Authority and the MNFS&R for the Olive Processing Units, which are mostly owned by the public sector.

Its full implementation is highly recommended, as it will also encourage the involvement of the processors in the procurement of the fruits or oil from the farmers, initiating a process similar to the "contract-farming" scheme, which can be followed by other entities for infrastructures, services such as labs, etc.

The adoption of the PPP scheme will enable the public structures to be exempted from the burden of managing the assets under very unfavorable conditions, allowing the private sector to increase efficiency and reduce the bottlenecks that ultimately are causing regular damages to the olive growers.

The implementation of the scheme may be based on short-medium or long-term agreements between the public sector and the private firms that will be openly selected. The mechanism could represent a strategic and functional tool in the development of the Olive sector, facilitated by the policy developed by the Government, with a set of institutional, regulatory, financial, and concession-management frameworks for provincial PPPs.

The PPP will help initiate several enterprises in processing and value addition of olive and olive products, with primary potential interest from the "Contract Farming" and OPOs/POPOs scheme, matching perfectly with the available pre-conditions. Worth mentioning that the recently approved New PPP Act 2025 by the Punjab Government would facilitate the process for the olive mills of the province.

It is not recommended for the public sector, anyway, to adopt the PPP model for procuring new processing units unless the private sector is still unwilling to invest. Better to consider concessions, such as the exemption of customs duties, tariffs, and other facilitations.

It is worth considering that the investments made so far in the country have been generated, except for the plantations, by the public sector and foreign grants through development projects. No separate infrastructure and institutional setup have been established. Therefore, the Olive sector can only scale up if entrepreneurs invest and work on a commercial basis.

10.4 Potential Role of SMEDA

SMEDA (Small & Medium Enterprise Development Authority), which operates under the Ministry of Industries and Production, organizes activities and initiatives to support SMEs nationwide. Its support may be sought in initiating the processing business in olive oil and olive products. Besides other functions, SMEDA can also prepare pre-feasibility studies, explore financing options, and prepare draft contracts and regulatory procedures for the enterprises to be developed till they become fully functional and operational.

Policy Measures To Achieve The Policy Objectives

Pakistan National Olive Value Chain Policy

*Along with
The Implementation Strategy and
Road Map for 2024 - 2030*

11. Policy Measures To Achieve The Policy Objectives

11.1 Increasing Olive Crop Production

11.1.1 Expansion of the olive-growing area

The olive growing area will be expanded in suitable sites, particularly in Balochistan, Khyber Pakhtunkhwa with the Merged Districts, Punjab-Potohar, but also in Sindh, AJK, and Gilgit Baltistan. However, soil and weather conditions must be favorable to olive orchards and less to other cash crops. The mapping of the potential areas, assurance on the availability of quality planting material from certified nurseries, and availability of incentives are the preconditions to assess, by the involvement of the relevant provincial departments and the federal level, if support is required.

11.1.2 Improving olive yields and orchard management

As previously reported, the average olive plant yield is very low, and the quality of harvesting is often sub-standard. The following measures will be adopted with the support of OCP II to progressively increase the production of fruits and the quality of the harvest:

Improving the Nursery system

There is a fundamental need for the entire olive production chain to intervene in olive nurseries to produce quality plants. The current technical "state of affairs" status may be depicted as follows:

- a. True-to-type certified olive cultivars had been imported from the Mediterranean basin for cultivation since 2012, involving foreign exchange to initiate olive crop cultivation in the country (PIDSA, PakOlive, PARB).
- b. The olive mother blocks/nuclear stocks "Germplasm Propagating Units/GPUs" established at the institutes of Bari Chakwal and Tarnab, as the repository for plant multiplication, have been recently tested on their genetic identity. Both have shown significant discrepancies of non-correspondence with the varietal map in place. Therefore, only the trees with the correct varietal genome will be utilized as a source for the multiplication blocks.
- c. Under the Federal Seed Certification & Registration Department (FSC&RD) efforts, there are 23 registered olive varieties in Pakistan, all of them present in the Nr. 2 GPUs of BARI Chakwal and IZHAR Farm, both in Punjab.
- d. With time, skills have been developed in the private sector in raising olive nurseries to produce certified plants, however, the system is not distributed in the provinces, and it is concentrated, in fact, in Punjab, currently registered under the Seed Certification Authority.
- e. Moreover, out of the 7 private entities, a single company (Izahar Farm), raised to an international standard, is dominant in the national olive nursery business. Which has grown uncontrolled, also due to support provided by foreign-assisted projects that have ignored the danger of disseminating plants that are not certified. The lengthy procedure in place to achieve the certification has been a negative factor that has certainly contributed to the uncontrolled growth of illegal nurseries.

On the above grounds, the recently created National Seed Development and Regulatory Authority (NSDRA) “dedicated to transforming agriculture by developing a competitive and sustainable seed sector” is supporting the establishment of the scheme “Ad-interim Certification Process” in Balochistan and Khyber Pakhtunkhwa.



February 2025, Punjab

This process will enable the MNFS&R and the FSC&RD to facilitate the growth and development of olive nurseries by revising the current regulatory frameworks to expedite the process in Balochistan and KP, where certified nurseries are absent. The approach will consist of:

- Creation of new GPU and Mother blocks with 23 registered varieties sourced only from certified sources at ARI Tarnab and BARDC Quetta, under the oversight of FSC&RD Authority.
- Creation of new certified multiplication blocks in the Private Sector, for KP – Zain Afridi FARM / Sahlauddin Farm and Balochistan Jabbar Farm in Lorelai.
- Both through validation and confirmation of the genetic material from 8–10-year-old plants, with assistance from CIHEAM Bari on genotyping/pest and disease analytical verification. This could help determine the variety of the plants and provide a foundation for disease-free certification for the easing of the FSC&RD certification procedure.

In parallel, it is recommended to constitute a fresh “nuclear stock” in the country, in agreement with the international conventions (FAO -International Plant Protection Council). The scope is to provide the highest level of true to type and healthy plant propagating material, from which to restart the process of plant multiplication for nurseries and then distribution to farmers. The process will require several years.

The plants would be imported (preferably from Italy, which possesses the most valuable collection among the olive-growing countries) in a variable quantity of varieties according to their diffusion. Indicatively, the number would be around 20 plants for the most used (Arbequina). The conservation and management require appropriate care to ensure maximum and quick production. Therefore, the selection of the subject to whom to entrust the task implies commitment and capacity. The PARC could be the most suitable entity for the task.

The establishment of the “Ad-interim Certification Process” for olive nurseries and an Institutional Pakistan Olive Digital Assistant will be carried out as follows:

- i. Through the assistance of international experts, public and private bodies will be engaged in elaborating a regulatory framework that encompasses the adoption of pragmatic approaches aiming at sensitizing, educating, and training the owners, technicians, and managers of the nurseries to comply with the technical procedures and protocols, guaranteeing that the seedlings sold originate from known genetic material and are clean of pests and diseases. Concerned authorities shall be part of the system to verify the sources and provide plant certification tags.
- ii. Identification and selection of potential private and public model nurseries, with the involvement of FSC&RD and provincial stakeholders.

In concertation with the Seed Authorities, it has been agreed upon that the mother blocks will continue to be owned and managed by the Public Institutions, whereas the multiplication blocks can also be owned and managed by the Private Sector.

Private and public nurseries that have the potential to contribute significantly to olive nursery production will be identified and selected in coordination with the FSC&RD and other relevant provincial stakeholders to establish a strong network of reliable and high-quality nurseries that can adhere to the “Ad-interim Certification Process”.

The selection criteria for the nurseries would be based on assessing their strength in terms of land, water resources, infrastructure, registration requirements, and adherence to adopt quality standards. These include the availability of skilled personnel, adoption of modern agricultural techniques, and compliance with regulatory standards; the potential for scaling up the production may also be considered.

- iii. Validation of varieties and pest and disease screening of pre-basic material for the establishment of Olive Varietal Foundation Blocks in each nursery

The key purpose is to prepare pre-basic materials necessary for establishing/validating “Olive Varietal Foundation Blocks” within each selected nursery by utilizing a combination of both international and locally sourced true-to-type genetic materials.

To ensure the legitimacy of the “Olive Varietal Foundation Blocks”, a comprehensive process of validating the specific olive varieties and screening for the potential presence of pests and diseases will be required.

The following steps must be undertaken in the selected nurseries for the basic requirements, based on predefined protocols:

- Identify and define the source of the mother plants from which to take the propagation material,
- Carry out visual checks on these plants to verify the presence of transmissible pests with the propagation materials and possibly undergo laboratory sanitary tests,
- Estimate the quantities of usable propagation materials,
- Verify the agronomic and phytosanitary suitability of facilities (glass houses, screen houses, tunnels, open field, etc.) where the plants will be propagated and raised,
- Verify the health of the growing media (soil, mixture, etc) to avoid the occurrence of pests, nematodes, and soil fungi. The adoption of soil solarization is strongly recommended, as it is a simple method and not costly.
- Carry out visual inspections during the production cycle to check the conditions of the plants and the absence of defects, damages, or diseases,

At the end of the cycle, qualify the plants from the FSC&RD with a label certifying their origin from a controlled supply chain.

Training and Skill Enhancement on Sustainable Olive Nursery Technologies

The capacities of the technicians and farmers involved in olive nursery production across the country will be enhanced. As the current average success rate of plant multiplication is only 20-30% caused by several factors such as the technique of direct multiplication on soil, low-level technologies, and a general lack of skilled human resources, appropriate training courses must be organized for government officials, technicians and private nurserymen on the multiplication practices used in the developed olive industries, following SOP's that will enable the beneficiaries to enhance greatly the efficiency of the nurseries. Along with the provision of equipment that will be adopted and tested for further dissemination.

The capacity building will be organized in Pakistan by OliveCulture II by involving Italian experts, enabling the adoption of improved techniques in compliance with regulatory standards.

National Olive Nursery Festivals & Pomological Exhibitions of Varieties

Festivals and exhibitions are at the core of the communication strategy and are crosscutting for all cultures, genders, and generations. In continuation of the tradition of holding the yearly Olive Festival at BARI Chawal, the new events jointly organized by OCP and PakOlive projects in March 2023 in Khyber Pakhtunkhwa (the Olive Gala in Tarnab, Peshawar), and the National Olive Gala organized in November 2023 and December 2024 in Islamabad, shall be continued every year.

Moreover, these events need to be expanded to Balochistan and Sindh and possibly to other new olive-growing areas. However, the private sector and POOC shall progressively take over the initiative, and within its wider scope, the nursery system will play a significant role. The events will offer the opportunity to create fair competition among nurserymen from various areas of the country on certified and healthy plants, and quality olive fruits. .

To this end, MNFS&R and FSC&RD will work in close collaboration with the private sector to organize yearly/seasonal events in the country, with the assistance of the Italian project.

As part of the communication process with the stakeholders, OliveCulture II will support MNFS&R in developing a Digital Nursey Assistant that enables all the beneficiaries of the above-mentioned activities, as well as other interested farmers, to benefit from reliable and authenticated information on the qualified nurseries production as well as on the recommendations about the most suitable varieties to different pedoclimatic conditions. The tool will be AI-powered.

Evaluation of Adaptability Varietal Schemes

As far as the 23 olive varieties registered in Pakistan are concerned, their suitability to the specific national agro-climatic conditions must be further verified.¹⁹

Therefore, a “performance survey” will be carried out through qualified foreign assistance in the provinces where the varieties have been planted during the last 10 years by analysing their behaviour through an “adaptability scheme” that would allow olive farmers/nurserymen to make rational choices based on the potentiality which every single variety could perform in different areas

Improving quality and quantity of production in olive cropping through the adoption of GAP and CSA.

This intervention of the OCP II aims at streamlining the capacities of various aspects of the olive cultivation and processing industry, providing technical training to beneficiaries, stakeholders, and extensionists in the key areas by focusing on GAPs and Climate Smart Agriculture (CSA).



¹⁹ The OCP published in June 2024 “The selection of olive cultivars and their potential by Province” based on data collection of three years only (duration of the project). Therefore, any further study will expand the knowledge, as expected by the Authors. It is available at www.oliveculture.org

GAP is a set of guidelines and practices that promote sustainable and efficient farming methods. These practices aim to enhance crop quality, minimize environmental impact, and ensure food safety. For olive production, the GAPs include soil management, irrigation methods, pest control, pruning, and harvesting methods. Implementing the GAPs can lead to better yields, healthier trees, and improved product quality. It is worth mentioning here that whereas the principles of GAPs were introduced about two decades back, the concept of Climate Smart Agriculture (CSA) was introduced by FAO in 2009 to position agriculture and food security in climate change adaptation and mitigation.

During the implementation of OCP, CIHEAM Bari worked in close association with the PakOlive project by providing high-level foreign technical assistance on each pillar of the olive value chain. Thus, multiple training courses were held, the expenses for logistics and organization were shared, the Galas were jointly organized, the central laboratory was jointly enhanced, etc.

As the cooperation and technical partnership were very fruitful, the same pattern will be adopted for OliveCulture II, if PakOlive will be extended beyond June 2025. The support will further enhance its effectiveness in meeting the objectives of fostering the growth and development of the olive sector. This can include providing advice on best practices, participating in shared training for farmers and technicians, and facilitating the implementation of climate-smart and sustainable agricultural practices. Both the Pakolive and OCP II projects will substantially contribute to this action through the wide spectrum of activities which are included in the individual Work Plans.

A publication on the GAP-CSA developed by the OliveCulture Project is available at www.oliveculture.org

Technical Training to extensionists and farmers on GAP Practices

Although the development projects and activities carried out in the country for olive cultivation have provided training, it is now essential to extend its access, as well as its quality and impact. Moreover, the Training of Trainers (ToT) will build upon the knowledge already acquired and reduce the burden on the institutions. Other forms of capacity building, such as the Farmer's Field Schools (FFS), may also be adopted.

The core subjects will focus on the GAPs, disseminating protocols on all the subjects, such as nursery, pruning, grafting, soil and water management, use of pesticides, harvesting and post-harvesting techniques, food loss reduction, intercropping with herbaceous plants, etc.

The International experts from OliveCulture II will guide and overview the training courses, starting with the assessment of the training needs. The training will be customized based on the specific needs of the various categories of beneficiaries and diversified according to their climatic area. Relevant equipment will also be distributed.

The focus will be on the following topics:

- Managing the olive groves with sustainable methods and climate mitigation measures, including nursery raising and intercropping,
- Water management and drip irrigation,
- Soil and water conservation,
- Demonstrations of pruning in the field, a significant activity due to a general lack of understanding of this practice,
- Disease control, parasite management, and biological control,
- Management of olive harvest and post-harvest operations to reduce losses.



The deserving trainees will be awarded with certificates of competence, enabling them to be recognized as a skilled force in the market, if they are not self-employed.

The TVET project (Professional Capacity Building and Extension in Agriculture - TVET National Reform Programme), financed by the Italian Government through a soft loan of 20 million Euros and due to begin during the first semester of the financial year 2025-2026, will play a major role in complementing the enhancement of human resources, and it will grant certified titles, facilitating employment with the private sector. Synergies could prove profitable for the OCP II and significant with the TVET project, which could constitute a straightforward and solid basis for the activities to be carried out with the institutions, communities, youth, and women.

11.2 Improving Olive Processing and Product Quality:

Technical training and control for Hazard Analysis Critical Control Points (HACCP) in olive oil mills

To overcome the limited knowledge and non-compliance with the Hazard Analysis Critical Control Points (HACCP) standards, it is essential to provide further technical training to all olive mill operators, including the ones who already received the OCP training in two consecutive harvesting seasons and the ones operating the newly established plants, to operationalize the “Guidelines for Hygiene and HACCP implementation in Olive Oil Mill”. The Guidelines were published by the OCP in 2024 and distributed to all the olive mills trained by the Italian experts. They are available at the OCP II portal “www.oliveculture.org”.

The Guidelines include a series of Annexes, enabling each Olive Mill to customize the HACCP, namely:

- A. Pre-requisite program: a set of Good Practices to manage the risk at any step.
- B. Technical Sheet: a collection of information about the product and its characteristics.
- C. Checklist: a tool to implement the HACCP method and periodically inspect its accurate application.
- D. Basic hygiene rules: hygienic and safe management of the product, work environment, and behavior.

The Guidelines consider different technological phases of oil extraction (removing leaves and branches, washing, pressing, malaxing extraction), its conditioning, storage, packaging, and distribution. The products referred to are the categories of edible virgin olive oil as defined by the Pakistani Standard PS5159 – 2010.

The certification is a complex process, which will be supported by OCP II through technical assistance to be deployed for three consecutive harvesting seasons for three weeks, by imparting training to all olive mill operators to perfectly manage the processing units and engage in HACCP enforcement.



Due attention will also be given to the post-processing, storing, and bottling phases. Some equipment and tools will be provided to processing units and operators that have consistent record keeping and are actively committed to engaging in HACCP enforcement.

Reinforcement of Public-Private Partnership in the olive oil processing system

As previously reported, efforts are underway by the MNFS&R to remove the burden of maintenance and management of the olive mills in the public sector, which hamper the timely and seasonal requirements needed to effectively provide services to farmers during the harvesting time.

The approach aiming at the reinforcement of Public-Private Partnerships, utilizing the PPP Authority and provincial setups, shall be strengthened for the current assets and potential future investments, for which the OCP II will provide the needed support. Also, the process needs to facilitate knowledge exchange by organizing training sessions and workshops for the private sector. These sessions should cover olive processing techniques, quality control, and other sustainable practices.

Reinforcement of Olive Oil Laboratory System aimed at certifying olive products

The MNFS&R, with the support of the PSDP PakOlive and the Italian Project, will upgrade and strengthen the existing laboratory infrastructure and processes related to olive oil testing and certification at the federal and provincial levels. The main objective is to ensure that the olive oil products meet specific quality and safety standards, as well as to adhere to regulatory requirements for certification. This result encompasses the implementation of advanced testing methodologies, quality control procedures, and adoption of technology to facilitate accurate and reliable certification of olive oil products, accompanied by training of human resources in Italy and Pakistan.



The aim of reinforcing the laboratory system - organoleptic and sensory, at the central level (Islamabad and Karachi); pests & diseases, and possibly organoleptic and sensory, in the provinces - is to instill confidence in consumers and stakeholders on the authenticity and quality of certified olive oil products, thereby promoting consumer trust and fostering the growth and competitiveness of the olive oil industry. Additionally, the Federal Government and the Provinces will have an active tool to support the private sector development by orienting its production towards quality. The adoption of the PPP scheme will be suitable when the pre-conditions are satisfied.

Facilitating Public-Private Partnerships (PPP) in the management of the olive oil quality laboratory system

This OCP II activity aims to strengthen collaborations between the Public and Private sectors to effectively manage olive oil laboratories. Specifically, as mentioned above, this assistance to the MNFS&R will focus on the organoleptic and sensory quality laboratory in Islamabad and Karachi, along with three Olive pest and diseases laboratories to be located in Balochistan, KP, and Punjab.

The purpose of involving the private sector is to promote a cohesive partnership, leveraging their combined resources, expertise, and capabilities to strengthen operations and services. By facilitating these partnerships, the aim is to enhance the overall quality control measures, testing procedures, and management practices within these facilities, ensuring that they meet international standards and certification regulations for olive oil production and, above all, ensuring sustainability. Federal and Provincial Public-Private-Partnership Authorities will be involved, when required, throughout the process.

Valorizing the potential of pomace and by-products of olive mills

Extra virgin, virgin, and lampante olive oils are the three major categories identified by the IOC as olive oils solely extracted from fruits through mechanical processes that do not imply heating and the addition of solvents.

Once the mechanical extraction of olive oil is completed, approximately 5–8% of the oil remains in the pulp: this residue is called “pomace”, a composition of water and olive residues (in 2-phases of extraction) or wastewater and solid pomace (in 3-phases of extraction).

Pomace is a by-product rich in energy and organic components that, if appropriately managed and processed, could be used for soil improvement, bringing organic matter, although very low, and animal feed. In the Mediterranean countries, pomace is often utilized to produce oil (pomace oil), which will be extracted and refined with the help of solvents, the similar industrial technique used in the processing of most other edible oils including canola, peanut, and sunflower. A Manual was published by the OCP regarding the pomace, which is available at the OCP II portal “www.oliveculture.org”.

There is a need to assess the best suitable technologies/know-how that can provide additional added value in terms of profit, waste management, and climate mitigation to the olive processing units to valorize these by-products under the country's conditions. OCP II will be active on the subject, which would be initiated and pursued under R&D by the public institutions, universities and private sector.

Besides the research activities, the installation of a “Pilot Oil Pomace Extraction Unit” through a PPP arrangement or on a private basis in a suitable area where enough pomace could be available to make the process viable and sustainable will be sought. The possibility of scouting local and Italian/foreign private companies to initiate joint ventures will certainly facilitate the innovation, which would be encouraged by the Italian Trade Agency (ITA) in Pakistan.

11.3 Marketing, Branding, and Trade Facilitation

The measure includes the implementation of a communication strategy and the promotion of the Pakistani brand “PakOlive”, the enhancement of the quality standards of olive oil through certification and standardization, the development and promotion of new recipes of value-added products to respond to consumers' demand, and the upgrade of the marketing techniques and strategies

11.3.1 Developing a National Communication Strategy

A series of communication activities are necessary to raise consumer awareness and promote health benefits to increase the consumption of olive products. The following main measures will be implemented:

i. Olive promotion and food & nutrition campaigns

The focus of OliveCulture II will be on organizing Olive promotions and food & nutrition campaigns, with the objectives of divulging the benefits of olive consumption and creating awareness about the nutritional and health value of olive products. These campaigns, with a strong focus on the importance of incorporating quality olive oil into daily diets and the positive impact of local production on community well-being, will also emphasize the cultural significance of olives and their role in local heritage.

Collaborating closely with AICS Islamabad, a comprehensive communication strategy has been developed to design and implement targeted awareness campaigns. These campaigns will be tailored to reach three key groups: citizens/consumers, producers/associations, and farmers. Various communication channels, including social media, newspapers, school seminars, and TV/Radio talk shows, will be used to effectively engage each target group and disseminate relevant information. Attractive promotional materials, such as videos and booklets, will be published.

Additionally, interactive events, including contests and participation in local festivals, will be organized to showcase the versatility of olives in different culinary traditions and their production patterns, encouraging community participation. In this regard, as part of this activity, local producers will be supported to participate in an international fair in Italy.

Building partnerships among farmers, processors, nutrition experts, culinary professionals, and health organizations will be prioritized to develop evidence-based messaging that underlines the nutritional and health benefits of incorporating olives and olive products into daily diets.

Through the above-mentioned initiatives, a deeper understanding of the cultural heritage and nutritional advantages of olives will be created while promoting the adoption of high-quality olive oil and related products in local dietary practices.

ii. Updating the "OliveCulture" web portal and social media

The OliveCulture web portal represents the core of holistic knowledge and capacity building for the supply chain players, with an array of downloadable materials from production to marketing to popularize olive products, the whole territory, and its actors (farmers, women, and youth).

As far as social media is concerned, thousands of people have been reached with educational campaigns, training material, and truthful information about the production and consumption of olive oil. As such, the social media strategy has been updated, and new content for the promotion of the olive sector will be created periodically. Workshops will be organized

11.3.2 Promotion of the "PakOlive" Brand

The Brand was officially launched on November 25th- 26th, 2023, at the Pak Olive National Gala organized in Islamabad in the presence of the Federal Minister of NFS&R and the Italian Embassy.

The procedural steps for its establishment and management must be undertaken on a priority basis, as it is of primary importance to valorize the Brand. The proposed process include the approval and implementation of the following draft documents: (i) Legal Act, (ii) Bylaws: Consortium for the protection and enhancement of olives and olive oils produced under the "PakOlive" brand, and (iii) Regulation of the use of the Brand "PakOlive", which are attached at **Annex 5**

The proposal, inspired by similar schemes adopted in the Mediterranean countries, has been conceived with the MNFS&R as custodian; several other institutional avenues were explored for compliance, which did not materialize in the given scenario. The three documents include:

- i) The '**Legal Act**', whose preamble delineates the core values of the PakOlive brand on the following terms:

"Referring to the registration of the brand "PakOlive" by the Pakistan Oilseed Development Board/ Ministry of National Food Security & Research/at IPO – Intellectual Property Organization of Pakistan, on 14/12/2020 No. Index/08;

Considering the importance of distinguishing the production of edible olive oils and table olives produced in Pakistan from those of different origins and imported;

To encourage and assist Pakistani growers, processors, distributors, and retailers of olive oils and table olives in the local and foreign markets, and help the consumers in their choice in purchasing quality products;

Deeming the presence of the trademark "PakOlive" on the packages of olive oils and table olives be a guarantee of best production and certainty of Pakistani origin."

- ii) The **Bylaws** for the creation of the "Consortium/Association for the protection and enhancement of olives and olive oils produced under the PakOlive brand name", which illustrate the role of the entity as follows:

"Art. 2 - Functions, aims and purposes

The Consortium/Association is a "non-for-profit" inter-professional trade and supply chain organization, acting under the supervision of the MNFS&R, having the following purposes, for the benefit of the members and users of the "PakOlive" brand:

- Protect, promote, and enhance the general interests of the "PakOlive" products through consumer information;
- Extend in Pakistan and abroad the knowledge and dissemination of the "PakOlive" brand as well as of its quality characteristics by carrying out appropriate promotional and information communication campaigns;
- Promote the application of the specifications regarding qualitative characteristics of the "PakOlive" branded products and propose any amendments conducive to their improvement;
- Promotes understanding among the Consortium/Association members conducive to enhancing the level, of the "PakOlive" products, and to increase its reputation and knowledge";
- Entrust to a Control Body, public or private, the inspection and certification activities, operating following the international voluntary standards ISO 17020 and/or ISO 17065;
- Make proposals for regulatory discipline and carry out consultative tasks related to the "PakOlive" brand;
- Establish programs bearing measures of a structural nature and technical

- adjustment aimed at improving the quality of the "PakOlive" products;
- Protect and defend, including in legal institutions, in Pakistan or abroad, the "PakOlive" term/name for any undue, abusive, and illegitimate misuse;
- Assists the Consortium/Association members in any matter of common interest;
- Cooperate in the supervisory activities of the public authority to ensure the proper use of the trademark and detect frauds".

iii) The **"Regulation for the use of the Brand"** specifies that:

"This document refers to the Legal Act and details the main aspects required to obtain the license for the use of the PakOlive brand. In particular:

- obligations of the applicants;
- modalities and timing for application submission;
- activities of the Control Body and control system;
- identification and traceability to be applied by the entire chain of actors;
- non-conformity management.

This document describes the set of controls that the chain and the product must undergo to identify the product as "PakOlive". According to the provisions of this Regulation, the activities implemented by the subjects of the regulated supply chain must be recorded, which are examined and evaluated during the inspections carried out by the Control Body (CB). Therefore, the recognized chain players must fill in and keep all the documentation deriving from their activities and make it available for the compliance checks carried out by the CB".



11.3.3 Improving Market Infrastructure and Regulatory Support

While progressively and significantly involving the Private Sector in the processing and quality process as the primary force, a series of actions would be envisaged by the Public Sector to further support the development of the Olive Value Chain in the following areas:

Processing facilities: establishing olive oil extraction and processing units only (generally only under the PPP mechanism).

Logistics and storage: developing the infrastructure for efficient storage, transportation, and distribution of olives and olive products.

Policy and regulatory support: creating a favourable policy environment for the olive value chain, including regulations that support quality standards, product certifications, and export facilitation.

Quality standards and certifications: assisting in obtaining necessary certifications and adhering to international quality standards to enhance product credibility and market acceptance.

Improving market facilities for linkages between producers, processors, and consumers, supporting participation in trade fairs/exhibitions; and streamlining export procedures. To enhance the profitability and sustainability of the olive value chain, several initiatives can drive promotion and improvements in olive value addition through the public support in organizing/assisting initiatives such as promotional campaigns; marketing and promotion centers, along with branding and packaging ; quality control and certification centers; testing laboratories; online marketplaces; cooperative marketing; technical training and development centers, trade and export facilitation centers.

11.4 Enhancing Inclusivity (Support to Women & Youth):

The OCP has successfully established a comprehensive program to create a sustainable model where women and youth could generate income through olive value addition including soap, cosmetics, olive leaf tea, and pickle production, and actively contribute to the socio-economic development in their communities. To this end, 26 Olive Business Development Groups (OBDGs) have been established in Balochistan, KP, and Punjab.



During the implementation phase, it was noticed that gender disparity exists in financial resource access, with women facing more challenges in securing funding. This suggests a need for more inclusive financial services and support systems. Gender inequality is evident in market access and networking opportunities, with women being at a disadvantage. This disparity can hinder women's business growth and economic empowerment.

Gender-sensitive policies need to be formulated which should specifically address the needs and challenges faced by women in the olive value chain and ensure that gender considerations are integrated into all stages of policy development and implementation. By implementing this approach, the Pakistan Government and RSPs can significantly enhance the role of women in the olive value chain, leading to increased economic empowerment and sustainable development in the region.

To expand the pilot initiative of the OCP at the national level, and to involve women and youth in more activities along the olive value chain, the following support may be considered:

Training and capacity building: the social sector (NGOs/RSPs), in close collaboration with public institutes, can identify active women from the community. Workshops and Training programs on different aspects of olive cultivation, harvesting, processing, and value addition must be exclusively designed for women. These programs should aim to enhance the skills and knowledge of women farmers, entrepreneurs, and workers in the olive value chain. They shall include modules on digital literacy to enable women to leverage online platforms for learning, networking, and business promotion.



Peer Learning and Mentorship Sessions: establish peer learning networks and mentorship sessions where experienced women entrepreneurs can advise and train newcomers. Facilitate regular knowledge-sharing sessions and workshops to promote best practices and innovative techniques in the olive sector.

Technical Assistance: the Public Sector with the support of experts can provide technical guidance on the best practices in olive farming, pest management, irrigation techniques, good agriculture practices (GAP), product quality improvement, and new olive by-products. Ultimately, women shall be facilitated in accessing the advanced technologies.

The beneficiary's selection criteria and selection process can be facilitated by NGOs/RSPs and with the support of agricultural extension services to offer continuous assistance and follow-up visits to women farmers and entrepreneurs.

Financial Support and Incentives: the Public Sector can provide financial incentives, such as subsidies for purchasing olive saplings, fertilizers, equipment, and raw materials. Grants may also be available for setting up value-addition facilities. The Private Sector can collaborate with micro-finance institutions (e.g., SMEDA) to offer low-interest loans and financial products specifically designed for women in the olive value chain.

The introduction of green loans for eco-friendly practices and sustainability projects within the olive industry may also be envisioned. As well as the establishment of a dedicated fund to support innovation and entrepreneurship among women in the olive sector.

Participatory Research: the Research & Development would engage women farmers in participatory projects to identify and address local gender-sensitive challenges in olive cultivation and processing and to develop and disseminate research findings that highlight women's contributions and challenges in the olive value chain.

Innovation Hubs to be Established: the women can experiment with new products and processes, supported by expert guidance and state-of-the-art facilities. Along with encouraging collaborations among local universities, research institutions, and women entrepreneurs to foster innovation.

Pilot Projects: the Public and Private Sectors can provide opportunities for women and youth to participate in pilot projects characterized by improved agricultural practices and processing facilities for the olive crop.

Market Development and Access: the Public and Private sectors would facilitate marketing strategies and branding for olive products to enhance market reach and competitiveness for women and youth, by reducing reliance on intermediaries. To this end, would be organized training on e-commerce, digital marketing, buyer-seller meetings, participation to national and international trade fairs and exhibitions to showcase women's products and create networking opportunities.

Focus from OliveCulture Project II

Besides creating new OBDGs, the Project will strengthen the associations of women and youth already established through additional training and diversified value-addition support. The training modules will be developed based on the results of the previous actions, whereas the new 60 youths/women to be identified along with the selection of 3 local implementing partners will lead to the creation of new OBDGs.

The training will provide technical know-how and efficient management of income-generating activities at different levels: (1) soft skills (e.g., innovation and creativity; communication and negotiation, etc.); (2) small business management skills (e.g., accounting, administrative and financial management, etc.); (3) technical skills. This training will be carried out by both local and international experts and in the form of Remote Technical Assistance made available from CIHEAM Bari.

As a strategic component, OCP II will continue the distribution of inputs, equipment, raw materials, and start-up capital based on the Business Plans. During the incubation period of 12 months, international and national experts will provide technical assistance and mentoring.



The strategy is to link OBDG's production with their respective consumers and market share. This will be done by using Pakistani customs and traditions of women's participation in public/social life, especially with their inclusion into networking seminars, for expanding their action across provinces, and local and national events to showcase their productions.

The challenge of elevating the business capacity of the existing 26 OBDGs established by the OCP in the diversification of value-added products and organization of promotional events/shows can be seen as a follow-up step to further enhance their presence in the market and their appeal to the consumers. The activity should consider the following:

Product diversification: the OBDGs will be encouraged to explore and develop a diverse range of value-added products derived from olives, such as olive-based spreads, infused olive oils, olive-based snacks, and other innovative products that align with consumer preferences and market trends. This step will require conducting market research and understanding consumer preferences to identify potential product opportunities.

Quality assurance and standardization: it will be ensured that the newly diversified products meet industry standards and adhere to quality benchmarks. Quality control measures and certifications to build consumer trust and confidence in these products will be adopted.

Promotional events and shows: specialized promotional events and shows devoted to showcasing the newly diversified range of olive value-added products will be organized. These events can include trade fairs, exhibitions, and product launching, targeting both local and national audiences, emphasizing the health benefits of the products and the sustainable practices employed in their production.

Marketing and branding: effective marketing and branding strategies to create awareness and generate interest in the diversified product line will be developed. This may involve designing engaging packaging, creating informative marketing materials, and leveraging various marketing channels, including social media, local advertisements, and collaborations with influencers.

Market expansion: opportunities for expanding the market reach of the diversified products beyond the local regions will be explored and pursued. This can involve partnerships with distributors, retailers, and online marketplaces to facilitate wider product accessibility and availability.

11.5 Leveraging Environmental Benefits

Carbon Credit Generation

The OCP published in February 2024 the Position Paper “Delineate a Policy Framework on Valorizing olive production as a Form of Climate Change Mitigation”, which has been backed by the Ministry of Climate Change and Environmental Coordination. It is available at the OCP II portal “www.oliveculture.org”.

Field investigation confirmed that Olive plantations in Pakistan can be used for carbon credit generation, which may become an additional source of revenue for the olive growers and an overall asset for the country. To this end, the applicability of olive cultivation to the Compliance Market and the fulfilment of the eligibility criteria for carbon trading under the Voluntary Carbon Market were positively assessed.

The study concludes that promoting olive cultivation for climate change mitigation and carbon trading in Pakistan requires the adoption of a comprehensive policy framework that includes promoting sustainable farming practices, amendment in the carbon trading policy, awareness, and capacity building campaigns, involvement of the private sector, establishing linkages with national and international organizations and development of an effective measurement, reporting and verification (MRV) system.

OliveCulture II will enumerate and conduct a comprehensive assessment of the existing olive orchards on the potential for CO₂ absorption under local conditions, quantify the amount of carbon dioxide and other greenhouse gases emitted or absorbed during various stages of olive grove's life cycle (e.g. Carbon footprint), elaborate the balance of CO₂ (e.g. Carbon credits) and the environmental impacts from the olive grove.

The activity of OCP II aims to contribute to the improvement of the environmental sustainability of food systems in Pakistan by establishing new olive groves, which can also serve as a form of afforestation and anyway capable of generating Carbon Credits. Besides the acquired global widespread knowledge that planting and growing of trees can help mitigate the impact of deforestation and contribute to the preservation and restoration of ecosystems, the Olive plantations per se shall have their specific place in the Carbon Credits markets.

By adopting and participating in carbon offsetting programs, smallholders and farmers would benefit from additional financial compensation for their contribution to carbon sequestration, as well as subsidies for using sustainable agricultural practices that can lead to improved soil health, protect and increase biodiversity, improve water conservation, reduce air pollution, and waste production, ultimately contributing to the long-term sustainability of their farms and climate change mitigation.

Olive Tourism

The AP&PR dealt with Agritourism, identified as an opportunity for boosting the multifunctionality of olive farming, as inspired by the Italian and Spanish experience. On the above grounds, Olive Oil Tourism was envisioned by the OCP as a potential side business along with olive farming, and accordingly, it was conducted the study "Assessment of the Potential of Olive Tourism Places and drafting a Responsible Participatory Tourism Plan in Pakistan" which is available at the OCP II portal "www.oliveculture.org".

It has been assessed that the innovative approach of promoting Olive Oil Tourism in Pakistan by engaging the local communities, including women and youth, in the olive suitable areas along with other value addition activities is feasible, and can enhance the profitability of olive production and provide visitors with a unique opportunity to get the flavor of rural tourism, which is attractive in terms of its natural landscape, historical heritage, archeology, and rich living culture. The challenge consists of linking olive cultivation, olive mills, and processing facilities (olive places) to the significant resources of touristic interest e.g. local music, dance, cuisine, arts and crafts, festivals and events, etc.

The exhaustive objectives and scope of the Study, conducted with a specialized NGO, consisted of:

- Assessing and mapping the potential of Olive Oil Tourism and associated natural culture, history & archeology to develop an integrated approach to promote community-based sustainable tourism within the olive-growing areas in Pakistan.
- Formulate a strategy that will act as a guiding document for the stakeholders, particularly communities, tourism entities, and institutions, proposing a clear road map with specific targets and action points.
- Based on the good practices of "The olive oil roads" well established in Italy, develop the same concept in Pakistan, formulating tour packages for domestic and foreign tourists.
- Propose a framework of stakeholder engagement for effective management of tourism-related activities at the local level and its benefit sharing.
- Engage all the key stakeholders in the planning process to ensure their involvement in decision-making, and later on the execution process.
- Identify gaps in capacity building and propose necessary training programs to build the capacity of local and rural communities to become efficient service providers to visitors.
- Enhance and strengthen the multi-functionality of natural resources and agriculture, especially olive growing as good practice for the transition to sustainable food systems, from the environmental, economic, and social points of view.
- Propose a framework of stakeholder engagement for effective management of tourism-related activities at the local level and its benefit sharing.
- Develop guidelines/code of conduct to ensure the protection and enhancement of the beauty of the natural assets and cultural heritage through the promotion of sustainable and responsible tourism.

- Generate ideas for marketing and promotional activities to attract visitors to use the services of the local community for Olive Oil Tourism.
- Suggest a monitoring mechanism to measure the impacts of the Olive Oil Tourism initiative in terms of economic, social, and cultural aspects.

As a result, it was chalked out a *“Responsible Participatory Olive Tourism Plan”* encompassing details of various action points and interventions that can be implemented with the active involvement of local communities and interested stakeholders for the development, promotion and management of olive tourism in the selected areas. In the first instance, the most suitable sites have been identified in the provinces of Khyber Pakhtunkhwa (districts of Lower Swat, Upper Dir, Lower Chitral), Punjab (district of Kallar Kahar), and Balochistan (district of Musa Khel) , all correlated with olive plantations and tourism.



As highlighted in the SWOT analysis, the five identified sites have good geographical features, interesting biological conditions, and rich natural and cultural environments which make these areas suitable to promote community-based olive tourism, which can be developed to attract a reasonable number of nature's loving tourists, predominantly from the educated middle-income groups within Pakistan, as well as from foreign markets.



To start Pilot Projects in the short to mid-term, Lower Swat and Chakwal areas offer advantages in many terms, such as attractive landscape, rich heritage, presence of olive orchards as well as wild olive, olive mills, and ultimately their practice of dealing with visitors. These two areas have comparatively better infrastructure, and a reasonable level of boarding and lodging facilities; moreover, they are easily accessible as compared to the other three areas.



Later, based on the outcomes of the Pilot Projects, the olive tourism program can be replicated in the other three areas or in other areas that will develop interest in the mid to long-term implementation phase. To this end, a basic Action Plan was accordingly included in the Study, which encompasses the estimated costs and the envisioned potential supporting partners, while the leading entity has to be identified. Although OCP II will not be directly involved in the activity and no financial resources have been allocated for the purpose, it will encourage and facilitate any interested stakeholder.

11.6 Fostering Human Resources Development

Skill development is one of the essential factors for economic growth; to this end, countries strive to improve the quality of their skilled labor by focusing on their technical institutions. In Pakistan, the Ministry of Federal Education and Professional Training (FE&PT) sets broader policies and strategies while the National Vocational and Technical Training Commission (NAVTTTC) acts as a regulatory body. The Technical and Vocational Authority (TEVTA) is responsible for implementing these policies at the provincial level (TEVTAs).

Pakistan has 3,740 technical institutions, of which 56% are private and 44% are in the public sector, which produces 0.45 million skilled workers annually. The demand is set at around 1 million, therefore, the gap hinders economic growth. The Pakistan Institute of Development Economics (PIDE) suggests that the rising unemployment in Pakistan leads to slow economic growth because of a structural mismatch in the labor market.

A Technical Vocational Education and Training (TVET) Policy was introduced in 2018 as the "Skill for Growth and Development," which availed substantial support from the EU. The implementation of the policy has achieved tangible progress, but very little has been done in agriculture, therefore, the support of the Italian Government in sponsoring the project **"Professional Capacity Building and Extension in Agriculture"** is strategic, as it will address the needs of horticulture at large, and olive cultivation in particular. The project, worth 20 million Euros, was approved within the framework of TVET reform and would be initiated by the MNFS&R before the end of 2025.

Recently, a strong player entered to support olive development, the *Pakistan Education Endowment Fund (PEEF)*, a non-profit organization dedicated to fostering educational opportunities for talented and deserving students across Pakistan and operating under the ministry of FE&PT. The entity manages an endowment fund of about 7 billion Pak Rs, with a share of 80% allocated to scholarships, 10% in reinvestment and 10% for administrative costs. Currently, PEEF awards 10,000 scholarships annually across various disciplines and skill-based training programs, ensuring inclusivity and access to quality education. Among the categories, Agriculture & Climate Change provide specialized training in sustainable agriculture, climate resilience, and modern farming techniques.

Within this framework, PEEF has carried out in 2024 a series of trainings, mainly focusing on youth, involving the Universities across Pakistan. MNFS&R will coordinate with PEEF a series of activities, intended to be better structured and harmonized with the existing and projected scenario of Human Resources development for the Olive Sector.

Master's Programs in Olive-related fields

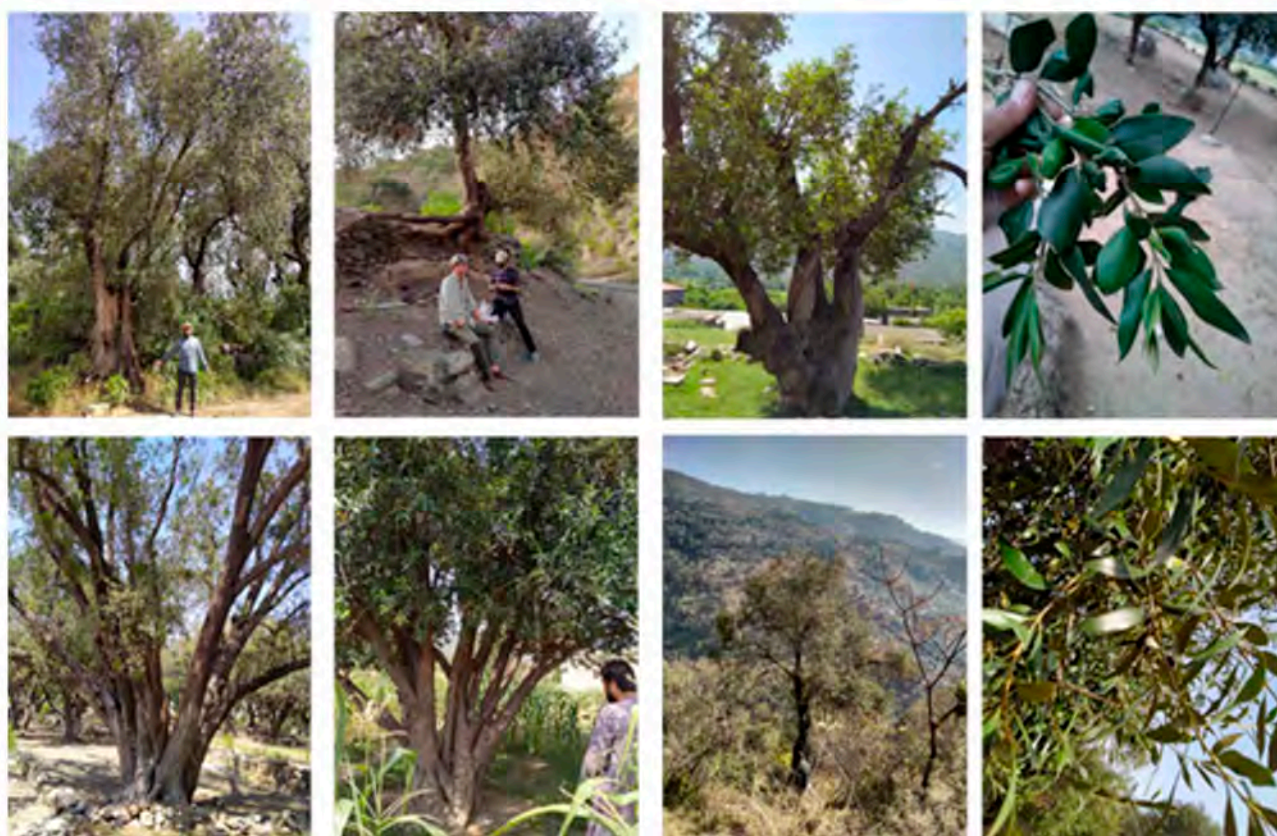
Besides all the activities of capacity building that will be imparted in the field by the experts from CIHEAM Bari, OCP II will provide two master's programs for two technicians, of two years duration, in olive-related fields in Italy, with the following details:

Content: comprehensive and in-depth training and know-how in various aspects related to olive cultivation, management, and olive value chain. The programs will be tailored to ensure that participants acquire theoretical knowledge and gain practical skills and experience.

Objective: to create a pool of skilled human resources with the necessary olive cultivation knowledge and expertise. These officers will contribute significantly to the development and advancement of Pakistan's olive value chain.

11.7 Characterization of Wild Olive Tree

In Pakistan, three different species of wild olive trees are found: *Olea europaea subspecies cuspidata*, *Olea ferruginea*, and *Olea grandiflora* (to be verified). They have a life span of 900 to 1000 years. In the Indo-Pak sub-continent, *Olea cuspidata* is found throughout the northwest Himalayas and other adjacent hills; in the community is referred to as Zytoon in Urdu, Showan in Pushtu, Khat in Brahui, and Kow in Punjabi, Sindhi and Saraiki.



According to a survey conducted by the PakOlive project,²⁰ there are more than 44.48 million trees of wild olive in Pakistan; province-wise details given in the following Table 7 and Figure 8.

Table 7 - Estimated number of wild olive trees in Pakistan

Location	No. of trees (in Million)
Khyber Pakhtunkhwa	31.48
Abbotabad	2.50
Haripur	2.30
Mansehra	1.08
Buner	3.60
Shangla	0.75
Swat	2.25
Dir	2.45
Hangu	1.50
Chirat	1.75
Nizam Pur	0.50
Nowshera	0.90
Mardan	0.65
Batagram	4.00
Kohistan	3.50
Malakand	1.25
Merged Districts (Ex-FATA)	2.50
Potohar	5.00
Balochistan	8.00
Total	44.48

²⁰Dr. Azmat Awan, personal communication

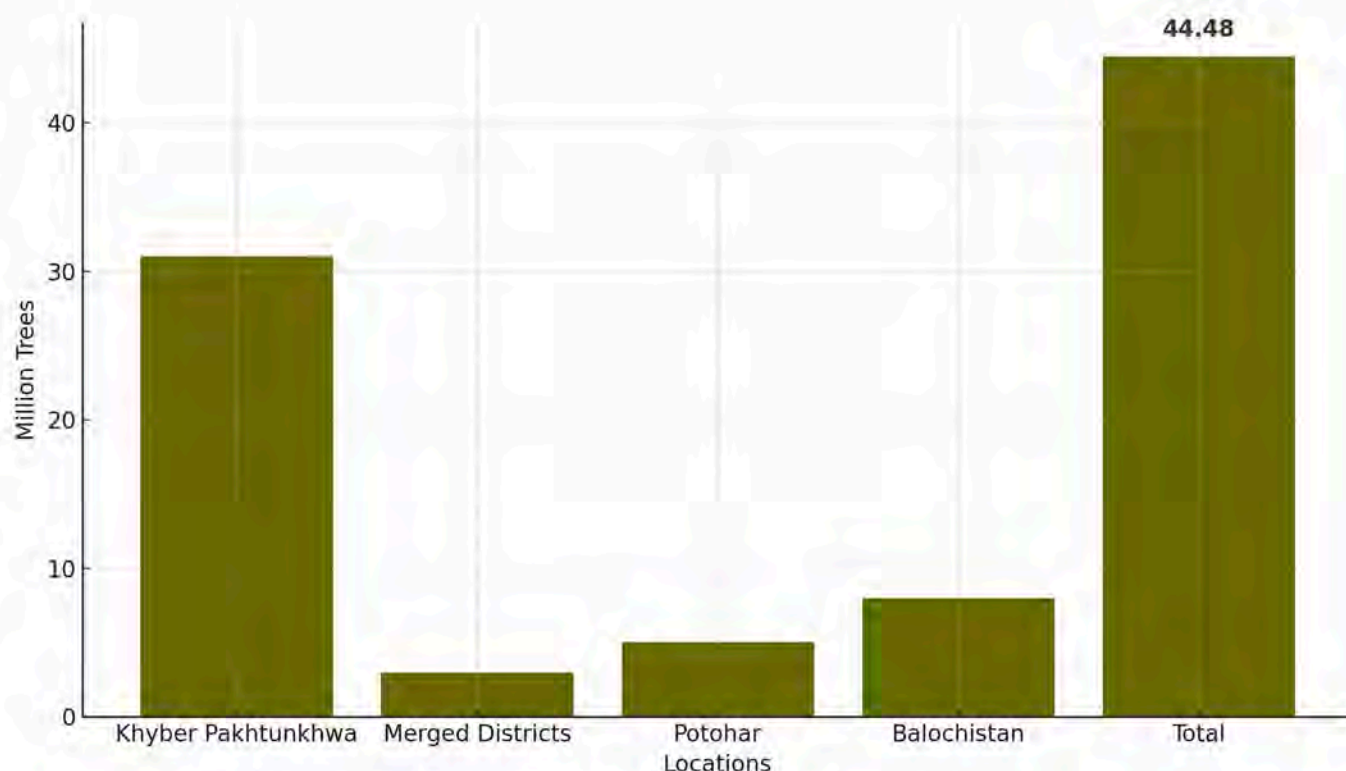


Figure 8 - Province wise estimated number of wild olive trees

The large presence of the wild olive tree, spanning from Khyber Pakhtunkhwa, Merged Districts (Ex-FATA), Potohar, Azad Jammu & Kashmir, Kirthar range in Sindh and Northern Balochistan, indicates that the agro-climatic conditions are favorable for olive cultivation.

In addition, an Earth Observation (EO) activity has been conducted by the OliveCulture Project creating a thematic spatial database recording the presence of cultivated olive groves and wild olive agglomerates throughout the territory.

Forests

The wild olives are an integral part of the forests, therefore they can't be disjointed when their status and potential are being analyzed. Forests have been playing a very important role in human civilization for a number of their products. These include timber, fuel, fruits, food, shelter, medicine, and even defense.

In Pakistan, the percentage of forest area was reported at 4.78% in 2021, according to the World Bank collection of development indicators, compiled from officially recognized sources. However, the forest coverage is always disputed and different surveys and departments show different figures: according to FAO, the area is 2.2%; the Pakistan Forest Institute has estimated it at 5.1%; a survey prepared in 2017 by the Red Plus Program put the forest covers at 5.7% of the area. According to this survey, the Azad Jammu and Kashmir have 36.9% covered area, the highest one, followed by the Capital Territory, Islamabad with 20.3%, and the Merged Districts have 19.5%.

According to a report from the World Wild Fund (WWF), Pakistan has lost 43,000 hectares of forest area from 2000 to 2010. The trend of deforestation is confirmed by the survey depicted in Figure 9.

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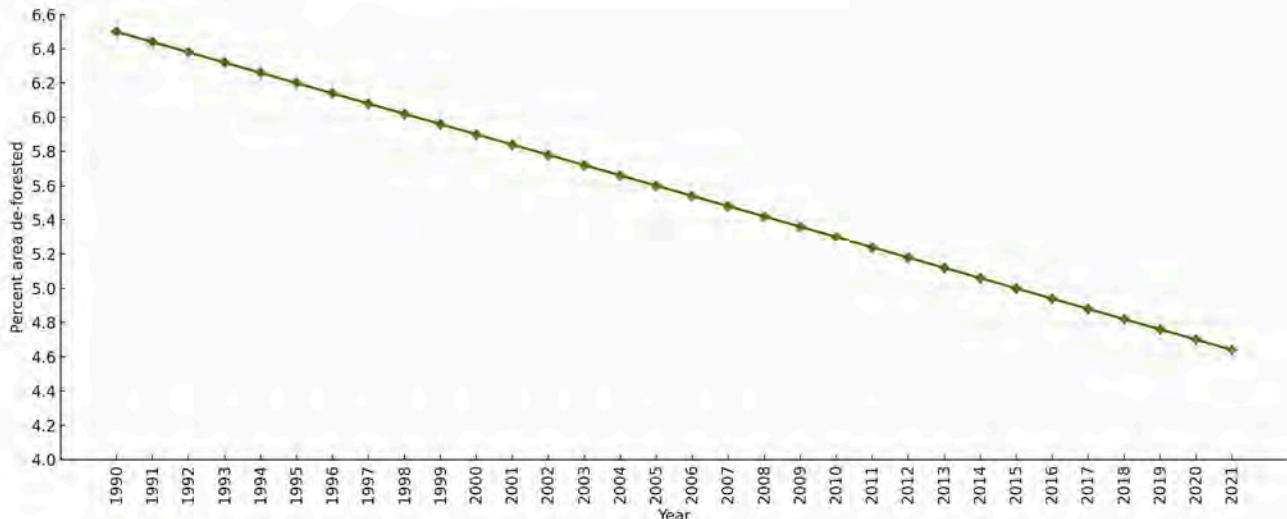


Figure 9 - Trends in de-forestation since 1990 in Pakistan.

<https://en.wikipedia.org/wiki/Forestry>

In its latest research titled "Challenges and Opportunities of The Billion Tree Tsunami Project (TBTP)", PIDE stated that almost 27,000 hectares of forest are lost, of which 50% is used for cooking and heating in households that lack access to gas.

To invert this alarming trend, the Pakistan Forest Policy is recommending the involvement of local communities in the implementation of forests and protected areas, natural habitats, and green areas for the restoration of ecological functions, protected and sustainable management of mangroves and riverine forests, and maximizing the economic benefits while meeting Pakistan's obligations to International agreements related to forests. The PFI also specifies that 33% of the forest area is owned by the Government while 67% by individuals, communities, corporations, and other entities.

Valorization of Wild Olives

The following approach is envisioned:

- i. Preserve and grow wild olive forest as a tree
- ii. Utilize the wild olive tree as a source of genetic diversity
- iii. Utilization of the fruits for oil extraction
- iv. Grafting the wild tree with cultivated varieties

Preserve and grow wild olive forest as a tree

The importance of wild olives is very significant not only in Pakistan but worldwide as well. These wild olives are not only combating the impact of climate change, mitigating floods, regulating weather, and controlling soil erosion, but they constitute an important biodiversity enrichment and source of useful genetic traits for various characters.

However, they are under continuous threat, as in the area of Koh-i-Sulaiman range in Balochistan and Khyber Pakhtunkhwa, where people are dependent on livestock for their daily bread. Although this region is located in the monsoon range, it receives lesser rains, and a shortage of grass and other herbaceous plants happens in and after November, so, people cut olive trees as fodder for their animals. Since olive is an evergreen tree, it does not dry in winter. Moreover, the wood is strong, hard, durable heavy, and resistant to termites and wood borers, and due to this quality people use it to build their huts, handles of their tools, as well as fuel. The shepherds who go to mountains to graze their animals use olive wood to burn and keep themselves warm. This fire can, sometimes, spread, causing harm to olive trees. Overall, though the elders do commit not to cut forests, the economic pressure has left the marginalized communities with no other options but to cut and stock the wild olive wood for use as cooking fuel.

So, there is a pressing need to preserve and conserve natural olive forests. The most significant surviving olive forests are those under the control of the government and the forest departments (33%). The remaining forest (67%) is under the resource-poor farmers who have no alternative source for cooking fuel or heating. Pastures near forests are also the only suitable places to graze their livestock where wild olives are used as fodder. Keeping in view the importance of these wild olives, there is a need to protect them; the following approaches may be adopted:

a) Conservation Areas and Reserves

- Establish protected areas or reserves where wild olive trees grow naturally,
- Monitor and manage these sites to prevent habitat destruction, illegal logging, or other threats.

b) Seed Collection and Storage

- Collect seeds from wild olives across different regions of the country,
- Sorting of seeds in seed/gene banks or germplasm repositories to maintain genetic diversity,
- Regularly assess the seed viability and germination rates.

c) Ex-Situ Conservation

- Establish situ collection with living wild olive specimens,
- Propagate wild olives through vegetative methods (grafting, cutting) to maintain their genetic diversity,
- Encourage agroforestry practices that integrate wild olives into existing landscaping.

d) Research and Documentation

- Conduct genetic studies to understand the diversity and divergence between cultivated and wild olives,
- Document the distribution, ecology, and threats faced by the wild olive population.

e) Pest and Disease Management

- Monitor vigilantly the wild olive trees for pests and diseases,
- Implement integrated pest management techniques to minimize damage.

f) Community Involvement

- Strongly collaborate with local communities, researchers, and policymakers to raise awareness about wild olives conservation.
- Recognition of community rights and title ship to land as a sustainable way to reduce deforestation and forest degradation in the long term.

- Engagement of local communities in the implementation and ongoing management of forest restoration and stewardship.
- Compensation for labor, creation of short-and long-term income-generating activities, including infrastructure investments that would facilitate sustainable livelihoods.
- Encourage sustainable harvesting practices
- Participation in national and international processes to improve the social, cultural, economic, and environmental conditions of local populations.

Source of Genetic Diversity

The wild progenitors of any crop or tree species are the known source of several good and important characters due to their wide range of genetic diversity, as the sub-species of *Olea europaea* has been derived from the wild species "*Olea. sylvestris*".

These include potential new sources; genes for drought and other stress tolerances (heat, salt, etc); disease resistance, and Insect-pest resistance

Besides, these wild olives are useful in combating the impact of climate change; mitigating floods; regulating weather, and controlling soil erosion

A Research Project has been implemented under the OliveCulture Project "Genetic diversity in wild olive germplasm across Pakistan using genotype by sequencing technique", conducted by the Department of Agriculture, Hazara University, Mansehra, CIHEAM Bari, and the University of Bari, Aldo Moro. The objective was to assess the diversity and divergence of Pakistani wild olive germplasm based on 150 samples in comparison with worldwide GBS collection data already available at the University of Bari Aldo Moro.

The methodology consisted of collecting wild olive samples from diverse ecological zones of Pakistan, along with the collection of field data, from which to extract DNA, acquire genomic analyses of the 150 samples in comparison with the worldwide diversity attempting to explore genes under selection, domestication process and potential origin of the cultivated olive, through comparison with the worldwide representative samples.

The sample collection has been completed, and the genomic analysis is under process. Overall, the activity will allow:

- Generating information on the diversity in olive germplasm cultivated over the country, revealing the importance of diseases, insects, and orchard management,
- Understanding the potential of wild olives, and identifying their economic prospects,
- Comprehension of the origin of olive about worldwide known diversity,
- Contributing to the knowledge in conservation and exploitation of wild olive diversity.
- Publication of the results.
- Strengthened in human resources and capacity building the Hazara University.

Utilization of Wild Fruits for Oil Extraction

The fruit can be edible. Regarding oil production, the interest of the consumers has mainly developed around the concept that being "wild" is organic, uncontaminated, and therefore healthier. This has created a true "mania" towards its value, which has raised sometime the price of the product higher than the extra virgin oil! Although the presence of the product is negligible in the market, the trend is noticeable.

Moreover, there is an increased attitude and very serious misleading commercial practice of selling the bottles as “Extra Virgin Wild Olive” which is a violation of the regulations defining the Olive Oils.

Some local organizations and individuals are very active and disseminated in the provinces in supplying the product. They are characterized by their enthusiasm, entrepreneurship, and ability to sell their wild olive at high prices despite a lack of specific equipment for the processing.

The OliveCulture Project has carefully examined the status and the potential of wild olive as a source of edible oil, from studies and reports. Among these, it is worth mentioning:

- A study conducted in 2013 by the Department of Agricultural and Food Sciences, Alma Mater Studiorum, University of Bologna, U.O.S. Cesena (Italy), in collaboration with the Institute of Biochemistry and Biotechnology and the Department of Botany of Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (Pakistan).

The research aimed to compare the quality parameters of oils obtained by simple mechanical extraction of drupes of the species *Olea ferruginea* Royle, from three different locations of Pakistan, with those related to an oil produced by *Olea europaea* trees, grown on site. All samples were processed by a pilot plant laboratory present at the Arid University.

The results of the trial were presented in an article published in 2013 in a Special issue “Olive Oil – Quality, Composition, and Health Benefits” of the journal “Food Research International” (Parvez Anwar et al., 2013) and published as “Characterization of olive oils obtained from wild olive trees (*Olea ferruginea* Royle) in Pakistan”.

- The publication of Dr. Fayaz Alam and Shabir Soomro edited in 2023 in Urdu, “*Olive Cultivation in Pakistan: history, experience, and Prospects*” mentions the PC-I “Rapid Conversion of Wild Olives into Oil Bearing Species” of the Pakistan Oilseed Development Board (PODB), Ministry of Food, Agriculture, and Livestock (MINFAL), June 2001.

The book describes extensively the pioneering experience done by the community of Talash, Lower Dir, KP, associated as “Olive Growers Association” chaired by Mr. Muhammad Israr, in grafting more than 90,000 wild olive trees, with 16 cultivated varieties. The work started in 2005 under the guidance of the PODB, which then provided training to 25 people in the Malakand Division in 2009, in collaboration with ISCOS (Italian NGO).

It is reported that the Association undertook the expansion of the grafting as a mission and the technique was improved all along. The journey was also disseminated of bad experiences that were overcome through the support and recognition received from local authorities and donors, which ultimately was conducive to establishing a modern olive processing plant. This has allowed an improvement in the quality of the olive oil sold, which fetches good prices in a dedicated market of loyal customers. It is worth mentioning the guidance and advice of Mr. Israr, which is the following: “The grafting is a successful practice, but it must be kept in mind that this is laborious and tireless work. When you graft a tree, it is no longer a wild tree. It needs to be cared for just like any other fruit tree. Water and fertilizer have to be taken care of, and also pests and diseases have to be avoided. Although the olive tree requires less water, it is still needed”.

- The Report of the OCP dated March 2024 "*Scientific opinion about the characteristics of olive oil obtained from wild olive species grown in Pakistan* " provides a preliminary evaluation of the safety of the olive oil extracted from wild species grown in Pakistan intended for human consumption.

The Author (Dr. Antonio Trani, CIHEAM Bari) made the following Conclusions and Recommendations, based on the above-mentioned study of 2013 and his personal evaluation:

Conclusions:

- a) To the best of our knowledge there are no adverse reasons for the human consumption of the oil extracted from the wild olive tree grown in Pakistan.
- b) Our results, together with the data obtained from the scientific literature, highlight a similar composition of this oil to that obtained from European cultivated varieties concerning the fatty acid composition, sterols, and biophenols.
- c) The results of biophenols composition obtained by LC/MS, show no threatening substances for human health; on the contrary, they highlight the presence of a new compound characterized by positive biological effects.
- d) However, it must be pointed out that for peculiar characteristics of the species (probably *Olea europea* sub specie *Cuspidate*), because of the concentration of linolenic, apparent β -sitosterol, and campesterol, this oil in EU countries will not be considered a pure olive oil and it cannot be commercialized as olive oil, according to the IOC trade standards.
- e) Moreover, the organoleptic attributes analyzed by a panel of expert tasters on olive oil, according to the IOC standard method, were not recognized in the characteristics of fruity flavors. Whereas the sample was not found rancid and had no typical defects, overall, the oil was not considered an olive oil.

Recommendations:

- a) The quality parameters and oil extraction are affected by agronomic, pedoclimatic, and technological factors and, therefore can be improved by changing the agronomic practices, the harvest time, the extraction technology, and the storage conditions, as occur for the cultivated olive. The impact of these practices requires future research activities.
- b) Other questions that require future research activities include:
 - why does this oil has a so different flavor to the cultivated olive oil?
 - is it possible to change the flavor characteristics?
- c) Considering the opportunity for Pakistan to foster and invest in wild oil production, investigations shall ascertain the species of "wild olive" that are present in the country. The samples of fruits produced by each identified species shall be analyzed for the fatty acid composition, sterols, and secondary metabolites, to ascertain the food safety for human consumption."

Considering all the above, it is suggested that in the short-medium terms following steps may be undertaken on the utilization of oil derived from fruits of the wild olive trees²¹

- 1) Upon the results obtained from the activity done by the OCP with the University of Manshera and the map of the species identified, proceed to the collection of fruits, and perform the full analyses of the oil, obtained in full compliance with the HACCP.

²¹Note: the oil derived from the grafted plants from known cultivars shall be considered as any other edible oil from olive plantations.

- 2) It will be essential to have the right equipment in place for the analyses. To this end, it is essential to investigate the availability of the mills for processing the wild olive, for which two alternatives may be envisioned:
- a) To adapt the mills utilized for the cultivated olive. It can be done for some models already established in Pakistan, following the instructions of the manufacturer. They require anyway new grids. Also, the process requires particular care, such as processing at higher temperatures for the extraction.
 - b) Procure specific mills. Some prototypes have been developed locally, however, the criteria for the optimal processing of olive are not taken care of, and therefore the oil extracted will not be of the required quality.
- 3) On the grounds of the limitations that are insurmountable to attain the degree of “olive oil” for a wild olive tree, it looks more appropriate and convenient to undertake other avenues to valorize the product **“Wild Olive Oil”**. Due to its peculiar characteristics, it shall be explored the opportunity to valorize the wild oil under the **“Geographical Indications”** framework, for which it would be eligible based on the following considerations:
- a) Geographical Indications (GIs) identify a good as originating in the territory, or a region or locality in that territory, where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographic origin. These products are a heritage of a country and they have their importance dug deep into the social fabric. Agricultural products often have qualities that derive from their place of production and are influenced by specific local factors, such as climate and soil.
 - b) All GIs are covered by Article 22 of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement. The commercial value of GIs is also related to the Consumer's confidence in the origin, which becomes synonymous with quality and special characteristics. This allows the continuation of traditional ways of production and allows the localities and communities to identify products that are collectively produced. GIs remain meaningful in enabling people to translate their long-standing collective and patrimonial knowledge into livelihood and income. GIs can also be identified as the “The rights of the poor and the deprived”.
 - c) There is strong commercial potential for goods coming from the rural SME sectors of the economy, creating a more diversified profit-oriented rural economy, and encouraging producers to sustain their livelihoods through high-quality and high-value products associated with their geographical location.
 - d) The registration of GI products in Pakistan, as per the “GI Act, 2020” and its rules, helps protect the uniqueness and reputation of the product associated with a specific geographical area, providing recognition and economic benefits to the stakeholders involved. GI Indication also provides the legal protection of products (e.g. agriculture) ultimately improving and maintaining the food security, food safety, and food quality of the products.
 - e) A “Geographical Indication Cell” was established in the Ministry of Commerce in February 2022 to facilitate the process of GI registration. The Cell is also responsible for preparing the Book of Specification (BoS) of GI Products.
 - f) So far 10 GIs have been registered under the above-mentioned authority, viz: Basmati rice, Hyderabad Bangles, Khewra Pink Rock Salt, Sargodha Kinnnow, Sindhri Mango, Begum Jangi Dates, Mouzawati Dates, Aseel Dates, Dhakki Dates. Interestingly to mention that the registrants of the Dates are the Directorates of Agriculture Research of the provinces.

4) Based on the above, the interested farmers and retailers that are already dealing with wild oil would undertake, in close networking with the relevant Directorates and the initiatives supporting the olive development, including OliveCulture II, an evaluation of the opportunity to enter into the GI framework.

5) Meanwhile, strict action would be taken by the Food Authorities and relevant quarters to control and regulate the Wild Olive Oil sold in the market on the grounds of existing norms.

Grafting the wild tree with cultivated varieties

Grafting is a practice that builds upon the advantages of a native plant, with the leading principle that “When you graft a tree, it is no longer a wild tree” and therefore the plant needs the same care of modern cultivation.

Moreover, the large experience acquired in the country on this practice, which in principle looks easy and accessible to all, but has recorded serious failures, has proven that very often the lack of ownership of the land in which wild trees are being grafted is leading to scarce or complete absence of maintenance and care specially during the initial 2-3 years. Therefore, the mechanism for ownership must be settled before starting any grafting operation.

The current wider intervention to develop the grafting of wild olives is being taken care of by the PakOlive project, which has targeted to bring 5 million wild olive trees into productive fruit-bearing from the fiscal year 2022-2023 to the end of the project, originally planned for 2023 -2024, which has been extended. With the following provincial distribution of the grafting: Balochistan 1,750,000; KP 2,000,000; Punjab and Sindh 500,000 each, and AJK 250,000.

Other minor interventions are underway from the provincial departments, Forestry and Agriculture, such as the scheme in Bajaur under the “Climate Resilience through Horticultural Interventions Programme” which commenced from the hilly Salarzai tehsil. Other local organizations and individuals are very active and disseminated in the provinces, characterized by their enthusiasm, entrepreneurship, and ability. However, the overall system has room for improvement in both technical and commercial aspects.

Growth of Olive Sector

Pakistan National Olive Value Chain Policy

*Along with
The Implementation Strategy and
Road Map for 2024 - 2030*

12 Growth of the Olive Sector

12.1 The growth of the Olive Sector will depend on internal and external factors:

Key Internal Factors

Adoption of appropriate policy measures, including constitution of entities managed by the stakeholders that will oversee the Sector; continued support from Public Sector; full involvement of Private Sector; provision of financial services; availability of skilled human resources; adoption of appropriate technologies and innovations; implementation of flexible production systems; engagement of Women and Youth in value addition; strict observance of quality processing; branding, promotion, marketing, and export.

Key External Factors

Global market dynamics (supply, demand, trade, etc.); WTO regulations, bilateral and regional trade agreements.

12.2 Expected/estimated Olive targets by the year 2024-2030

- Expand the olive cultivated area from the present 46,264 acres to 100,000 acres, focusing on suitable marginal lands.
- Increasing the present olive plantation from 4,230,698 to 10,034,186 million trees (based on a density of 108 plants/acres on new plantations).
- Reaching the estimated production of 25,146 tons of olive fruits, out of which will be extracted 2,419 tons of oil and processed 949 tons of table olive
- The productive area will be 95% of 46,264 acres, equivalent to 37,000 acres, with a population of approximately 4 million adult olive trees. Their average yield per tree will be raised from 1.6 kg of olive fruit/tree to 6.2 kg of olive fruit/tree.
- At the current international market price (8,000 US\$/Ton, the EVOO), the production could generate a gross revenue, for the year 2030, of 19,4 million US\$ from the sale of the oil and 1,5 million US\$ from the table olive.
- Besides the cost of production, processing, and marketing to be met, the investment shall consider additional olive mills /processing plants, as the daily potential crushing capacity of the current fleet (39 units) of 108 tons would require 192 days of processing, i.e., about 6.5 months. Therefore, the working capacity must be doubled, at least. This would be done by utilizing olive mills with an hourly capacity of 600kg/fruits (minimal) to 1 ton, crashing daily from 7.2 tons/mill to 12 tons/mill. The additional fleet needed would, therefore, about 15 new olive mills. At the estimated average cost of about 300,000 US Dollar/mill, the investment required would be around 4.5 million US\$.

12.3 The Road Map, which is suggested for the period till the Year 2030 considering the envisioned strategic objectives, needs/gaps, and recommended actions, has been formulated on the grounds of the following principles:

- Phasing objectives in short, medium, and long-term.
- Defining stakeholders' roles and responsibilities.
- Suggesting budgeted investment mechanisms and financial incentives
- Monitoring the policy effectiveness, allowing for adaptive measures.

However, it must be stressed that the limiting factor in the process is the absence of reliable information from central and provincial public institutions about their plans and willingness for investments in the olive sector.

Therefore, the Road Map is the result of the technical outcomes of the proposed policy document and of ongoing and approved initiatives, along with suggestions that need political and decision-making involvement.

Given this, the Policy may be approved for its values; then, for its effective implementation, the Ministry of NFS&R shall develop, in consultation with the provinces and relevant stakeholders, the Action Plan, committing specific responsibilities with quantifiable targets to be achieved within the given timeframe.

12.4 Phase-wise Road Map (financial years)

Phase 1: Short-term (July 2024- June 2025)

- Implementing the ongoing projects.
- Approval and launching the NOVCP.
- Develop the Action Plan for Policy implementation.
- Planning & Budgeting for new initiatives under PSDP and provincial plans.

Phase 2: Medium-term (July 2025- June 2027)

- Implementing ongoing and new projects.
- Full adoption of the NOVCP.
- Policy adjustments based on monitoring.
- POOC is fully functional.
- Consortium/Association for PakOlive branding is fully functional.
- PPP arrangements in the management of the olive mills are being widely adopted.
- HACCP certification acquired by best olive mills.
- Initial certification and branding programs.
- Progressive involvement of the industry.
- GAP progressively adopted.

Phase 3: Long-term (July 2027- June 2030)

- Policy adjustments based on monitoring
- Significant increase of yields of olive trees and enhancement of the quality of olive oil and olive products.
- Significant expansion of the olive cultivated area and increase of the production, progressively approaching the import substitution.
- Positioning the PakOlive as the premium olive oil brand in the national market and progressively entering export channels and international market access.
- Establishing Pakistan as a key regional exporter.

Short-term and medium-term phases

The short-term phase (July 2024 – June 2025) substantially focuses on the approval of the Policy, then on working out, between the MNFS&R and the provinces, the Implementation Plan regarding the new initiatives to be financed. Also, the focus is on the ongoing implementation of the initiatives that have an approved Work Plan.

The medium-term phase (2025-2027) represents the core of the NOVCP, where the implementation of the agreed steps shall be implemented in full.

Regarding the implementation of the ongoing projects in both phases, the situation will be as follows:

A. Federal level

I. the PSDP project “*PakOlive*” will terminate in June 2025. Main components: provision of inputs (seedlings and equipment for drip irrigation) at subsidized rates; olive mills on share cost; training.

II. The Italian government-financed “*OliveCulture II/OCP II*” will terminate by mid-August 2027. Budget of 3 million Euro, equivalent to Rs. 870,000,000. Main components: provision of services of Italian technical assistance, equipment, capacity building.

III. The Italian government financed “*Professional Capacity Building and Extension in Agriculture (TVET National Reform Program)*”, starting presumably within the first semester of the budgetary year 2025-2026, will last till 2029-2030. The budget allocated for Olive activities is estimated at 50% of the total cost of Euro 20 million.

B. Provincial level (Annual Development Plans/ADP)

Balochistan

Promotion & Expansion of Olive Cultivation in Balochistan (2024 -2027) -Cost 1 billion Rs. Components: strengthening the olive laboratory in Quetta; establishment of Germplasm Unit/Collection Blocks on 200 acres; establishment of 24 olive nurseries; olive cultivation on about 5,200 acres; training, field demonstration; procurement of agricultural machinery, equipment, etc

Khyber Pakhtunkhwa

i. *Promotion of Olive in Merged Areas (2022-2026)* - Cost 2,000 million Rs. Components: establishment of 14,020 acres of olive orchards (acres 5,000 in 24-25 and 25-26 -98,000 plants); wild olive grafting: n.1,300,000 plants (100,000 in 24-25); training; n.3 olive mills (in 24-25)

ii. *Promotion of Olive farming in Potential Districts of KP (2024-2027)* - Cost 300 million Rs. Components: establishment of new orchards: 4000 acres; wild olive grafting n. 192,000 plants; n. 1 olive mill.

12.2.2 On the grounds of the above endeavors, the implementation Road Maps have been elaborated into the Consolidated, Provincial, and Federal Annexes (6A-6B-6C-6D-6E-6F), considering the following criteria:

For the federal/central level projects, the resources have been allocated on the following basis:

I. Only the specific costs allocated for the relevant activity have been considered, i.e., seedlings, irrigation, training, etc., and not the operational costs.

II. The quantity and cost of the seedlings that are subsidized by the PakOlive project have been shared based on the 2023-2024 requests from the farmers:

- a. Balochistan: 50%
- b. KP: 15%
- c. Punjab: 15%
- d. Sindh, AJK, Gilgit Baltistan and ICT: 20%

III. The input in drip irrigation subsidized by the PakOlive project has been allocated, along with the cost, based on the 2023 2024 requests from the farmers:

- a. Balochistan: 60%
- b. KP: 15%
- c. Punjab: 15%
- d. Sindh, AJK, Gilgit Baltistan and ICT: 10%

IV. The inputs from OliveCulture II have been allocated in line with the above distribution of the PakOlive project, whereas they are shown at the Federal Level when they are not divisible.

V. At the provincial level, the costs of the inputs have been estimated similarly to federal, but without a cost-sharing basis, a formula that has generally not been adopted.

VI. The distribution of resources (technical and financial) among the provinces from the TVET has been earmarked at the approval stage. They have been accordingly allocated.

12.2.3 Some ongoing endeavors financed by donors are allocating or will likely allocate resources to olive activities, although originally not specifically earmarked, due to the interest of authorities and farmers toward the crop. Their cost is unknown, and they are listed for information.

Balochistan

Revival of Balochistan Water Resources Programme (RBWRP) – EU Funding

Components for olive: training olive harvesting, handling, and packaging best practices; provision of TA and capacity building in olive pruning, harvesting, nursery establishment, product processing, certification, and organic farming; water management best practices.

Punjab

Punjab Resilient and Inclusive Agriculture Transformation (PRIAT) 2022–2027

Potential components for olive: promotion of Climate Smart High-Value production and value addition; installation of high-efficiency irrigation systems (HEIS); installation of solar systems for operating HEIS; provision of certified climate-smart orchard plants and seeds/seedlings; provision of value-addition equipment such as olive extraction units, tanks, filtering, and bottling on 70% subsidy to groups of farmers; provision of farm machinery 70% subsidy to groups of farmers such as tractors, olive harvesting, sprayers, etc.

The Long-term phase (2027-2030)

- Policy adjustments based on monitoring
- Significant increase of yields of olive trees and enhancement of the quality of olive oil and olive products.
- Significant expansion of the olive cultivated area and increase of the production, progressively approaching the import substitution,
- Positioning the PakOlive as the premium olive oil brand in the national market and progressively entering export channels and international market access.
- Establishing Pakistan as a key regional exporter

Beyond 2030

Consolidation and progressive qualification of stakeholders, with increased marketing capacity to the benefit of consumers.

12.2.4 From the provincial Road Maps that will help in preparing the Action Plan, the following key takeaways may be considered on a priority basis:

I. The minimal suggested target of 100,000 acres of cultivated olive orchards by the year 2030 will be achieved by investing in 53,736 acres of land, mainly waste and marginal. The existing cultivated area of 46,264 acres will be more than doubled.

As well as the olive tree population will be raised from 4,230,698 to the target of 10,034,186 by planting 5.8 million olive seedlings (5,803,488), which should be from certified nurseries.

II. If the plantation will continue to be subsidized at the current cost/share basis of 67% adopted by the PSDP Pakolive project, the overall estimated financial support, based on the current cost of Rs. 280 per plant, will be Rs. 639,179,705. The criteria may be revised in favor of the smallholders and marginal farmers.

III. Irrigation is supporting the olive plants in obtaining optimal yields when the natural conditions are not providing enough water (rainfall). In Pakistan, it is generally required, but it must be kept in mind that irrigation is costly and often not feasible. Moreover, the promotion of olive for wastelands, marginal lands, and poverty alleviation requires that the value of olive shall not be considered only by the yields, but in its entirety.

The support provided so far by the Public Sector has been limited in the olive projects, but provincial support in drip irrigation is often provided to the farms on a cost/share basis.

For the olive value chain under consideration, it has been assumed to support half of the area to be planted with drip irrigation by adopting the same criterion of the PSDP Pakolive project of providing a subsidy of 67%. Also, the cost per acre of Rs 225,000 of the Pakolive project has been taken as the reference.

On the above grounds, to provide financial support to 26,868 acres, the cost of the drip irrigation equipment and installation will be Rs. 3,929,819,375

IV The provision of capacity building specifically for olive from the “TVET” project has been included in the Road Maps of the relevant provinces. During the preparation of the Action Plan, this aspect must be considered; whenever benefiting from the ongoing OliveCulture II and TVET endeavors, all the requirements of capacity building will be widely covered.

V. It is recalled that the Road Maps encompass information and data elaborated from the ongoing endeavors and assumptions to be utilized during the preparation of the Action Plan. They include the main aspects that are important at the planning stage, including: Strategic Objective; Action; Description of the Action; Leading Entity; Partner Entity; Budget/Subvention; Beneficiaries; and distribution of the inputs in the financial years from 2024-2025 to 2029-2030.

Annex 1

Spain and Italy outline of Olive Sectors

Pakistan National Olive Value Chain Policy

Along with

**The Implementation Strategy and
Road Map for 2024 - 2030**

Outlines of Spain's olive sector

Context

Spain is the world's leading country for the production, sale, and export of olive oil (42% of global olive oil) with a production of about 1.6 million tons per year (in recent seasons), 60% of which is destined for the export market, but the olive sector is also characterized by strong internal consumption.

However, variations can be significant from year to year (up to 100%) depending mainly on climatic conditions, which determine the fluctuation of prices on the global market, and ultimately for the growers, low production is partly compensated by higher prices. Under these circumstances, Spain also imports oil to help meet bottlers'/consumers' demand.

Olives represent one of the most dynamic sectors and a key driver in the Spanish agri-food system and economy, thanks to tradition and the vast fields dedicated to this purpose, the largest olive growing area on the planet: about 6 million acres and 340 million olive trees.

The region of Andalusia (especially Jaén and Córdoba) is the heart of production, where extensive olive orchards grow alongside holm and cork oaks on broad plains or alongside green pine forests on mountain slopes, creating a landscape of outstanding beauty.

Olive Oil Value Chain

The following features characterize the multiple stages determining the success of the olive sector in Spain:

- The Mediterranean climatic conditions, with hot summers and mild winters, coupled with the land availability, have encouraged the expansion of olive cultivation. On these grounds, the use of modern irrigation, mechanized harvesting, and genetic improvements in olive trees through investment in R&D were conducive to high yields.
- A key factor of success is that the Government and private sector initiatives promote Spanish olive oil as a premium product. The Quality Certification & Branding through multiple Protected Designation of Origin (PDO) labels ensure quality and diversification.
- Olive cultivation is characterized by a predominance of small-scale farms, with an average farm size of approximately 17 acres. Notably, 52% of these farms are smaller than 12 acres, while only 16% exceed 50 acres. But cooperatives play a pivotal role at all levels.
- Approximately 35% of agrifood cooperatives are involved in olive oil production, with a share of about 65% on olive production. They are instrumental in the production, as individual member farmers, in the processing, with their owned olive mills (52% of the country), as well as in the packaging and distribution, where often they handle directly the sale.
- The private industry plays a crucial role, complementing the cooperative system and contributing to innovation, global market expansion, and overall competitiveness: (a) it owns olive groves or contracts with independent farmers, securing often long-term agreements with producers to guarantee supply, (b) is investing in modern

agricultural techniques to improve yields and olive quality, (c) is operating large, high-tech olive oil mills and refineries, (d) is investing in certification processes to meet global standards such as PDO, (d) unlike cooperatives, which often focus on bulk sales, the private companies such as Borges and Carbonell excel at branding as a high-value product worldwide.

- The diversified cultivation is characterized by: (a) traditional, intensive, and super-intensive farming methods, (b) adoption of few popular varieties/cultivars (Picual, Arbequina, and Hojiblanca), (c) availability of over 300 varieties of olives naturally adapted to diverse local conditions, particularly appreciated by niche and gourmet markets.
- In packaging, (a) adoption of state-of-the-art bottling and branding facilities, (b) branding efforts for direct sales under Spanish labels in premium markets, (c) lower-quality oil undergoes refining.
- In marketing, leveraging digital marketing & e-commerce: (a) use of online platforms like Amazon, Alibaba, and gourmet stores are being utilized for direct consumer sales, (b) use of social media campaigns and influencers marketing, promoting Spanish olive oil as a premium lifestyle product, (c) exports bulk olive oil to high-end markets such as Italy, the U.S., Japan, China, and the Middle East. (d) the expansion into new markets such India, Brazil, South Korea, and Southeast Asia, where olive oil consumption is growing, is supported by educational campaigns about the health benefits of olive oil to shift consumer preferences, (e) growth in flavoured olive oils (garlic, lemon, truffle) for gourmet consumers, (f) high-phenolic olive oils marketed as nutraceuticals with proven health benefits (anti-inflammatory, heart health), and (g) leveraging EU free trade agreements to secure better market access in Asia, Latin America, and Africa.

Regarding the **cultivation**, the following aspects are worth mentioning:

- Due to climate change and periodic droughts, Spain is investing in drought-resistant olive varieties and drip irrigation systems.
- Expanding organic and pesticide-free olive oil, considering the demand of markets like Europe and North America.
- Increasing adoption of agroforestry (combining olive trees with other crops for soil health) and regenerative agriculture practices.
- The adoption of AI-powered sensors and drones to monitor soil health, water needs, and olive ripeness (data analytics help optimize harvest timing for better quality and yield).
- Increased adoption of more intensive farming practices through intensive (500-1250 trees/acre) and super-intensive (3,750-7,500 trees/acre) systems along with higher mechanization to enhance productivity and reduce labour costs and drip irrigation.

It is worth mentioning that these modern methods contrast with traditional systems, which typically feature widely spaced (100 trees/acre) rain-fed trees and need high investment; moreover, the lifespan of these orchards is between 12 to 20 years, whereas the traditional plantations are productive for more than a hundred years. Also, this transition towards larger, more efficient operations is altering the traditional landscape of olive cultivation in the country.

Regarding **harvesting and processing**, the following trends are worth mentioning:

- progressive introduction of mechanized harvesting.
- improvement of cold pressing & modern milling techniques.

- increasing the production of early-harvest extra virgin olive oil with a higher polyphenol content for health-conscious consumers.
- trend in early harvest oils fetching a premium price but with lower yield vs. mature harvest oils, characterized by higher yield but fetching a lower price.

Regarding **Research & Development**, the focus is to (a) enhance the efficiency of the cold extraction techniques to improve oil quality and extend shelf life, and (b) development of polyphenol-rich olive oils for the health & wellness industry.

Regarding **environmental sustainability**, the focus is on carbon-neutral production, where (a) some Spanish brands are focusing on zero-emission olive oil production to appeal to environmentally conscious consumers, and (b) the use of olive waste (pomace) for biofuel & animal feed.

Table olive

The Spanish table olive industry produced 660,000 tons in 2021/2022 and 404,000 tons in 2022/2023, exporting about 50 %, representing around 10-15% of the total value of the olive sector. Similarly to olive oil, the high variation between the different years can occur mainly due to weather conditions. Moreover, when the fruits are smaller, they are converted into oil.

The primary olive-growing regions include Andalusia, especially Seville - often called the world capital of table olives- Extremadura, and Castilla-La Mancha.

The most prominent varieties are Gordal as green olive; Manzanilla and Hojiblanca, for both table olives and olive oil, and Cacereña, used in black olive production.

The most known curing process is the Sevillana, Spanish-style green olives, using lye followed by brining. Whereas the natural fermented olives for black and green types are cured in brine.

Although the olive oil sector dominates with over € 4-5 billion in revenue annually, the table olive industry is crucial for diversification, providing stable income since table olives have higher added value per kilogram than bulk olive oil. The table olive industry provides over 20,000 direct jobs in farming, harvesting, and processing, and it indirectly supports 50,000+ jobs, including logistics, packaging, and export businesses.

Main Takeaways on Table Olive

While the olive oil industry is larger, table olives remain a key pillar of Spain's agro-farming sector. Is characterized by large-scale production, mass market, and low-cost olives

Additional features of economic value of the Spanish olive sector

International olive competitions

Spain is continuously excelling in international olive oil competitions, reinforcing its status as a global leader in the industry. It may be also be mentioned that by hosting the Headquarters of the International Olive Oil Council (IOC) in Madrid, the country enjoys strategic advantages and can benefit by collaborating more closely with the IOC on innovation and sustainability of olive production, as well as in strengthening diplomatic ties.

Pomace olive industry

The utilization of olive pomace is an integral component of the Spanish olive oil sector, adding value and reducing waste.

Firstly, used as pomace oil for food (mainly for frying), secondly as for biomass in power plants and industrial boilers, thirdly as animal feed, and fourthly for cosmetics and pharmaceuticals.

Olive tourism

Spain's olive tourism sector is flourishing, offering a diverse array of experiences across its regions. The most important are Andalusia, then Castile-La Mancha, Extremadura, Catalonia (with the Route of the Thousand-Year-Old Olive Trees), Valencia region, and Aragon. Activities include touring olive farms (on foot, bicycle, and horse) and olive oil tasting, taking advantage of the landscapes that are part of the culture, tradition, and history, as well as of the gastronomy.

Olive Carbon Credits

Spain is well committed to integrating the olive groves into the carbon credit system, thanks to its relevant industrialized method of olive cultivation, thereby enhancing the sustainability and economic viability of the sector.

It is nevertheless important to mention that due to the complexity of the system several ongoing projects are still meant to establish methodological frameworks, algorithms, and software tools, to assess the carbon balance of olive groves, facilitating their participation in voluntary carbon credit markets.

The “Go Olive Carbon Balance” is financed by municipalities, research, and farmers associations; the “Carbon Balance Project” is financed by the IOC in collaboration with the Spanish Association for Standardisation and Certification (AENOR); and the “Oliver Life Project” is financed by the EU, involving partners from Spain, Italy, and Greece, under the coordination of the University of Perugia (Italy).

Main Takeaways on the Spanish Olive Sector

Spain's leadership in olive oil and table olive export is a result of joint efforts from the Government and the private sector, its high production capacity, favourable climate, research & development, advanced agricultural technology, and strong global demand. The value chain is well-integrated, ensuring efficiency from farm to internal and international markets, for which the country is working on several strategies to maintain and expand its global leadership. These strategies focus on branding, sustainability, technology, and market diversification.

The cooperative system is integral to Spain's olive sector, dominating the production side, enhancing efficiency, ensuring product quality, and supporting rural economies. Whereas, the private industry plays a vital role in innovation, branding, quality assurance, and international market growth, driving competitiveness and profitability, ensuring Spanish that olive oil and table olive remains a global leader in both volume and prestige.

Outlines of Italy's olive sector

Context

Italy's Mediterranean climate, characterized by warm summers, mild winters, and well-drained soil, makes it perfect for olive growing. This allows the country to be the second-largest producer of olive oil globally after Spain, with an export share worldwide of 16% (2022) and key markets in the USA, Germany, Japan, and China. The global appreciation for Italian cuisine has further boosted the demand.

Olive oil contributes significantly to the Italian economy and the industry supports thousands of farmers, millers, and exporters. As of 2023, Italy's olive-growing sector encompasses approximately 619,000 farms, collectively covering about 2, 85 million acres. The cultivation is traditionally concentrated in the south and central part of Italy; the top producer regions are Puglia, alone producing around 40%, Tuscany, Calabria, Sicily, and Umbria.

Over the past two decades, Italy's olive oil production has experienced notable fluctuations, with a general downward trend, primarily attributed to climatic conditions and water availability. It is worth mentioning that there is a geographical shift in cultivation with a Northern expansion, influenced by sustainability efforts and climate change adaptations.

Italy is home to over 500 indigenous olive varieties, with distinct flavours and aromas. The most known are Frantoio & Leccino (Tuscany), Coratina (Apulia), Nocellara del Belice (Sicily), and Moraiolo (Umbria). The first three varieties have been widely introduced in Pakistan.

Italy's olive oil industry is safeguarded by PDO (Protected Designation of Origin) and PGI (Protected Geographical Indication) labels, ensuring authenticity and quality.

Olive Oil Value Chain

The main feature that characterizes the success of the Italian olive sector is that innovation and tradition are successfully blended. Ancient farming methods coexist with modern technology, such as the traditional hand-picking methods with fully mechanized harvesting, while cold-pressing techniques ensure high-quality extra virgin olive oil (EVOO).

The significant profile of the multiple stages determining the olive oil value chain include:

1. The **Farming System**, which is in evolution.

a) Traditional farming (extensive farming)

Widespread in historic olive groves, especially in Tuscany, Umbria, and Apulia. The trees are widely spaced (40-60 trees per acre), allowing them to grow large and naturally in natural rainfall "barani" conditions. Hand harvesting is preferred to preserve olive integrity. Traditional stone mills are still in use, along with modern olive mills. The challenges are represented by low yields and high labor costs.

b) Intensive farming (modern farming)

Found mainly in Apulia, Calabria, and Sicily, where olive oil is mass-produced. Higher tree density (250-400 trees per acre) with irrigation and use of mechanical harvesting. Adoption of Integrated Pest Management (IPM) to reduce chemical use. The challenges are represented by high initial investment.

c) Super-intensive farming (High-Density Groves)

Introduced in flat areas of Apulia and Sicily for large-scale production, it is characterized by very high-density trees per acre (1,000 bush or hedge-like planting, thus also known as hedge olive orchards), allowing full mechanization. Irrigation, fertilizers, and pruning are carefully managed to optimize production, resulting in high yields with lower labour costs. The challenges are represented by the short tree lifespan (15-20 years vs. 100+ years for traditional trees) and, therefore, by a high investment in plantation and mechanization.

d) **Organic & Biodynamic Farming**

The methods are becoming popular in regions like Tuscany and Umbria. They are characterized by the adoption of compost, green manure, and natural pest control, avoiding synthetic pesticides, herbicides, and fertilizers. Biodynamic farming adopts the same rules as organic farming but follows lunar cycles for planting and harvesting. The challenges are represented by lower yields and higher costs.

e) **Agroforestry & Sustainable Practices**

Consists of the adoption of several agricultural practices such as: (i) mixed farming, where olive is grown alongside grapes, wheat, or legumes, (ii) the use of cover crops, to improve soil fertility and prevent erosion, (iii) the application of Regenerative agriculture techniques (such as the minimal tillage, the carbon sequestration, etc. and (iv) use of AI and drone technology for precision irrigation and pest control.

2. The **Nursery System**

The Italian nursery sector is one of the most advanced in the world. It is characterized by producing certified olive plants that meet strict phytosanitary and genetic standards, ensuring disease-free, high-yield trees.

The sector has been a world leader in clonal selection to enhance disease resistance, productivity, and oil quality through a close partnership among the private sector, research institutions, and universities. Has set worldwide benchmarks in variety selection and sustainable propagation techniques.

High-performing clones of traditional varieties (e.g. Frantoio, Leccino, Coratina) are widely propagated. The latest development has been the selection of varieties such as FS-17 (Favolosa) and Lecciana, for super-intensive farming.

The current focus of the research is on the development of resistant varieties to the *Xylella fastidiosa*, the bacteria that destroyed part of the Apulia olive orchards, along with drought-tolerant and high-yield varieties for climate change adaptation

There is a progressive specialization in the production of seedlings for organic and biodynamic olive plants, aligning with Italy's leadership in sustainable agriculture, as well as in eco-friendly propagation methods, such as peat-free substrates and biofertilizers.

3. In **Harvesting**, the following methods are in use:

(i) picking: is the best for high-quality EVOO but labour-intensive, (ii) semi-mechanical method, using rakes & shakers vibrating tools along with the net harvesting placed under trees to catch fallen olives, or trunk shakers and wrap-around catching frames, and (iii) fully mechanical harvesting, used in super-intensive groves with specialized machines.

4. In **Processing**, key aspects are:

(i) olives cold-pressed to retain flavour and nutrients, (ii) strict observance of regulations on extraction methods and acidity levels, and (iii) emphasis on sustainable and organic processing.

There are about 5,000 olive mills, out of which 20% are still traditional. Italy is a world leader in manufacturing olive mills, and consequently there are opportunities to select the best options for the very diverse situations.

5. For **Traceability & Certification**, the following tools are adopted:

(i) blockchain and digital tracking for authentication, (ii) DOP, IGP, and organic certifications, and (iii) anti-fraud measures to prevent adulteration and mislabelling.

6. For **Marketing and Distribution**, key aspects include:

(i) strong domestic consumption, leveraging Italian cuisine and Mediterranean diet, (ii) high demand for premium artisanal brands, and (iii) exporting, with key markets in the U.S., Germany, and Japan.

7. The Italian **cooperative system** is well established, playing a crucial role in the olive oil value chain, as the predominance of small-scale olive farms, due to traditional farming and the country's diverse topography, is very significant. The data for 2023 states the presence of 619,000 farms covering about 2.85 million acres, with an average farm size of roughly 4.5 acres; moreover, approximately 67% of these farms are considered marginal and deeply rooted in family-run tradition. Therefore, the cooperatives help small and medium-sized olive farmers pool resources, reduce costs, improve quality, and access global markets in several aspects:

- In Production & Processing, the cooperative-owned mills reduce the processing costs of the members, as well as ensure the quality of the process.
- In Marketing & Branding, the cooperatives help the members to compete with large industrial brands, as well as they are branding and certifying many PDO/PGI olive oils.
- In Distribution & Export, the cooperatives provide access to local and international markets.
- In Research & Innovation, many cooperatives invest in sustainability, digital tracking, and climate-resistant farming techniques.

The cooperation system is strengthened through the union of well-established Consortia/ Associations/Networks, enhancing the power of the growers and operators, quality control, and export capacity.

Although the system is facing challenges such as (i) fragmentation of the members, which makes the coordination difficult, (ii) strong competition from Spain & Tunisia, which often have lower production costs, (iii) price pressures, struggling with low margins in global markets, and (iv) need for modernization, lacking digital marketing and branding strategies, yet the cooperative system becomes increasingly important for small and marginal farmers in facing climate change and unexpected international barriers of taxation, customs, etc.

Several challenges are threatening the olive oil sector, including:

1. Environment & Climate Change

- Droughts/extreme weather conditions - rising temperatures and irregular rainfall have reduced olive yields in many regions, especially in Puglia and Sicily. Moreover, the growth of the plants is disturbed.
- Pests & diseases - the spread of the *Xylella fastidiosa* bacteria has devastated olive groves, particularly in southern Italy. This disease has led to the destruction of millions of trees.
- Soil degradation- intensive farming and poor land management have affected soil fertility, leading to lower productivity.

2. Increase in cost of production

- Labor costs - the manual harvesting, extensively adopted, is expensive. Similarly, is for pruning, an indispensable practice.
- Energy prices - rising cost of electricity and fuel recorded from 2022 affects the operation of olive mills and processing facilities.
- Processing & certification expenses for the PDO/PGI/organic farming are significant.

3. Market & price volatility

- Global competition - countries like Spain, Greece, and Tunisia produce olive oil at lower costs.
- Low farmer profit margins - prices are set by large distributors and supermarkets; therefore in the absence of coordinated action by growers, in particular small ones, the production is not economically viable.
- Counterfeit & fraud issues - adulteration and mislabelling of olive oil as “Italian” when it is blended with cheaper foreign oils damage the reputation of authentic Italian brands.

4. Fragmentation of the supply chain

The highly fragmented farming typology of the Italian supply chain poses serious problems for efficient processing and distribution, unlike Spain, which has a more industrialized approach.

5. Bureaucratic & regulatory barriers

- Complex regulations - the strict EU and Italian laws for quality control, environmental impact, and labor laws have an impact on the management, at all levels, which requires continuous engagement of professionals/organizations.
- Inadequate Government support - the financial aid, subsidies, and recovery programs are slowed by the bureaucratic procedures and insufficient support, as is being experienced for the *Xylella*-affected areas.

6. Consumer trends

- Rising demand for cheaper oil - Italy is a leading economic player but not without weaknesses, including low salaries and consequently low purchasing power, which coupled with the soaring prices recorded in recent years by the international and Italian olive oil pushes the consumers towards cheaper alternatives, resulting to increased imports from North Africa and the Middle East.
- Rising demand for eco-friendly packaging and carbon-neutral production, which require additional investments from producers.

Agreed measures to overcome the challenges have been devised by the public institutions and the private sector as follows:

- Strengthening the Research and Development in all the fields, from the genetics for the development of drought-resistant yielding olive varieties to the enhancement of the processing.
- Modernization & mechanization - increasing efficiency through modern technology to reduce labour costs.
- Investment in sustainable farming, such as organic farming, and soil regeneration.
- Stronger Branding & Certification to boost consumer trust.
- Government & EU Support - faster subsidy distribution and research funding can help farmers recover from climate-related losses.

Table olive

Italy holds a significant position in the global table olive market, both as a producer and consumer. In 2024, the table olive production was approximately 77,000 tons, mainly from Apulia and Sicily, which together account for 75% of national production.

Whereas, the domestic demand was about 149,000 tons, and therefore half of the consumption needs are met through imports (from Spain, Greece, and North Africa).

The Italian table olive industry has several unique characteristics compared to the major producers, Spain (about 450,000 tons) and Greece (110,000 tons). These include:

- High-quality, artisanal production

Whereas Spain focuses on high-volume industrial production, Italy emphasizes quality over quantity. Many premium Italian table olives are still produced in family-run farms and small cooperatives. In such a context, hand-harvesting is the most common method to avoid damage to the fruits. Also, traditional processing methods, such as natural fermentation with salt, are widely used to enhance the taste and maintain the olives' authenticity.

- Unique olive varieties

Several native cultivars renowned worldwide, especially in gourmet markets across Europe and the U.S. with Protected Designation of Origin (DOP) and Protected Geographical Indication (IGP) status. have distinctive flavours and textures, such as Bella di Cerignola (Apulia), Nocellara del Belice (Sicily), and Taggiasca (Liguria).

- Gastronomy

In Italy, table olives are deeply integrated into cuisine as well as widely consumed as appetizers.

To expand the business, various innovations are underway, blending artisanal and modern techniques, including:

- Automated Monitoring Systems - to monitor table olive storage brines step-by-step through user-friendly systems equipped with low-cost digital and sensor devices.
- Selection and use of suitable starter cultures, including specific strains of bacteria and yeasts, to reduce processing time and improve the organoleptic and hygienic quality of the final product.
- Development of probiotic strains, enhancing the health benefits.

- Besides the dominant artisanal approach, an industrial segment of big Italian food brands and companies has grown, producing packaged, ready-to-eat olives for worldwide distribution, characterized by the following industrial production features, maintaining anyway the quality standards.
- Mechanized harvesting in some large olive groves to reduce costs.
- Faster, controlled fermentation using commercial brine solutions.
- Larger processing facilities that can handle olives in bulk for national and international distribution.

Main Takeaways on Table Olive

Italy's table olive industry is mainly artisanal, with a focus on quality, tradition, and unique regional varieties, whereas the industrial production supplies supermarket brands and exports. Overall, despite industrialization, Italy's emphasis remains on premium, high-value products.

Additional features of economic value of the Italian Olive Sector

International olive competitions

Italy is constantly achieving top prizes in international competitions, reflecting its commitment to quality and excellence in olive oil production, reinforcing its agricultural and gastronomic prestige, and thus supporting its "Made in Italy" brand worldwide. Winning competitions encourages producers to maintain traditional, high-quality methods while also embracing innovation. Modern techniques, such as cold pressing and organic farming, are often recognized in these competitions, inspiring other farmers to improve their standards. Besides the prestige, winning prizes translates into real economic growth, stronger exports, and greater recognition of Italy's role as a leader in premium olive oil production.

Pomace olive industry

The utilization of olive pomace is an integral component of the Italian olive oil sector, adding value and reducing waste. In fact, by using solvents and refining processes on the pomace, the olive obtained is suitable for high-temperature cooking methods such as frying and sautéing. As the price is about one-third of the extra virgin, there is a solid market demand.

Olive tourism

Olive tourism, or oleo tourism, is a growing trend in Italy, framed in specific legislation that "defines all activities carried out during the olive tree cultivation, harvesting, and oil production processes; the tasting and marketing of olive oil products; and all activities meant to be recreational and informative at olive mills and groves". The pioneer Italian oleo tourism offers an immersive experience that combines gastronomy, cultural heritage, and rural values. The activities related to olive production, often linked to festivals and events, can include: (a) olive grove tours & oil tasting, (b) olive harvesting, (c) cooking classes & food pairings, (d) staying on the olive farm (agritourism), (e) olive oil spas & wellness centres.

It must be noted that the economic potential that can be generated for the farming community and the territories by the oleo tourism in Italy could represent, in suitable conditions, an impact comparable to the agricultural income.

Olive Carbon Credits

Italian olive groves can participate in carbon credit programs aimed at reducing greenhouse gas emissions and promoting sustainable agriculture. However, several key challenges have slowed down the process:

- Lack of standardized methodology - The fragmentation of farms and the calculation method for sequestration make the procedures complex and difficult.
- High implementation costs - Setting up a carbon credit system requires certification, monitoring, and verification, which is expensive for small and medium olive growers.
- Limited Government incentives - Direct support for carbon credits has been limited.
- Low awareness and market demand - The carbon credit system and how it works is still unfamiliar, whereas many farms benefit from EU sustainability programs that provide direct subsidies.

Under the prevailing conditions, few pilot projects have been undertaken under the leadership of universities and research institutions, notably the “Oliver Life Project” sponsored by the EU and coordinated by the University of Perugia, which involves partners from Greece and Spain.

Main Takeaways on the Italian Olive Sector

The success story of olive cultivation in Italy is a rich and centuries-old journey that has made the country a global leader in olive oil production. The Italian Olive Value Chain is a perfect example of heritage, quality, and innovation working together. From small family-run farms and cooperatives to large-scale producers, Italian olive oil remains a symbol of excellence and tradition worldwide.

The challenges that the Olive Sector faces are many, but they are tackled with the spirit of entrepreneurship and innovation that characterizes the modern economies. The continued support of public institutions (Italian Government and EU) is essential and harmonized.

Annex 2

Olive Production Data and Yields Elaboration

Pakistan National Olive Value Chain Policy

Along with

**The Implementation Strategy and
Road Map for 2024 - 2030**

TABLE IV

		Area invested				DEAD TREE				Area invested WITH LIVE TREES				Productive					Olives per table					Olives per olive oil										
		Total per year		Total progressive		Total per year		Total progressive		Total per year		Total progressive		area	% total	tree	Olive quantity	Prod.on per tree	Olive quantity	% total	tree	area	% total	Olive quantity	% total	Olive oil quantity	Olive oil yield	% Olives	tree	area	% total			
1	2	ha	tree	ha	tree	ha	tree	ha	tree	ha	tree	ha	tree	ha	15	16	17	kg	kg	kg	20	% total	22	23	% total	24	kg	% total	27	% Olives	28	29	30	31
2012	1	580.0	156,600	580.0	156,600	174.00	46,980	174.00	46,980	406.0	109,620	406.0	109,620																					
2013	2	580.0	156,600	1,160.0	313,200	174.00	46,980	348.00	93,960	406.0	109,620	812.0	219,240																					
2014	3	822.5	222,075	1,982.5	535,275	246.75	66,623	594.75	160,583	575.8	155,453	1,387.8	374,693																					
2015	4	2,113.5	570,645	4,096.0	1,105,920	440.40	118,908	1,035.15	279,491	1,673.1	451,737	3,060.9	826,430																					
2016	5	1,533.5	414,045	5,629.5	1,519,965	266.40	71,928	1,301.55	351,419	1,267.1	342,117	4,328.0	1,168,547	4.1	0.09%	1,096	197	0.180	8	4.00%	44	0.16	0.00%	189	96.00%	19	10.00%	1,052	4	0.09%				
2017	6	1,533.5	414,045	7,163.0	1,934,010	266.40	71,928	1,567.95	423,347	1,267.1	342,117	5,595.1	1,510,664	44.7	0.80%	12,058	2,170	0.180	87	4.00%	482	1.79	0.03%	2,084	96.00%	208	10.00%	11,576	43	0.77%				
2018	7	2,936.0	792,720	10,099.0	2,726,730	358.15	96,701	1,926.10	520,047	2,577.9	696,020	8,172.9	2,206,683	208.8	2.55%	56,365	18,038	0.320	724	4.02%	2,263	8.38	0.10%	17,314	95.98%	1,731	10.00%	54,101	200	2.45%				
2019	8	1,341.0	362,070	11,440.0	3,088,800	198.65	53,636	2,124.75	573,683	1,142.4	308,435	9,315.3	2,515,118	447.8	4.81%	120,913	74,803	0.619	3,004	4.02%	4,855	17.98	0.19%	71,799	95.98%	7,180	10.00%	116,058	430	4.61%				
2020	9	2,740.0	739,800	14,180.0	3,828,600	274.00	73,980	2,398.75	647,663	2,466.0	665,820	11,781.3	3,180,938	905.6	7.69%	244,512	210,848	0.862	8,483	4.02%	9,837	36.43	0.31%	202,365	95.98%	20,236	10.00%	234,675	869	7.38%				
2021	10	2,420.0	653,400	16,600.0	4,482,000	242.00	65,340	2,640.75	713,003	2,178.0	588,060	13,959.3	3,768,998	1,757.6	12.59%	474,555	558,840	1.178	21,709	3.88%	18,435	68.28	0.49%	537,131	96.12%	53,713	10.00%	456,120	1,689	12.10%				
2022	11	1,900.0	513,000	18,500.0	4,995,000	190.00	51,300	2,830.75	764,303	1,710.0	461,700	15,669.3	4,230,698	2,703.8	17.26%	730,017	1,140,052	1.562	41,752	3.66%	26,735	99.02	0.63%	1,098,300	96.34%	109,830	10.00%	703,282	2,605	16.62%				
2023	12											15,669.3	4,230,698	3,936.3	25.12%	1,062,797	1,939,735	1.825	67,433	3.48%	36,947	136.84	0.87%	1,872,301	96.52%	187,230	10.00%	1,025,850	3,799	24.25%				
2024	13											15,669.3	4,230,698	5,609.4	35.80%	1,514,548	3,384,969	2.235	108,212	3.20%	48,417	179.32	1.14%	3,276,757	96.80%	327,676	10.00%	1,466,131	5,430	34.65%				
2025	14											15,669.3	4,230,698	7,154.0	45.66%	1,931,583	5,251,076	2.719	162,539	3.10%	59,789	221.44	1.41%	5,088,537	96.90%	508,854	10.00%	1,871,794	6,933	44.24%				
2026	15											15,669.3	4,230,698	9,088.2	58.00%	2,453,802	7,412,405	3.021	243,285	3.28%	80,537	298.28	1.90%	7,169,120	96.72%	716,912	10.00%	2,373,265	8,790	56.10%				
2027	16											15,669.3	4,230,698	11,039.3	70.45%	2,980,606	10,775,727	3.615	369,636	3.43%	102,243	378.68	2.42%	10,406,091	96.57%	1,040,609	10.00%	2,878,363	10,661	68.04%				
2028	17											15,669.3	4,230,698	12,743.8	81.33%	3,440,819	14,719,626	4.278	522,912	3.55%	122,234	452.72	2.89%	14,196,714	96.45%	1,419,671	10.00%	3,318,585	12,291	78.44%				
2029	18											15,669.3	4,230,698	13,948.5	89.02%	3,766,082	19,256,996	5.113	704,489	3.66%	137,777	510.28	3.26%	18,552,507	96.34%	1,855,251	10.00%	3,628,305	13,438	85.76%				
2030	19											15,669.3	4,230,698	14,938.5	95.34%	4,033,382	25,146,427	6.235	949,267	3.77%	152,258	563.92	3.60%	24,197,161	96.23%	2,419,716	10.00%	3,881,123	14,375	91.74%				
2031	20											15,669.3	4,230,698	15,498.3	98.91%	4,184,528	30,939,562	7.394	1,198,135	3.87%	162,046	600.17	3.83%	29,741,427	96.13%	2,974,143	10.00%	4,022,482	14,898	95.08%				
2032	21											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	36,974,576	8.740	1,446,046	3.91%	165,459	612.81	3.91%	35,528,530	96.09%	3,552,853	10.00%	4,065,238	15,056	96.09%				
2033	22											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	43,630,796	10.313	1,725,669	3.96%	167,331	619.74	3.96%	41,905,126	96.04%	4,190,513	10.00%	4,063,366	15,050	96.04%				
2034	23											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	50,472,947	11.930	2,046,367	4.05%	171,529	635.29	4.05%	48,426,580	95.95%	4,842,658	10.00%	4,059,169	15,034	95.95%				
2035	24											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	56,600,629	13.379	2,355,855	4.16%	176,092	652.19	4.16%	54,244,775	95.84%	5,424,477	10.00%	4,054,606	15,017	95.84%				
2036	25											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	62,431,013	14.757	2,665,766	4.27%	180,648	669.07	4.27%	59,765,247	95.73%	5,976,525	10.00%	4,050,049	15,000	95.73%				
2037	26											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	68,978,248	15.831	2,932,983	4.38%	185,263	686.16	4.38%	64,045,265	95.62%	6,404,526	10.00%	4,045,435	14,983	95.62%				
2038	27											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	70,943,121	16.769	3,171,794	4.47%	189,150	700.56	4.47%	67,771,327	95.53%	6,777,133	10.00%	4,041,547	14,969	95.53%				
2039	28											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	73,961,181	17.482	3,371,073	4.56%	192,831	714.19	4.56%	70,590,108	95.44%	7,059,011	10.00%	4,037,867	14,955	95.44%				
2040	29											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	75,737,025	17.902	3,495,382	4.62%	195,253	723.16	4.62%	72,241,643	95.38%	7,224,164	10.00%	4,035,444	14,946	95.38%				
2041	30											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	76,152,555	18.000	3,524,470	4.63%	195,804	725.20	4.63%	72,628,085	95.37%	7,262,809	10.00%	4,034,894	14,944	95.37%				
2042	31											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	76,152,555	18.000	3,524,470	4.63%	195,804	725.20	4.63%	72,628,085	95.37%	7,262,809	10.00%	4,034,894	14,944	95.37%				
2043	32											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	76,152,555	18.000	3,524,470	4.63%	195,804	725.20	4.63%	72,628,085	95.37%	7,262,809	10.00%	4,034,894	14,944	95.37%				
2044	33											15,669.3	4,230,698	15,669.3	100.00%	4,230,698	76,152,555	18.000	3,524,470	4.63%	195,804	725.20	4.63%	72,628,085	95.37%	7,262,809	10.00%	4,034,894	14,944	95.37%				

Legenda

- 1 Year
2 Starting year of the project (starting from the July of the Y till to June of Y+1)
3 Area invested-Total per year : hectares
4 Area invested-Total per year : tree planted
5 Area invested-Total progressive : hectares
6 Area invested-Total progressive : tree planted
7 Area with dead tree-Total per year : hectares
8 Area with dead tree-Total per year : trees
9 Area with dead tree-Total progressive : hectares
10 Area with dead tree-Total progressive : trees

- 11 Area invested with live trees-Total per year : hectares
12 Area invested with live trees-Total per year : trees
13 Area invested with live trees-Progressive : hectares
14 Area invested with live trees-Progressive : trees
15 Productive area-Total area : hectares
16 Productive area-Total area : % over total area invested
17 Productive area : tree in production
18 Productive area : olive production
19 Productive area : olives production per tree

- 20 Olives per table : quantity
21 Olives per table : % over the total (9)
22 Olives per table : tree in production
23 Olives per table : area involved
24 Olives per table : % over total area invested
25 Olives per oil : quantity
26 Olives per oil : % over the total (9)
27 Olives per oil : quantity of olive oil
28 Olives per oil : olive oil yield % olives
29 Olives per oil : tree in production
30 Olives per oil : area involved
31 Olives per oil : % over total area invested

Annex 3

Olive Oil Mills/Extraction Units Operating in the Country

Pakistan National Olive Value Chain Policy

Along with

**The Implementation Strategy and
Road Map for 2024 - 2030**

Annexe 3

Table: Detail of Olive Oil Extraction Units (operational)¹

BALUCHISTAN

Location (District)	Capacity (kg/hr)	No. of Units	Management	Brand/Model	Project/Financing
Khuzdar	300	01	Sardar Akhtar Jan Menghal (Wadh)	Yigtler Farmy 300	World Bank
	200	01	Agricultural Research Station (ARS) (Baghbana)	Mori-Tem (Oliomio Gold)	Annual Development Plan-Balochistan (ADP)
	80	01	ARS (Naah)	Mori-Tem (Oliomio)	Provincial Agriculture Department
	50	01	University of Engineering and Technology	Mori-Tem (Oliomio)	Pakistan Oilseed Department (POD)
Killa Saifullah	250	01	Directorate Agriculture Research (DAR)	Kocamaz (Miniolive 200)	ADP
Loralai	600	01	Agriculture Research Institute (ARI)	Pieralisi	PakOlive ²
Musakhel	80	01	ARS	Mori-Tem (Oliomio)	Provincial Agriculture Department
	50	01	Rerasham Musakhel	Mori-Tem (Oliomio)	POD
Muslim Bagh	250	01	Taraqe Foundation & community	Mori-Tem (Forma)	Italian Program Poverty Reduction /PPAF ³
Panjgur	100	01	ARS	Mori-Tem (Oliomio Gold)	PakOlive
Quetta	50	01	ARI	Mori-Tem (Oliomio)	POD
	50	01	ARI	Kocamaz (Miniolive 50)	ADP
	600	01	BARDC ⁴	Pieralisi	PakOlive
Zhob	250	01	BRSP ⁵ & Community	Mori-Tem (Forma)	Italian Program Poverty Reduction / PPAF
	100	01	ARI	Mori-Tem (Oliomio Gold)	PakOlive
	300	01	At BUITEMS ⁶ BLEP Forestry Dept.	Pieralisi	World Bank BLEP ⁷
	300	01	Fazil Qadar farm	Yigtler Farmy 300	European Union (GRASP) matching grant
	3,610	17			

¹ December 2024

² Promotion of Olive Cultivation on a Commercial Scale in Pakistan 2021-2026 – Phase-II

³ Pakistan Poverty Alleviation Fund

⁴ Balochistan Agricultural Research & Development Center -PARC

⁵ Balochistan Rural Support Programme

⁶ BUITEMS (Balochistan University of Information Technology, Engineering & Management Sciences)

⁷ BLEP (Balochistan Livelihoods & Entrepreneurship Project)

KHYBER PAKHTUNKHWA (KP)

Location (District)	Capacity (kg/hr)	No. of Units	Management	Brand/Model	Project/Financing
Abbottabad	250	01	Agricultural Research Station (ARS)	Mori-Tem (Forma)	Annual Development Plan - Khyber Pakhtunkhwa (ADP)
Bajaur	200	01	DDA Office Agriculture Extension.	Mori -Tem (Oliomio Gold)	ADP
Lower Dir Balamabat	250	01	SRSPs & Community	Mori-Tem (Forma)	Italian Program Poverty Reduction / PPAF
Lower Dir Thalash,	200	01	Olive Grower Association	Kocomaz	SMEDA
Lower Dir Timergara,	100	01	Model Farm Center Agriculture Extension.	Mori-Tem (Oliomio Gold)	PakOlive
Orakzai	100	01	Agriculture Extension	Mori-Tem (Oliomio Gold)	ADP
Peshawar (Tarnab)	500	01	Agricultural Research Institute	Alfa Laval	Italian grant with PO DB
Pir Sabaq (Noshera)	500	01	Cereal Crop Research Institute	Mori -Tem	ADP
Sanghbhatti (Mardan)	500	01	Agricultural Research Institute	Mori -Tem	ADP
Shinkiari, (Mansehra)	100	01	National Tea and High-Value Crops Research Institute	Mori-Tem (Oliomio Gold)	PakOlive
Swat (Mingora)	200	01	Agricultural Research Station	Kocomaz	ADP
Wana (South Waziristan)	250	01	DDA South Agriculture. Extension	Mori-Tem (Forma)	ADP
	3,150	12			

NOTE

- Three (3) olive extraction units, with a 300 kg/hr capacity, are in the pipeline for establishment in Bajaur, Khyber, and South Waziristan under the project “Promotion of Olive in Merged Areas” managed by the Agriculture Extension.
- One (1) olive extraction unit, with a 300 kg/hr capacity, is in the pipeline for establishment in the province under the project “Promotion of Olive Farming in Potential Districts of KP” managed by the Agriculture Extension.

⁸ Sarhad Rural Support Programme

PUNJAB

Location (District)	Capacity (kg/hr)	No. of Units	Management	Brand/Model	Project/Financing
Attock	600	01	GroundNut Research Station	Pieralisi	PakOlive
Bawalpur	50	01	POD	Mori-Tem (Oliomio)	POD
Chakwal	100	01	BARI ⁹	Mori-Tem (Oliomio Gold)	PakOlive
	600	01	BARI	Pieralisi	Punjab Govt.
	200	01	Allah Ditta Unique Values	Kocamaz	Private Sector USAID matching grant
Faisalabad	200	01	Zahid Iqbal	Kocamaz	Private Sector USAID matching grant
Islamabad	100	01	PakOlive (at NARC) ¹⁰	Mori-Tem (Oliomio Gold)	PakOlive
	100	01	Zarai Taraqati Bank	Mori-Tem (Oliomio Gold)	Zarai Taraqati Bank
Kallar Kahar	300	01	Izhar Farm Pvt. Ltd.	Yigitler	Izhar Farm Pvt. Ltd.
	2,250	09			

⁹ Barani Agricultural Research Institute & Centre of Excellence for Olive Research and Training (CEFORT)

¹⁰ National Agricultural Research Centre

AZAD JAMMU & KASHMIR

Location (District)	Capacity (kg/hr)	No. of Units	Management	Brand/Model	Project/Financing
Muzaffarabad	100	01	Agriculture Department Complex Gorja	Kocamaz Mini olive 100	TIKA ¹¹
TOTAL		39			

NOTES:

- The extraction units operated under the POCCSP-I & II (PakOlive-Federal Project) have been provided with quality testing facilities (Oxi-Tester) and some storage containers (50 liters and 25 litres).
- Six (6) olive extraction units, with a 350 kg/hr capacity, are in the tendering stage by the PakOlive project, along with oil filling and storage units. They will be distributed on a 50% matching-grant basis, under PPP schemes or other modalities.
- In Sindh, one or more olive extraction units were installed in the past, for which no reports are being provided, therefore they have not been included in the list.

¹¹Turkish Cooperation and Coordination Agency (TIKA)

Annex 4

Establishment and Regulations of Pakistan Olive and Olive Oil Council (POOC)

Pakistan National Olive Value Chain Policy

Along with

**The Implementation Strategy and
Road Map for 2024 - 2030**

Act of Parliament

Year 2025, Pakistan

WHEREAS it is expedient to establishment and regulations of Pakistan Olive and Olive Oil Council for the purposes hereinafter appearing:

AND WHEREAS the Provincial Assemblies of Balochistan, Khyber Pakhtunkhwa (KPK), Punjab, and Sindh have passed resolutions under Article 144 of the Constitution of the Islamic Republic of Pakistan to the effect that Majlis-e-Shoora (Parliament) may suitably amend the aforesaid Act:

It is hereby enacted as follows: —

1. Title and Commencement.—(1) This Act may be called the Pakistan Olive and Olive Oil Council Establishment and Regulations Act, 2025.

(2) It shall come into force at once.

2. Purpose and Scope:

The purpose of this Act of Parliament and Regulation is to establish the Pakistan Olive and Olive Oil Council (POOC) as an inter-institutional committee and to determine the legal status, principles, advisory procedures, duties and powers, financial and matters relevant to the development and implementation of an integrated plan for the rural strategy for the olive sector and strategic interventions along the entire olive oil value chain in the country.

3. Set-up of Pakistan Olive Oil Council (POOC):

- a) The Pakistan Olive and Olive Oil Council shall have its headquarters in Islamabad. It shall become a legal entity upon the approval of the M/o National Food Security and Research (MNFSR) as an Act of Parliament.
- b) The Pakistan Olive and Olive Oil Council shall function as a statutory body under the Pakistan Oilseed Department (POD) of the MNFSR.
- c) The legislative body shall be comprised of members representatives of the Olive Value Chain covering olive farmers/producers, olive traders, Olive oil processing industry, professionals, and concerned ministries. These members shall have the authority of the Board of Directors. The term of the office of the Board of Directors shall continue until the first General Assembly meeting.

4. Activities of the Pakistan Olive and Olive Oil Council

The POOC shall carry out the following activities for the purposes of Article 1;

- a) Submit all the decisions taken annually to all relevant stakeholders.
- b) Develop plans, implement plans, collect data, and determine a common strategy within the framework of the developments in olive and olive oil sector.
- c) Carries out researches and investigations on olive and olive oil and related sectors at national and international levels and transfers these to relevant stakeholders in the Olive value chain.

- d) Carries out activities to improve the production, consumption, and trade of olives and olive oil.
- e) Cooperate with organizations that perform similar activities in other countries.
- f) Takes urgent functional measures according to the conjuncture of olive and olive oil-related sectors and monitors the results.
- g) Regarding the purpose and field of activity: organize meetings, symposiums, panels, seminars, conferences, congresses, and workshops, promote olive and olive oil products and by-products, and establish advisory groups to participate in all these activities.
- h) Contribute to the determination and implementation of the necessary policies for the realization of high-quality production, standardization and certification, monitoring of the market, and development of quality control systems in the Olive sector.
- i) To ensure necessary measures are taken and implemented, including production planning and diversification of production, to solve the structural problems of the olive sector, meet the needs, and increase international competitiveness within the framework of production and industrial activities in the sector, the environment, public health, protection of producers, consumer rights, and rural development.
- j) Organize campaigns and promote the consumption of the product encouraging product branding. Contribute to the determination and application of national and international rules for the trade of olives and olive oil products and by-products.
- k) To inform the olive and olive oil producers and consumers about organic farming and good agricultural practices and to encourage production and consumption.
- l) To increase the marketing power of olive and olive oil and finished products at national and international levels, take measures to improve the continuity, profitability, trade, consumption, and standardization of the industry and to ensure the reconciliation of all segments of the sector in the determination of national policies.
- m) Coordination and Collaboration with other allied Ministries and International organizations to carry out subject-related activities beneficial to the public sector as well as to the Olive sector.

5. Membership of the POOC, Suspension & Termination of Membership:

- a) Producers, traders, industrialists, merchants, chambers of commerce & trade, professional & public associations that are in the field of olive and olive oil, research institutions, and teaching universities can be members of the POOC. A draft proposal for the membership is attached.
- b) The memberships of the members who do not comply with the aims of the POOC and fail to fulfil their membership obligations despite two consecutive written observations shall be suspended by the Board of Directors for at least one to three months. An Appeal against the decision can be submitted to the Board of Directors within seven days of the notification. The final decision on appeal must be made within fifteen days after its submission. The suspended member/members of the Council cannot take benefit from any activities of the Council and cannot vote during the suspension period.

- c) The Council membership ends:
 - i. Leaving voluntarily
 - ii. Death
 - iii. Failure to fulfil the obligations specified in the regulation
 - iv. Violation of the rules set by the POOC
 - v. Offenses against the security of the State & the constitution
 - vi. All other punitive offenses.
- d) The decision to terminate the membership of the Council shall be taken by the Board of Directors. An Appeal against the decision can be submitted to the Board of Directors within seven days of the notification. The final decision on appeal must be made within fifteen days after its submission.

6. Bodies of the POOC

- (1) The POOC shall be composed of the following bodies:
 - a) General Assembly
 - b) Board of Directors
 - c) Supervisory Board
 - d) Research and Advisory Committee

7. Formation and meetings of the POOC General Assembly

- a) The General Assembly of the POOC shall be constituted by the participation of representatives from specified groups mentioned in Article 5 (a).
- b) The General Assembly of the POOC shall hold its ordinary meetings once a year upon the invitation of the Board of Directors. The General Assembly of the POOC may also be called for an extraordinary meeting upon the written request of the Board of Directors or one-fifth of the members. The Decisions of the General Assembly shall be taken by the absolute majority of the attendants.
- c) The suspended members and those who do not pay their membership fees may not vote at the General Assembly.
- d) At least ten days before the meeting, all members of the General Assembly shall be informed in writing about the time, place, and agenda of the meeting.

8. Duties and Powers of the General Assembly:

- a) Authorizes the Board of Directors to cooperate with organizations that perform similar activities in other countries.
- b) Elects the members of the Board of Directors and the Supervisory Board.
- c) Discusses the Annual & Audit Reports.
- d) Decides on the release of the accounts of the Board of Directors and the Supervisory Board.
- e) Negotiates and decides the budget.
- f) Decides on the revenues and expenses of the POOC
- g) Determines entry and annual fees.
- h) Decides to open representative offices in Pakistan and abroad.
- i) Appoint members of the Research and Advisory Committee.
- j) Decides on other matters authorized by law.
- k) Authorizes the Board of Directors regarding financial matters.

9. Formation and term of office of the Board of Directors:

- a) The Board of Directors shall be elected by the General Assembly from among the groups specified in Article 5(a). It consists of XY members and one opted member. The term of office of the Board of Directors is three years. In case the Board of Directors becomes vacant, the substitute member is appointed as a member of the Board of Directors to complete the remaining term of the member.
- b) The Board of Directors shall appoint a Chairman, a Deputy Chairman, and a Secretary. The division of duties among the members will be decided in the first meeting. The term of office of the Chairman and his Deputy is limited to two consecutive terms.
- c) Registered members shall carry out the secretarial services related to the POOC mandate as described in Article 4.
- d) Conduct the General Assembly meeting within three months following the establishment.
- e) Represent the POOC in the General Assembly meeting.

10. Board meetings:

- a) The Board of Directors convenes at least once a month, and decisions are taken by majority vote of the participants.
- b) The Board of Directors cannot make decisions that will cause economic disadvantage for the Olive sector.
- c) Except for the extraordinary meetings, the Board of Directors shall determine the agenda of the ordinary meetings at least three days before the meeting and notify the attendees in writing.

11. Duties of the Board of Directors:

- a) Meet at least once a month, to evaluate the developments of the olive and related sectors and make decisions on the strategies to be implemented; implement them; monitor the results; conduct and represent the POOC activities.
- b) Prepares the Annual Report and submits it to the General Assembly.
- c) Do personnel recruitment if required.
- d) Prepares the budget and submits it to the approval of the General Assembly.
- e) Performs regular collection and follow-up of entrance fees and annual fees.
- f) Submits a report to the Agricultural Steering Committee at least once a year, if required.
- g) Implement the decisions taken by the General Assembly and monitor the results.
- h) Manages financial matters of the Council.
- i) Takes & makes final decisions regarding membership.
- j) Calls the General Assembly for ordinary or extraordinary meetings.
- k) Determines the agenda of the meetings of the Board of Directors in line with the proposals coming from within or from the members of the Council.
- l) Suggest to the General Assembly the daily allowances to be given to the members of the Board of Directors, Supervisory Board, Research and Advisory Board, and the amount of travel allowance and payment principles.
- m) Establish the Secretariat and the cadres to carry out the technical affairs to assist the General Assembly in the coordination and realization of the Council's activities; call the Research and Advisory Board for meetings; evaluate the reports prepared by the Research and Advisory Board, and look for information and opinions when necessary,

12. Payments to be made to the members of the Board of Directors:

Members of the Board of Directors shall be paid a daily allowance determined by the General Assembly for their duty travels inside/ outside Pakistan. The amount of payment is included in the Council's budget.

13. Formation and term of office of the Supervisory Board

The Supervisory Board shall be selected by the General Assembly. It consists of XY members. The term of office of the members is limited to three years. The vacant memberships are filled by the same procedure and these members complete the remaining period.

14. Duties and Powers of the Supervisory Board:

- a) To supervise the activities and expenditures of the Board of Directors.
- b) To submit an audit report to the General Assembly.
- c) Calling the General Assembly for an extraordinary meeting when necessary.

15. Payments to the members of the Supervisory Board:

Members of the supervisory Board shall be paid daily allowances determined by the General Assembly for their duty travels inside/outside Pakistan. The amount of payment is included in the Council's budget.

16. Formation, Duties and Powers of the Research and Advisory Committee

- a) The members of the Research and Advisory Committee shall be selected by the General Assembly among the research organizations, teaching universities & specialized professional members. It consists of a total of XX members. The term of office is three years. New vacancies are brought to the vacant memberships by the same procedure. Newly appointed members complete the remaining period. The members of the Research and Advisory Committee elect a Chairman and a Vice Chairman among themselves. The term of office of the Chairman and his deputy is limited to two consecutive terms. They cannot be re-elected unless a period has passed.
- b) The Research and Advisory Committee is convened upon the invitation of the Board of Directors and informs the Board of Directors by expressing its opinions on the relevant areas of the Council.
- c) The Research and Advisory Committee shall prepare its annual report & submit it to the Board of Directors.

17. Payments to Research and Advisory Committee members

The members of the Research and Advisory Committee shall be paid daily allowances determined by the General Assembly for their duty travels inside/outside Pakistan. The amount of payment is included in the POOC/AG's budget.

18. Revenues of the POOC

The revenues of the POOC are the following:

- a) Membership entrance fee and annual fee.
- b) Fees charged for services rendered.
- c) Donations and other incomes, funds, and aids provided nationally & internationally.
- d) Revenues from consultancy services.
- e) Advertisement, promotion, and publication revenues.

19. POOC expenses

The expenses of the POOC are the following:

- a) Education, advertising, promotion, and publication expenses.
- b) Allowance and travel payments.
- c) Office expenses.
- d) Other costs.

20. Book/Record Keeping

The POOC shall keep the following books:

- a) Income-expense book.
- b) Asset registry.
- c) Member registry.
- d) Audit book.
- e) Decision book.
- f) Incoming-outgoing document registry.

The books shall be certified within seven days following the establishment and shall be renewed in the first week of each financial year.

21. Check/Supervision

- a) The supervision of the POOC shall be carried out by the supervisors appointed by the M/o National Food Security and Research (MNFSR)
- b) It is ensured that their criticisms and recommendations are complied with.

22. POOC Promulgation

- a) This Regulation shall enter into enactment on the date of its publication.
- b) The provisions of this Act shall be executed by the M/o National Food Security and Research (MNFSR)

Members of the Pakistan Olive and Oil Council (POOC)

1.	Secretary, M/o National Food Security & Research, Islamabad	Chairman
2.	Managing Director, Pakistan Oilseed Department, MNFS&R, Islamabad	Vice Chairman/ Member
3.	Chairman, Pakistan Agricultural Research Council, Sector G-5/1, Islamabad	Member
4.	Director General, Agriculture (Research/Extension), Govt of the Punjab, Lahore	Member
5.	Director General, Agriculture (Research/Extension), Govt of Khyber Pakhtunkhwa, Peshawar	Member
6.	Director General, Agriculture (Research/Extension), Govt of Balochistan, Quetta	Member
7	Director General, Agriculture (Research/Extension), Govt of Sindh, Karachi	Member
7.	Representative of the Processing Industry	Member
8.	Representative of the Marketing and Packaging Industry	Member
9.	Representative from AJK Govt (to be nominated by AJK Govt)	Member
10.	Representative from Gilgit-Baltistan (to be nominated by GB Govt)	Member
11.	One progressive Olive farmer from Punjab (to be nominated by the Govt of the Punjab)	Member
12.	One progressive Olive farmer from Khyber Pakhtunkhwa (to be nominated by the Govt of Khyber Pakhtunkhwa)	Member
13.	One progressive Olive farmer from Balochistan (to be nominated by the Govt of Balochistan)	Member
14	One progressive Olive farmer from Sindh (to be nominated by the Govt of Sindh)	
14.	One Eminent National Olive scientist (to be nominated by the MNFS&R)	Member
15.	One eminent Olive Scientist from the Academia (to be nominated by the Higher Education Commission)	Member
16.	Representative from Women's associations involved in Olive's development (TDB for nomination)	Member
17.	Representative from the Civil Society/Rural Support Programs (TDB for nomination)	Member
18	Representative from the Federation of Chambers of Commerce	Member

The participation of the Ministry of Commerce, the Ministry of Climate Change and Environmental Coordination, and the Ministry of Planning, Development, and Special Initiatives may be considered.

Proposed Logos for Pakistan Olive and Olive Oil Council (POOC)



Annex 5

Draft Legal Act, Bylaws & Regulation for PakOlive Brand

Pakistan National Olive Value Chain Policy

Along with

**The Implementation Strategy and
Road Map for 2024 - 2030**



Proposed DRAFT - Legal Act

Condition for the use of the brand,
registered under the name of “**PakOlive**”
on Pakistani table Olives and Olive oils

Preamble

Referring to the registration of the brand “PakOlive” by the Ministry of National Food Security & Research/Pakistan Oilseed Department at IPO – Intellectual Property Organization of Pakistan, on 14/12/2020 No. Index/08;

Considering the importance of distinguishing the production of table olives and edible olive oils produced in Pakistan from those imported and of different origins;

To encourage and assist Pakistani operators in the production, and distribution of table olives and olive oils in the local and foreign markets, and help the consumers in their choice in purchasing table olives and olive oils;

Believing that the presence of the mark "PakOlive" on the packages of table olives and/or olive oils offered for sale should be a guarantee of the best production and certainty of Pakistani origin;

Determines the following:



Article 1: "PakOlive" brand

PakOlive is here defined as the “*product obtained by olives produced, milled, processed, handled and packed exclusively on the Pakistani territory*”, classified according to the condition established in the Pakistani standard PS 5159-2010, released by the Pakistani Standard and Quality Control Authority, which has been given a mandatory description, and produced and handled according to the GAP-Good Agriculture Practices, GMP-Good Manufacturing Practices and GHP-Good Hygiene Practices (as defined in the framework of the Project *OliveCulture*) at any step of the olive chain.

It is also applicable for the “*table olives cultivated, processed, handled, and packed in Pakistan*”, classified as defined in the international trade standard applied to table olives established by the International Olive Oil Council COI/OT/NC n. 1, December 2004.

The activities of management, control, authorization, and supervision of the proper use of the “PakOlive” trademark will be entrusted to a Consortium/Association to be established as defined in Article 2 below. The use of the "PakOlive" trademark shall be allowed only to those parties (farmers, processors, handlers, and intermediaries, in individual or associated form) who apply for it and which are authorized by the Consortium/Association following an independent third-party inspection process.

The trademark, the term PakOlive and logo, or references to similar terms that may mislead the consumer, may not be used by unauthorized parties who will be prosecuted under the law.

Article 2: Consortium/Association for the Protection and Regulation of Table Olive and Olive Oils produced under the “PakOlive” brand name

To promote the Pakistani olive and olive oil sector, and regulate and protect the “PakOlive” brand, a national Consortium/Association should be established as a non-for-profit organization, under the supervision of the MNFS&R/POD. The Consortium/Association shall be constituted by representatives of all the stakeholders of the olives sector: farmers, millers, handlers, processors, packers, and intermediaries, as single or associated groups (e.g.: Union of Farmers, Associations, Olive Business Development Groups, etc.). The membership will be on a voluntary base. The Consortium/Association will be governed by three bodies: the General Assembly, the Board of Directors, and the Supervisory Body. The members of the Board of Directors will be elected by the Assembly, ensuring the respect of representation criteria to be established for each associated category, with the prevalence of farmers. The Supervisory Body will be represented by one regular member and one alternate member who will be appointed by the MNFS&R, with the scope to oversee proper compliance with the mandate given to the Consortium/Association and the smooth conduct of statutory activities. Upon its establishment, the Consortium/Association will set up its own rules of operation through Bylaws to be adopted for 50 years.

Article 3: Scope and Responsibilities of the Consortium/Association

The Consortium/Association, established under the supervision of the MNFS&R/POD, has the following purposes, for the benefit of all Member entities and users of the PakOlive brand:

- Promote the application of the specification and propose any amendments or implementations as well as promote the improvement of the qualitative characteristics of the "PakOlive" branded products;
- Establish programs bearing measures of a structural nature and technical adjustment aimed at improving the quality of the "PakOlive" products;
- Protect, promote, enhance, and take care of the general interests of the “PakOlive” products including consumer information;
- Make proposals for regulatory discipline and carry out consultative tasks related to the "PakOlive" brand;
- Protect, defend, including in court, in Pakistan or abroad, and see to it that, by anyone, the “PakOlive” term is not used unduly, abusively, and illegitimately;
- Extend in Pakistan and abroad the knowledge and dissemination of the “PakOlive” brand as well as of its quality characteristics by carrying out appropriate promotion and information activities;
- Choose the control body, public or private (independent third party), for the inspection and certification activities, operating in accordance with the international voluntary laws ISO 17020, and/or ISO 17065;
- Cooperate in the supervisory activities of the public authority to ensure the proper use of the trademark and detect fraud.

The Consortium/Association shall have the responsibility to maintain a public register of operators applying for the use of the brand and supervise the proper use of the mark. Operators wishing to obtain a license to use the "PakOlive" trademark for their products must apply to the Consortium/Association, comply with the rules and conditions set forth in a special set of regulations to be drawn up by the Consortium/Association, and submit to inspection by the appointed body. The Register of operators authorized to use

the brand is public and also available on the website of MNFS&R, constantly updated and available to all interested stakeholders (including the consumers).

Article 4: Consortium establishment and start-up funding

The costs of establishment and operation of the Consortium/Association, in the start-up stages, will be borne by the MNFS&R/POD. The Consortium/Association will establish the amount of membership fees for different members, as well as the fees for inspection and control activities to be paid by applicants for use of the mark. Market promotion actions and campaigns to enhance the value of PakOlive brand products may be proposed by the Consortium for specific Government funding.

Article 5: Frauds controls on the market

The MNFS&R/POD set up a program of control activities on the markets to verify, including through chemical and sensory analysis, the correctness of label claims of olives, extra virgin, virgin, and olive pomace oils of different origins and imported, sold in the market. These activities will be carried out by the ??? with the cooperation of the Consortium/Association.

Article 6: Institution of a National Observatory of Prices

A National Observatory of Prices of the olives and olive oils produced and traded on the entire national territory will be constituted, to monitor the market, wholesale and retail prices, quantities imported, produced in the country, and traded, as well as quantities exported, broken down by trade categories. The Observatory will be headquartered at ??? and will include the Chambers of Commerce and relevant regional territorial agencies, with the participation of a delegate of the Consortium/Association.

Article 7: Publication

This Act shall be executed upon its publication in the Official Gazette.

Islamabad,

Bylaws

Consortium/ Association for the protection and enhancement of olives and olive oils
produced under the PakOlive brand name



Art. 1 – Establishment, location and duration

The Consortium/Association for the Protection and Enhancement of olives and olive oils produced under the “PakOlive” brand name is established according to Articles 2 and 3 of the Legal Act n.issued on..... hereinafter referred to as the "Consortium/Association".

The Consortium/Association has its legal headquarters in and could establish and suppress branch offices, branches, agencies, and representation on the territory of Pakistan and abroad.

The duration of the Consortium/Association is established in 50 years unless extended by resolution of the Assembly.

Art. 2 – Functions, aims and purposes

The Consortium/Association is an inter-professional trade and supply chain organization, non-for-profit, acting under the supervision of the MNFS&R/POD, having the following purposes, which it carries out for the benefit of all Member entities and users of the “PakOlive” brand:

- Promote the application of the specification and propose any amendments or implementations as well as promote the improvement of the qualitative characteristics of the "PakOlive" branded products;
- Establish programs bearing measures of a structural nature and technical adjustment aimed at improving the quality of the "PakOlive" products;
- Protect, promote, enhance, and take care of the general interests of the “PakOlive” products including through consumer information;
- Make proposals for regulatory discipline and carry out consultative tasks related to the "PakOlive" brand;
- Protect, defend, including in court, in Pakistan or abroad, and see to it that, by anyone, the “PakOlive” term is not used unduly, abusively, and illegitimately;
- Extend in Pakistan and abroad the knowledge and dissemination of the “PakOlive” brand as well as of its quality characteristics by carrying out appropriate promotion and information work also referring to its production chain;
- Choose the control body, public or private, for the inspection and certification activities, operating in accordance with the international voluntary standards ISO 17020 and/or ISO 17065;
- Cooperate in the supervisory activities of the public authority to ensure the proper use of the trademark and detect fraud;
- Assists the Consortium/Association members in any matter of common interest;
- Promotes understanding among the Consortium/Association members in any way to enhance the production of the “PakOlive” products or to increase its reputation and knowledge.

For these purposes, the Consortium/Association may participate in public calls for proposals and apply for, and receive grants.

The activities of the Consortium/Association may be regulated through the adoption of regulations which, upon the proposal of the Board of Directors, must be submitted to the General Assembly for approval and will become effective only after final approval by the competent Ministry of National Food Security and Research.

Art. 3 PakOlive brand

The registered brand “PakOlive” distinguishing the Pakistani products is graphically depicted on the sheet, attached to these Bylaws, of which it is an integral part.

Art. 4 Members

The number of the members is unlimited. Eligible for membership in the Consortium/Association are olive growers, millers, bottlers, and intermediaries. Membership in the Consortium may be in associative form if there is a specific delegation of individuals.

Membership applications must be addressed to the Board of Directors and must include, in addition to an indication of the qualification that entitles the applicant to belong to the Consortium/Association, an explicit statement that the applicant is aware of and submits to all obligations arising from these bylaws as well as an indication of the category of membership. The application should include:

- surname, name, place and date of birth, hometown;
- place and cultivated area;
- title under which the olive grove is conducted;
- place and kind of plantation for olives and olive oil production, available tools, quantity handled, and storage capacity.

In case of cooperatives or associations or other kind of society:

- business name, place, and activities;
- members name;
- location of olive cultivations, and processing facilities;
- name, and surname of the legal representative.

If the application is submitted by legal persons representing millers and/or bottlers, etc:

- business name, place, and activities;
- partners name;
- location of olive cultivations, and processing facilities;
- name, and surname of the legal representative.

The Board of Directors shall decide, on the application for admission, within 30 days, giving timely and formal notice to the interested party. Failure to accept the application must be justified by serious reasons, to be specified in the resolution of the Board of Directors and in the subsequent communication to be sent to the aspiring member by registered letter. The membership book highlights the categories to which each Consortium/Association member belongs. Admission becomes effective for all purposes upon payment of the registration fee, which must be done within two months of the communication of the resolution, under penalty of forfeiture.

Art. 5 Obligations and penalties

Members are required to abide by all statutory regulations, with particular regard to the payment of membership dues. Members shall not act in such a way as to cause moral or material harm to the Consortium/Association of the protected brand.

Art. 6 Loss of membership status

Membership is lost by death, cessation of business, and withdrawal, as well as by expulsion. Membership status is not transmitted by succession to heirs. In the event of the death of the member, the heirs who succeed their predecessor in the exercise of the same activity may apply by special application, which must contain the specific request to become Members of the Consortium/Association.

In addition, the following are causes for withdrawal from the Consortium/Association:

- (a) the extension of its duration;
- (b) the demand for additional financial benefits;
- (c) the irremediable disagreement regarding the management criteria of the Consortium/Association formally and publicly manifested on several occasions;
- (d) the occurrence of situations that make it impossible to continue the relationship.

Withdrawal must be communicated to the Consortium/Association by registered letter with acknowledgment of receipt by June 30 of each olive-growing year, and becomes effective from the moment the Consortium/Association becomes aware of it; however, the withdrawn member is obliged to comply with the obligations undertaken up to the moment of withdrawal. On the application, the Board of Directors shall decide within 45 days from its receipt.

Expulsion of the Member may be decided in the case of:

- (a) loss of the requirements stipulated in Article 5;
- (b) serious default in the obligations sanctioned by law or provided for in these bylaws;
- (c) conduct incompatible with the purposes of the Consortium/Association or detrimental to its prestige.

Resolutions passed by the Board of Directors concerning the sanctions referred to in Article 6 above, which must be communicated to the person concerned by registered letter with return receipt, become effective fifteen days after receipt.

Art. 7 Registration fees

The new member is obliged to pay the registration fee within ten days of notification of the acceptance of the application for admission; in the event of failure to pay within the time limit, the application shall be deemed to have been withdrawn.

Those who succeed a member in the management of the same business are exempt from payment of the membership fee.

The member may withdraw from the Consortium/Association at any time, without prejudice to the obligations undertaken during the current fiscal year.

Shares are registered in the name of the member, may not be subject to pledges or lien of any kind, and may not be transferred; they are understood to be bound in favor of the Consortium/Association for all the member's obligations to it.

Art. 8 Annual membership contribution

The amount of the annual membership contribution shall be established for each fiscal year by the Assembly upon the proposal of the Board of Directors and shall be determined within the percentage of representation set for each category as stated in Section 9 below and correlated to the quantity controlled or certified by the inspection body.

Art. 9 Corporate bodies

Are bodies of the Consortium/Association:

- (a) General Membership Assembly;
- (b) Board of Directors;
- (c) President.

The Board of Directors should represent every category associated with the Consortium, having, in principle, the following configuration:

- 60 % (sixty percent) growers;
- 40% (forty percent) from olive millers, packers, and intermediaries.

Art. 10 Assembly

The Assembly is ordinary and extraordinary following the law.

All members who are up to date with the payment of contributions and who have not been suspended or expelled are entitled to attend the Assembly.

The Assembly is convened in ordinary by the President, subject to a resolution of the Board, within six months after the close of the fiscal year.

Art. 11 Assignment of the grade

The Assembly shall consist of all members of the Consortium/Association who have produced and certified quantities of olives or olive oils produced in Pakistan during the reference year.

Each member is entitled to the number of votes based on the quantities of produce certified and controlled in the harvesting season preceding the assembly session.

If the member falls into more than one category at the same time, the total value of his vote shall be determined by the sum of the individual votes allocated for each of the categories to which he belongs. Each associate may represent, by written proxy, a maximum of 1 associate in his or her category, or may be represented by written proxy by a relative or relative-in-law within the third degree, or by his or her spouse.

For the election of directors, each member may vote only for the representatives of his or her category of membership.

The Board of Directors shall determine annually, before the holding of the Assembly, the number of votes allocated to each member.

Art. 12 Powers of the Assembly

It is the responsibility of the General Meeting to pass all resolutions concerning:

- (a) the budget and final budgets;
- (b) the election of the Board of Directors from among the members, the number of members of the Board, within the minimum and maximum limits provided for in these bylaws, and their compensation, if any;
- (c) the allocation of the social fund upon termination of the Consortium/Association;
- (d) the number of members of the Board, within the minimum and maximum limits provided for in these Bylaws, and their compensation, if any;
- (e) the amount of the membership fee;
- (f) the guidelines to be followed in the activity aimed at achieving the social purposes;
- (g) any other object provided for in the Statute and not assigned to other bodies.

The Extraordinary Meeting resolves on:

- (a) amendments to the bylaws, which must be approved in advance by the Ministry NFS&R/POD;
- (b) the increase of the Consortium/Association fund;
- (c) the early dissolution of the Consortium/Association and the appointment of liquidators;
- (d) the transfer of assets in the event of dissolution.

The Members shall have the right to have specific items placed on the agenda provided that the request is submitted in writing and justified within 10 (ten) days before the date of convening the Meeting and is signed by at least one-third of the Members.

Art. 13 Running of the Assembly

The Assembly is chaired by the President of the Consortium/Association or, in his absence or impediment, by the Vice President.

It is the responsibility of the President to certify the validity of the Assembly, verifying the regular annual membership contribution referred to in Article 8, to regulate the procedures for intervention and voting, and appoint a Secretary, who may or may not be a Consortium/Association member.

The Ordinary Assembly is validly constituted, in the first call, when as many members representing a majority of valid votes are present and/or represented, and, in the second call, whatever the number of members are present and/or represented.

Resolutions of both the first and second convocations are valid if taken by an absolute majority of the votes of the members present and/or represented, and are binding on all Consortium/Association members, even if absent or dissenting.

The Extraordinary Meeting is validly constituted, in the first call when as many members representing a majority of the valid votes are present and/or represented and, in the second call with at least 1/3 (one-third) of them.

Resolutions of the Extraordinary Meeting shall be passed by a majority of the valid votes cast by the members present and/or represented.

In the case of resolutions to amend the Bylaws, to extend the duration, to dissolve the Consortium/Association early, and to appoint liquidators, they shall be adopted both in the first and second call by the affirmative vote of as many members representing at least half of the valid votes.

Art. 14 Voting

Voting rights at the Assembly are held by members who are listed in the membership register and are up to date with their dues.

Art. 15 Invalidity of deliberations

Resolutions not passed following the law or bylaws may be challenged and rendered null and void.

Art. 16 Board of Directors

The Board of Directors is composed of a minimum of 3 up to a maximum of 6 members and elected by the Assembly, which determines the number from time to time, without prejudice to the constraint of representativeness provided for in Article 9 above.

The members of the Board of Directors shall hold office for a term of four years, provided that they do not lose their status as associates or representatives of associated legal entities, and are eligible for re-election.

A director who is absent, without a justified reason, from three consecutive meetings shall forfeit his or her office.

A director who relinquishes the office must give written notice to the Board of Directors and the Supervisor.

The resignation shall take effect immediately if a majority of the Board remains in office or, if not, from the time the majority of the Board has been reconstituted following the acceptance of new directors.

If a director, for any reason, is removed from the list of producers/millers or another category, he or she shall automatically cease to hold office.

In the absence, during the fiscal year, of one or more directors, a replacement shall be made within the same category of membership to which the director to be replaced belonged. The resolution for such an institution shall be approved by the Supervisor and submitted for confirmation at the first useful Assembly.

The members so appointed shall hold office until the expiration of the Board's term and shall assume the seniority of the replaced directors.

Should a majority of directors cease to serve, those remaining in office shall convene a meeting to elect a new Board.

Art. 17 Powers of the Board

The Board is vested with the broadest powers for the ordinary and extraordinary management of the Consortium/Association, not expressly reserved to the Assembly by the Articles.

In particular, the Board:

- (a) convenes the Assembly, executes its resolutions, and implements its guidelines for the Consortium/Association's activities;
- (b) prepares the reports and budgets to be submitted to the Assembly;
- (c) appoints the President and Vice President from its members;
- (d) deliberates on the admission, forfeiture, withdrawal, and exclusion of members;
- (e) stipulates all acts and contracts pertaining to the social activity;
- (f) hires and dismisses personnel, fixing their duties and salaries;
- (g) grants powers of attorney, both general and special;
- (h) decides on the Consortium's/Association membership in other bodies, entities, and companies with similar purposes ;
- (i) may propose the adoption of internal regulations on the operation of the Consortium/Association, which will become effective only after final approval by the Ministry of National Food Security and Research.

Art. 18 Meeting of the Board

The Board shall meet whenever the President, or his/her deputy, deems it necessary, or upon written reasoned request by at least one-third of the Board members or the Supervisor.

Notice of the meeting, agenda, venue, and place, shall be given by letter, and/or telefax, and/or e-mail at least 8 days in advance and, in case of urgency, by telegram sent at least one day before the date of the meeting.

The meetings are chaired by the President or, in his absence or impediment, by the Vice President.

A majority of the directors must be present for the Board to be valid. Resolutions are passed by a majority vote of those present. Each director is entitled to one vote; in the event of a tie, the President's vote prevails. Voting is always open. Resolutions of the Board shall be transcribed in a special minute book, and each minute shall be signed by the Chairman and Secretary.

Art. 19 President

The President has the legal representation of the Consortium/Association and the use of the corporate signature; he convenes and presides over the Assembly and the Board of Directors and oversees the execution of the relevant resolutions as well as their adoption. In cases of urgency, approve the necessary measures, which shall be reported back to the Board as soon as possible.

The President is empowered to represent the Consortium/Association at the Judicial Authority in active and passive cases with the power to appoint and revoke attorneys, as well as issue powers of attorney, with Presidential determination to be ratified by the Board of Directors.

The President is authorized to collect sums and contributions from public or private legal persons, issuing the relevant receipts, as well as making payments relevant to the scope of the Consortium/Association.

Subject to the authorization of the Board, he may delegate his powers, in whole or in part, to the Vice President.

In the absence or disability of the President, all his duties shall be performed by the Vice President.

Art. 20 Supervisory Board

The Supervisory Board will be represented by one regular member and one alternate member, who will be appointed by the MNFS&R with the scope to oversee proper compliance with the mandate given to the Consortium/Association, and the smooth conduct of statutory activities.

The Supervisor Board will attend the Assembly, as an observer, and participate in the Board of Directors meetings to validate the decisions. He/She controls the corporate management, supervises compliance with the laws and the Articles of the Consortium/Association, and ascertains the accuracy of the records and financial statements.

Art. 21 Director

When deemed advisable for the best performance of the Consortium, the Board of Directors may provide for the appointment of a Director chosen from among non-members, determining his duties and remuneration.

Art. 22 Social Fund

The Consortium's/Association's Social Fund consists of:

- membership fees paid by members at the time of their admission;
- movable and immovable property acquired with them;
- disbursements and bequests donated to the Consortium/Association.

Art. 23 Income

The Consortium's/Association's income consists of:

- annual contributions paid by members;
- income from the Social Fund;
- any contributions from public and private entities;
- income from fees charged on services provided by the Consortium.

Art. 24 Fiscal year

The Fiscal Year runs from the 1st of July to the 30th of June of the following year.

Each year, a budget and balance sheet must be prepared and submitted to the Assembly together with the reports of the Board of Directors and the Supervisory Board.

The balance sheet must clearly and accurately show the financial situation of the Consortium/Association.

Art. 25 Dissolution

If it is decided to dissolve the Consortium/Association, the Assembly will appoint a liquidator to take care of all necessary formalities and operations. The residual assets will be used for initiatives enhancing the value of the sector.

Art. 26 Final provisions

For matters not specifically provided for in these Bylaws, the provisions of the Law apply.

Regulation for the use of the Brand

"PakOlive"



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1 INTRODUCTION

According to the Government Legal Act n.....issued on, are been identified as “PakOlive” the *“Olive Oil obtained from olives produced, milled and packed on the Pakistani territory, classified as Extra-Virgin, Virgin, and Pomace olive oil”* according to the condition established in the PS 5159-2010, released by the Pakistan Standard and Quality Control Authority.

Likewise, are been identified those table olives produced and handled in the Pakistani territories and classified as established by the COI – International Olive Oil Council with the act COI/OT/NC n. 1, December 2004

The use of the trademark “PakOlive” to be applied on the bottles and packages, is only allowed to those farmers, and/or firms authorized by the identified Control Body, appointed by the Consortium/Association, as a result of control activities.

This document refers to the Legal Act and details the main aspects required to obtain the license for the use of the PakOlive brand.

In particular, establishes:

- obligations of the applicants;
- modalities and timing for application submission;
- activities of the Control Body and control system;
- identification and traceability to be applied by the entire chain of actors;
- non-conformity management.

This document describes the set of controls that the chain and the product must undergo to identify the product as “PakOlive”. According to the provisions of this Regulation, the activities implemented by the subjects of the regulated supply chain must be recorded, which are examined and evaluated during the inspections carried out by the Control Body (CB). Therefore, the recognized chain players must fill in and keep all the documentation deriving from their activities and make it available for the compliance checks carried out by the CB.

2 NORMATIVE REFERENCES

Legal Act.....: Terms of use of the "PakOlive" brand, registered on behalf of the Ministry of Food Security and Research/Pakistan Oilseed Department;

PS 5159-2010: Pakistan Standard Specification for Extra virgin, virgin, refined pomace olive oil;

COI/OT/NC n. 1, December 2004: trade standard applying to table olives;

ISO 17020:2012: Conformity assessment — Requirements for the operation of various types of bodies performing inspection;

ISO 17065:2012 - Requirements for bodies certifying products, processes and services;

ISO 22005:07: Traceability in the feed and food chain — General principles and basic requirements for system design and implementation.

3 TERMS AND DEFINITION

Consortium/ Association (Consortium/ Association for the protection and enhancement of olive and olive oils produced under the PakOlive brand name): organism, as appointed by the Ministry of NFS&R/POD, having the responsibility to protect, promote and supervise the PakOlive brand;

Applicant/ Operator: farmer, olives miller, olives processor, and/or packer that is willing to be a member of the Consortium/ Association;

Conformity control: action by which the Control Body verifies the compliance with the defined requirements of a batch of Olive Oil or table olives, as specified in this document;

Control Body (CB): a third independent party that has the responsibility of conducting surveillance inspections and assessment on the applicants, and to release authorizations and sanctions. It must operate in conformity with the international standards ISO 17020, and/or ISO 17065;

Control Plan (CP): a document describing, for each registered operator and phase, the control activities, nonconformances, actions required, and sanctions;

Corrective Action (CA): activity carried out to remove the cause of non-conformity and prevent the repetition;

Correction: action carried out to immediately remove the non-conformity;

Farmer/ Grower: a registered and recognized person/entity that cultivates and produces high-quality olives, exclusively within the Pakistani territory;

Intermediary: registered and recognized person/entity that carries out the purchase and sale of olives/oil suitable to become “PakOlive” or certified bulk oil, possibly providing for the temporary storage of the same products;

Labeling: the wordings, indications, brand, images, or symbols present on bottles, packaging, documents, cards, labels, ribbons, and strips related to the indication of the product;

License: formal act by which the Consortium/ Association grants to an operator the use of the Brand for a specific quantity and a specific time;

Lot/Batch: "A set of units of a product which have been produced, and/or processed or packaged under similar circumstances"; "The batch is determined by the manufacturer or packer of the food product under his responsibility";

Non-conformity: complying failure on a specified requirement. The non-conformities could be identified as:

- **major:** irregularities that generate assumptions of non-compliance for the raw material, and/or the finished product, and/or the loss of the traceability requirements of the product itself;
- **minor:** non-correspondence of the activities carried out that do not affect the conformity of the raw material and the final product.

Olive mill: structure used for processing, storage, and/or packaging of the product that meets the requirements of the mandatory legislation;

Packer: registered and recognized person/entity that stores, bottles, and packs the finished product;

Production area: the entire Pakistani territory;

Traceability: the ability to follow the movement of a feed or food through specified stage(s) of production, processing, and distribution;

Traceability system: a system that has an automatic identification and conservation capability of the desired information about a product and its components through all, or part, of its production and utilization chain.

4 ACCESS TO THE CONTROL SYSTEM, CONFIRMATION AND CONTROL ACTIVITIES

The farmers, as individual operators, or as a group/association/union, the companies/trade institutions that deal with the production and packaging of Pakistani table olives and olive oil who wish to obtain the license to use the trademark "PakOlive" on their products, must apply to the "Consortium/Association ", and abide by the conditions listed in the Legal Act and this Regulation.

4.1 - First application

The Applicant should apply to the Consortium/Association and Control Body from to It is essential to allow the Control Body to properly plan inspections, sampling, analysis, and other control activities during the harvesting and processing period.

The subjects that intend to sell on the market the branded "PakOlive" table olives, and/or olive oils, after the first year of application should confirm their intention every year in the same period, using the same form.

With the subscription of the application form, the Applicant is committed to:

- Respect all the conditions included in the Legal Act;
- Respect the labelling requirements;
- Start the activities of marketing for consumption of "PakOlive" olive, and/or olive oil, only after the date of issue of the license;
- Not exceed the packed and traded authorized quantities;
- Maintain traceability along the steps under its control;

- Fill in, regularly update, and transmit to the Control Body, the applicable registers with the loading, unloading, and stored quantities of olives and olive oil;
- Accept inspection and control activities;
- Notify any changes within 15 days of occurrence;
- Respect the prescriptions of the Consortium/Association in case of sanctions (suspension, cancellation) or voluntary withdrawal;
- Be compliant with all the additional requirements included in this Brand Use Regulation, of which the applicant declares to be knowledgeable.

4.2 - Notification of variation

In case a change is foreseen or occurs, in terms of the quantity of product handled, the Applicants must communicate the changes in terms of production, lands, oil processing, and/or storage facilities within 15 days of their changes occurred. The Control Body will evaluate the documentation received, reserving the right to carry out inspections.

4.3 - Approval of the Applicants

Upon receiving the application and the attached documentation, the Control Body verifies its adequacy, completeness, and compliance within 30 days. In case of positive evaluation, the Applicant is registered and the Control Body arranges for the execution of the initial inspection and verification, according to the “Control Plan”.

The applicant acquires the status of "**Registered**", that anyway does not yet allow the use of the “PakOlive” brand. If the Control Body finds the documentation incomplete or inadequate, additional information will be requested. The recognition process remains suspended until the requested additions are satisfactorily provided.

4.4. - Initial Inspection

During the first inspection, the Control Body Inspectors verify the correspondence of the real situation as declared on the Application Form, to assess the consistency of the data. In the first year, 100% of the Applicants must be inspected.

The following aspects should be assessed:

A. FARM (visit at harvest time):

- Current location of the production area within the Pakistani territory;
- Coherence with the declared data: number of olive trees and cultivated area;
- Quantities estimation;
- Identification and traceability evidence.

B. INTERMEDIARY (inspection at the beginning of the season):

- Adequacy of structures and means;
- Coherence with the declared data;
- Estimate quantities to be handled;
- Olives/oil storage capacity;
- Product sampling for analysis (based on the control plan);

- Identification and traceability records in place.

C. OLIVES MILL (inspection at the beginning of the season)

- Adequacy of structures and plants;
- Coherence with the declared data: milling method; milling capacity;
- Estimate quantities;
- Oil storage capacity, if any (n. of tanks and capacity);
- Identification and traceability records in place;
- Product sampling for analysis (based on the control plan).

D. PACKING/BOTTLING (inspection at the beginning of the season)

- Adequacy of structures and plants;
- Coherence with the declared data;
- Estimate quantities to be handled;
- Oil storage capacity (n. of tanks and capacity);
- Identification and traceability records in place;
- Product sampling for analysis (based on the control plan).

4.5 - Release of the license for the Brand use

After positive inspection and analysis, the Control Body decides on the release of the license and communicates it to the Applicant and the Consortium/Association. So, the status of the applicant becomes "**Approved**" (it is authorized at the marketing of "PakOlive" table olive, and/or olive oils).

The license includes the following information:

- Farmer (or entity), and registered office and address;
- Name of the person responsible;
- Annual quantity of authorized labels;
- Total quantity and category of produced olive oil or table olives/year;
- Time of validity of the license – Date of first release and expiry;
- Packages: Bottle/container dimension and total number;
- Date of issue;
- Control Body Representative signature.

The license is valid for 3 years from the date of release, and should be yearly confirmed; it should be amended in case of changes in the production (in terms of quantity of olive oil produced/handled). It is monitored through the periodical controls conducted by the inspection teams of the Control Body.

Before starting bottling and packing, the authorized operators must submit to the Control Body the drafts of the labels and materials used on the containers for their approval.

The operators must formally communicate (in writing) to the Control Body, at least 15 days before the beginning of activities, the starting date of the packaging and marketing of the "PakOlive" olive oil, and/or table olives.

4.6 - Confirmation and subsequent application

The approved and licensed operators that intend to continue the business for the following year have to submit a new application within the sanctioned period, and anyhow before the start of the new harvest season. This can allow the Control Body to plan adequately the inspections, sampling, analysis, and control activities, giving continuity to the branding.

4.7 – Surveillance inspections

To ensure constant compliance with the established requirements, the Control Body annually verifies, for all the registered operators, the documentation relating to self-assessment, evaluating, in particular, the maintenance of the traceability of the product, the controls on the production, and the total quantities harvested, processed, and packed. The documentation must be always available for the compliance checks carried out by the Inspectors entrusted by the Control Body.

The frequency of the inspections would follow the parameters listed in the table:

Table: control sampling

Operator	Operator sampled	Kind of control
Grower	35%	Inspection, documentary and analysis
Intermediary	35%	Inspection, documentary and analysis
Olive miller	100%	Inspection, documentary and analysis
Bottler/packer	100%	Inspection, documentary and analysis

The surveillance activities carried out by the Control Body are as follows:

A. FARM (visits preferable during the harvest time):

- Current location of the production area within the Pakistani territory;
- Coherence with the declared data: number of olive trees and cultivated area;
- Estimate of quantities;
- Date of harvest starting;
- Inspection of the records of the harvested and traded quantities of olives of the previous season and correspondence with the declared.

B. INTERMEDIARY (inspection preferable during working season):

- Adequacy of structures and means;
- Coherence with the declared data;
- Quantities handled;
- Olives/Oil storage capacity;
- Identification and traceability records on place;
- Inspection of the records of the purchased and traded quantities of olives/oil of the previous season and correspondence with the declared;
- Product sampling for analysis.

C. OLIVE MILL (inspection preferable during the working season)

- Adequacy of structures and plants;
- Coherence with the declared data: milling method; milling capacity;
- Estimate quantities;
- Oil storage capacity (n. of tanks and capacity);
- Inspection on the records of the quantities of olives milled in the previous season and olive oil produced, and correspondence with the declared;
- Identification and traceability records on place;
- Product sampling for analysis.

D. PACKING/BOTTLING (inspection preferable during the working season)

- Adequacy of structures and plants;
- Coherence with the declared data;
- Estimate quantities to be handled;
- Oil storage capacity (n. of tanks and capacity);
- Identification and traceability records on place;
- Product sampling for analysis.

E. - TABLE OLIVES PROCESSOR:

- Adequacy of structures and plants;
- Coherence with the declared data: processes and recipe;
- Estimate quantities;
- Olive storage capacity;
- Inspection of the records of the quantities of olives processed in the previous season and olive traded and correspondence with the declared;
- Identification and traceability records on place;
- Product sampling for analysis.

4.8 - Voluntary withdrawal from the control system

The registered and/or recognized subject who intends to voluntarily withdraw from the control system must send a written request to CB and Consortium. Following the renunciation, the former recognized subject is obliged to:

- Don't use the identifying signs of the "PakOlive" (labels, packaging, etc.);
- Eliminate from the letterhead, technical and advertising documentation any reference or symbol of the license.

The notification of withdrawal involves the cancellation of the interested party from the relative list held by the Authority. So, the status of the operator becomes "**Cancelled**".

Following withdrawal, the subject who intends to access the "PakOlive" control system again, must comply with what is expected and therefore must implement a new recognition procedure and relative application. The withdrawal operator is not allowed to be re-admitted before an entire year.

5. TRACEABILITY PROCEDURES

The product must be identified properly at the time it is collected, and/or upon arrival at the olive mill, olive processing, storage, and packaging center. The recording systems must ensure the identification and traceability of olives and oil during storage, production process, decanting, packaging, and any transfer for any reason. These procedures and registrations must allow, the Inspectors of CB, to trace the operator, the quantities produced, and/or supplied, and compliance with the disciplined requirements and declared data. In the tax documentation (invoices, and/or delivery notes or other) during the transaction of the product, for any reason, to other operators in the supply chain, membership must be specified to the denomination "PakOlive".

5.1 - Identification during harvest

Olives growers must identify the transaction for each batch of olives by filling in the documentation for the delivery of the olives (delivery note, etc.) making sure of compliance requirements.

The growers should fill in a record with the details of the collected and traded olives and deliver it to the CB, within 10 days after month end.

5.2 - Identification during storage, milling, processing and packaging

All operators must identify the transaction for each batch of olives/oil by filling in the appropriate document.

The operator included in the control system must guarantee the space-time separation between the different processes, in case of processes involving multiple production processes for the realization of products not falling within the field of application of the “PakOlive”. In particular, if the productions are separated spatially, the operators must identify the processing lines, plants, and premises used for this purpose, by informing the CB; if the generic and the traded mark productions are instead temporally separated, the olives will be processed separately (temporal separation also means milling separate individual batches of olives).

5.2.a - Loading/Unloading register

The **intermediary**, at least once per month, has to fill in a loading/unloading register with details of any purchased and sold product. The intermediary should keep the records, delivering them to the Control Body within 10 days after the month's end.

5.2.b - Olive milling registers

The olives miller, at least once per month, has to fill in a purchasing register with details of any purchasing. In addition, a milling process register is foreseen, that includes the quantity and origin of the olives milled (per process, per day, and time) and the quantity of olive oil produced. The register also includes the generated lot and the final destination of the produced olive, and/or olive oil (tanks, bottles, packages, delivered). The miller should keep the records, delivering them to the Control Body within 10 days after month end.

5.2.c - Storage register

The intermediary, the olive miller, and bottler/packer, at least once per month, when and if applicable, has to fill in an olive oil storage register with details of quantity and category of the oil stored in an identified tank. The operator should keep the records, delivering them to the Consortium within 10 days after month end.

5.2.d - Bottling/Packing's register

The bottler/packer, every month, has to fill in a purchasing register with details of any purchasing, the Olive oil storage register, and the bottling process register, which includes the quantity and origin of the olive oil bottled, and/or packed (per process, per day and time) and the quantity of olive oil packed. The register also includes the generated lot and the final destination of the packed olive oil (stored or delivered). The miller should keep the records, delivering them to the Consortium within 10 days after month end.

6. PRODUCT CONTROL

6.1 – Internal control

Each operator licensed for the use of the trademark “PakOlive”, at the end of processing/packaging operations must verify the quality and quantity of the product and keep a record of these checks. The checks must be documented, determining any exclusions of the product that do not comply with the requirements of the specification. This is under the exclusive responsibility of the single authorized operator.

6.2 – Control Body

The appointed Control Body performs sampling and control of the product to ascertain compliance with the requirements of the specifications of the PS 5159-2010 (for Pakistani olive oils) and COI/OT/NC n. 1-2004 (for Pakistani table olives) according to the frequencies established in the control plan; these frequencies may vary according to the finding of non-compliance. During the annual inspection or, if necessary, during a supplementary assessment, the Inspector in charge of the Control Body takes a sample of olive or olive oil to be analyzed by one of the MNFS&R/POD-approved analysis laboratories.

Any authorized subject handling “PakOlive” olive oils (Intermediary, bottler/packer), should be sampled at least 1/year.

6.3 – Analysis results and consequences

In case of a **negative result** of the analysis (e.g.: the sampled olive oil couldn't be classified as Extra-Virgin), the entire lot will be excluded or downgraded to the lower category. The inspector will then carry out another sampling on one different batch of product in the processing/packaging phase or stored in the tank, if available. If, following this further analysis, another negative result is detected, the operator is suspended from the use of the license for 1 year.

7. NON CONFORMITY MANAGEMENT

As a result of checks and controls carried out on the process (to evaluate the correct execution of the operations carried out) and on the product (analysis), along the entire production chain, non-conformities can be detected.

Non-compliance means the failure to meet the process and product requirements indicated in the Regulations and in the Control Plan which all Operators involved in the production chain (farmers, intermediaries, olive millers, and packagers) must comply with, to produce, and/or identify batches of product as “PakOlive”.

Non-conformities can be detected both by Operators involved in the production of the denomination product along the entire production chain and by the Consortium carrying out conformity checks and inspections. All non-conformities detected must be managed. The purpose of the management of non-conformities is to define the activities to be carried out to ensure that products that do not comply with the requirements specified are not released for consumption as a “PakOlive” product. For this purpose, it is necessary to proceed with the identification, documentation, evaluation, and resolution of any non-conformities found. The procedures for managing the detected non-conformities are described below, based on the subjects involved in the chain “PakOlive”.

7.1 – Operator's NC Management

In case of non-conformities internally detected by the operators, they have to manage it as follows:

- keep the registration of non-conformity with the description, the modality of management, and the responsibility for making decisions. The correction, and/or corrective action implemented, should be documented to demonstrate the restoration of the condition of conformity;
- If the non-conformity is such as not allowing the restoration of the conditions of conformity, they must give evidence that the product was not intended for the production/packaging and release for consumption as “PakOlive”. If the product had already been released for consumption, the Consortium should immediately withdraw it from the market.

7.2 – Control Body NC management

The Control Body's inspectors can detect “non-conformities”, to be classified as:

- **Major Non-Conformities:** irregularities that generate “non-compliance” for the raw material and the finished product and/or the loss of the traceability requirements of the product itself. This kind of non-conformity doesn't permit the identification of the lots of products as “PakOlive”. The application of a Corrective Action is needed in a strictly defined time.
- **Minor Non-Conformities:** non-correspondence of the activities carried out with the requirements of this control system. This finding does not affect product conformity but may compromise it later on. Affected product batches can be identified as "PakOlive," but corrective action must be implemented within defined time frames.

The classification of non-conformities for any control point and the methods for their management should be defined in the “PakOlive” Control Plan. To verify the application of corrective actions, the Control Body will proceed as follows:

If it is not possible to evaluate the effectiveness of the corrective actions undertaken by the operator simply through documentary evidence, the Control Body will plan an additional inspection in the current or subsequent campaign. Furthermore, following the verification of negative results of the product controls, the Control Body will follow the operating procedures indicated in par. 6.3 (if, following this further inspection/analysis, another negative result is detected, the operator is suspended from the use of the license for 1 year).

The sanctions (suspension and cancellation) relating to the authorization and the consequent suspension of the right to use the Brand until the cause that gave rise to the sanction has been removed, are issued by the CB and communicated to the Consortium that provides to update the Register of the certified operators.

8. - CONFIDENTIALITY

(Referred to the Pakistani legislation)

Annex 6

Consolidated, Provincial and Federal Road Maps (from 6A to 6F)

Pakistan National Olive Value Chain Policy

Along with

**The Implementation Strategy and
Road Map for 2024 - 2030**

INTRODUCTION

The attached Road Maps encompass information and data elaborated from the ongoing endeavors and assumptions to be utilized during the preparation of the Action Plan. They have been structured taking into account all the aspects that are important at the planning stage, including: Strategic Objective; Action; Description of the Action; Leading Entity; Partner Entity; Budget/Subvention; Beneficiaries; and distribution of the inputs in the financial years from 2024-2025 to 2029-2030.

The Summary Table below depicts the immediate estimates and assumptions regarding the needs required in olive plantations to achieve the 2030 targets. In particular:

I. The minimal suggested target of 100,000 acres of cultivated olive orchards to reach by the year 2030 will be achieved by investing in 53,736 acres of land, mainly waste and marginal. The existing cultivated area of 46,264 acres will be more than doubled.

As well as the olive tree population will be raised from 4,230,698 to the target of 10,034,186 by planting 5.8 million olive seedlings (5,803,488), which should be from certified nurseries.

II. If the plantation will continue to be subsidized at the current cost/share basis of 67% adopted by the PSDP Pakolive project, the overall estimated financial support, based on the current cost of Rs. 280 per plant, is **Rs. 639,179,705**. The criteria may be revised in favor of the smallholders and marginal farmers.

III. Irrigation is supporting the olive plants in obtaining optimal yields when the natural conditions are not providing enough water (rainfall). In Pakistan, it is generally required, but it must be kept in mind that irrigation is costly and often not feasible. Moreover, the promotion of olive for wastelands, marginal lands, and poverty alleviation requires that the value of olive shall not be considered only by the yields, but in its entirety.

The support provided so far by the Public Sector has been limited in the olive projects, but provincial support in drip irrigation is often provided to the farms on a cost/share basis.

For the Olive Value Chain under consideration, it has been assumed to support half of the area to be planted with drip irrigation by adopting the same criterion of the PSDP Pakolive project of providing a subsidy of 67%. Also, the cost per acre of Rs 225,000 of the Pakolive project has been taken as the reference.

On the above grounds, to provide financial support to 26,868 acres, the estimated cost for the drip irrigation equipment and installation is **Rs. 3,929,819,375**.

IV The provision of capacity building specifically for olive from the “*Professional Capacity Building and Extension in Agriculture/TVET*” project has been estimated and included in the Road Maps of the relevant provinces. During the preparation of the Action Plan, this aspect must be considered; whenever benefiting from the ongoing OliveCulture II and TVET endeavors, the requirements in capacity building will be widely covered.

V. The following information from the individual Road Maps has supported the preparation of the Summary Table:

A. New Plantations Balochistan

- Set Targets: **Acres 26,868; Plants 2,902,852**
- Ongoing provincial ADP: Acres 5,200; Plants: 560,000
- Plants to be subsidized: $2,902,852 - 560,000 = 2,341,582$
- Cost of plants: $2,341,582 \times 280 = \text{Rs. } 655,642,960$
- Subsidy from PakOlive project: Rs. 119,155,000
- **Financial support on direct subsidies based on a 67/33% share:** $\text{Rs } 655,642,960 - 119,155,000 = \text{Rs } 536,487,960 \times 67\% = \text{Rs } 359,446,933$
- Farmers' Share: Rs. 177,041,027

B. New Plantations Khyber Pakhtunkhwa

- Set Targets: **Acres 10,698; Plants 1,154,166**
- Cost of plants: Rs. 323,166,480
- Ongoing provincial: Acres 9,000 - Plants: 972,000 with a cost of Rs. 272,160,000 (additional grafted plants from wild olive: 1,492,000 not considered)
- Subsidy from PakOlive Project: 35,750,000 (for procurement of 127,678 plants for planting 1182 acres)
- **Support required:** Nil, as the grafted olive compensates for the gap of 54,488 plants ($972,000 + 127,678 = 1,099,678$). **Therefore, KP doesn't need any support for new plantations**

C. New Plantations Punjab

- Targets: **Acres 8,060; Plants 870,590**
- Cost of plants: Rs 243,765,200 (Rs 280/plant)
- Subsidy from PakOlive project: Rs. 35,750,000
- **Support required:** $243,765,200 - 35,750,000 = \text{Rs. } 208,015,200$
- **Financial support on direct subsidies based on a 67/33% share:** $243,765,200 - 35,750,000 = \text{Rs. } 208,015,200 \times 67\% = \text{Rs } 139,370,184$
- Farmers' Share: Rs. 68,645,016

D. New Plantations AJ&K, Gilgit Baltistan, and Sindh

- Targets: **Acres 8,110; Plants 875,885**
- Cost of plants: Rs 245,246,400
- Subsidy from PakOlive: Rs. 35,750,000
- **Financial support on direct subsidies based on a 67/33% share:** $245,246,400 - 35,750,000 = \text{Rs. } 209,496,400 \times 67\% = \text{Rs } 140,362,588$
- Farmers' Share: Rs. 69,133,812

SUMMARY TABLE

Summary of “to be” subsidized inputs for suggested olive plantation till the year 2030¹					
Provinces/ Categories	Balochistan	Khyber Pakhtunkhwa	Punjab	AJ&K, GB, Sindh	Consolidated
Acres	26,868	10,698	8,060	8,110	53,736²
Number Plants	2,902,852	1,154,166	870,590	875,880	5,803,488³
Cost Plants Rs.	812,518,560	323,166,480	243,765,200	245,246,400	1,622,696,640
Cost is covered by province Rs.	156,800,000	272,160,000	-	-	428,960,000
Subsidy from PakOlive Rs.	119,155,000	35,750,000	35,750,000	35,750,000	226,405,000
Cost to be subsidized Rs,	536,487,960	-	208,015,200	209,496,400	953,999,560
Financial support for subsidy 67% ⁴ Rs	359,446,933	-	139,370,184	140,362,588	639,179,705
DRIP IRRIGATION ⁵					
Cost at subsidized rate ⁶ Rs	2,025,100,125	806,361,750	607,522,500	607,522,500	4,046,506,875
Contribution from Pakolive project Rs	37,687,500	28,125,000	30,375,000	20,500,000	116,687,500
Financial support required to cover the subsidy Rs	1,987,412,625	778,236,750	577,147,500	587,022,500	3,929,819,375

¹ Reference to the individual Road Maps of the Provinces.

² Adding to the existing 46,264 acres, the target will be 100,000 acres by the year 2030

³ Adding to the existing number of plants 4,230,698, the target will be 10,034,186 by the year 2030

⁴ Based on the criteria of the current PakOlive project

⁵ Based on the assumption of providing the irrigation at 67% subsidy to half of the area being planted

⁶ Based on the criteria of the current PakOlive project

ANNEX 6 A - ROADMAP 2024-2030 (CONSOLIDATED)

Strategic objective	Actions	Description of Action	Outputs	Leading Entity	Partner Entity	Subsidy/ Budget Pak Rs (million)	Beneficiaries	Period						Total		
								2024 - 2025	2025 -2026	2026-2027	2027-2028	2029-2029	2029-2030			
INCREASE OLIVE CROP PRODUCTION	1.Expansion of Area	Use of marginal land Use of waste Land Replacement of High Delta Crops	Olive Cropped area Increased	PakOlive project, POD & Farmers	Deptt. Agriculture, Soil Conservation, Rural Engineering , Rangeland . Forestry	238, 81 (for 2024-2025) Pakolive	PSDP	Farmers and local communities	Acres 13,626 Plants 1,471,716	Acres 12,070 Plants 1,303,560	Acres 11,808 Plants 1,275,264	Acres 8,010 Plants 865,080	Acres 4,111 Plants 443,988	Acres 4,110 Plants 443,880	Acres 58,736 Plants 9,809,488	
	2. Improving the Olive Yields															
	2.1 Improving the Nursery System	Double shaded nursery tunnels		PakOlive project				Agriculture Research Institutes (ARIs) & CEFORT	8							
		Establishing an "Ad-interim Certification Process	6 Olive Varietal Foundation Blocks Nr. 10 plant combinations for specific micro-climates validated	OliveCulture Project scale up (OCP II)	Federal Seed Certification, PakOlive Project, provinces	27,90		PPP (farmers/ARIs)	6 foundation blocks	Follow up	Follow up	Follow up				
		Training - Provision equipment	Skill Enhancement	OCP II	Federal Seed Certification,PakOlive project, provinces	33,22		Nurserymen	18 equipment	follow up	follow up	follow up				
		One operational Digital Nursery Assistant	Nr. 1 operational Digital Nursery Assistant (messaging assistant) established & 16.Nr. 16 Variety Schemes created.	OCP II	Federal Seed CertificationPakOlive project, provinces,	18,34		PPP (farmers/ARIs)	1	follow up	follow up	follow up				
		Two Pomological and Nursery exhibitions	Promotion and divulgation		Federal Seed CertificationPakOlive project, provinces	5,14		Nurserymen & farmers	1	1						
				OCP II	PakOlive project				7							
		2.2 Application of GAP & CSA	Technical Training	Skill Enhanced for 1,000 stakeholders	OCP II	PakOlive project	79,36		Stakeholders	150	450	250	150			
			Professionalizing TOT	ToT professionalized 300	OCP II	PakOlive project			Trainers	50	100	100	50			
IMPROVING OLIVE PROCESSING & QUALITY	2.3 Irrigation	Installation of micro-irrigation systems	Increase water efficiency	PakOlive project	Provincial Deptt.			Farmers & local communities	900 acres							
		Procurement	Improve quantity & quality fruit.	Provincial Agri Deptt	Rural Supports Programs/others	51,49		Farmers & local communities	900 acres							
	1. Technical training and control for Hazard Analysis Critical Control Point (HACCP) in olive mills	Capacity building	Skill of 50 Mill operators and managers enhanced	OCP II	PakOlive project , provinces,	20,00		Provinces, Farmers & consumers	50	follow up	follow up	follow up				
		Training	HACCP adopted in Olive Oil Mills Certification Procedures and SOPs established.	OCP II	PakOlive project, provinces				20	follow up	follow up	follow up				
	2. Reinforcement of Public-Private Partnership in Olive Oil Processing System	Technical assistance	Nr. 3 Public olive mills under a PPP scheme	OCP II	PakOlive project, provinces , processors			Processors	0	1	follow up	follow up				
	3. Reinforcement Lab System	Training, Technical Assistance, Procurement	Strengthening Nr. 1 Federal Organoleptic & Sensory laboratory and N.8 Provincial Phytosanitary Laboratories Nr. 3 Chemists and Nr. 4 Plant Pathologists trained Certification Procedures and SOPs in place	OCP II	PakOlive & Provincial Deptt.	109,230		POD, provinces, farmers	7 training	4 laboratories	follow up	follow up				
	4 Valorising the potential of pomace and by-products of olive mills	Support establishing 1 pilote plant & Training	1 pilot plant established and 100 stakeholders skilled trained in residues	OCP II	Industry./processors/RSPs/others	14,78		Consumers/Farmers	30	40 - 1 plant	30	follow up				
	5. Processing Olive Fruits	Procurement Olive mills	Quality oil ensured	PakOlive/PPP/Private sector/RSPs	POD/Provinces											
	6 Packaging & Storage olive oil	Procurement tanks & packaging equip.		PakOlive/PPP/Private sector/RSPs	POD/Province											
MARKETING	1. Communication	1.Olive promotion and Food & Nutrition campaigns; Updating the "OliveCulture" Web-portal and the social media; Update of the national market study.	Consumers educated & Informed	OCP II		51,18 for Communication 10,57 for Branding 18,69 for shop/Education centre		Consumers	Campaign Social media	Campaign Social media	Campaign Social media Market Study	Campaign Social Media				
					OCP II/PakOlive											
		2. Creation Consortium/Association	2. PakOlive brand managed and promoted for adoption of Quality Label PakOlive				Farmers, Processors and Consumers	Legal Act	Legal Act approved Consortium established	Consortium operational	Consortium operational					
	2.Promotion of the "PakOlive" brand			MNPS&R/POD OCP II					Shop & Education Centre established							
HUMAN RESOURCES DEVELOPMENT	3. Infrastructures and regulatory support & Establishment a pilot Olive Products shop/Education centre	Regulatory support and shop established	Promotion & Education													
	4.Olive tree as a source of CO2 absorption and Carbon Credit Generation	Study on CO2 sequestration on all olive orchards, Action Plan and Workshop	Parameters collected for Carbon Credit generation and country potential for Carbon credit assessed. Drafted Action Plan & organized Workshop		Ministry of Climate Change	17,21		Government, Private players , Farmers	Study	Study	Action Plan	Workshop				
	1. Technical Assistance and Linkage with TVET Project	Training & Extension	Enhancement skill	OCP II		18,51										
SUPPORT TO OLIVE BUSINESS DEVELOPMENT GROUPS OF WOMEN & YOUTH				MNPS&R	TVET			Provincial Departments, BARI Chakwal, CEFORT	115,350	192,616	136,194	118,750				
	2 Master's Programs in Olive-related fields		Two Master Degrees	OCP II		16,43		POD/Provincial Dpt	2							
	1.Technical Assistance for product diversification, quality assurance, branding, marketing	Use of traditional and social media, workshops, seminars conference	Knowledge in olive disseminated.	OCP II	Local Support Organizations/ RSPs/ Others	27,71		Local Communities	210	210	210	210				
	2.Training	Creation of Business Groups	Women & Youth empowerment	OCP II	Local Support Organizations/ RSPs/ Others			Local Communities	210	follow up	follow up	follow up				
	3.Provision of inputs	Producing and selling olive byproducts	Income generation activity for 210 Women and Youth	OCP II	Local Support Organizations/ RSPs/ Others	36,49		Local Communities	210	follow up	follow up	follow up				
	4. Promotional events	Organization of Women Fair and Gala	Promotion. Education, Information	OCP II	Local Support Organizations/ RSPs/ Others			Local communities		2	2					

Legenda:

(a) TheYear is Financial from July to June.

(b) Plantation 2024-2025 is supported by the PakOlive project with PakOlive live project subsidy of 33% (cost/plant Rs. 200)

(c) Onward plantations don't have presently a subsidy coverage (d) drip irrigation is also supported by PakOlive project for 2024-2025 with 33% subsidy

(e) Exchange rate for OCP II : 1 Euro 310 Rp.

ANNEX 6 B – ROADMAP 2024-2030 (BALOCHISTAN)

Strategic objective	Actions	Description of Action	Outputs	Leading Entity	Partner Entity	Subsidy/ Budget Pak Rs.(million)	Beneficiaries/Specifications	Period						Total	Cost
								2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030		
INCREASE OLIVE CROP PRODUCTION	1.Expansion of Area	Use of marginal land Use of waste Land Replacement of High Delta Crops	Olive Cropped area Increased	PakOlive project, POD & Farmers	Deptt. Agriculture, Soil Conservation, Rural Engineering , Rangeland, Forestry	119,155 (for 2024-2025) PSDP Pakolive	Farmers and local communities	Acres 7,200 Plants 778,418	Acres 5,491 Plants 593,352	Acres 5,493 Plants 593,298	Acres 5,494 Plants 593,352	Acres 1,595 Plants 172,260	Acres 1,594 Plants 172,152	Acres 26,868 Plants 2,907,852	812,798,560
				Balochistan Directorate of Agriculture Research "Promotion & Expansion of Olive Cultivation in Balochistan"	Deptt. Agriculture, Soil Conservation, Rural Engineering , Rangeland, Forestry			INCLUDING Acres 1,300 Plants 140,400	INCLUDING Acres 1,300 Plants 140,400	INCLUDING Acres 1,300 Plants 140,400	INCLUDING Acres 1,300 Plants 140,400		INCLUDING Acres 5,200 Plants 560,000		
	2. Improving the Olive Yields														
	2.1 Improving the Nursery System	Double shaded nursery tunnels		PakOlive project			Agriculture Research Institutes (ARIs) & CEFORT	3							
		Establishing an "Ad-interim Certification Process	6 Olive Varietal Foundation Blocks Nr. 10 plant combinations for specific micro-climates validated	OliveCulture Project scale up (OCP II)	FSC&RD,PakOlive project, provinces	13,95	PPP (farmers/ARIs)	3 foundation blocks	Follow up	Follow up	Follow up				
		Training - Provision equipment	Skill Enhancement	OCP II	FSC&RD,PakOlive project, provinces	16,61	Nurserymen	9	equipment	follow up	follow up				
		One operational Digital Nursery Assistant	Nr. 1 operational Digital Nursery Assistant (messaging assistant) established & 16-Nr. 16 Variety Schemes created.	OCP II	FSC&RD,PakOlive project, provinces	Federal	PPP (farmers/ARIs)	1	follow up	follow up	follow up				
		Two Pomological and Nursery exhibitions	Promotion and divulation	OCP II	FS&RD, PakOlive project, provinces	2,57	Nurserymen & farmers	1							
				OCP II	PakOlive project			7							
		2.2 Application of GAP & CSA	Technical Training Professionalizing TOT	Skill Enhanced for 1,000 stakeholders TOT professionalized 300	OCP II OCP II	PakOlive project PakOlive project	19,84	Stakeholders Trainers	100 30	100 50	50				
		2.3 Irrigation	Installation of micro-irrigation systems	Increase water efficiency	PakOlive project	Provincial Deptt.	Pakolive acres 250	Farmers & local communities	3,600	2,745	2,746	2,747	797	797	13,434
IMPROVING OLIVE PROCESSING & QUALITY		Procurement	Improve quantity & quality fruit.	Provincial Agri Deptt	Rural Supports Programs/others	37,687,500	Cost subsidized at 67%	542,700,000	413,884,125	413,959,500	414,110,250	120,223,125	120,223,125	2,025,100,125	
	1. Technical training and control for Hazard Analysis Critical Control Point (HACCP) in olive mills	Capacity building	Skill of 50 Mill operators and managers enhanced	OCP II	PakOlive project , provinces,	Federal	Farmers & local communities	540 acres							
		Training	HACCP adopted in Olive Oil Mills Certification Procedures and SOPs established.	OCP II	PakOlive project, provinces		Provinces, Farmers & consumers	50	follow up	follow up	follow up				
				OCP II	PakOlive project, provinces			20	follow up	follow up	follow up				
	2. Reinforcement of Public-Private Partnership in Olive Oil Processing System	Technical assistance	Nr. 3 Public olive mills under a PPP scheme	OCP II	PakOlive project, provinces , processors		Processors	0	1	follow up	follow up				
	3. Reinforcement Lab.System	Training, Technical Assistance, Procurement	Strengthening Nr. 1 Federal Organoleptic & Sensory laboratory and N.3 Provincial Phytosanitary Laboratories Nr. 3 Chemists and Nr. 4 Plant Pathologists trained Certification Procedures and SOPs in place	OCP II	Provincial Deptt.	Federal	Farmers & local communities	7 training	4 laboratories	follow up	follow up				
	4 Valorising the potential of pomace and by-products of olive mills	Support establishing 1 pilote plant & Training	1 pilot plant established and 100 stakeholders skilled trained in residues	OCP II	Industry/processors/RSPs/others	Federal	Consumers/Farmers	30	40 - 1 plant	30	follow up				
	5. Processing Olive Fruits	Procurement Olive mills	Quality oil ensured	PakOlive/PPP/Private sector/RSPs	POD/Provinces										
	6 Packaging & Storage olive oil	Procurement tanks & packaging equip.		PakOlive/PPP/Private sector/RSPs	POD/Province										
MARKETING	1. Communication	1.Olive promotion and Food & Nutrition campaigns; Updating the "OliveCulture" Web-portal and the social media; Update of the national market study.	Consumers educated & Informed	OCP II			Consumers	Campaign Social media	Campaign Social media	Campaign Social media Market Study	Campaign Social Media				
	2.Promotion of the "PakOlive" brand	2. Creation Consortium/Association	2. PakOlive brand managed and promoted for adoption of Quality Label PakOlive		OCP II/PakOlive	Federal	Farmers, Processors and Consumers	Legal Act	Legal Act approved Consortium established	Consortium operational	Consortium operational				
	3. Infrastructures and regulatory support & Establishment a pilot Olive Products shop/Education centre	Regulatory support and shop established	Promotion & Education	MN/FS&R/POD OCP II				Shop & Education Centre established							
HUMAN RESOURCES DEVELOPMENT	4.Olive tree as a source of CO2 absorption and Carbon Credit Generation	Study on CO2 sequestration on all olive orchards, Action Plan and Workshop	Parameters collected for Carbon Credit generation and country potential for Carbon credit assessed. Drafted Action Plan & organized Workshop		Ministry of Climate Change	Federal	Government, Private players , Farmers	Study	Study	Action Plan	Workshop				
	1. Technical Assistance and Linkage with TVET Project	Training & Extension	Enhancement skill	OCP II		Federal									
				MN/FS&R	TVET		Provincial Departments	280		Provincial Departments Technicians & farmers		70,000,000	70,000,000	70,000,000	70,000,000
SUPPORT TO OLIVE BUSINESS DEVELOPMENT GROUPS OF WOMEN & YOUTH	2 Master's Programs in Olive-related fields		Two Master Degrees	OCP II		Federal	POD/Provincial Dpt	2							
	1.Technical Assistance for product diversification, quality assurance, branding, marketing	Use of traditional and social media, workshops, seminars conference	Knowledge in olive disseminated.	OCP II	Local Support Organizations/ RSPs/ Others	Federal	Local Communities	210	210	210	210				
	2.Training	Creation of Business Groups	Women & Youth empowerment	OCP II	Local Support Organizations/ RSPs/ Others		Local Communities	210	follow up	follow up	follow up				
	3.Provision of inputs	Producing and selling olive byproducts	Income generation activity for 210 Women and Youth	OCP II	Local Support Organizations/ RSPs/ Others	Federal	Local Communities	210	follow up	follow up	follow up				
	4. Promotional events	Organization of Women Fair and Gala	Promotion, Education, Information	OCP II	Local Support Organizations/ RSPs/ Others		Local communities		2	2					

Legenda:

(a) the Years are FINANCIAL (from July to June)

(b) Plantation 2024-2025 by the PakOlive project: Balochistan 50% share
(c) Onward plantations don't have presently a subsidy coverage (33% on plants and drip irrigation): Balochistan 50% share (d) allocations for Nursery activities: Balochistan 50% share (e) training & TOT for GAP: Balochistan 25% share (f) Drip irrigation: Balochistan 60% share (g) Under "Federal" budget are indicated the actions that are not easily divisible among provinces or they are conducted at national level
d) Exchange rate for the OCP II Actions: 1 Euro 310 Rp.

ANNEX 6 C - ROADMAP 2024-2030 (KHYBER PAKHTUNKHWA)

Strategic objective	Actions	Description of Action	Outputs	Leading Entity	Partner Entity	Budget available	Beneficiaries	Period							Total
								2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	
INCREASE OLIVE CROP PRODUCTION	1 Expansion of Area	Use of marginal land Use of waste Land Replacement of High Delta Crops	Olive Cropped area Increased	PakOlive project, POC & Farmers	Deptt. Agriculture, Soil Conservation, Rural Engineering, Rangeland- Forestry	35.7% (for 2024-2025) PSCP Pakolive	Farmers and local communities	Acres 2,898 312,166	Plants Acres 4,000 Plants 432,000	Acres 3,800 Plants 410,400	0	0	0	Acres 10,898 Plants 1,154,166	
				Directorate Extension KP "Promotion of Olive in Merged Areas"	Deptt. Agriculture, Soil Conservation, Rural Engineering, Rangeland- Forestry			INCLUDING Acres 1,000 Plants 108,000 Wild grafting 108,000	INCLUDING Acres 2,000 Plants 216,000 Wild grafting 600,000	INCLUDING Acres 2,000 Plants 216,000 Wild grafting 600,000				INCLUDING Acres 5,000 Plants 540,000 Wild grafting 1,300,000	
				Directorate Research KP "Promotion of Olive farming in Potential Districts of KP"	Deptt. Agriculture, Soil Conservation, Rural Engineering, Rangeland- Forestry			INCLUDING Acres 200 Plants 21,600	INCLUDING Acres 2,000 Plants 216,000	INCLUDING Acres 1,800 Plants 194,400				Acres 4,000 Plants 432,000 Wild grafting 192,000	
	2 Improving the Olive Yields														
	2.1 Improving the Nursery System	Double shaded nursery tunnels		PakOlive project			Agriculture Research Institutes (ARIs) & CEFORT	1							
		Establishing an "Ad Interim Certification Process	6 Olive Varietal Foundation Blocks Nr. 10 plant combinations for specific micro-climates validated	OliveCulture Project scale up (OCP II)	Federal Seed Certification, PakOlive Project, provinces	4.2	PPP (farmers/ARIs)	1 foundation blocks	follow up	follow up	follow up	follow up			
		Training – Provision equipment	Skill Enhancement	OCP II	Federal Seed Certification, PakOlive Project, provinces	4.98	Nurserymen	3	equipment	follow up	follow up	follow up			
		One operational Digital Nursery Assistant	Nr. 1 operational Digital Nursery Assistant (messaging assistant) established & 16Nr. 15 Variety Schemes created.	OCP II	Federal Seed Certification, PakOlive Project, provinces	Federal	PPP (farmers/ARIs)	1	follow up	follow up	follow up	follow up			
		Two Pomological and Nursery exhibitions	Promotion and divulotion	OCP II	Federal Seed Certification, PakOlive Project, provinces	2.57	Nurserymen & farmers	1							
		2.2 Application of GAP & CSA	Technical Training Professionalizing TOT Installation of micro-irrigation systems	Skill Enhanced for 1,000 stakeholders TOT professionalized 300 Increase water efficiency	OCP II OCP II OCP II PakOlive project	PakOlive project PakOlive project PakOlive project 130 acres PakOlive	19.84 30 30 26.12	Stakeholders Trainers Farmers & local communities/ ACRES Cost on subsidized share at 67%	9 100 40 1,449	100 50 2,000 216,434,750	50 1,900 0 286,420,000	0 0 0 0	0 0 0 0	5,349 866,361,750	
IMPROVING OLIVE PROCESSING & QUALITY	2.3 Irrigation														
	1. Technical training and control for Hazard Analysis Critical Control Point (HACCP) in olive mills	Procurement Capacity building	Improve quantity & quality fruit. Skill of 50 SME operators and managers enhanced	Provincial Agri Deptt OCP II	Rural Support Programs/other PakOlive project, provinces.	7.72 Federal	Farmers & consumers	130 acres 60	follow up follow up	follow up follow up	follow up follow up	follow up follow up			
	2. Reinforcement of Public-Private Partnership in Olive Oil Processing System	Training Technical assistance	HACCP adopted in Olive Oil Mills Certification Procedures and SOPs established. Nr. 3 Public olive mills under a PPP scheme	OCP II OCP II	PakOlive project, provinces PakOlive project, provinces, processors	20 0	Processors	1 1	follow up follow up	follow up follow up	follow up follow up	follow up follow up			
	3 Reinforcement Lab System	Training, Technical Assistance, Procurement	Strengthening Nr. 1 Federal Organoleptic & Sensory laboratory and Nr.3 Provincial Phytoanalytical Laboratories Nr. 3 Chemicals and Nr. 4 Plant Pathologists trained Certification Procedures and SOPs in place	OCP II	Provincial Deptt.	Federal	Farmers & local communities	7 training	4 laboratories	follow up	follow up	follow up			
	4 Valorising the potential of pomace and by-products of olive mills	Support establishing 1 pilot plant & Training	1 pilot plant established and 100 stakeholders skilled trained in residues	OCP II	Industry/processors/RSPs/other	Federal	Consumers/Farmers	30	40 - 1 plant	30	follow up	follow up			
	5 Processing Olive Fruits	Procurement Olive mills	Quality oil ensured	PakOlive/PPP/Private sector/RSPs	POD/Provinces										
	6 Packaging & Storage olive oil	Procurement tanks & packaging equip.		PakOlive/PPP/Private sector/RSPs	POD/Province										
	MARKETING	1. Communication	1 Olive promotion and Food & Nutrition campaigns; Updating the "OliveCulture" Web-portal and the social media; Update of the national market study.	Consumers educated & informed	OCP II	OCP II/PakOlive	Federal	Consumers	Campaign Social media	Campaign Social media	Campaign Social media	Campaign Social media	Campaign Social media		
		2.Promotion of the "PakOlive" brand	2. Creation Consortium/association	2. PakOlive brand managed and promoted for adoption of Quality Label PakOlive				Farmers, Processors and Consumers	Legal Act	Legal Act approved Consortium established	Consortium operational	Consortium operational	Consortium operational		
		3. Infrastructure and regulatory support & Establishment a pilot Olive Products shop/Education centre	Regulatory support and shop established	Promotion & Education	MNF/SAR/POD OCP II										
HUMAN RESOURCES DEVELOPMENT	4.Olive tree as a source of CO2 absorption and Carbon Credit Generation	Study on CO2 sequestration on all olive orchards, Action Plan and Workshop	Parameters collected for Carbon Credit generation and country potential for Carbon credit assessed. Drafted Action Plan & organized Workshop		Ministry of Climate Change	Federal	Government, Private players , Farmers	Study	Study	Action Plan	Workshop				
	1. Technical Assistance and Linkage with TVET Project	Training & Extension	Enhancement skill	OCP II		Federal									
SUPPORT TO OLIVE BUSINESS DEVELOPMENT GROUPS OF WOMEN & YOUTH	2 Master's Programs in Olive-related fields		Two Master Degrees	OCP II		Federal	POD/Provincial Dpt	2	210	210	210	210			
	1. Technical Assistance for product diversification, quality assurance, branding, marketing	Use of traditional and social media, workshops, seminars conference	Knowledge in olive disseminated.	OCP II	Local Support Organizations/ RSPs/ Others	Federal	Local Communities	210	210	210	210	210			
	2. Training	Creation of Business Groups	Women & Youth empowerment	OCP II	Local Support Organizations/ RSPs/ Others		Local Communities	210	210	210	210	210			
	3.Provision of inputs	Producing and selling olive byproducts	Income generation activity for 210 Women and Youth	OCP II	Local Support Organizations/ RSPs/ Others	Federal	Local Communities	210	210	210	210	210			
	4. Promotional events	Organization of Women Fair and Gale	Promotion, Education, Information	OCP II	Local Support Organizations/ RSPs/ Others		Local communities		2	2					

Legend:
 (a) The Years are FINANCIAL (from July to June)
 (b) Plantation 2024-2025 by the PakOlive project: KP 15% share
 (c) Onward plantations don't have primarily a validity coverage (33% on plants and drip irrigation): KP 15% share (d) allocations for Nursery activities: KP 15% share (e) training & TOT for GAP: KP 25% share (f) Drip irrigation: KP 15% share (g) Under Federal Budget are indicated the actions that are not easily divisible among provinces or they are considered at national level
 d) Exchange rate for the OCP II Actions: 1 Euro 310 Rp.

ANNEX 6 D - ROADMAP 2024-2030 (PUNJAB)

Strategic objective	Actions	Description of Action	Outputs	Leading Entity	Partner Entity	Subsidy/ Budget Pak Rs.(million)	Beneficiaries	Period						Total	Cost
								2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030		
INCREASE OLIVE CROP PRODUCTION	1. Expansion of Area	Use of marginal land Use of waste Land Replacement of High Delta Crops	Olive Cropped area Increased	PakOlive project, POD & Farmers	Deptt. Agriculture, Soil Conservation, Rural Engineering, Rangeland - Forestry	35.75 (for 2024-2025)	Farmers and local communities	Acres 1,770 Plants 191,160	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 8,040 Plants 870,590	243,765,200
	2. Improving the Olive Yields														
	2.1 Improving the Nursery System	Double shaded nursery tunnels		PakOlive project			Agriculture Research Institutes (ARIs) & CEFORT	1							
		Establishing an "Ad-interim Certification Process	6 Olive Varietal Foundation Blocks Nr. 10 plant combinations for specific micro-climates validated	OliveCulture Project scale up (OCP II)	Federal Seed Certification, PakOlive Project, provinces	4.2	PPP (farmers/ARIs)	1 foundation blocks	follow up	follow up	follow up				
		Training - Provision equipment	Skill Enhancement	OCP II	Federal Seed Certification, PakOlive Project, provinces	4.98	Nurserymen	3	equipment	follow up	follow up				
		One operational Digital Nursery Assistant	Nr. 1 operational Digital Nursery Assistant (messaging assistant) established & 16.Nr. 16 Variety Schemes created.	OCP II		Federal	PPP (farmers/ARIs)	1	follow up	follow up	follow up				
		Two Pomological and Nursery exhibitions	Promotion and divulation	OCP II		2.57	Nurserymen & farmers		1						
				OCP II	PakOlive project			?							
	2.2 Application of GAP & CSA	Technical Training	Skill Enhanced for 1,000 stakeholders	OCP II	PakOlive project	19.84	Stakeholders	100	100	50					
		Professionalizing TOT	ToT professionalized 300	OCP II	PakOlive project		Trainers	30	40						
IMPROVING OLIVE PROCESSING & QUALITY	2.3 Irrigation	Installation of micro-irrigation systems	Increase water efficiency	PakOlive project	Provincial Deptt.	Acres 135	Farmers & local communities	885	629	629	629	629	629	4030	
						30.37	Cost of subsidized rates RS	133,413,750	94,821,750	94,821,750	94,821,750	94,821,750	94,821,750	607,522,500	
		Procurement	Improve quantity & quality fruit.	Provincial Agri Deptt	Rural Supports Programs/others	7.72	Farmers & local communities	136 acres							
	1. Technical training and control for Hazard Analysis Critical Control Point (HACCP) in olive mills	Capacity building	Skill of 50 Mill operators and managers enhanced	OCP II	PakOlive project, provinces,	Federal	Farmers & consumers	50	follow up	follow up	follow up				
		Training	HACCP adopted in Olive Oil Mills Certification Procedures and SOPs established.	OCP II	PakOlive project, provinces			20	follow up	follow up	follow up				
	2. Reinforcement of Public-Private Partnership in Olive Oil Processing System	Technical assistance	Nr. 3 Public olive mills under a PPP scheme	OCP II	PakOlive project, provinces, processors.		Processors	0	1	follow up	follow up				
	3. Reinforcement Lab System	Training, Technical Assistance, Procurement	Strengthening Nr. 1 Federal Organoleptic & Sensory Laboratory and N.3 Provincial Phytosanitary Laboratories Nr. 3 Chemists and Nr. 4 Plant Pathologists trained Certification Procedures and SOPs in place	OCP II	Provincial Deptt.	Federal	Farmers & local communities	7 training	4 laboratories	follow up	follow up				
	4. Valorising the potential of pomace and by-products of olive mills	Support establishing 1 pilot plant & Training	1 pilot plant established and 100 stakeholders skilled trained in residues	OCP II	Industry/processors/RSPs/others	Federal	Consumers/Farmers	30	40 - 1 plant	30	follow up				
	5. Processing Olive Fruits	Procurement Olive mills	Quality oil ensured	PakOlive/PPP/Private sector/RSPs	POD/Provinces										
	6. Packaging & Storage olive oil	Procurement tanks & packaging equip.		PakOlive/PPP/Private sector/RSPs	POD/Province										
MARKETING	1. Communication	1.Olive promotion and Food & Nutrition campaigns; Updating the "OliveCulture" Web-portal and the social media; Update of the national market study.	Consumers educated & Informed	OCP II			Consumers	Campaign Social media	Campaign Social media	Campaign Social media Market Study	Campaign Social Media				
					OCP BPakOlive	Federal									
	2. Promotion of the "PakOlive" brand		2. PakOlive brand managed and promoted for adoption of Quality Label PakOlive	MNFS&R/POD OCP II			Farmers, Processors and Consumers	Legal Act	Legal Act approved Consortium established	Consortium operational	Consortium operational				
	3. Infrastructures and regulatory support & Establishment a pilot Olive Products shop/Education centre	Regulatory support and shop est	Promotion & Education					Shop & Education Centre established							
HUMAN RESOURCES DEVELOPMENT	4.Olive tree as a source of CO2 absorption and Carbon Credit Generation	Study on CO2 sequestration on all olive orchards, Action Plan and Workshop	Parameters collected for Carbon Credit generation and country potential for Carbon credit assessed. Drafted Action Plan & organized Workshop		Ministry of Climate Change	Federal	Government, Private players, Farmers	Study	Study	Action Plan	Workshop				
	1. Technical Assistance and Linkage with TVET Project	Training & Extension	Enhancement skill	OCP II		Federal									
				MNFS&R - PUNJAB TVET PROGRAM	Barri Chakwal, CEFORT, Provincial Departments	223.109	Provincial Departments, BARI Chakwal, CEFORT, Technicians, farmers		45,350,000	62,815	66,194	48,750			
SUPPORT TO OLIVE BUSINESS DEVELOPMENT GROUPS OF WOMEN & YOUTH	2 Master's Programs in Olive-related fields		Two Master Degrees	OCP II		Federal	POD/Provincial Dpt	2							
	1. Technical Assistance for product diversification, quality assurance, branding, marketing	Use of traditional and social media, workshops, seminars conference	Knowledge in olive disseminated.	OCP II	Local Support Organizations/ RSPss/ Others	Federal	Local Communities	210	210	210	210				
	2. Training	Creation of Business Groups	Women & Youth empowerment	OCP II	Local Support Organizations/ RSPss/ Others		Local Communities	210	follow up	follow up	follow up				
	3. Provision of inputs	Producing and selling olive byproducts	Income generation activity for 210 Women and Youth	OCP II	Local Support Organizations/ RSPss/ Others	Federal	Local Communities	210	follow up	follow up	follow up				
	4. Promotional events	Organization of Women Fair and Gala	Promotion, Education, Information	OCP II	Local Support Organizations/ RSPss/ Others		Local communities		2	2					

Legend:
 (a) The Years are FINANCIAL (from July to June)
 (b) Plantation 2024-2025 by the PakOlive project; Punjab 15% share
 (c) Onward plantations don't have presently a subsidy coverage (13% on plants and drip irrigation); Punjab 15% share; (d) allocations for Nursery activities: Punjab 15% share (e) Training & TOT for GAP; Punjab 25% share (f) Drip irrigation: Punjab 15% share (g) Under "Federal" budget are indicated the actions that are not easily divisible among provinces or they are conducted at national level.
 d) Exchange rate for the OCP II Actions: 1 Euro 310 Rp.

ANNEX 6 E ROADMAP 2024-2030 (SINDH,AJK,GB,ITC)

Strategic objective	Actions	Description of Action	Outputs	Leading Entity	Partner Entity	Subsidy/ Budget Pak Rs.(million)	Beneficiaries	Period						Total	Cost
								2024 - 2025	2025 - 2026	2026 - 2027	2027 - 2028	2028 - 2029	2029 - 2030		
INCREASE OLIVE CROP PRODUCTION	1 Expansion of Area	Use of marginal land Use of waste Land Replacement of High Delta Crops	Olive Cropped area Increased	PakOlive project, POD & Farmers	Deptt. Agriculture, Soil Conservation, Rural Engineering , Rangeland, Forestry	35.75 (for 2024-2025) PSDP Pakolive	Farmers and local communities	Acres 1,770 Plants 191,160	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 1,258 Plants 135,886	Acres 8,110 Plants 875,880	245,246,400
	2. Improving the Olive Yields														
	2.1 Improving the Nursery System	Double shaded nursery tunnels		PakOlive project			Agriculture Research Institutes (ARIs) & CEFORT	1							
		Establishing an "Ad-interim Certification Process	6 Olive Varietal Foundation Blocks Nr. 10 plant combinations for specific micro-climates validated	OliveCulture Project scale up (OCP II)		4.2	PPP (farmers/ARIs)	1 foundation blocks	follow up	follow up	follow up				
		Training - Provision equipment	Skill Enhancement	OCP II		4.98	Nurserymen	3	equipment	follow up	follow up				
		One operational Digital Nursery Assistant	Nr. 1 operational Digital Nursery Assistant (messaging assistant) established & 16.Nr. 16 Variety Schemes created.	OCP II		Federal	PPP (farmers/ARIs)	1	follow up	follow up	follow up				
		Two Pomological and Nursery exhibitions	Promotion and divulation	OCP II			Nurserymen & farmers	0	0	0	0				
				OCP II	PakOlive project			?							
		2.2 Application of GAP & CSA	Technical Training	Skill Enhanced for 1,000 stakeholders	OCP II	PakOlive project	19.84	Stakeholders	100	100	60				
			Professionalizing TOT	ToT professionalized 300	OCP II	PakOlive project		Trainers	30	40					
		2.3 Irrigation	Installation of micro-irrigation systems	Increase water efficiency	PakOlive project	Provincial Deptt.	90 acres	Farmers & local communities (Acres)	885	629	629	629	629	629	4055
							20.05	Cost on subsidized rate of 67% Rs	133,413,750	94,821,750	94,821,750	94,821,750	94,821,750	94,821,750	607,522,500
		Procurement	Improve quantity & quality fruit	Provincial Agri Deptt	Rural Supports Programs/others	5.15	Farmers & local communities	90 acres							
IMPROVING OLIVE PROCESSING & QUALITY	1. Technical training and control for Hazard Analysis Critical Control Point (HACCP) in olive mills	Capacity building	Skill of 50 Mill operators and managers enhanced	OCP II	PakOlive project, provinces,	Federal	Farmers & consumers	50	follow up	follow up	follow up				
		Training	HACCP adopted in Olive Oil Mills Certification Procedures and SOPs established.	OCP II	PakOlive project, provinces			20	follow up	follow up	follow up				
	2. Reinforcement of Public-Private Partnership in Olive Oil Processing System	Technical assistance	Nr. 3 Public olive mills under a PPP scheme	OCP II	PakOlive project, provinces , processors		Processors	0	1	follow up	follow up				
	3. Reinforcement Lab System	Training, Technical Assistance, Procurement	Strengthening Nr. 1 Federal Organoleptic & Sensory laboratory and N.3 Provincial Phytosanitary Laboratories Nr. 3 Chemists and Nr. 4 Plant Pathologists trained Certification Procedures and SOPs in place	OCP II	Provincial Deptt.	Federal	Farmers & local communities	7 training	4 laboratories	follow up	follow up				
	4. Valorising the potential of pomace and by-products of olive mills	Support establishing 1 pilote plant & Training	1 pilot plant established and 100 stakeholders skilled trained in residues	OCP II	Industry-/processors/RSPs/others	Federal	Consumers/Farmers	30	40 - 1 plant	30	follow up				
	5. Processing Olive Fruits	Procurement Olive mills	Quality oil ensured	PakOlive/PPP/Private sector/RSPs	POD/Provinces										
	6 Packaging & Storage olive oil	Procurement tanks & packaging equip.		PakOlive/PPP/Private sector/RSPs	POD/Province										
MARKETING															
	1. Communication	1.Olive promotion and Food & Nutrition campaigns: Updating the "OliveCulture" Web-portal and the social media; Update of the national market study.	Consumers educated & Informed	OCP II	OCP II/PakOlive	Federal	Consumers	Campaign Social media	Campaign Social media	Campaign Social media Market Study	Campaign Social Media				
		2. Creation Consortium/Association	2. PakOlive brand managed and promoted for adoption of Quality Label PakOlive				Farmers, Processors and Consumers	Legal Act	Legal Act approved Consortium established	Consortium operational	Consortium operational				
	2.Promotion of the "PakOlive" brand							Shop & Education Centre established							
	3. Infrastructures and regulatory support & Establishment a pilot Olive Products shop/Education centre	Regulatory support and shop est	Promotion & Education	MNF SAR/POD OCP II											
HUMAN RESOURCES DEVELOPMENT	4.Olive tree as a source of CO2 absorption and Carbon Credit Generation	Study on CO2 sequestration on all olive orchards, Action Plan and Workshop	Parameters collected for Carbon Credit generation and country potential for Carbon credit assessed. Drafted Action Plan & organized Workshop		Ministry of Climate Change	Federal	Government, Private players , Farmers	Study	Study	Action Plan	Workshop				
	1. Technical Assistance and Linkage with TVET Project	Training & Extension	Enhancement skill	OCP II		Federal									
	2 Master's Programs in Olive-related fields		Two Master Degrees	OCP II		Federal	POD/Provincial Dpt	2							
SUPPORT TO OLIVE BUSINESS DEVELOPMENT GROUPS OF WOMEN & YOUTH	1.Technical Assistance for product diversification, quality assurance, branding, marketing	Use of traditional and social media, workshops, seminars conference	Knowledge in olive disseminated.	OCP II	Local Support Organizations/ RSPs/ Others	Federal	Local Communities	210	210	210	210				
	2.Training	Creation of Business Groups	Women & Youth empowerment	OCP II	Local Support Organizations/ RSPs/ Others		Local Communities	210	follow up	follow up	follow up				
	3.Provision of inputs	Producing and selling olive byproducts	Income generation activity for 210 Women and Youth	OCP II	Local Support Organizations/ RSPs/ Others	Federal	Local Communities	210	follow up	follow up	follow up				
	4. Promotional events	Organization of Women Fair and Gala	Promotion, Education, Information	OCP II	Local Support Organizations/ RSPs/ Others		Local communities		2	2					

(a) The Years are FINANCIAL (from July to June)
(b) Plantation 2024-2025 by the PakOlive project; Sindh/others 20% share
(c) Onward plantations don't have presently a subsidy coverage (33% on plants and drip irrigation); Sindh & others 20% share (d) allocations for Nursery activities: Sindh/others 20% share (e) training & TOT for GAP; Sindh/others 25% share (f) Drip irrigation: Sindh & others 10% share (g) Under "Federal"

ANNEX 6 F - ROADMAP 2024-2030 (FEDERAL)

Strategic objective	Actions	Description of Action	Outputs	Leading Entity	Partner Entity	Subsidy/ Budget Pak Rs.(million)	Beneficiaries	Period								
								2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030			
INCREASE OLIVE CROP PRODUCTION	1.Expansion of Area	Use of marginal land Use of waste Land Replacement of High Delta Crops	Olive Cropped area Increased	PakOlive project, POD & Farmers	Deptt. Agriculture, Soil Conservation, Rural Engineering , Rangeland , Forestry											
	2. Improving the Olive Yields															
	2.1 Improving the Nursery System	Double shaded nursery tunnels		PakOlive project												
		Establishing an "Ad-interim Certification Process	6 Olive Varietal Foundation Blocks Nr. 10 plant combinations for specific micro-climates validated	OliveCulture Project scale up (OCP II)	Federal Seed Certification,PakOlive project, provinces											
		Training - Provision equipment	Skill Enhancement	OCP II	Federal Seed Certification,PakOlive project, provinces											
		One operational Digital Nursery Assistant	Nr. 1 operational Digital Nursery Assistant (messaging assistant) established & 16.Nr. 16 Variety Schemes created.	OCP II	Fderal Seed Certification,PakOlive project, provinces	18,34	PPP (farmers/ARIs)	1	follow up	follow up	follow up					
		Two Pomological and Nursery exhibitions	Promotion and divulgation	OCP II	Federal Seed Certification, PakOlive project, provinces											
				OCP II	PakOlive project											
	2.2 Application of GAP & CSA	Technical Training	Skill Enhanced for 1,000 stakeholders	OCP II	PakOlive project											
		Professionalizing TOT	ToT professionalized 300	OCP II	PakOlive project											
2.3 Irrigation	Installation of micro-irrigation systems	Increase water efficiency	PakOlive project	Provincial Deptt.												
IMPROVING OLIVE PROCESSING & QUALITY	1. Technical training and control for Hazard Analysis Critical Control Point (HACCP) in olive mills	Procurement Capacity building	Improve quantity & quality fruit. Skill of 50 Mill operators and managers enhanced	Provincial Agri Deptt OCP II	Rural Supports Programs/others PakOlive project, provinces,	20	Farmers & consumers	50	follow up	follow up	follow up					
		Training	HACCP adopted in Olive Oil Mills Certification Procedures and SOPs established.	OCP II	PakOlive project, provinces			20	follow up	follow up	follow up					
	2. Reinforcement of Public-Private Partnership in Olive Oil Processing System	Technical assistance	Nr. 3 Public olive mills under a PPP scheme	OCP II	PakOlive project, provinces , processors		Processors	0	1	follow up	follow up					
	3 Reinforcement Lab.System	Training, Technical Assistance, Procurement	Strengthening Nr. 1 Federal Organoleptic & Sensory laboratory and N.3 Provincial Phytosanitary Laboratories Nr. 3 Chemists and Nr. 4 Plant Pathologists trained Certification Procedures and SOPs in place	OCP II	Provincial Deptt.	103,230	Farmers & local communities	7 training	4 laboratories	follow up	follow up					
	4 Valorising the potential of pomace and by-products of olive mills	Support establishing 1 pilote plant & Training	1 pilot plant established and 100 stakeholders skilled trained in residues	OCP II	Industry/processors/RSPs/others	14,78	Consumers/Farmers	30	40 - 1 plant	30	follow up					
	5. Processing Olive Fruits	Procurement Olive mills	Quality oil ensured	PakOlive/PPP/Private sector/RSPs	PODI/Provinces											
	6 Packaging & Storage olive oil	Procurement tanks & packaging equip.		PakOlive/PPP/Private sector/RSPs	PODI/Province											
	MARKETING	1. Communication	1.Olive promotion and Food & Nutrition campaigns; Updating the "OliveCulture" Web-portal and the social media; Update of the national market study.	Consumers educated & Informed	OCP II	OCP II/PakOlive	51,18 for Communication 10,57 for Branding 18,69 for shop/Education centre	Consumers	Campaign Social media	Campaign Social media	Campaign Social media Market Study	Campaign Social Media				
			2. Creation Consortium/Association	2. PakOlive brand managed and promoted for adoption of Quality Label PakOlive	MNFS&R/POD OCP II			Farmers, Processors and Consumers	Legal Act	Legal Act approved Consortium established	Consortium operational	Consortium operational				
		2.Promotion of the "PakOlive" brand								Shop & Education Centre established						
3. Infrastructures and regulatory support & Establishment a pilot Olive Products shop/Education centre		Regulatory support and shop est	Promotion & Education													
HUMAN RESOURCES DEVELOPMENT	4.Olive tree as a source of CO2 absorption and Carbon Credit Generation	Study on CO2 sequestration on all olive orchards, Action Plan and Workshop	Parameters collected for Carbon Credit generation and country potential for Carbon credit assessed. Drafted Action Plan & organized Workshop		Ministry of Climate Change	17,21	Government, Private players , Farmers	Study	Study	Action Plan	Workshop					
	1. Technical Assistance and Linkage with TVET Project	Training & Extension	Enhancement skill	OCP II		18,51										
	2 Master's Programs in Olive-related fields		Two Master Degrees	OCP II		16,43	PODI/Provincial Dpt	2								
SUPPORT TO OLIVE BUSINESS DEVELOPMENT GROUPS OF WOMEN & YOUTH	1.Technical Assistance for product diversification, quality assurance, branding, marketing	Use of traditional and social media, workshops, seminars conference	Knowledge in olive disseminated.	OCP II	Local Support Organizations/ RSPss/ Others	27,21	Local Communities	210	210	210	210					
	2.Training	Creation of Business Groups	Women & Youth empowerment	OCP II	Local Support Organizations/ RSPss/ Others		Local Communities	210	follow up	follow up	follow up					
				OCP II	Local Support Organizations/ RSPss/ Others			210	follow up	follow up	follow up					
	3.Provision of inputs	Producing and selling olive byproducts	Income generation activity for 210 Women and Youth			36,49	Local Communities									
	4. Promotional events	Organization of Women Fair and Gala	Promotion, Education, Information	OCP II	Local Support Organizations/ RSPss/ Others		Local communities	2	2							

Legend:
 (a) The Years are FINANCIAL (from July to June)
 (b) Under "Federal" budget are indicated the actions that are not easily divisible among provinces or they are conducted at national level
 d) Exchange rate for the OCP-II Actions: 1 Euro 310 Rp.



**Ministry of National
Food Security & Research**
Government of Pakistan