An Impact Assessment Study
April 2022

A WALK IN
THE OLIVE ORCHARDS!

Promotion of **Olive Cultivation**
on Commercial Scale in Pakistan

KHAITY
Ai EMPOWERED FARMING

Pak Olive
A Project of Government of Pakistan


بسم الله الرحمن الرحيم

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KHAITY

Ai EMPOWERED FARMING

Data Plan

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Executive Summary

The purpose of this report is to present the progress of the impact assessment study (IAS) of Government's initiative: "Promotion of Olive Cultivation on Commercial Scale in Pakistan". The project aimed to capture the opportunities for edible oil production through strengthening the capacity of public and private sectors in the areas of orchard management, nursery production, value addition, business planning and marketing of oil.

This IAS was comprised of various steps including developing a comprehensive survey form, sample size determination, field survey, data compilation, and analyses. From six different regions, 670 farmers were sampled for this self-administered questionnaire based survey. The maximum number was from Baluchistan, contributing 45% of the total and the lowest was from the Federal region. Facilities, such as oil extraction units, value added labs, and weather stations were also sampled with a different survey tool. The comprehensive evaluation of the olive plantation initiative highlights the overall positive impacts for the farmers, community, and local environment. Majority of the indicators considered showed positive progress /impact of olive cultivation. Marginal lands have been utilized for olive plantation, making it attractive for the owners and farmers of such lands. 303 farmers reported that they used a barren land for olive

cultivation with majority who owned less than 10 acres. It has a positive impact on other vegetation as verified by the survey's responses; thus, the expansion of this intervention will support other vegetation.

Overall, the olive plantation has a positive impact on environment and is playing its part toward the development of the environment. The intervention has undoubtedly squeezed the land degradation, in addition to stopping the soil degradation (228 farmers agreed to this), biodiversity, animal habitat (503 agreed to this), other crops, livestock, and waste emission etc.

Drip irrigation offers an opportunity for better water consumption and management. Although, there are certain maintenance issues with drip irrigation, but these can be managed through capacity building and developing skilled labor. Though, only 17% of the sampled farmers had the drip irrigation system; however, most believed that it has potential for 50% savings in water, along with reducing land degradation happening through erosion, and desertification. Furthermore, the use of renewable energy is highly recommended for the entire process of Olive Production from the farm till transportation to have a complete 'Green Olive Production' Process.

Since the project was initiated in 2014 and plantation was carried out in different phases till 2021, the average age of olive plants varied throughout the country. The major impediment in comprehensive technical, economic, and social evaluations lied

with the fact that only 17% of the sampled orchards have started fruiting at varying capacity ranging from less than 1 to 100% (it is worthy to note that only 3 farmers out of 670 reported 100% production). 129 farmers responded with Actual picture will be clearer, once at least 50% of the farms start giving production at 100% capacity. So, it seems debatable that this survey may be considered as a baseline study for future evaluations. The real impact on the society will be depicted if an assessment is planned after another 4-5 years when significantly higher number of orchards would start producing olive fruit. Once olive fruit will be available in abundance, allied facilities like extractions and value addition labs would be contributing effectively. At that stage, a better assessment seems in-sight. A baseline proforma for scoring farmers was also developed in this IAS to become part of the next assessment.

As far as the job opportunities are concerned, findings show that the plantation of olives increased the job opportunity in the region, especially in the harvesting season. On average each farmer witnessed the creation of at least 8 jobs. Linearly speaking, the project created 15,416 jobs, if we consider 50% farmers (of total population of 3,854 farmers benefitted from this initiative) witnessed this average number of jobs created. As this calculation is restricted to jobs created in cultivation and harvesting activities, more than 8 jobs are estimated to be created considering other activities, such as: oil extraction, value-added products manufacturing, in-bound and out-bound transportation, and storage in various stages of the supply chain.

Regarding poverty alleviation, the results were mixed, and this can be attributed to partial olive production as the orchards are young in most of the cases and production and commercial activities have started on limited scale. Statistical analysis of the data confirmed that earnings of the olive farmers increased after olive plantation; and average return was reported in the range of Rs. 50,000-100,000 per acre. With increase in production in near future, it is further expected to create more jobs, alleviate poverty, provide quality oil and overall wellbeing of soil and environment. This report is concluded with the SWOT (strengths, weaknesses, opportunities, and threats) analysis of the project.

In terms of access to market, the results of the survey suggest that farmers require more assistance in their access to market and biggest barrier is the distance to market. Similarly, regarding access to value-adding facilities (such as oil extraction units, value-addition labs, and weather stations etc.), these facilities were established and are providing services to the farmers. Findings suggest that the access must be enhanced with more online access and advocacy /awareness drives, along with establishing more of these facilities.

As per the thematic analysis, the respondents identified the following areas to focus on in the next phases of the project: more drip irrigation systems be installed with Govt. support; better organized services be rendered during the whole initiative; financial support and subsidies be provided to install farmer-owned oil storage facilities; more training programs be arranged on technical guidance; and more job opportunities be created.

Thirty percent of the local demand of edible oil is met via local sources, while 70% via import. Pakistan has the highest per capita cooking oil consumption (24 kg) in the world and has a demand growth of 2.3% per capita. The results of this IAS show that the outcomes of this project are very promising and have a great potential to contribute to indigenous oil production significantly, reducing the olive oil portion (0.4% or $11M) of the edible oil import bill in near future. However, export market potential is huge. In this light, it is suggestive to conduct a detailed market analysis.

Thus, it can be concluded that the positive effects of Government's olives plantation are overall greater than the unfavorable effects, in terms of all the three dimensions environmental, social, and economic. Exactly 600 farmers categorized this initiative as successful on overall impact. Therefore, it is worthy to plant olives in the selected regions, as the area and community is immensely benefitting.

Introduction

The purpose of this report is to present the progress of the impact assessment study of Government's initiative: "Promotion of Olive Cultivation on Commercial Scale in Pakistan". First, few salient features defining the context of this initiative are presented, then the objectives of the impact assessment are presented .

1.1 Background

Context of this assessment is the Govt.'s initiative that has the following higher level information :

- Olive Project was implemented from: 2014-21 (7 Years)
- Olive Plantation on 13,306 acres across Pakistan
- Extraction Units: 9 Olive Oil Extraction units
  o 3 big of 600kg/hr capacity; 6 small of 100kg/hr
- Value Addition Labs: 3 with all facilities, equipment, and chemicals
- Training & Symposia: 63 Trainings and 2 international symposia
- Drip Irrigation System: installed at 1686 acres across Pakistan in Olive Fields
- Weather Stations: 5 with all tools /modules /systems were installed

The project focusing on cultivation of olives in different regions of Pakistan was started in 2014. This project's objectives are in line with the sectoral strategy directly related to enhance the agricultural productivity, self-reliance in agricultural commodities, promote diversification by high-value crops and to increase small farmers' income; provide resources, skills, and information to enable farmers to be linked with consumers of prospective markets. The long-term objective of this project is to increase indigenous production of edible oil to feed the increasing population and to arrest the drain of national exchequer for oil and fats imports by cultivating the un-utilized marginal lands.

[1] As provided by the client
[1] Ibid
[1] HS Code: 1510.0000

Figure-1.1 shows the districts where the crop is currently cultivated.

Introduction

Figure-1.1: Distribution of olive cultivation zones on the map

1.1.1 Aims of the Initiative

The project aimed to capture the opportunities for edible oil production through strengthening the capacity of public and private sectors in the areas of orchard management, nursery production, value addition, business planning and marketing of oil.

The specific objectives of the project were:

a) Plantation of olive plants on 50,000 acres
b) To develop infrastructure/capacity for mass-scale production of true to type, disease free nursery plants in public and private sector
c) Provision of plants to farmers through import and indigenous production
d) Human resource development through trainings on crop's culture involving youth and gender
e) Provision of oil extraction units and value addition equipment to facilitate processing
f) Mother orchards development for bud wood provision

The objectives of the current project are in line with those of agricultural development to achieve self-reliance in agricultural commodities, to ensure food security and to improve productivity of crops. Table-1.1 shows the area and number of nursery plants that were planned to be planted.

Table-1.1: Chronological details of olive plantation over the life of project

Table-1.1: Chronological details of olive plantation over the life of project

Duration	2014-19	2019-20	2020-21	2021-22	Total
Target Area (acres)	7,005	5,000	17,195	20,800	**50,000**
Targeted No. of Plants (@100-135/acre)	844,000	`675,000	2,321,325	2,808,000	**6,648,325**

1.1.2 Business Model & Linkages

The efforts have been made to link the farmers with the private sector vendors for processing, marketing, and branding of crop products which has led to the establishment of processing units having potential of employment generation in the respective areas. Some of the focus areas include.

a) Provision of True to Type, Disease-Free Nursery Plants

Production of indigenous nursery plants will be encouraged under this project to reduce the current reliance on import of nursery plants. In this regard, the nursery staff will be trained for the certification of true to type, disease free plants.

b) Water Delivery Network

For a drought tolerant plant, supplementary irrigation is needed through high efficiency system at critical phonological stages to obtain optimum fruit yield. High efficiency irrigation system not only saves the water but also contributes towards better quality and less frequency of diseases and insect pests. Drip Irrigation System (DIS) will be provided on 100% Govt. share on public and private land.

c) Capacity Development of Private Sector

Due emphasis has been given for the strengthening of capabilities of both private and public sectors for the nursery raising, value addition, marketing etc. Private sector will be encouraged for business in entire value chain. Therefore, focus has been given for creating an enabling environment through training and capacity development of private sector for production of local nursery plants.

d) Empowering Youth and Gender

A great potential exists in involving the youth in nursery raising, whereas gender can be involved in value addition process.

e) Significance of Environmental Effect

Sustainable olive oil production helps to mitigate climate change, reduce green-house gas emissions. Scientific studies have documented the positive effects of growing olive plant on the environment. In addition, the role played by the olive trees in safeguarding biodiversity, improving soil, and as a barrier to desertification cannot be ignored. There is evidence that olive trees have the capacity to fix the atmospheric CO2 in permanent vegetative structures (biomass) and in the soil along with lowering of atmospheric temperature.

f) Value Addition

Processing of olive which includes production of oil, pickles and other by products is aimed to enhance the income, living standard and health of youth, gender, and rural communities. The ultimate goal is to develop value chain of the olive. A lot of investment opportunities exists in this sector.

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1.1.3 Technical Considerations

a) Varieties

There are hundreds of varieties in the world, but 10-15 olive varieties are widely cultivated. Among these Frontio, Arbosana, Arbequina, koroneiki, Leccino, Kalamata, Gemlik and Pictual are important.

b) Soil and Climatic Requirements

A deep fertile soil and temperatures averaging 10oC but never going below -10oC are desirable. However, now high temperature tolerant varieties are available which can tolerate temperature up to 37oC. Irrigation is often necessary although the plant bears drought to a great extent. Trees need chilling (winter rest) for 60-80 days to differentiate flower buds and an average temperature of 4-7oC. About 250 hours are required in the winters depending upon the cultivars. The maximum absolute temperature should not exceed 22oC during November to February. It can tolerate gradual drop of temperature up to -10oC for a short period. The best crop production and fruit quality occurs in areas having mild winter and long warm dry summer. The neutral and light saline soils with 5% clay particles are suitable for the crop with the best soil pH range 5.6-8.5 but it should not be less than 5 and more than 8.5. The plant requires nitrogen, but Boron deficiency could cause a serious problem during its growth.

c) Land Preparation

Soil should be well ploughed before plantation. Pits of size 2.5x2.5 feet should be dug at least one week before plantation.

d) Planting Time

Trees can be planted during spring and fall. However, fall is best if there is no likelihood of frost during winter.

e) Planting Geometry

Trees are planted in square with equal line to line and plant to plant distance. 18x18 feet distance yields best results. There should be 135 trees in an acre.

f) Irrigation Requirements

Although it is a hardy tree, yet it requires timely irrigation during the early two years. In Barani areas, annual rainfall ranges between 150-500 mm. If it does not rain, trees should be irrigated twice or thrice in a year. The irrigation schedule will be:

(1) Before Flowering, (2) After Flowering, and (3) 30-45 days before fruit Maturing.

g) Pollination Requirements

Monoecious: Flowers borne axially along shoot in panicles, self and cross pollination occurs. Now, self-pollinated varieties are encouraged.

h) Fertilizer Requirement

Phosphorous and Potash at the rate of 300 + 200 kg/ ha is required after 03 years of plantation.

i) Harvesting of fruit

Fruit matures during September/October. Harvesting is accomplished by following methods:

- Picking single fruits for pickle and quality oil
- Shaking branches and collection of dropped fruit
- Mechanically shaking the trunk and shake branches for harvesting

j) Harvesting for Pickle

Fruit is harvested when it is light green and washed with water. Then the fruit is kept in 1-2% Sodium Hydroxide (NaOH) solution for 36-48 hours. Afterwards the fruit is washed for 5-6 times and is kept in 6-8% sodium chloride (NaCl) solution for 14-21 days. Later on, the fruits are washed and preserved in vinegar.

k) Harvesting for Oil

Fruits are harvested during October when the color is purplish followed bycrushing for oil extraction.

1.1.4 Significance of the Project

Olive oilseed production receives less attention than staple and cash-crops like wheat, rice, cotton, and sugarcane, although, in 2017 alone, more than $3.2 billion were spent on imports of olive oil, oil meal, and oilseeds to meet the domestic needs. With no support mechanism for price and procurement of produce, and the lack of proper funding to improve research, seed quality and technology are the key constraints that deter farmers to consider oilseeds in their cropping decisions. Additionally, the domestic crushing industry finds it more attractive to import oilseeds rather than providing incentives to local growers for increased domestic production.

The other reason for almost static oil production in Pakistan is that sunflower and canola crops compete with the other cash crops. Hence, to increase area of these crops is very difficult. The only option to increase oil production is the utilization of marginal lands available and only oil plant that can be grown on marginal areas is the olive crop. The marginal lands availability in Pakistan is more than 12 million hectares. If one third of it is utilized for olive cultivation, Pakistan can not only fulfill domestic requirements but also can generate earning of billions of rupees in coming years.

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Edible oil is one of the important food items of everyday use. Pakistan has been constantly and chronically deficient in its production. More than 80% of the domestic requirements are met through imports. Since early 1970s, its import increased at the rate of 12.5% annually and the trend will not only continue but will also get worsen with increase in population.

The current population of country is estimated about 202 million ranking as 6th most populous country in the world. The ever-increasing growth in population and urbanization has been and will remain the main factors in growth of edible oil industry in Pakistan. It is estimated that the edible oil requirement will increase by 6 to 8% per annum in next ten years, the requirement may cross the figure of three million tons and already we are importing oil more than the whole European Union. This is not only because of population upsurge but also due to cooking and eating habits of Pakistani nation resulting in loss of huge foreign exchange.

Introduction

1.2 Previous Studies on Olives

Few salient previous studies on Olive plant and production are presented in Table-1.2.

Table-1.2: Previous Studies on Olives

#	Source	Study's Objective	Methodology	Impact
01	Jan et al. 2021	Review paper: nutritional requirement and its impact on the supply and demand.	Empirical analysis, OLS	Olive oil production and olive plantation are important assets of the country which increase the positive impacts in all independent variables productivity because olive plantation is beneficial for nutritional purposes.
02	Anwar et al. 2013	Study based on the analysis of the chemical composition with different quality parameters on olive oil along with the olive plantation in different regions of Pakistan	Descriptive statistical analysis	All different analyses have proved that the olive plantation and olive oil are quite beneficial and useful for human health. Commercialization and chemical compositions are impactful and good.
03	Ashraf et al. 2021	Analysis of the different variety of olive plantations growth in the different regions of the Punjab Pakistan	Central tendency with LSD method	This study reveals that different olive varieties in different regions can be productive for the commercial purpose along with the products which could increase economic development.
04	Shoaib et al. 2021	The study is based on the suggestions and ideas regarding taking the advantage of olive new plantations on the economic growth with marketplace control in Punjab, Pakistan.	Central Tendency with Regression	The study has proved that the olive plantation has enhanced the marginal cost with the marginal production along with the enhancement of profit to farmer. Olive crops are profitable, and we can take advantage of this plantation for upgrading the marketplace with a benefit-cost ratio increment.
05	Tahir et al. 2016	To increase the olive plantations in the different regions of KPK, Pakistan to enhance the public-private partnership and make a strong relationship between the market and the farmers which could be beneficial for the economic growth of the state.	Literature reviews, Survey method, Interviews, and statistical analysis.	The study reveals that increased enhancement of the olive plantation in different regions of KPK, is quite beneficial and profitable. This study has also suggested that proper utilization of available land in a productive way can easily generate profits.
06	Shoaib et al. 2021	This study investigates farmers' decisions of adopting risk management strategies (contract farming, off-farm income diversification, and farm credit use) and examines the impacts of a variety of factors on farmers' risk management decisions. It was carried out in 4 districts of Punjab.	Regression literature review	The findings reveal that the decisions of adopting risk management strategies are interlinked while the adoption of one risk management tool complements farmers' decisions to adopt other risk management strategies.
07	Ali et al, 2008	Olive oil deficit and impact on expenditures in Pakistan	Pragmatic approach plus regression	All crops with different producers of different crops can make a strong relationship between the farmers and the marketplace which is profitable in olive oil production in quality aspect (edible quality).

1.3 Objectives of the Impact Assessment Study (IAS)

Growing population of Pakistan is putting pressure on natural resources and particularly agricultural productivity is becoming critical to ensure the food security. Industrialization, infrastructure development, expanding cities, conversion of agricultural lands into housing colonies and allied anthropogenic activities have resulted into depletion of a key resource for sustainability i.e., soil. In this scenario, efforts are being done to utilize marginal and undulating soils for agricultural activities. Olive plantation offers a great opportunity for utilization of such soils. For this, a country-wide project was launched. The purpose of this survey was to assess the outcomes of the project for the period of 2014-2021.

1.3.1 Scope of the Survey

The impact assessment study (IAS) was carried out to assess the beneficial impacts on:

- Rural Development
- Production of Olive Oil and Table Olive
- Rural Economy (Macro and Micro, Individual and community)
- Employment Generation in the Olive Sector
- Development of Olive Value Chain
- Climatic & Environmental Effect of Olive Plantation
- Soil Effect: Impact of Olive Plantation on erosion control, restoration of margina l/undulated/non-productive land in Pakistan
- Future Prospects
- Goals /Objective Achieved
- Simulative Statistical Study is desired to investigate the future prediction about the progressive nature of the sector.
- SWOT Analysis may also be desired to streamline the Olive sector in future.
- Economic, Dominance & Marginal Analysis of the initiative (sampling size > 50 farmers)
- Individual initiative impact assessment as discussed below.

Physical assessment of the plantation of all project components

District-wise and farmer-wise data analysis on three levels:

i. 01-10 acres
ii. 11-20 acres
iii. 21-30 acres
iv. Above 30 acres

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Economic Analysis of the initiative

Assessment including the report of the plants on 50% fruiting, 100% fruiting and age of the plants and prospects of the initiative:

Rural & Environmental Impact

Impact assessment of olive plantation on rural masses and environmental benefits for controlling erosion on marginal lands. Using all the agricultural tools to assess the environmental effects like CO2 accumulation, erosion control, and carbon credits etc.

DIS' Impact

Impact assessment of drip irrigation system on the productivity of the olive and water saving in arid areas. Water saving technologies in arid areas, and beneficial impacts for the productivity of olive. The survey forms be made containing information pre and post installation. Economic and marginal analysis of the initiative.

Benefits of Locally Produced Olive Oil

Assessment and collection of baseline data of locally produced olive oil in the country and socio-economic benefits. Baseline/ farmer-wise data in accordance with Olive plantation, olive fruit production, olive oil production and mechanism of its marketing, branding, and commercialization. Data must be area-wise, farmer-wise, and province-wise and also sampling size may be rationalized to show the exact situation for proper SWOT analysis.

Training Evaluation

Assessment of trainings/workshops on the trained manpower including youth & gender. Assessment of training evaluation initiative for:

- Employment generation in olive sector.
- Techniques of nursery management, orchard management and olive value chain.
- Production status of individual olive farm pre and post training.
- How training would help in Shaping olive value chain.
- How development of olive value Chain in future is dependent upon training.
- Impact of trainings in capacity building of youth and gender in olive sector and how much these entities are benefited from this.

Benefits of Physical Assets

Assessment of beneficial impacts of physical assets to the farmers

- Impact assessment of installation of 6 small and 3 big olive oil extraction units (sampling size must not be < 50 farmers benefiting from these assets repre senting all provinces).

- Impact of weather station (for assessing weather /climate prediction before their onset)

Baseline Proforma for Scoring Farmers

Development of baseline proforma for scoring individual farmer assessment and cumulative data subjected to statistical analysis. Performa is to be worked and planned in authority's consultation.

The scope of this study revolves specifically around assessing the impact of olive plantation, drip irrigation systems installed, training programs delivered and various units (oil extraction units, and weather station) established.

1.3.2 Categorized Objectives of the IAS

All the aims and goals mentioned in different sections above can be categorized in the following three objectives. Following are the broad objectives of this study, and these should be read in scope of Federal, Punjab, KPK, Balochistan, AJ&K and GB locations, under the ToRs :

a. To analyze the Agricultural Impact of the initiative.
b. To analyze the Environmental Impact of the initiative.
c. To analyze the Socio-Economic Impact of the initiative.
d. To analyze the Training Impact of the initiative.

Next section presents the methodology adopted for collecting data. Further sections are findings and analysis, and conclusions and recommendations will be presented in the light of the findings.

Giant Olive tree in Zhob, Baluchistan
Courtesy Habib Ullah Kakar, Baluchistan

Methodology

The data required for detailed analysis are obtained through secondary sources as well as primary sources i.e., via conducting an extensive survey. It includes the data related to achieving the objectives laid under section 1.3.2.

In research, a distinction is usually made between primary and secondary information. Secondary information provides the base and the starting point for analysis. It indicates what is known and provides leads and cues for further investigation.

2.1 Secondary Research

This information was provided by the client in the shape of following. Secondary information is usually available readily; however, its reliability, accuracy, and relevance for the purpose under consideration should carefully be examined.

- Terms of Reference for Impact assessment of "Promotion of Olive Cultivation on Commercial Scale in Pakistan" (a 3-page document).
- Farmers' Data (provided in Excel where 3854 farmers are approximately mentioned from the geographical locations in scope).
- Minutes of CDWP Meeting of Aug 6, 2019.
- Revised PC-1: Promotion of olive cultivation on commercial scale in Pakistan (Original Cost: PKR 2444.545 million; Revised Cost: PKR 2320.27 million)

For reading flow, the sources are presented as footnotes wherever cited in this report.

2.2 Primary Research

Secondary information needs the complimentary primary information gathered through a detailed survey for conducting a comprehensive analysis. For the project at hand, a self-administered questionnaire-based survey was conducted to gather relevant information.

Key stakeholders for the current study are Farmers, /Growers and Officials of the established Units (oil extraction units, and weather station). Three questionnaires were designed which were validated via discussions with experts. Subsequently, the questionnaires were submitted to the client for their vetting. Comments received from the client were then included in the questionnaire. These were then vetted by conducting a pilot. All the ambiguities were removed, and the update questionnaires were then converted into both: MS Word File and Google Forms. Questionnaire of the Farmers was also translated in Urdu for better response.

Multiple teams to carry out the survey were formulated for different regions keeping in view the local sensitivities, language barriers, access to remote areas, etc. These teams of data collectors were then trained on the questionnaires. Different teams physically visited different tehsils and districts in Federal, Punjab, Baluchistan,

Khyber Pakhtunkhwa and AJK. Annexure-A showcases the sampled photographs of this major effort under the IAS.

The sample size was finalized based upon statistical considerations for each region/zone and the task was assigned to the survey teams. The sampling strategy utilized is presented as Annexure-B. The self-administered questionnaires (see Annexures-C) were got filled by the trained data collectors via in-person mode. The data collection process started on Mar 8, 2022, finished on Apr 15, 2022. In this process 670 questionnaires were filled. The information of the sampled farmers isplaced as Annexure-F.

The main questionnaire was comprised of 156 questions, which included questions related to demographics, land, drip irrigation, economics, infrastructural perspective, social and environmental aspects. The flowchart in Figure-2.0 summarizes the methodology adopted.

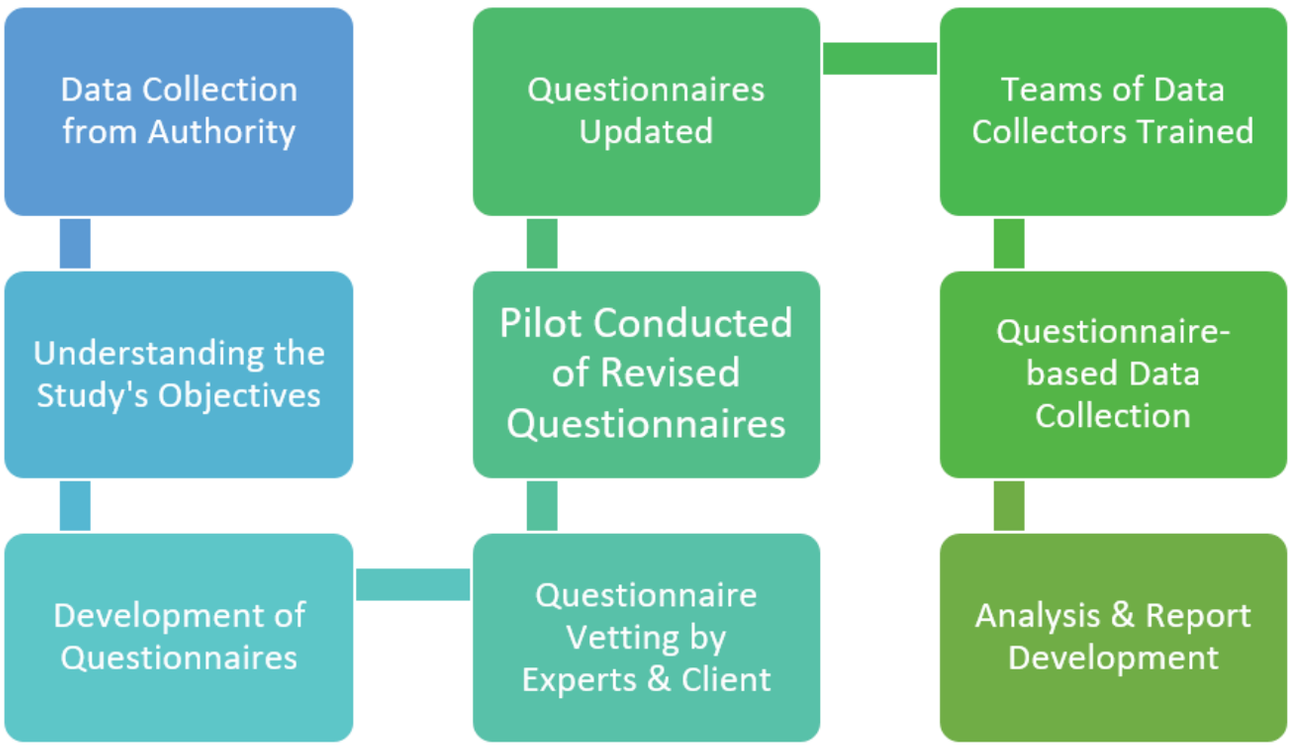


Figure-2.0: Impact Assessment Study's Flow

Methodology

2.2.1Public Consultation

One of the aspects of this study was public /farmer consultation and recording of their input regarding the execution of the olive project. Public consultation has a key role in analyzing the future effects of any project on the public. It is necessary for successful implementation and project execution. Public involvement is a compulsory feature of impact assessment, which leads to better and more acceptable decision-making. The overall objective of the consultation with public is to verify the economic, environmental, and social issues that have been presumed to arise and to identify those which are not known. Main objectives of the consultation process were:

- Information dissemination, education, and liaison
- Identification of problems and needs
- Collaborative problem solving
- Reaction, comment, and feedback on the project
- Documenting mitigation measures proposed by the public
- Suggestions for future implementation of the project

2.3 Limitations

Visiting far flung fields and other related places to gather questionnaire-based data of stakeholders was not easy, especially in post-covid situation. Another challenge was the reluctance of the respondents to meet the researcher(s). Few respondents declined due to multiple reasons, e.g., very short time given to arrange meeting, respondents were travelling, or they simply felt that they have not much knowledge about the project. Earlier, a proportional stratified random sampling was selected; however, due to these limitations, the sampling technique followed was forced to become: Convenient Sampling after Proportional Stratification. It was used because no other sampling technique was deployable. The data collection team called every single farmer and who agreed to be part of the study were accessed. In some scenarios, no one was picking calls or even some have changed their numbers, so the team had to go into the field and searched for the relevant farmers to complete the sample size of that stratum. Nevertheless, utmost efforts were placed to gather data successfully. Furthermore, on certain aspects, there are no secondary data available. While in situations, where data do exist, these are not current or are not authentic /reliable. Various respondents either asked to leave certain responses blank due to non-applicability, lack of knowledge or preferred-not-to-say; this made the count of the responses to certain questions as less than 670. Utmost care had been placed to overcome these limitations.

2.4 Ethical awareness and consent

All the survey teams were trained for getting consent of the farmers prior to starting detailed questionnaire. In most of the cases, farmers consented to be part of this survey. Only less than 10% denied due to certain personal reasons. The personal information of the respondent was kept anonymous during the analysis of the results.

2.5 Analytical Approach

After data collection through a comprehensive survey of Olives Farmers, Oil Extraction Units and Weather Stations, the analysis was conducted. This analysis, based on primary data, was analyzed with the help of Microsoft Excel, SPSS and NVivo. Experts conducted descriptive analysis, as well as inferential statistical analysis. This study used crosstabs, and multiple linear regression techniques to explore the relationship between economic indicators at the olives farm level and the influencing factors. Thematic Analysis [1] was also carried out to analyze the open ended questions.

In statistical modeling, regression analysis is a set of statistical processes for estimating the relationships between a dependent variable (often called the 'outcome' or 'response' variable, which in this case is income or profit gains from olive plantation) and one or more independent variables (often called 'predictors', 'covariates', 'explanatory variables' or 'features'). In this case, there are multiple independent variables to develop a suitable econometric model. The most common form of regression analysis is linear regression, in which one finds the line (or a more complex linear combination) that most closely fits the data according to a specific mathematical criterion. However, in this study, ordinal regression was employed.

The data were analyzed on multiple levels, such as: Macro-level (overall and Province-level), Micro-level (District-level and Acreage-level or Farm-size-level), Earnings Before and After Olive Plantation, Number of Plants Received versus Current Quantity in fields, Drip Irrigation System Implemented or Not, and SWOT (Strength-Weakness-Opportunities-Threat) Analysis.

2.6 Regions Covered

From six different regions, 670 farmers were interviewed for this survey. In Punjab, 10 districts were covered, and 72 questionnaires were filled from the farmers. Since most of the farmers were in Chakwal district, so the maximum questionnaires were filled from this district. The highest number of the respondents were from Baluchistan, contributing 45% of the total; while KPK is represented by 27% sample. The lowest numbers were from the capital, only five questionnaires were filled, contributing just 1% of the total. The detailed distribution is presented in Figure-2.1, while Figure-2.2 shows the districts with their sample sizes.

[1] As per Braun & Clarke (2006)

Methodology

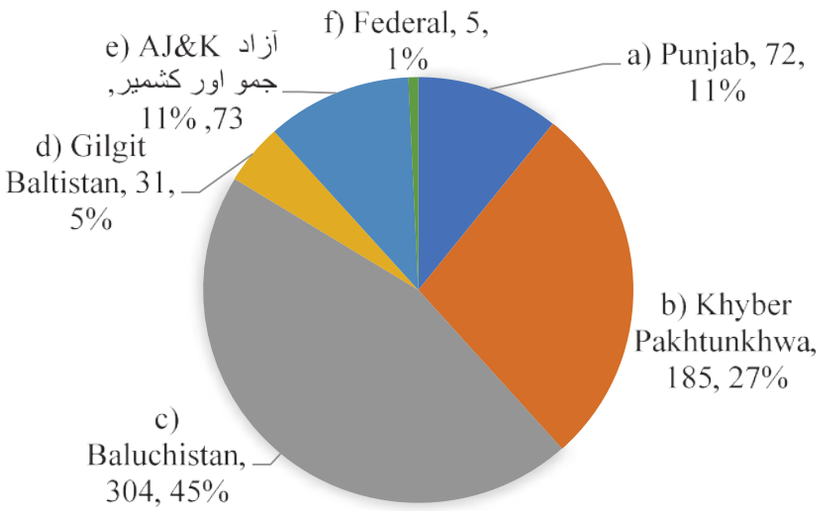


Figure-2.1: Province/Location-wise data of the respondents

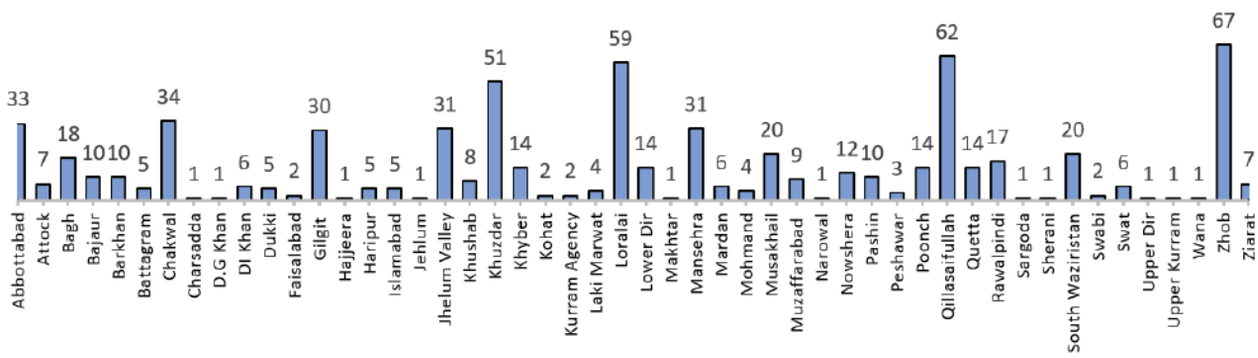


Figure-2.2: Number of Farmers Interviewed from Different District from Punjab

2.7 Demographics & Farming Experience

Interestingly, most of the farmers have farming background. However, this project has also attracted new farmers towards cultivation of olives. Around 7% of the farmers were non-practicing and joined this domain recently after the launch of this project. Around 5% of the partially or part-time farmers were also attracted by this project. The detailed distribution is presented in Figure-2.3.

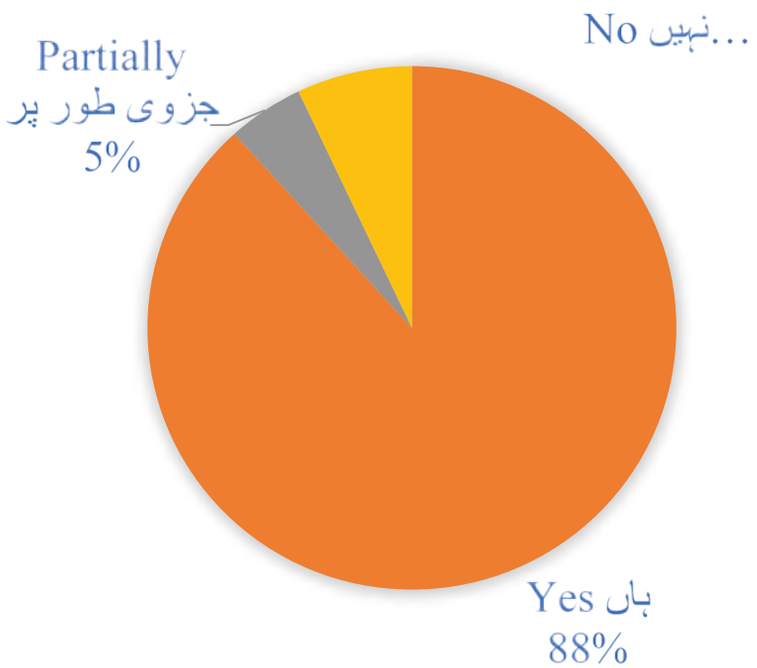


Figure-2.3: Are you (farmers/household) a Practicing Farmer?

Another encouraging trend was that majority of the farmers were young and were recently involved in the farming. About 53% of the farmers involved in olive plantation had farming experience less than or equal to 10 years. Further details are presented in Figure-2.4.

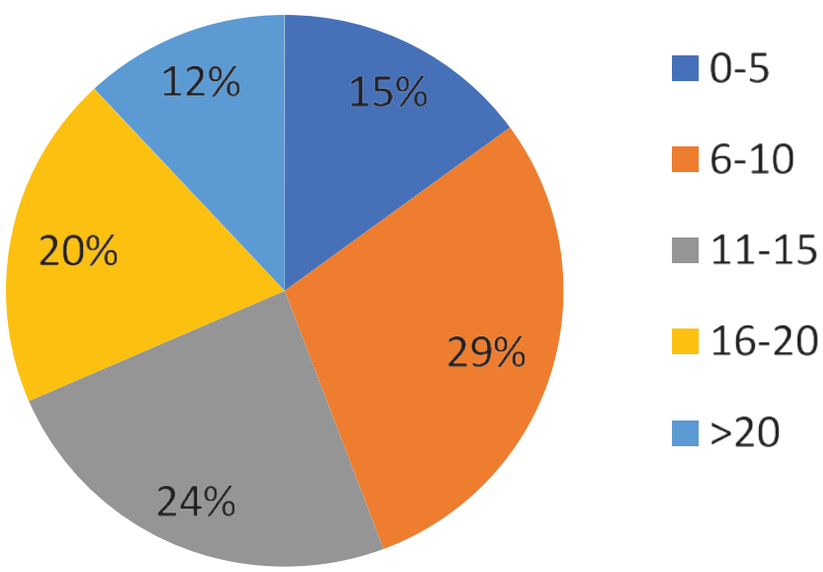


Figure-2.4: Farming Experience of the Participating Individuals

Methodology

Most of the farmers were directly interviewed; however, in certain cases, farm managers and farm workers were also the respondents for the present study (see Figure-2.5). 100% of the respondents were male as they were directly involved in different farming activities.

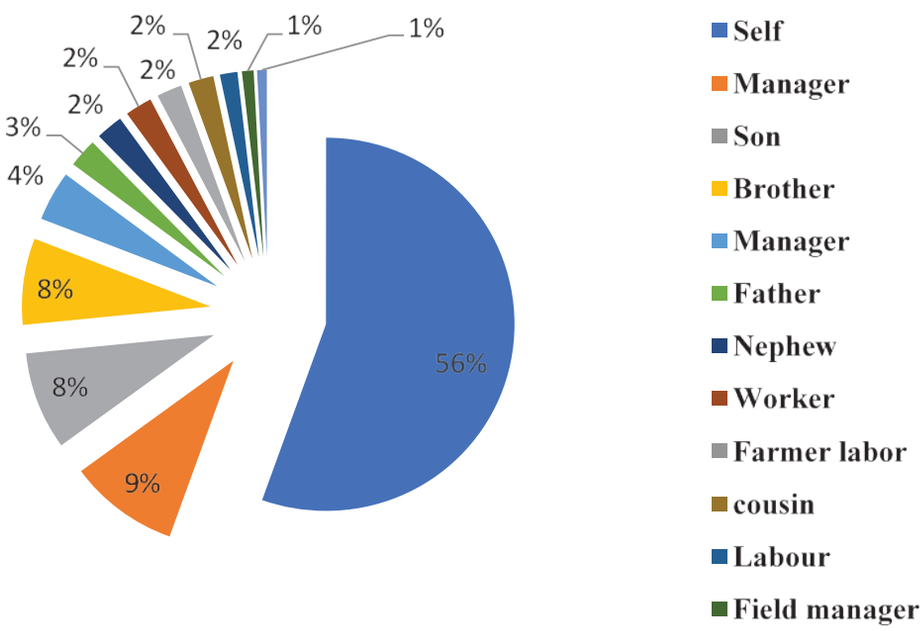


Figure-2.5: Respondents' Relation with the Household Head

As far as the age of the farmers concerned, major proportion of the farmers were in between 29-42 years of age, highlighting the maturity of the farmers and their ability to make informed decisions about the cultivation of olive. The detailed distribution is presented in Figure-2.6.

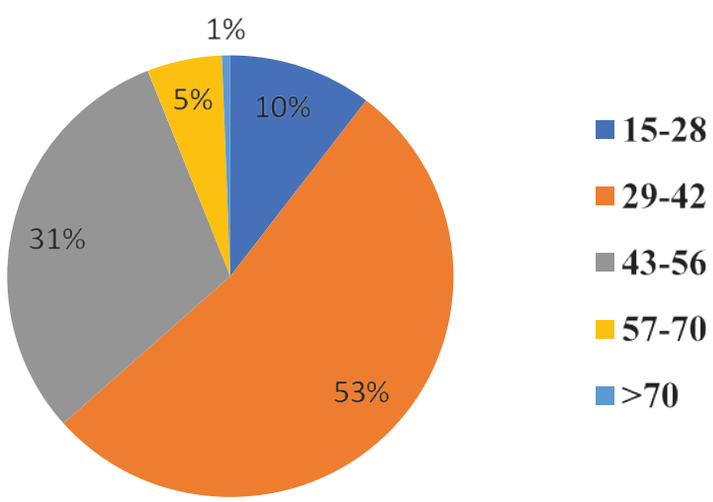


Figure-2.6: Age of the Farmers

Majority of the farmers were educated and only 10% of the farmers were illiterate. This indicate that educated individuals are participating on olive cultivation and it is positive indication as they can understand and incorporate new interventions easily. A considerable number of the farmers were graduate and postgraduate. The detailed distribution is presented in Figure-2.7. This can also be correlated with the type of farming the farmers are doing. About 93% of the farmers were having mix farming that indicates incorporation of other crops with olive plantation for quick benefits. 82.5% of male family members and 19% of female family members of the respondents are involved with them in farming.

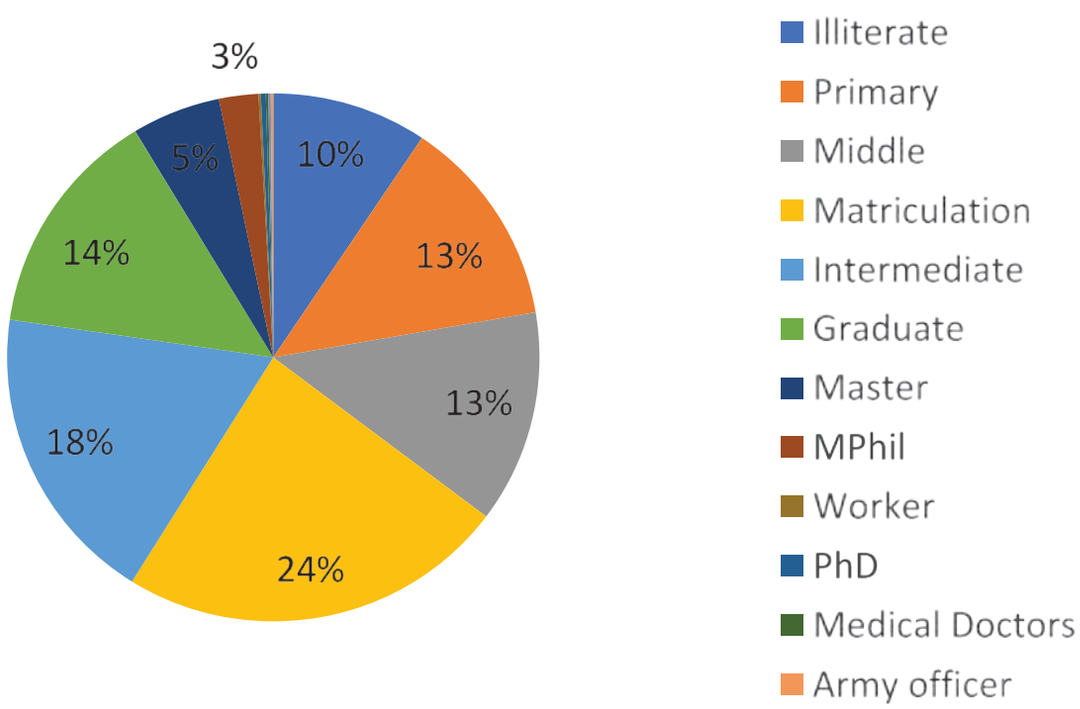


Figure-2.7: Education Status of the Respondents

Methodology

The land under olive cultivation is mainly owned (95%) by the farmers. Only less than 5% of the land under olive cultivation is state-owned. Distribution of the total land (in acres) held by the household or respondent is presented in Figure-2.8. Only 20 farmers had land less than 1 acre. And, Table-2.1 depicts the land under olive cultivation (provincially).

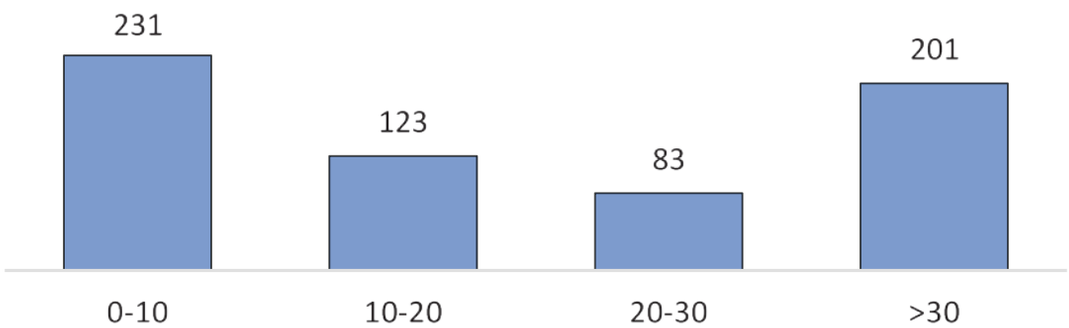


Figure-2.8: Land (in Acres) held by the Household.

Table-2.1: Land (in Acres) under Olive Cultivation

Provinces	a) 1-10	b) 11-20	c) 21-30	d) >30	Grand Total
a) Punjab	46	14	4	7	71
b) KPK	173	6	3	1	183
c) Baluchistan	272	26	3	3	304
d) Gilgit Baltistan	31				31
e) AJ&K	71			1	72
f) Federal	2	2		1	5
Grand Total	595	48	10	13	666

An interesting finding of this study is that most of the land used for olive plantation was earlier arid or barren. About 45% of the irrigated land and 35% of arid land was utilized for olive plantation. This is very encouraging in terms of land usage and food security. The details of different types of land prior to olive plantation are presented in Figure-2.9.

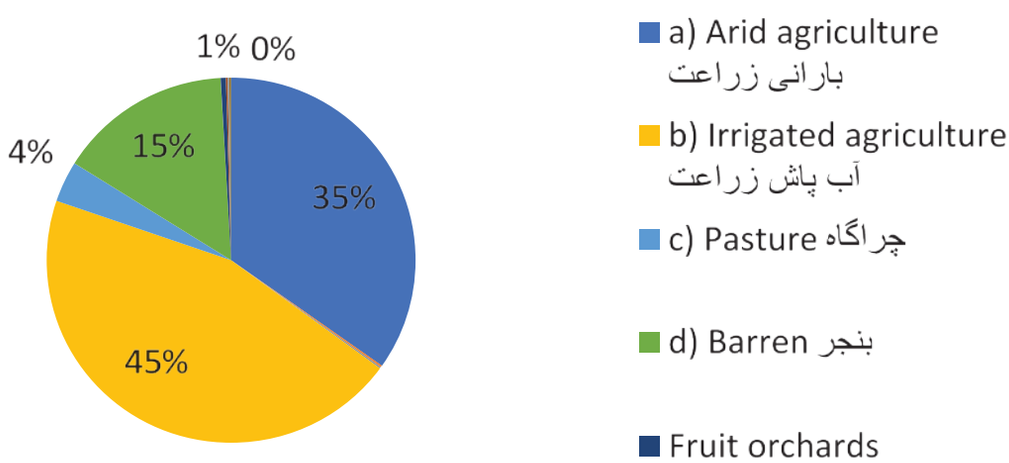


Figure 2.9: Land-use Before Olive Cultivation

Topographically, the land used for olive plantation was around 51% levelled, 42% semi-levelled, 4% undulated and 3% slopy. This signifies that olive can be planted in the areas that are not leveled and may not be suitable for arable crops. The soil types were mainly loamy, loamy clay and sandy in most of the areas of olive plantation. The details are presented in Figure-2.10.

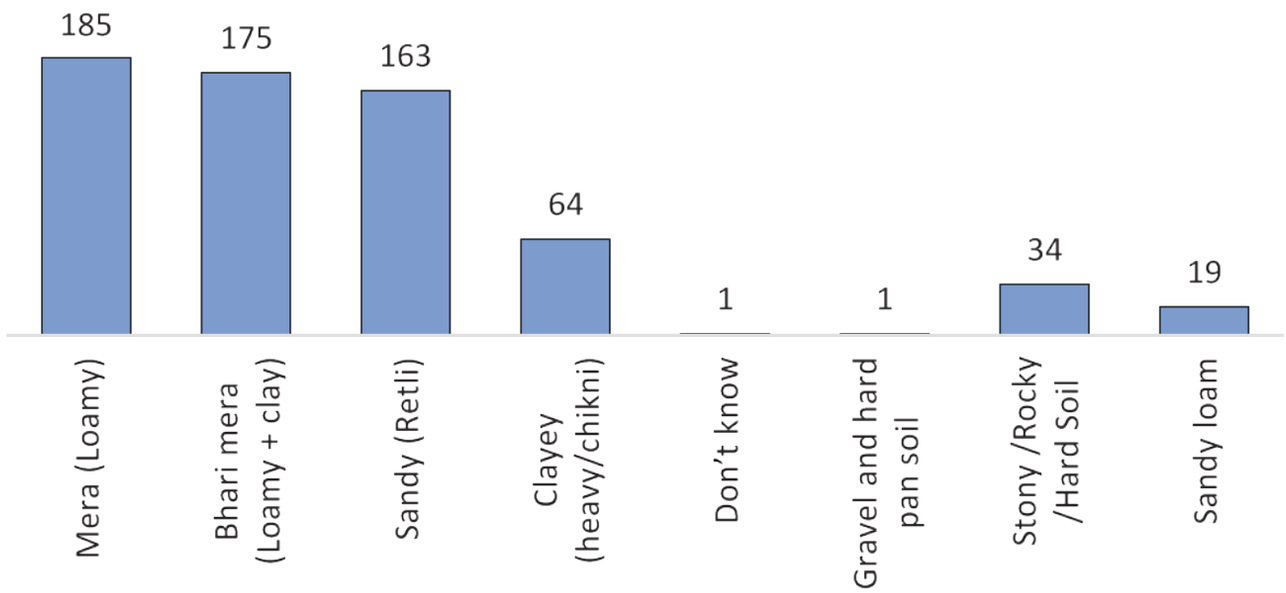


Figure-2.10: Type of soil used for Olive Plantation

As far as the usage of soil prior to olive plantation is concerned, major proportion was under cash crop cultivation. In arid regions, the major crop was wheat. Other significant usages of land included cultivations of fruits and vegetables, grazing lands, etc. (see Figure-2.11). Another major component was having 'no production' prior to this project that highlights its importance that has contributed significantly to utilization of barren land in different regions of Pakistan.

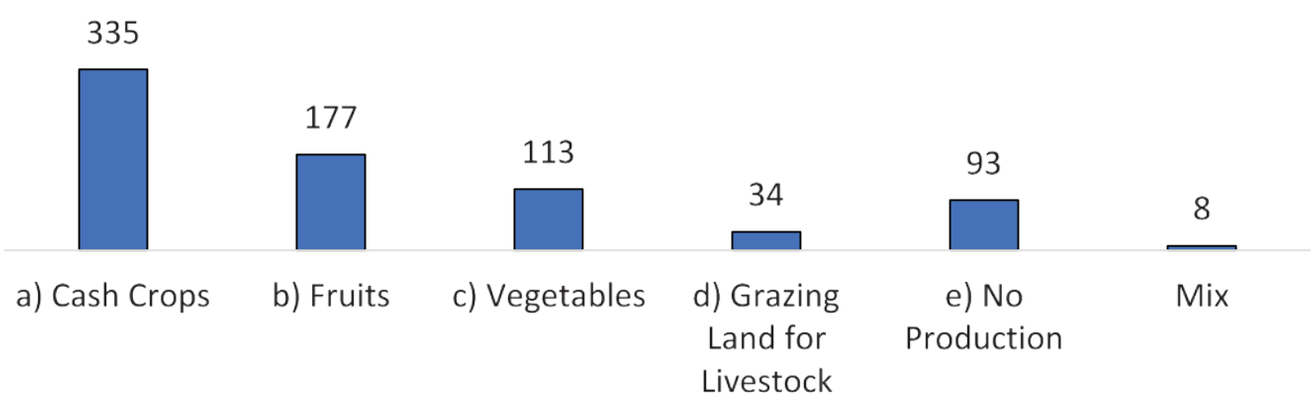


Figure 2.11: Land use before Olive Plantation

Findings & Analysis: Agricultural Impact

3. Findings & Analysis: Agricultural Impact

This section mainly covers the agronomic as well as management practices to grow the olives in different regions of Pakistan. It covers overall density, survival rates, varietal information, fertilizer input, pesticide usage, and labor cost, etc.

3.1 Olive Plant Count & Survival

As per original plan, the intended planting density for the olive plants was 135 per acre but the number varied at different stages of the project and as per farmers' ineterventions. The distrubtion with respect to planting density is presnted in Figure-3.1. Most of the farmers had plannting density between 100-150 per acre. However, very low and high ranges including "above 200" have been observed at different farms.

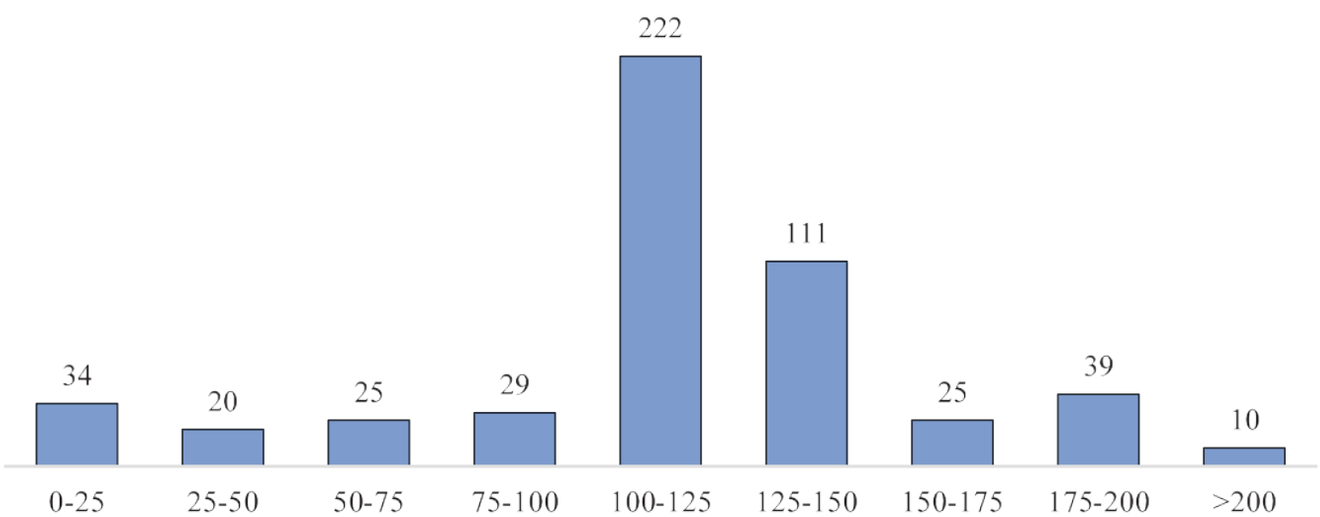


Figure-3.1: Planting Density (Number of Olive Plants per Acre)

Most respondents informed that plants were provided by the government authorities. The average survival rate of the plants at farmers land varied between 80-90%. In certain cases, the death rate reached up to 50% as well. The reasons for the death of the plant are listed in Figure-3.2. The major reason that appeared to influence was the drought stress due to shortage or inappropriate supply of water for irrigation at the farms. Another major reason was animal uprooting the olive plants. There were few farmers who were able to avoid any mortality of the plant they received, mainly due to better nursery management and having knowledge of agronomic practices required for the olive.

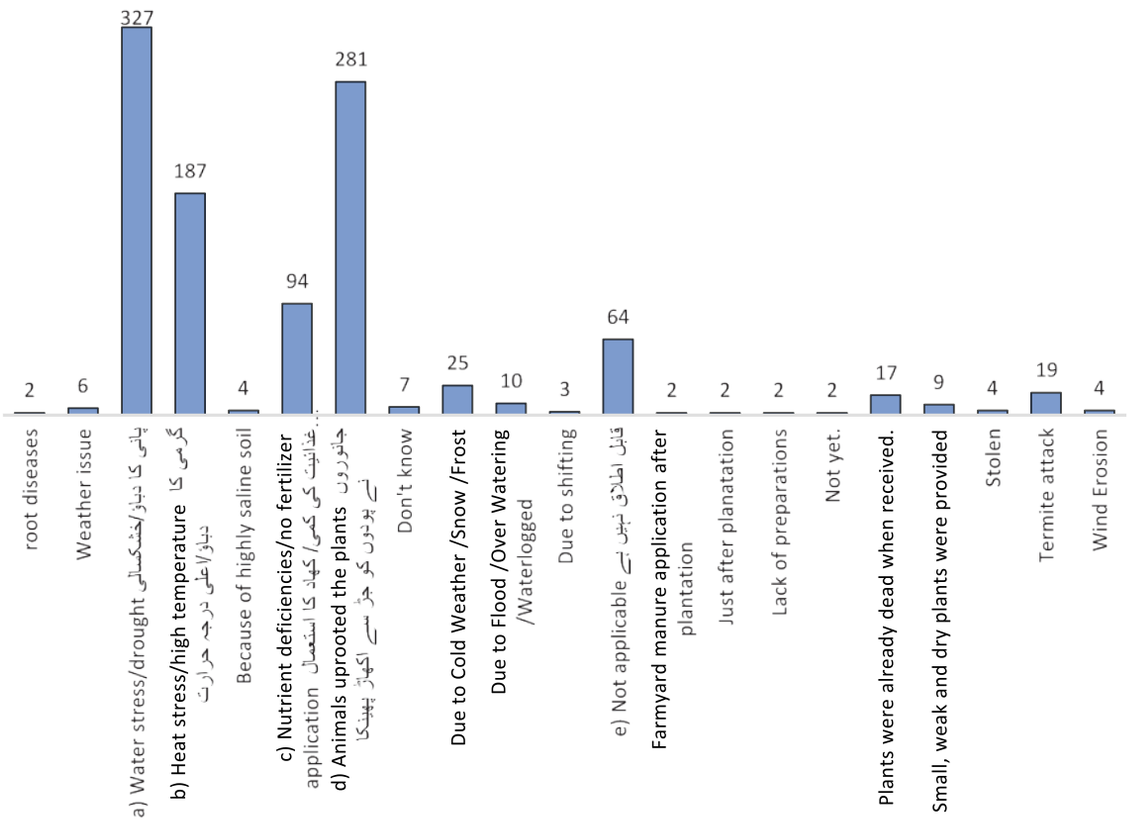


Figure-3.2: Possible reasons for the death of olive plants

Olive cropping and production is mainly dependent upon the type of cultivar grown. Wild plantation has been found in many areas. Since olive plant is monoecious, fertility partners are required for the plants. So, for fertilisation, male plants are required and must be carefully planted. Moreover, different varieties were adopted to different regions depending upon the climatic conditions. Many farmers were aware of the varieties and in 73% cases, the variety grown was of the choice of farmers. Around 15% farmers were not given the choice to select the variety. Another 12% were not aware of the choice at all (see Figure-3.3). An important relevant factor was about the presence of wild Species of olive trees. In 81% cases, the variety cultivated was different than wild ones (see Figure 3.4). 7% farmers were not aware of wild Olives Trees.

Findings & Analysis: Agricultural Impact

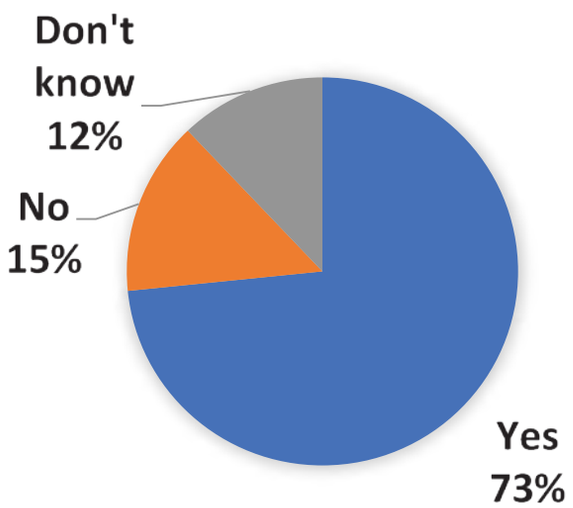


Figure-3.3: Was the variety of olives of your choice?

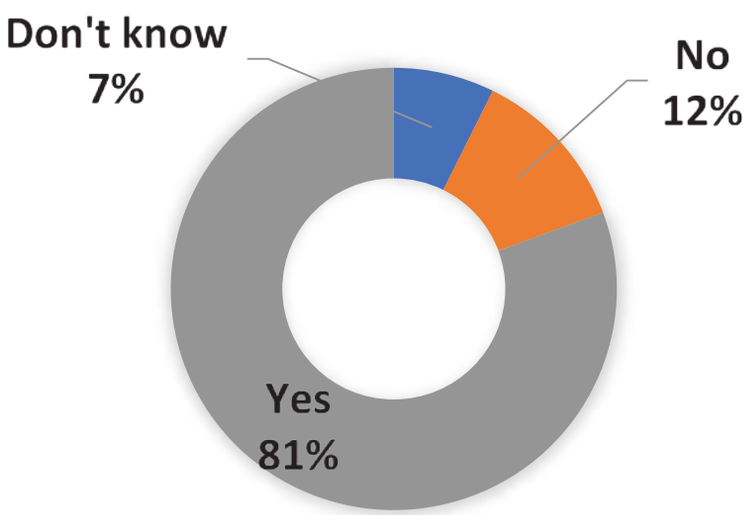


Figure-3.4: Is the variety received different from wild olives?

Among the selected varieties of olive, Arbequina was the most frequently cultivated in most of the regions (see Figure-3.5). Second most cultivated variety was Arbosana. The main reason for selection of these varieties appears were linked to their growth features like rapid growth, timely fruiting, and potential oil content, etc. Most of the farmers were happy with varieties at their farms (see Figure-3.6). Around 5% of the farmers showed dissatisfaction and mainly due to their agronomic management issues.

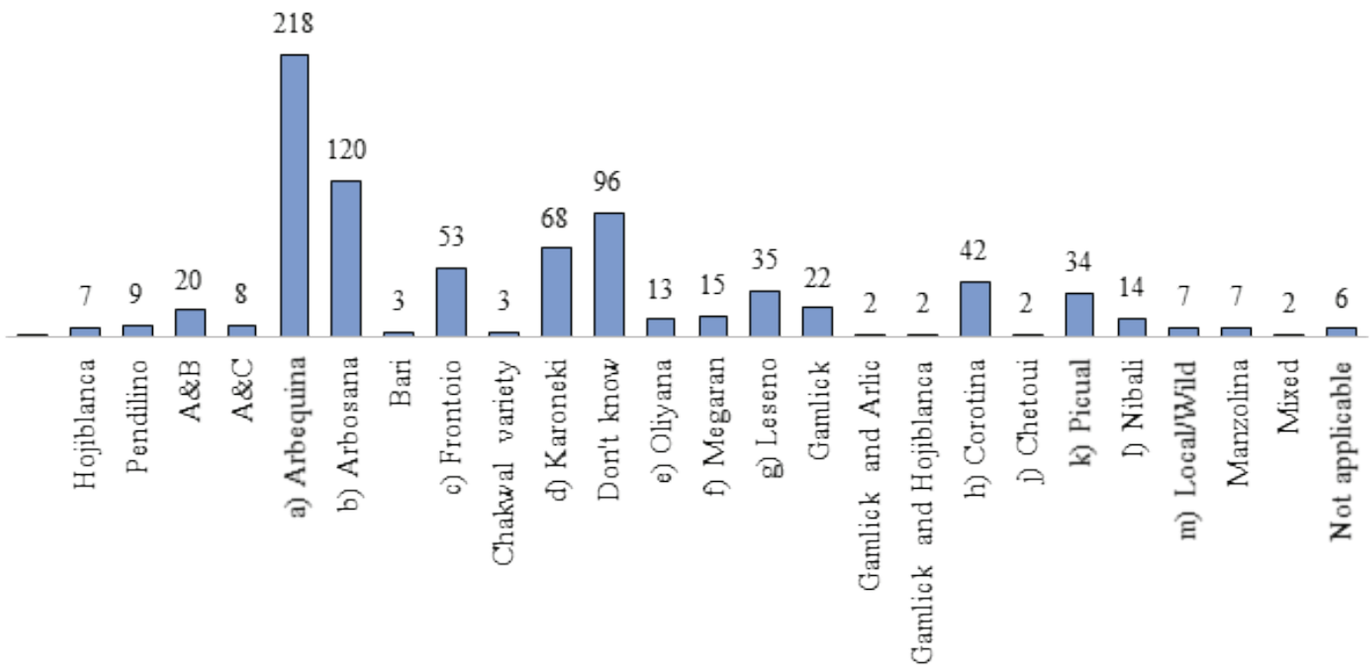


Figure-3.5: Olive Varieties at different Orchards

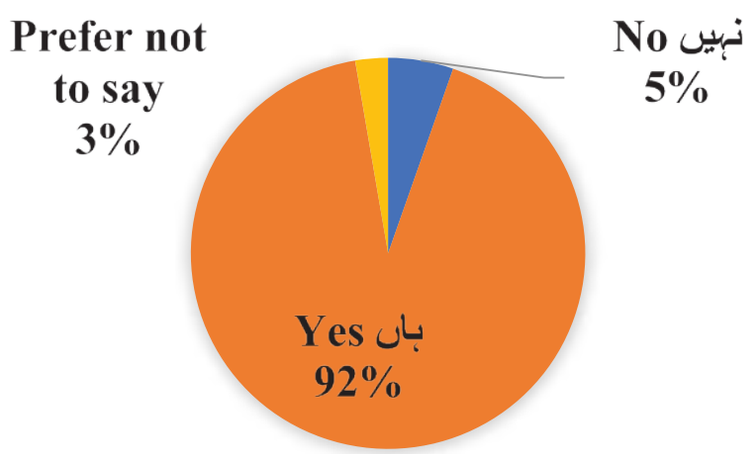
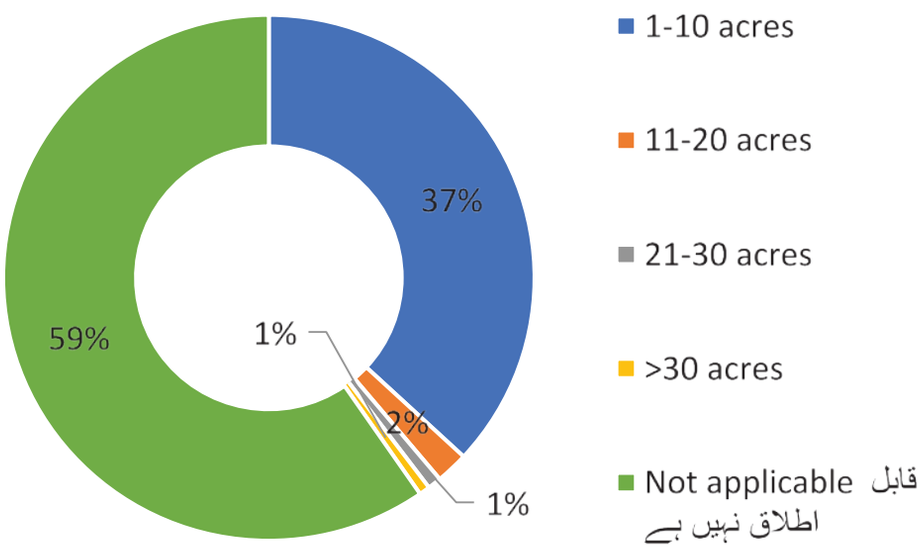


Figure-3.6: Are you happy with the varieties at your farm?

For this project, one of the aspects was the availability of wild Species in various areas. Many farmers retained those varieties in addition to the planation of new ones. About 59% farmers are unaware of the wild Species ; however, 37% of the farmers has wild varieties at smaller scale. The land under wild olive Species mainly ranged between 1-10 acres (see Figure-3.7).

Findings & Analysis: Agricultural Impact



Multiple cultural practices are required for successful cultivation and growth of olives. These activities include pruning, thinning, and weed control, etc. Most of the farmers were doing multiple of these interventions. It is rare where these activities are not being done, mainly due to very young age of the plants. Among the cultural practices, pruning and weed control are the ones being done regularly by most of the farmers (see Figure-3.8.)

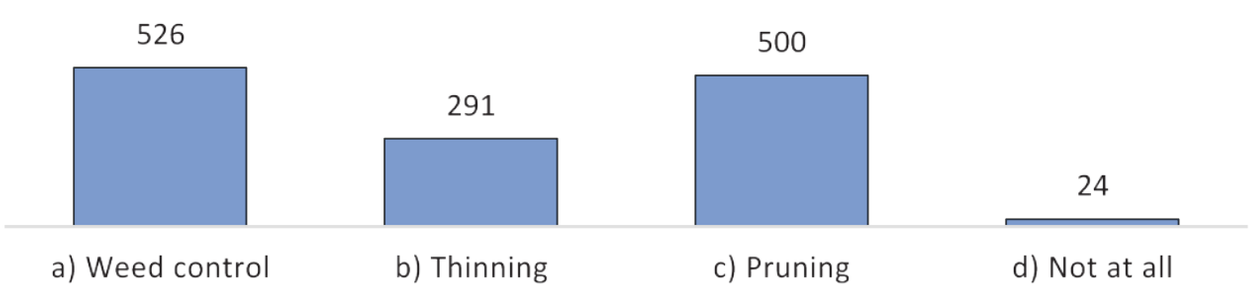


Figure-3.8: Cultural Practices during Olive Cultivation

3.3 Fertilizers & Pesticides

For pest control on plants, usage of pesticides is a common practice. The same is being applied to olive plantation. The information about usage of pesticides is presented in Figure-3.9. About 59% of the farmers are using the pesticides for pest and insect control over olive plantation. Around 40% of the farmers are not using the pesticides yet that can be attributed to the young age of olive plants at their farms. This usage percentage may increase with the maturity of the plants and after the olives plant might have starting fruiting.

The frequency of pesticides usage also varied at different farms (see Figure-3.10). In majority of the cases, pesticides were being applied once in a season. Another significant number used pesticides twice in a year; while, the farmers who have not used pesticides yet, also contribute to overall number significantly.

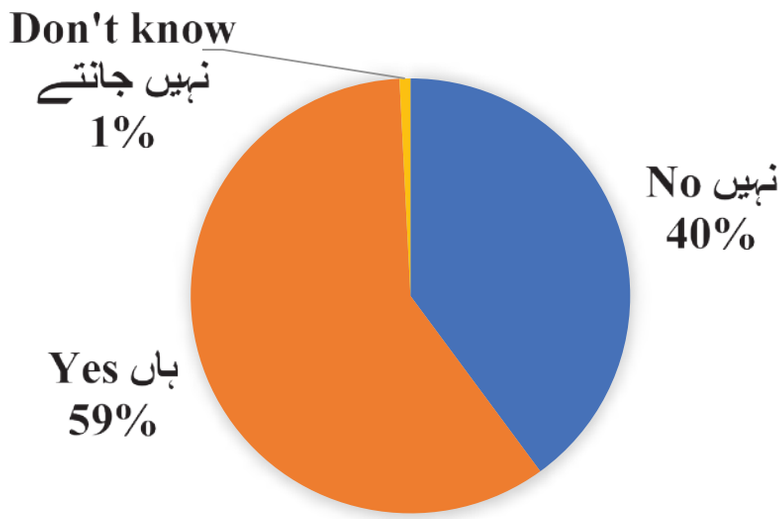


Figure 3.9: Usage of pesticides on the farm

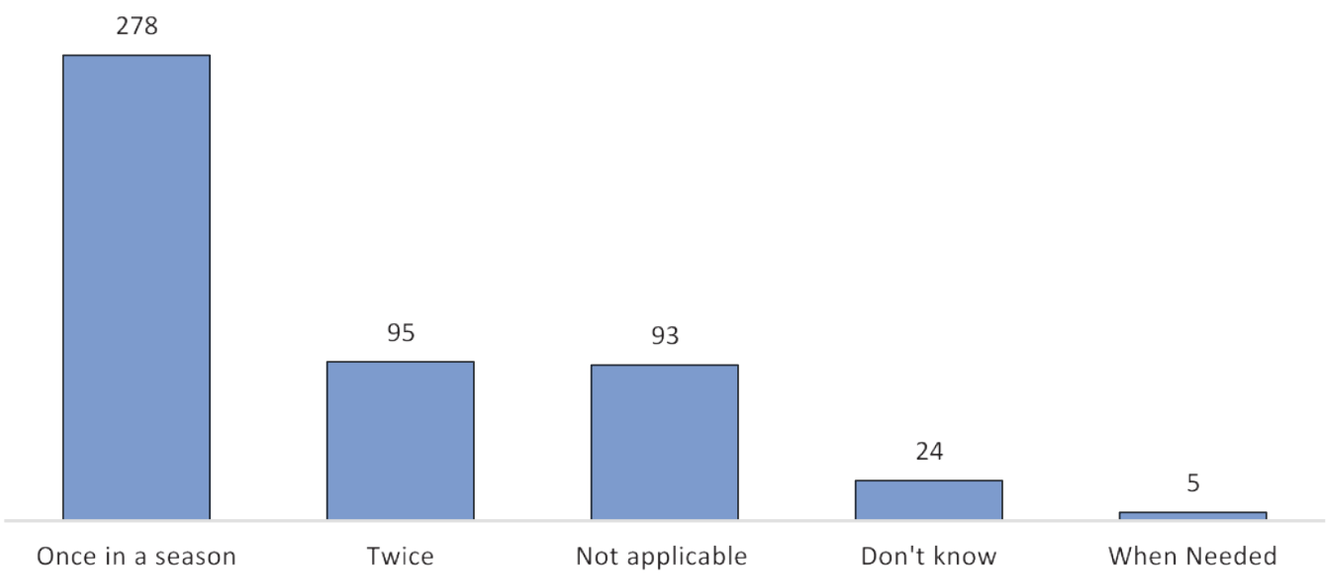


Figure 3.10: Frequency of Usage of Pesticides on the Olives

Cost of the pesticides used per acre was also assessed. In majority of the cases, it ranged between Rs. 1000-10,000 per acre for olive cultivation. The maximum subgroup responded with the cost ranging between Rs. 1000-5000 per acre (see Figure 3.11).

Findings & Analysis: Agricultural Impact

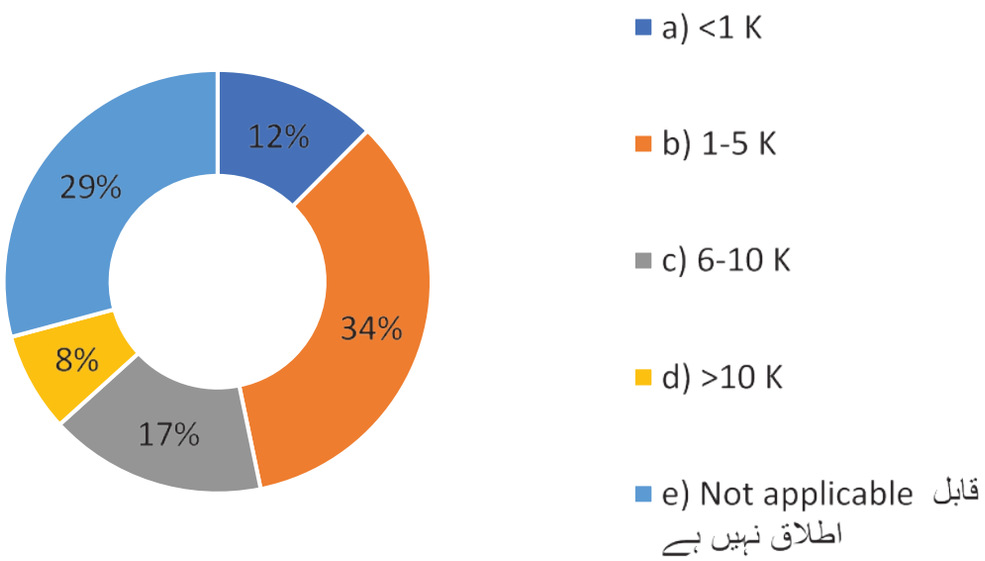


Figure-3.11: Cost per acre (K = '000) Incurred for Pesticides Usage (in PKR)

Another important crop management practice is fertilizer application for ensuring the supply of nutrients for the plants. Around 86% of the farmers (see Figure-3.12) are using fertilizers for supplying of nutrients to the olive plants. About 13% are not using any kind of fertilizers yet.

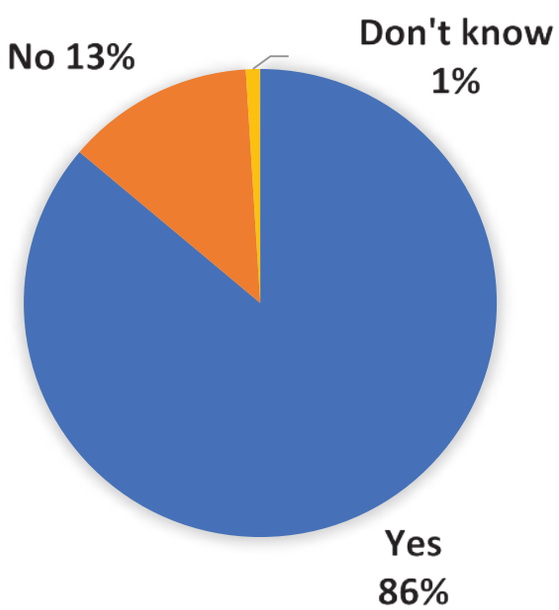


Figure-3.12: Fertilizer Application to Fulfil Nutrient Requirements

The frequency of fertilizers usage also varied at different farms (see Figure-3.13). In majority of the cases, the fertilizers were applied once in a season. Another significant number of farmers used fertilizers twice in a season. As mentioned earlier, the farmers who have not used fertilizers yet, also contribute to the overall number significantly.

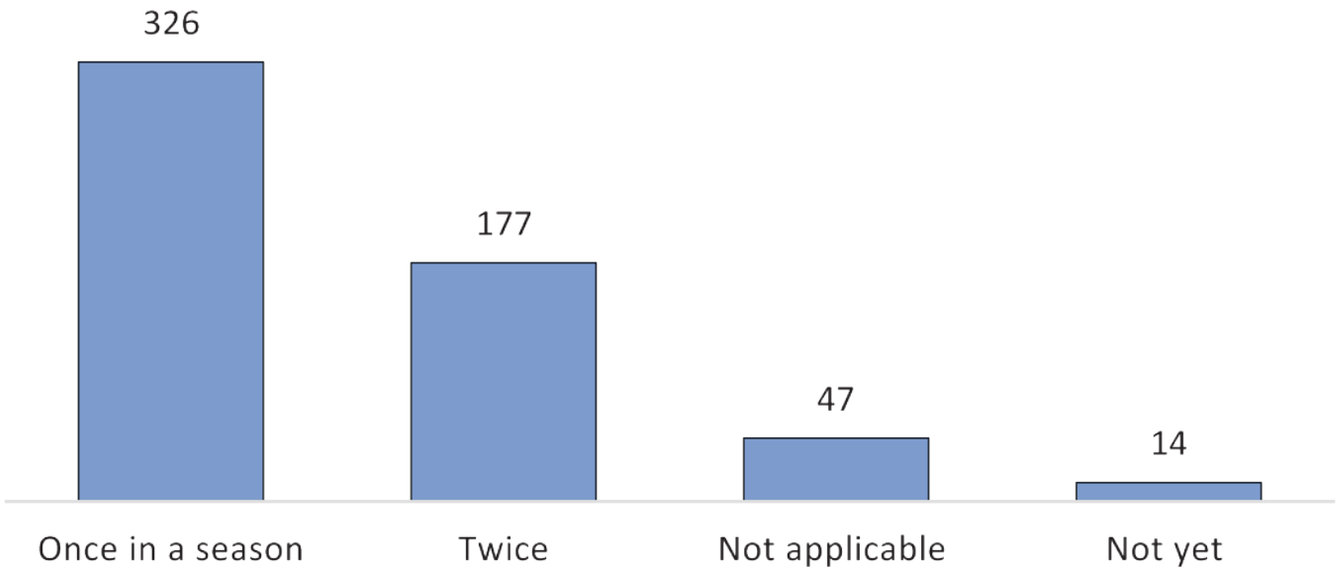


Figure-3.13: Frequency of Usage of Fertilizers on Olives

As far as the cost of fertilizers is concerned, in more than 50% of the cases, the cost was equal to or less than Rs. 10,000 per acre. Around 14% are not using the fertilizers. A quarter of the respondents had more than Rs. 10,000/- expenditures for the fertilizers per acre (see Figure-3.14). The fertilizer demand and cost can be correlated with the age of the olive plants as well as the quality of soil in which they are grown. The presence of organic matter in soil is also critical for fertilizer demand and usage. Therefore, average fertilizer cost stands in the bracket of '(c) Rs. 6-10K per Acre' (average of 509 respondents).

The fertilizers usage by the farmers also varied in terms of their origin or formulations. Organic fertilizers were the dominant category of the fertilizers as used by 90% of the farmers. Among organic fertilizers, animal manure is the major contributor (see Figure-3.15). Poultry waste is also being used; however, it's contribution is around 6% of the total organic fertilizers.

Findings & Analysis: Agricultural Impact

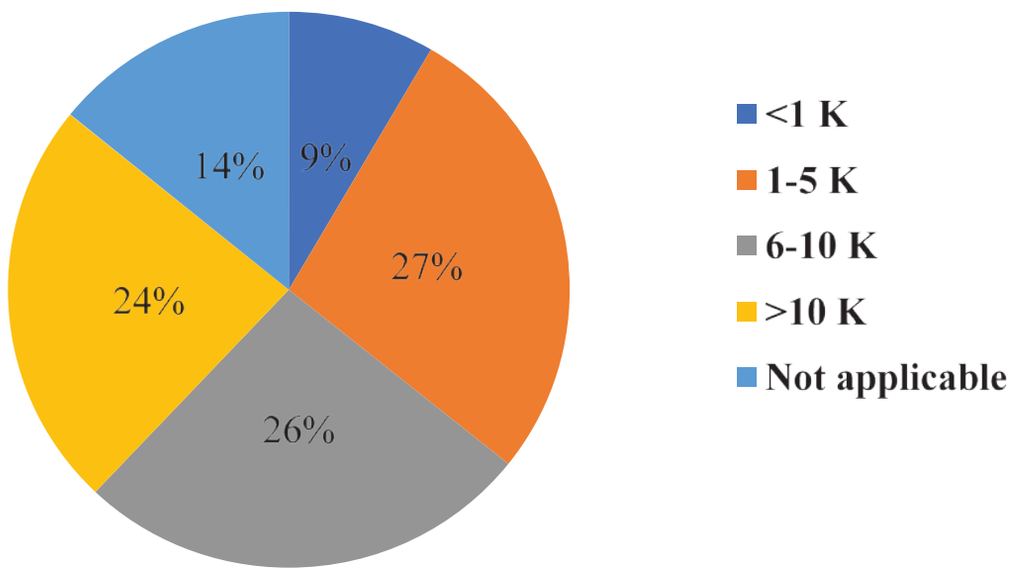


Figure-3.14: Cost per acre for the Fertilizer Usage

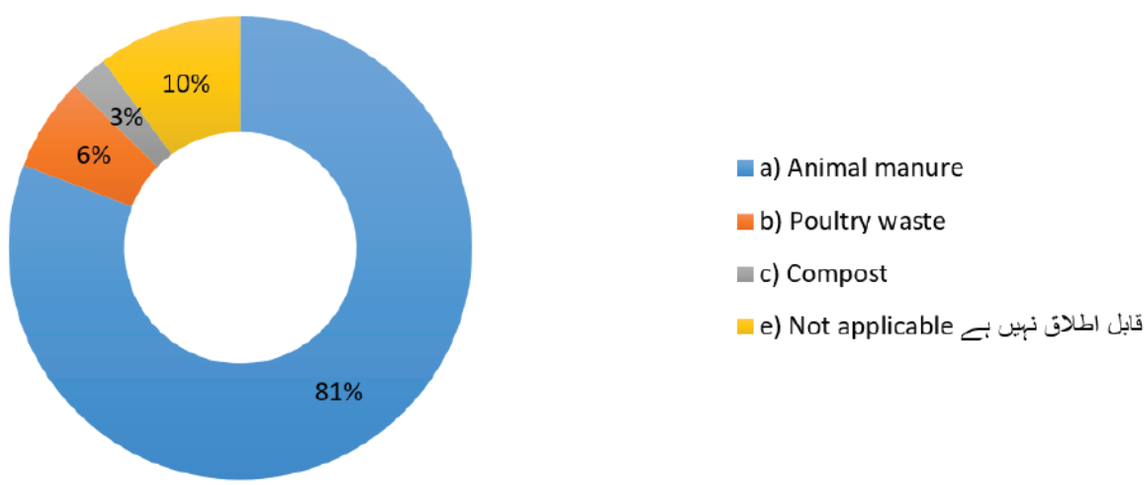


Figure-3.15: Type of Organic Fertilizer Used

3.4 Olives' Yield Status & Harvesting

The project was started in 2014 and it was implemented in different phases. The age of plants at different farms was different. For production to start properly, 5-7 years are required. Out of 670 surveyed farms, in only 19% the production of olives has started (see Figure-3.16), while the majority are not yet in production phase. Even in those 19%, the yield is not 100% in any of the farms. It is further sub-categorized in different percentages (see Figure-3.17). This situation is one of the major limitations in assessing the actual financial benefits of olive plantation in Pakistan. Only 7% of the farms reached at 50% production level from the olive orchards. Furthermore, 24% respondents (count: 114) productivity per acre remained under 5000 kg per acre, while 73% (count: 349) opted for 'not applicable'.

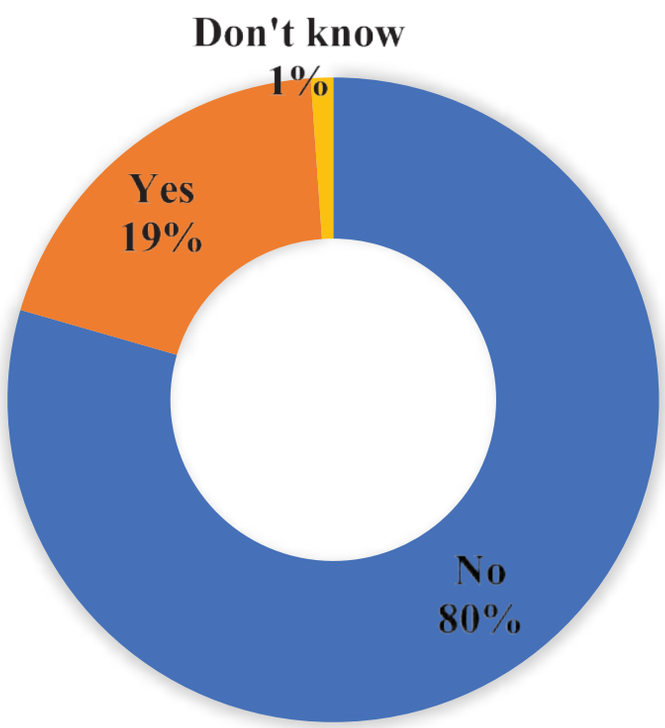


Figure-3.16: Whether your Orchards have Started Yield or Not?

Findings & Analysis: Agricultural Impact

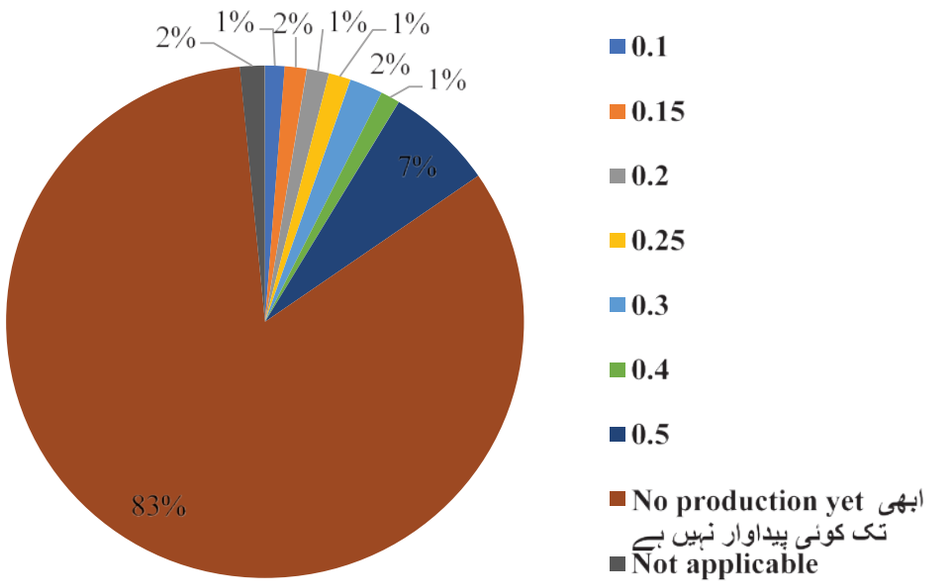


Figure-3.17: What is the Production Status of Your Orchards? (Read 0.1 as 10%)

For harvesting purposes, different methods can be used. Major method used in the surveyed farms was manual harvesting (see Figure-3.18). Mechanical proportion is very low (1%) mainly due to unavailability of proper machines, perceived high losses and topography of the land (undulated, slopy) in most of the areas under olive plantation.

Considering the labor or manpower involved in harvesting of the olive fruits, it was mainly done by the farmers themselves or by the locally hired labor (see Figure 3.19). The data highlights that most of the activities are done by the male members of the household. Female involvement is generally low in different activities related to olive planation.

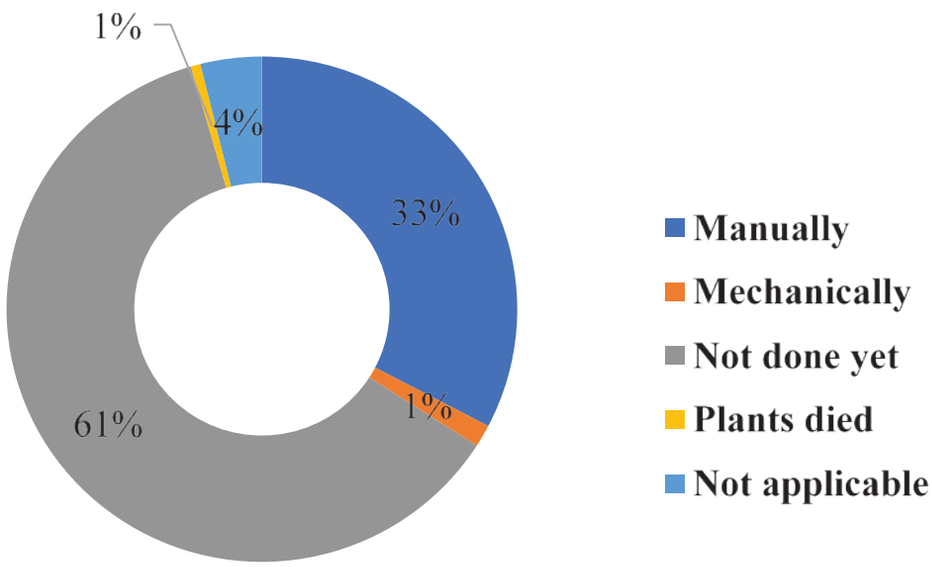


Figure-3.18 How was the Harvesting of Olive Fruits done?

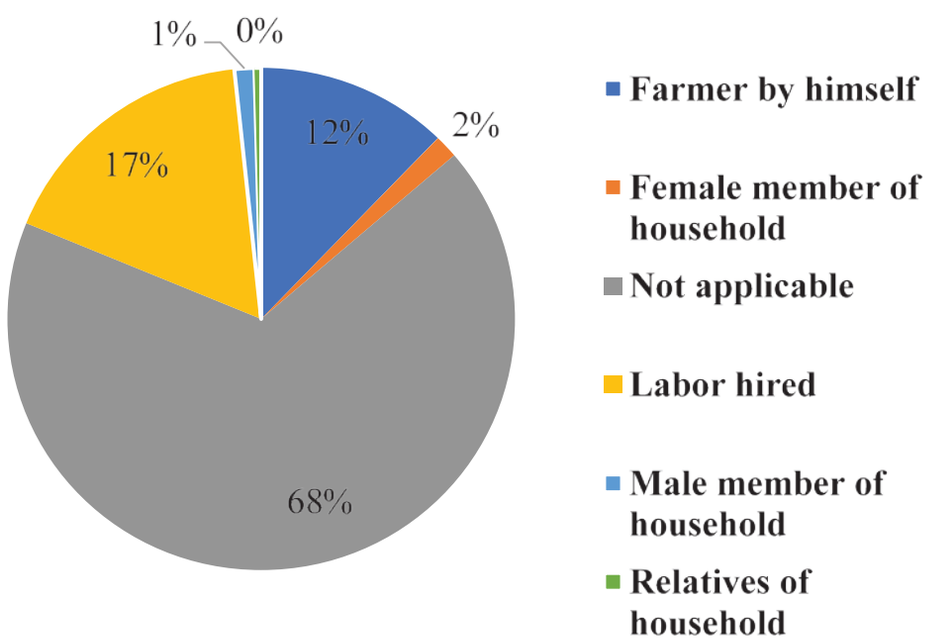


Figure 3.19: Who Collected the Harvest?

Findings & Analysis: Environmental Impact

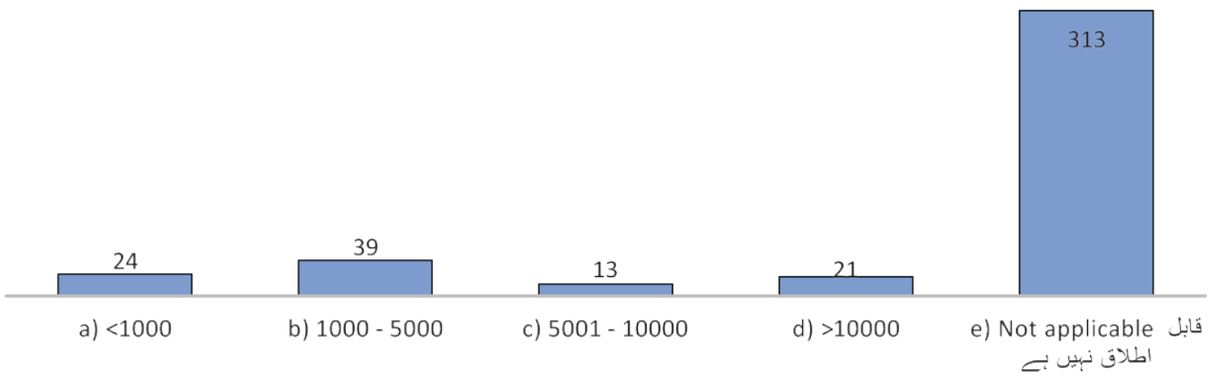


Figure-3.20: Average Cost of Harvesting per acre

Harvesting cost per acre is presented in Figure-3.20. In majority of the cases, the harvesting cost was less than Rs. 10,000 per acre as depicted from the data. In certain cases, the cost is very high that can be correlated with the topography of the land and availability of labor in that region.

4. Findings & Analysis: Environmental Impact

4.1 Macro or National Level Assessment

The environmental impact of the plantation of olives have been designated with the disposal of livestock waste, green waste produced, crops wastage, diversified crop, mixing crop, impact of plantation on other forms of vegetation, impact of plantation on the wildlife, provision of habitat for birds, increase in number of birds, kind of land degradation, and stoppage of soil degradation. The results (see Figure-4.1) show that most of the farmers use the livestock waste as fertilizer, which is a positive impact as the waste is beneficially used for the production instead of contributing negatively to the society.

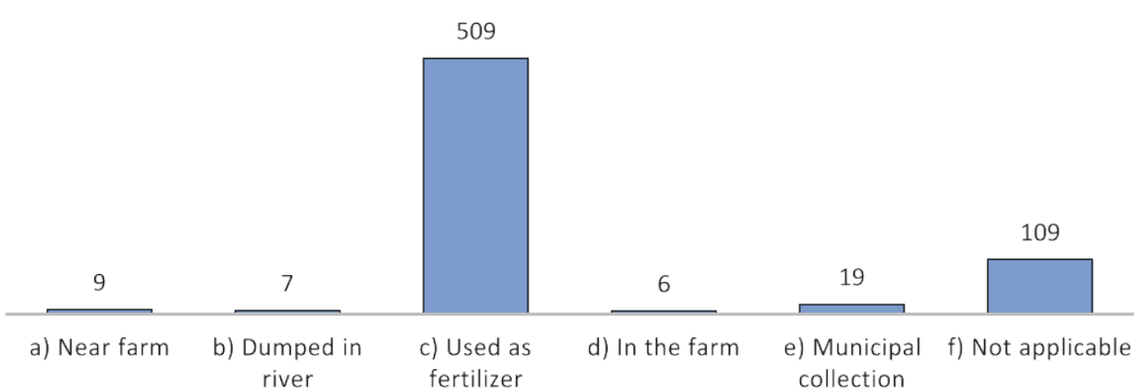


Figure-4.1: Disposal of Livestock Waste

The plantation also contributes to the production of green waste, but out of total applicable respondents'majority agreed that the plantation contributes to producing only less than 100 kg of green waste. A small number of farmers indicated that it produces more than 500 kg of green waste (see Figure-4.2).

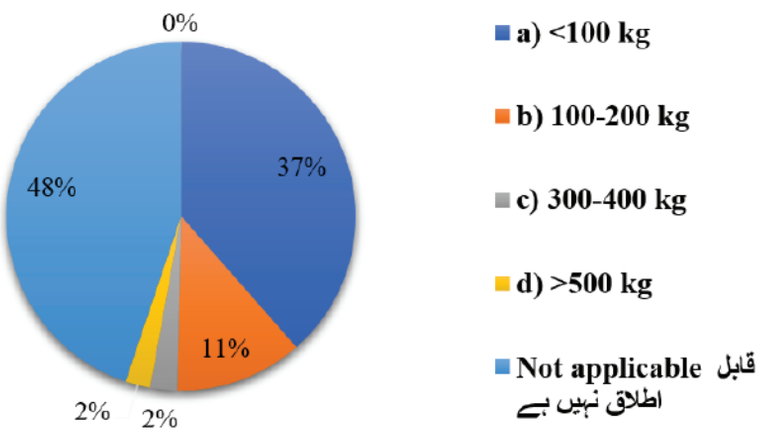
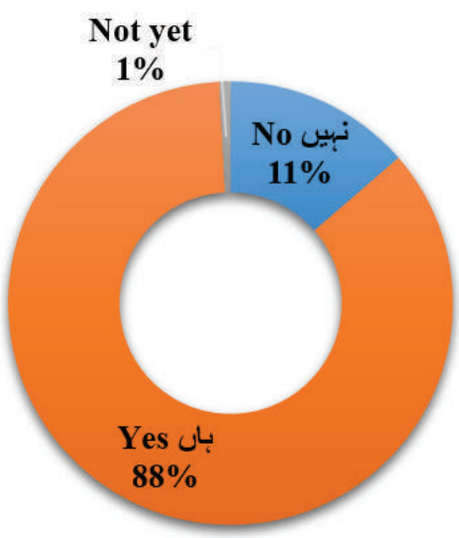


Figure-4.2: Green waste produced from the olive plants per acre per year

The results show that crops' wastage is disposed of by using a number of diverse ways, including burning of waste, use of waste as animal feed, crushed to the soil, energy source, dump in a river, mulching, and leaf used for tea. Majority of the farmers use the wastage as animal feed as well as burn the wastage. The results (see Figure-4.3) also show that majority of the farmers use the mixed cropping.



Findings & Analysis: Environmental Impact

Figure-4.3: Have you Diversified Crops /Mixed Cropping?

Another positive impact of plantation of olives is indicated in the form of its effect on other form of vegetation in the area. The analysis show that it created a positive effect on plantation of other vegetation in the area, which implies that the plantation of olives is overall creating a beneficial environmental effect in the area (see Figure-4.4).

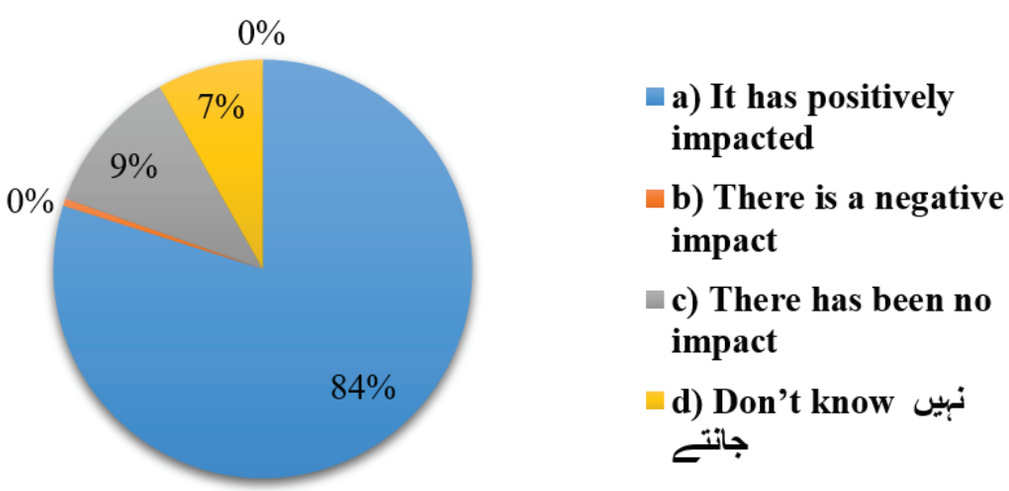


Figure-4.4: Impact of Plantation on Other Forms of Vegetations

Along with a positive effect on plantation of other vegetation, the project has created a positive impact on wildlife in the area. Almost 77% farmers agreed with this (see Figure-4.5).

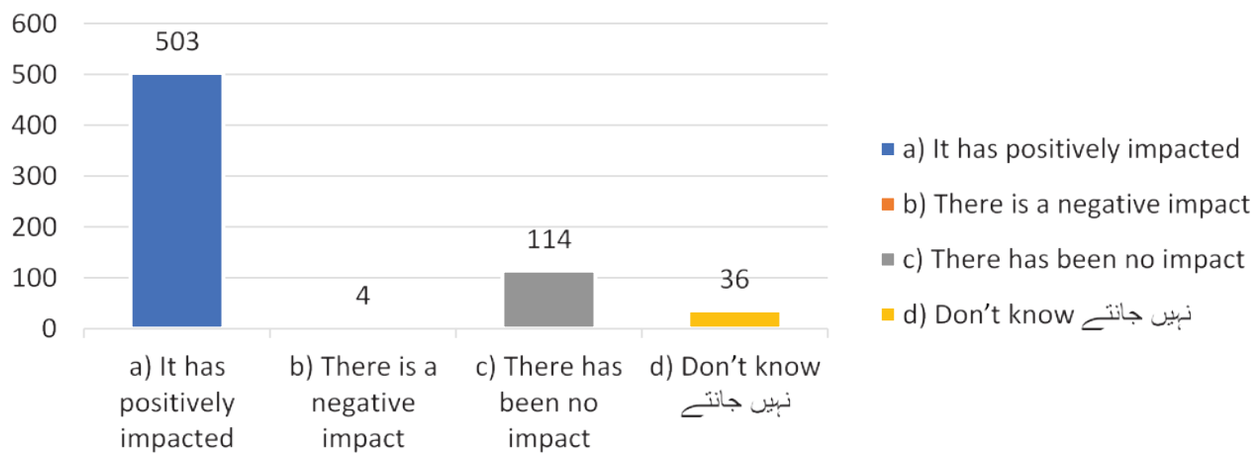


Figure-4.5: Impact of Olive Plantation on the Wildlife in the Area

Thus, it shows a positive environmental effect in terms of overall plantation as well as wildlife. 57% respondents said that they have witnessed increase in birds in the area, indicating that the project has also been a source of habitat for birds along with the wildlife (see Figure-4.6).

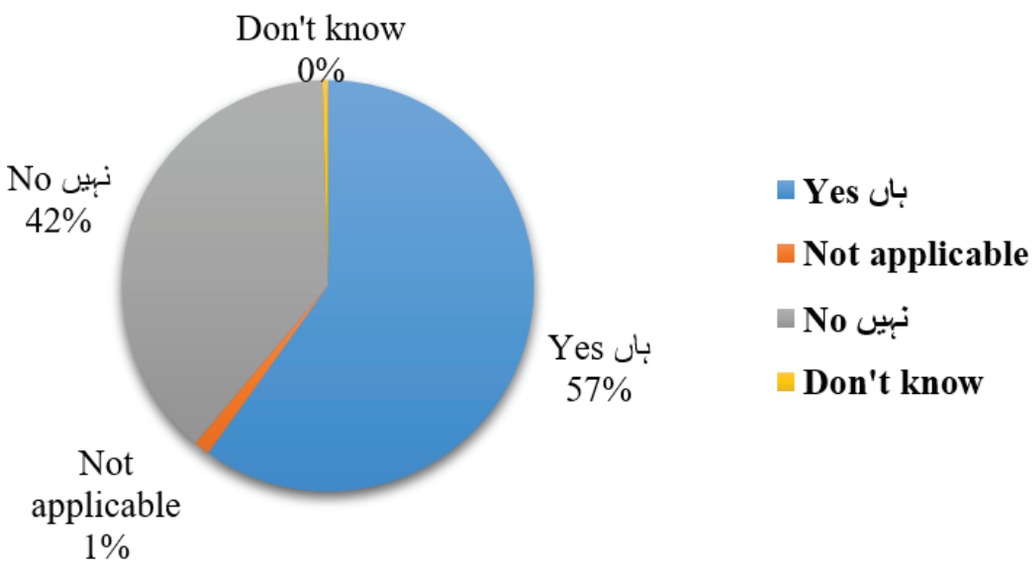


Figure-4.6: Impact of Olive Plantation on the Increase in Number of Birds

Findings & Analysis: Environmental Impact

Majority of the respondents said the land degradation is not applicable to their farms with olives plantation, but others have indicated varying land degradation in the form of decrease in soil nutrients, decline in underground water, deforestation, and decline in organic matter in the soil. Among these kinds of land degradation majority showed that it leads to decline in ground water, due to exhaustion for high water usage. 37% agreed that olives plantation has stopped the soil degradation (see Figure-4.7). Overall, olives plantation has created positive environmental impacts in the area.

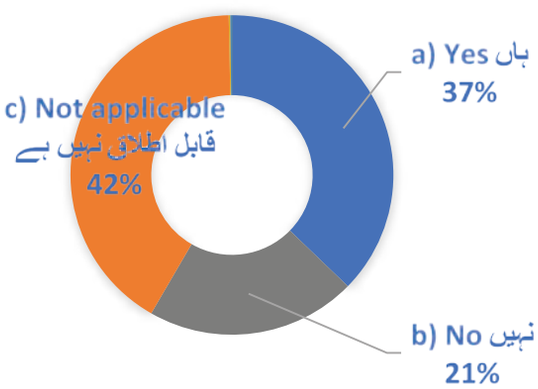


Figure-4.7: Was Soil Degradation Stopped by Olive Plantation?

Additionally, the respondents opined that Olive Plantation has been beneficial for the soil. However, since majority of the respondents haven't adopted drip irrigation, the impact of olive cultivation on the adoption of drip irrigation cannot be critically evaluated at this stage of the project.

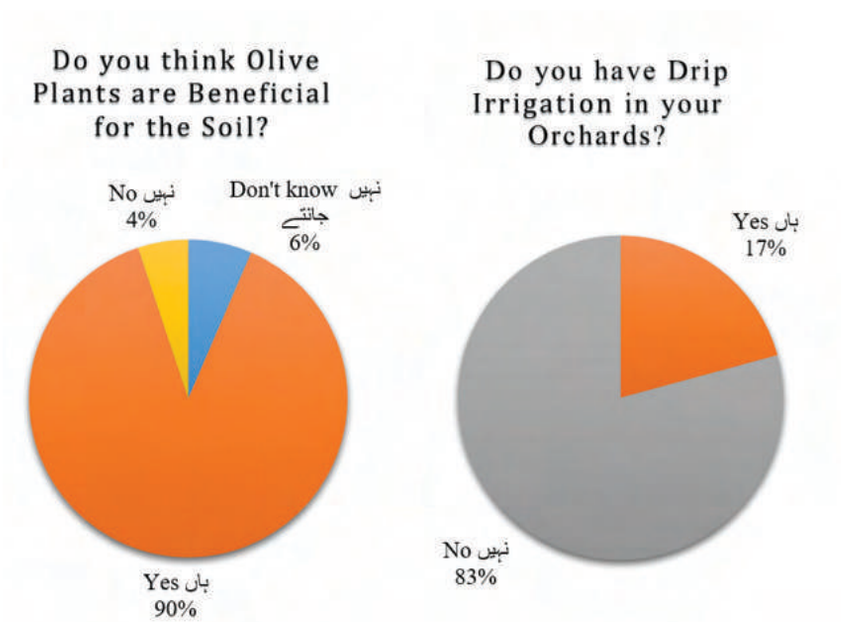


Figure-4.8: Benefits of Olive and Adoption of Drip Irrigation

Contrastingly, the negative environmental impact of this intervention has been increased in the water requirement as evident from the Figure-4.9. This is palpable since majority of the farmers have not installed the drip irrigation system (see Figure-4.8).

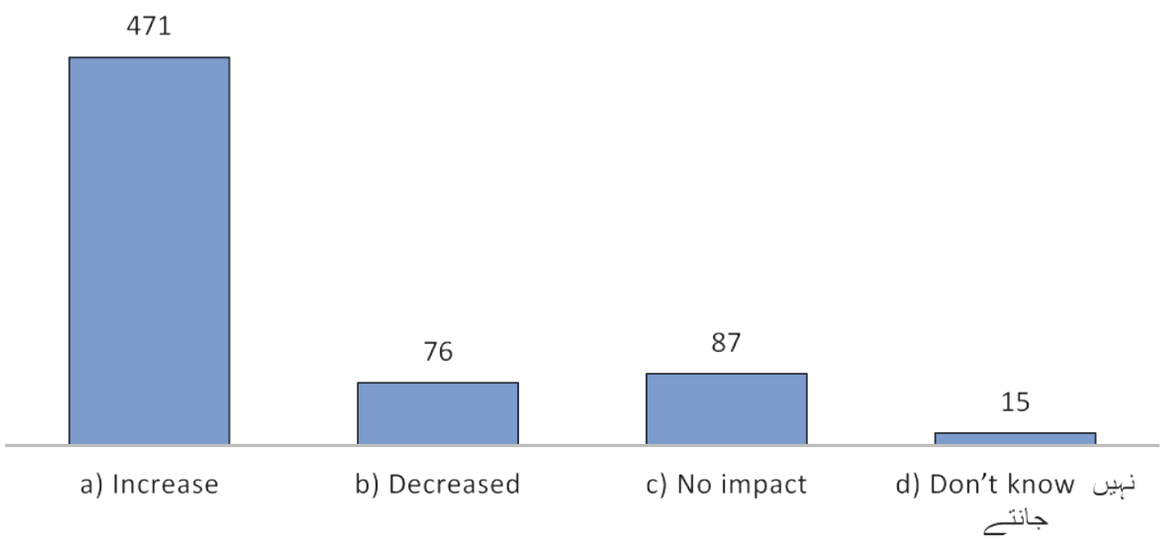


Figure-4.9: Overall Agriculture Water Requirement Impacted after Olive Plantation

As majority of the framers are relying on ground water extraction using tube wells, the good news is that almost 50% are relying on renewables (solar energy) for ground water extraction. This is positive as well as a serious concern related to Olive Plantation in the sense that though the use of renewables for water extraction has increased, however, since the cost of extraction is low, the water utilization has increased, thereby, depressing the water table in these areas.

Therefore, to conclude the overall environmental impact of Olive Plantation in the project areas has been positive. The intervention has undoubtedly squeezed the land degradation, in addition to improving the soil quality, biodiversity, other crops, livestock, and waste emission etc. Although the impact of water usage is negative, however, it is recommended that the issue pertaining to adoption of drip irrigation system requires serious consideration and after a thorough and further probing, appropriate strategies should be devised.

Besides, we also recommend the use of renewable energy for the entire process of Olive Production from the farm till oil extraction and transportation, to have a complete 'Green Olive Production' Process.

Findings & Analysis: Environmental Impact

4.2 Provincial Level Assessment

The disposal of livestock waste is mostly used as fertilizer in all the provinces. Overall, 77% of the livestock waste is used as fertilizer in all provinces, while 3% is collected by municipality.

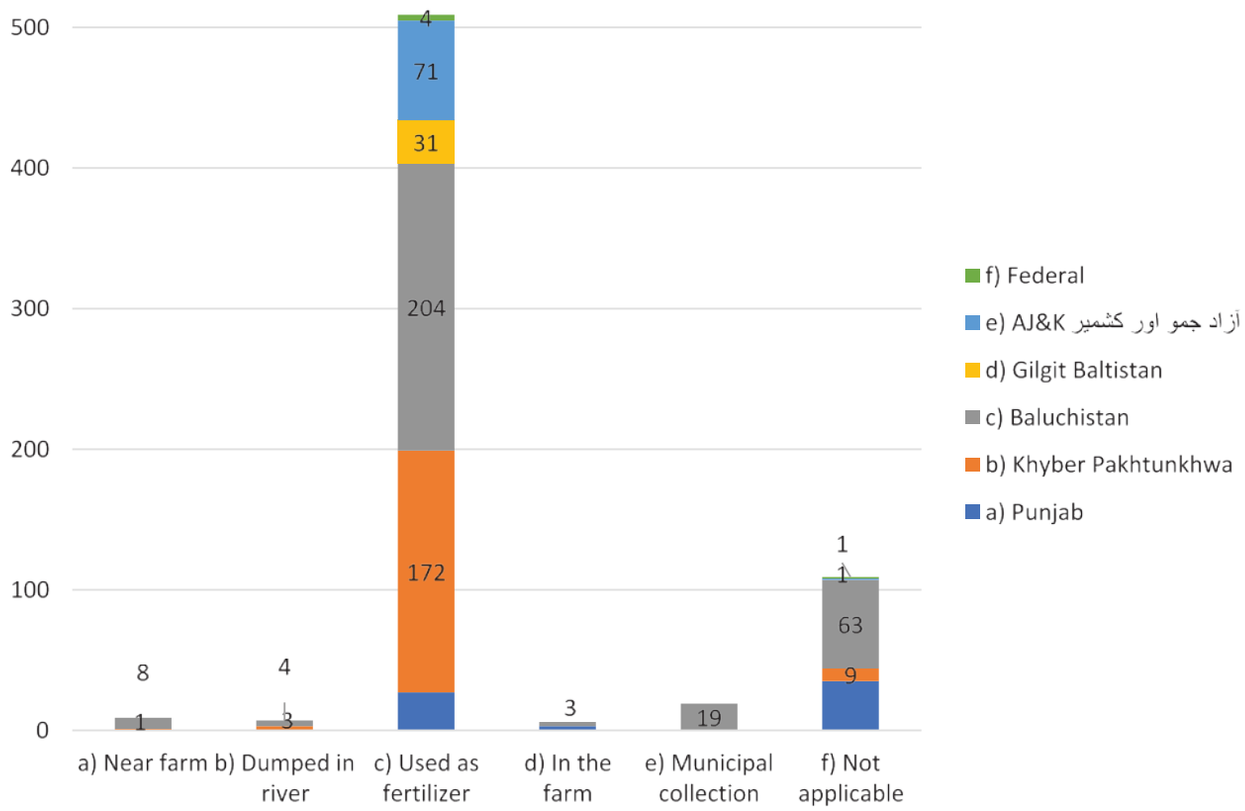


Figure-4.10: Provincial Comparison of Disposal of Waste

The green waste produced by olive plants is though varying amongst the provinces, but despite this most of the respondents said that the olive plants produce less than 100 kg of waste (see Table-4.1). Only the significant results are presented in upcoming tables in the report.

Table-4.1: Inter Provincial Differences in Waste Produced by Olive (Blank cells depict 0%)

Provinces	<100 kg	100-200 kg	300-400 kg	>500 kg	Not Applicable
a) Punjab	23%	5%	3%	9%	61%
b) KPK	20%	1%		1%	78%
c) Baluchistan	48%	17%	3%	1%	30%
d) Gilgit Baltistan	50%				50%
e) AJ&K					100%
f) Federal	20%				80%

The crop wastage is crushed to the soil in all provinces (see Table-4.2). The data shows that 42% of the waste produced by olive plants is crushed to the soil in all provinces, while 20% is used as animal feed.
Table-4.2: Usage of Waste-Inter Provincial (Blank cells depict 0%)

Provinces	a) Burned	b) Animal feed	c) Dump in a river	d) Dump in a Canal	e) Dump in a Pond	f) Crushed to the soil	g) Mulching	h) Energy source	Leaf used for tea	N/A	Not yet
a) Punjab	2%	20%				75%			2%	2%	
b) KPK	23%	3%				63%	1%	10%			
c) Baluchistan	25%	33%	2%	2%	1%	13%	5%	12%	1%	5%	1%
d) GB	3%	3%				94%					
e) AJ&K					1%	97%	1%				
f) Federal	20%	20%				60%					

The data shows that the crop diversification has been improved in all the provinces. The data shows that overall, around 85% of the respondents were affirmative regarding improved crop diversification. While around 14% responded that they did not. The plantation of olives has positively impacted other vegetation in the provinces. The data shows that around 84% of the respondents reacted absolutely to the positive impact of olive plantation on the other vegetation (see Table-4.3).
Table-4.3: Impact on Other Vegetations (Blank cells depict 0%)

Provinces	Positively impacted	Negative impact	No impact	Do not know
a) Punjab	86%	1%	7%	6%
b) KPK	82%		12%	6%
c) Baluchistan	79%	1%	11%	9%
d) GB	100%			
e) AJ&K	100%			
f) Federal	40%		60%	

The plantation of olive has overall a positive impact on wildlife as well (see Table-4.4). In the survey it was found that on the approx. 77% of the respondents in all the provinces, believed that the plantation of olives has positively affected wildlife in their area.

Findings & Analysis: Environmental Impact

Table-4.4: Impact on Wildlife (Blank cells depict 0%)

Provinces	a) Positively impacted	b) Negative impact	c) No impact	d) Don't know
a) Punjab	86%	1%	8%	4%
b) KPK	85%		11%	4%
c) Baluchistan	63%	1%	28%	8%
d) Gilgit Baltistan	97%			3%
e) AJ&K	100%			
f) Federal	20%		80%	

The inter provincial data pointed out that the olive plantation has provided habitat to the birds. According to this survey response, around 57% of the respondents in all the provinces chose yes response to this aspect of the olive plantation. For impact on soil, majority (count: 127) believed there was no change; however, 104 farmers believed that olive plantation has improved the soil (see Figure-4.11).

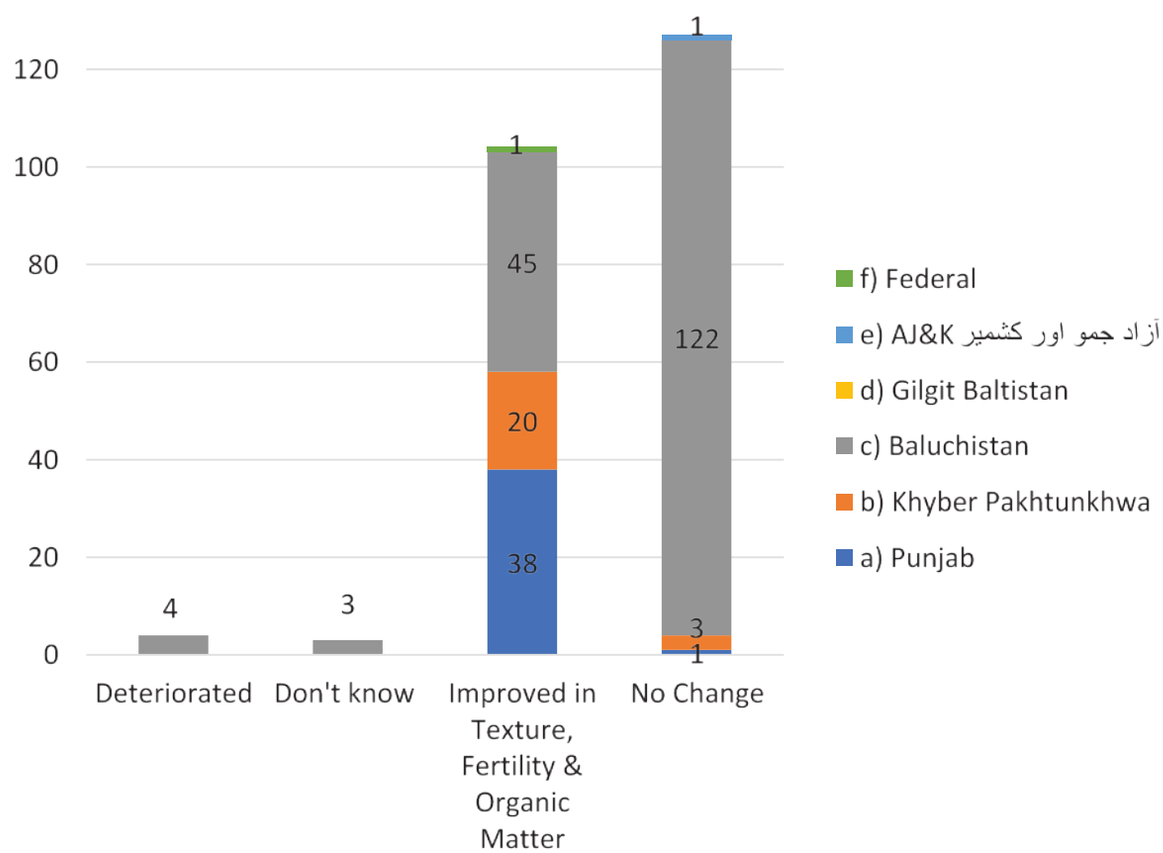


Figure-4.11: Impact of Olive Plantation on Soil

The positive impact on the soil degradation by plantation has mixed results across different provinces. In Punjab, majority agrees that it has stopped the degradation, while in Baluchistan, the majority indicated that it is not applicable (see Figure-4.12).

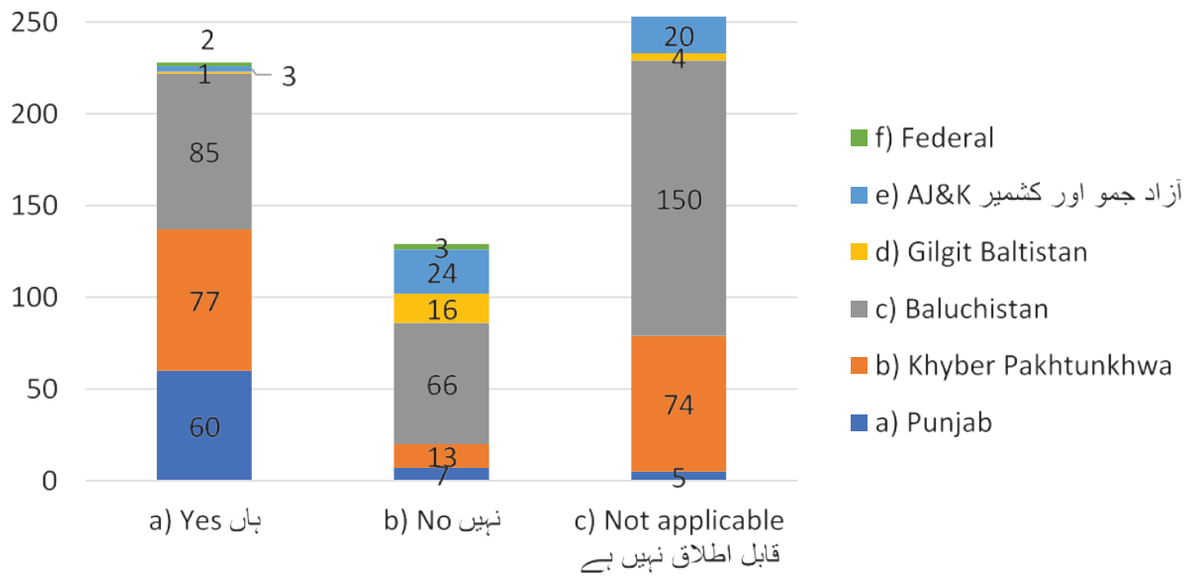
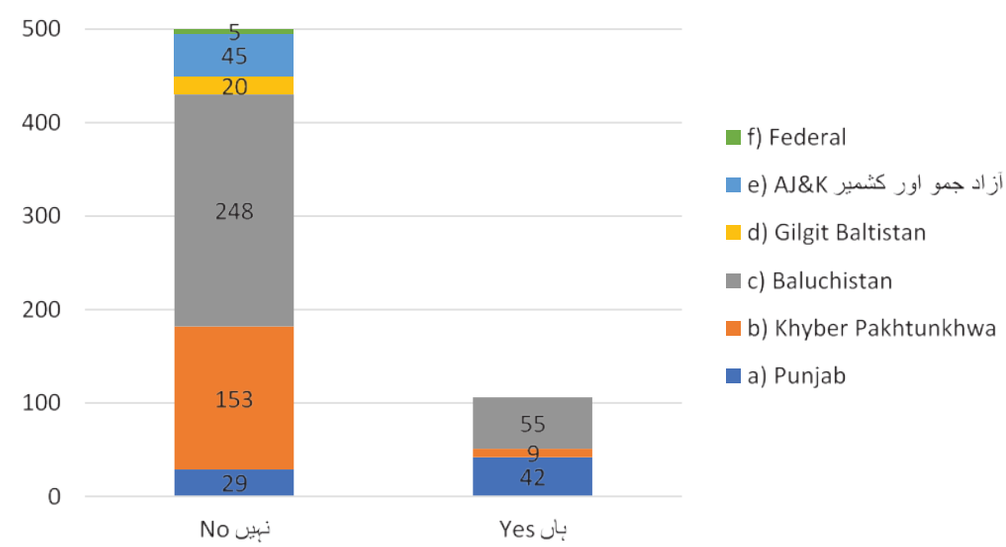


Figure-4.12: Reduction in Soil Degradation with olive plantation

Majority of the farmers throughout all the provinces have not installed drip irrigation, hence the assessment pertaining to the impact of drip irrigation and olive plantation is not conclusive (see Figure-4.13). Only a small number of farmers in Baluchistan and Punjab have accepted the use of drip irrigation.



Findings & Analysis: Environmental Impact

Figure-4.13: Drip Irrigation Province-wise Comparison

To conclude the inter-provincial results also indicate that the project of olive plantation is a success in terms of environmental attributes. Nevertheless, increasing the plants width and height will improve the importance of olive plants for soil improvement, and will also increase number of birds as they will have better habitats. The olive plants can be used as animal feed and for burning as well in some areas, and it is not producing added waste as well. It has a positive impact on other vegetation as verified by the survey' responses. Furthermore, the expansion of this intervention will support other vegetation. Overall, the olive plantation has a positive impact on environment and is playing its part toward the development of the environment.

4.3 District Level Assessment

There are some differences regarding the disposal of livestock at the district level. For example, in district like Attock, DG Khan, Makhtar, and Jhelum, the use of livestock waste as fertilizer is 0% whereas in Quetta this is 7%. However likewise, the macro data, majority of the livestock disposal is used as fertilizer in the fields. In all the districts under study 77% of the total respondents responded that they use the livestock disposal as fertilizers in their fields while only 3% reported that municipal authority collects the livestock disposal (see Table-4.5).

Table-4.5: District-Wise Waste Disposal as Fertilizer

Districts	Used as Fertilizer	Districts	Used as Fertilizer
Abbottabad	100%	Mansehra	100%
Bagh	100%	Mardan	83%
Bajaur	100%	Mohmand	75%
Barkhan	60%	Musakhail	72%
Battagram	100%	Muzaffarabad	100%
Chakwal	47%	Narowal	100%
Charsadda	100%	Nowshera	83%
DI Khan	100%	Pashin	100%
Dukki	100%	Peshawar	33%
Faisalabad	100%	Poonch	100%
Gilgit	100%	Qillasaifullah	76%
Hajjeera	100%	Quetta	7%
Haripur	40%	Rawalpindi	31%
Islamabad	80%	Sargoda	100%
Jhelum Valley	97%	Sherani	100%
Khushab	50%	South Waziristan	95%
Khuzdar	63%	Swabi	100%
Khyber	100%	Swat	100%
Kohat	100%	Upper Dir	100%
Kurram Agency	100%	Upper Kurram	100%
Laki Marwat	75%	Wana	100%
Loralai	76%	Zhob	58%
Lower Dir	100%	Ziarat	100%

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Table-4.6: Positive Impact of Olive Plantation on Birds (District-Wise)

Districts	Yes ہاں	Districts	Yes ہاں
Abbottabad	7%	Lower Dir	36%
Attock	29%	Makhtar	100%
Bagh	9%	Mansehra	22%
Bajaur	90%	Mardan	33%
Barkhan	50%	Mohmand	100%
Chakwal	79%	Musakhail	60%
Charsadda	100%	Nowshera	83%
DI Khan	100%	Pashin	60%
Dukki	40%	Qillasaifullah	77%
Gilgit	8%	Quetta	36%
Haripur	20%	Rawalpindi	24%
Islamabad	20%	Sherani	100%
Khushab	50%	South Waziristan	90%
Khuzdar	98%	Swabi	50%
Khyber	100%	Upper Kurram	100%
Kurram Agency	100%	Wana	100%
Laki Marwat	25%	Zhob	54%
Loralai	42%	Ziarat	71%

Regarding the diversification in cropping, majority of the farmers in the said districts have opted for crop mixing. Hence, concerning this specific attribute, no significant difference was found at the district level.

The data related to the habitat of birds varies from 0% to 100% across districts. In districts like Swat, Sargodha, and Peshawar etc. the olive plants are not providing any habitat to birds while in some districts like Sherani, Makhtar Mohmand, the olive plants are providing 100% habitat to birds (see Table-4.6); this is in total 56% of districts agrees with this conclusion.

Regarding the impact of the intervention on the soil degradation, there is much variation among districts. In some districts, the response is 0% while in some districts it is 100% and there are many districts in between as well. Overall, 37% respondents are of the opinion that the plantation of olive has decreased soil degradation (see Table-4.7) while 21% respondents are of the opinion that olive plantation has not decreased soil degradation in their areas. 41% respondents believed olive plantation has nothing to do with soil degradation control.

Table-4.7: Olive Plantation Decreased Soil Degradation (District-Wise)

Districts	Yes ہاں	Districts	Yes ہاں
Attock	100%	Makhtar	100%
Bajaur	90%	Mansehra	6%
Barkhan	100%	Mardan	50%
Chakwal	97%	Mohmand	75%
DI Khan	83%	Musakhail	15%
Gilgit	5%	Nowshera	83%
Islamabad	40%	Pashin	20%
Jehlum	100%	Poonch	8%
Jhelum Valley	17%	Qillasaifullah	23%
Khushab	88%	Quetta	21%
Khuzdar	73%	Rawalpindi	71%
Khyber	79%	South Waziristan	80%
Kurram Agency	100%	Swat	17%
Laki Marwat	75%	Upper Kurram	100%
Loralai	9%	Zhob	15%
Lower Dir	86%		

The inter district differences related to olive plants' producing green waste is in varying quantity. Nevertheless, in majority of district (37% respondents) the green waste produced by olive plants is less than 100kg, while others (16% respondents) identified the green waste produced as more than 100kg. And in some districts (48% respondents) reported it as not applicable.

The average of the district level data shows that 42% of the green waste produced by olive plants is crushed to the soil, 19% is used as animal feed, while 20% respondents responded that the waste produced by olive plants is burned (see Table-4.8).

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Table-4.8: Green Waste Disposal (District-Wise)

Districts	Burned	Animal feed	Crushed to the Soil
Abbottabad			100%
Bagh			100%
Bajaur	13%		63%
Barkhan			50%
Battagram			100%
Chakwal		19%	78%
Charsadda	33%		
D.G Khan			100%
DI Khan	50%	10%	40%
Dukki	42%	42%	
Faisalabad	50%		50%
Gilgit			100%
Hajjeera			100%
Haripur			100%
Islamabad	20%	20%	60%
Jehlum			100%
Jhelum Valley			93%
Khushab		11%	89%
Khuzdar	8%	31%	12%
Khyber	21%		41%
Kohat	50%		50%
Kurram Agency	40%		40%
Laki Marwat	25%		50%
Loralai	35%	29%	18%
Lower Dir	38%		43%
Makhtar			100%
Mansehra			100%
Mardan	20%	40%	30%
Mohmand	43%		43%
Musakhail	10%	48%	10%
Muzaffarabad			100%
Narowal		50%	50%
Nowshera	42%		58%
Pashin	36%	27%	9%
Peshawar			100%
Poonch			100%
Qillasaifullah	31%	26%	4%
Quetta	7%		47%
Rawalpindi		29%	57%
Sargoda		50%	50%
Sherani	100%		
South Waziristan	46%		46%
Swabi			100%
Swat			100%
Upper Dir		50%	50%
Upper Kurram	50%		50%
Wana	50%		
Zhob	23%	47%	15%
Ziarat	30%	70%	

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There is hardly any difference between the macro data and district level information pertaining to the impact of olive cultivation on the other types of vegetations. Approx. 84% respondents believed that plantation of olives has positively impacted other vegetation in the area (see Table-4.9). And 9% respondents responded that it has no impact on other vegetation.

Table-4.9: Impact on Other Types of Vegetations (District-Wise)

Districts	Positively impacted	Districts	Positively impacted
Abbottabad	100%	Loralai	69%
Attock	100%	Lower Dir	14%
Bagh	100%	Makhtar	100%
Bajaur	60%	Mansehra	100%
Barkhan	100%	Mardan	50%
Battagram	100%	Mohmand	100%
Chakwal	91%	Musakhail	74%
D.G Khan	100%	Muzaffarabad	100%
DI Khan	80%	Nowshera	50%
Dukki	100%	Pashin	90%
Faisalabad	100%	Peshawar	100%
Gilgit	100%	Poonch	100%
Hajjeera	100%	Qillasaifullah	92%
Haripur	100%	Quetta	43%
Islamabad	40%	Rawalpindi	69%
Jehlum	100%	Sherani	100%
Jhelum Valley	100%	South Waziristan	85%
Khushab	100%	Swabi	100%
Khuzdar	98%	Swat	100%
Khyber	100%	Upper Kurram	100%
Kohat	100%	Wana	100%
Kurram Agency	100%	Zhob	62%
Laki Marwat	75%	Ziarat	100%

Likewise, the district level data showing the impact of olive plantation on the wildlife is comparable to macro or national trends. The average district level data shows that 77% respondents responded that the plantation of olives has positively impacted wildlife in the area while 1% respondents responded that it has negatively affected the wildlife. 17% are of the opinion that it has no impact.

The district level variation concerning the impact of olive on the bird's population is varying with a minimum value of 0% to 100% impact. On the average 57% of the respondents believed the plantation of olives has increased the number of birds in the area, while 41% responded that the plantation of olives has not increased the number of birds in the area (see Table-4.10).

Table 4.10: Impact on Bird's Population

Districts	No	Yes
Abbottabad	91%	9%
Attock	0%	100%
Bagh	91%	9%
Bajaur	20%	80%
Barkhan	50%	50%
Battagram	100%	0%
Chakwal	6%	94%
Charsadda	0%	100%
D.G Khan	100%	0%
DI Khan	33%	67%
Dukki	40%	40%
Faisalabad	50%	50%
Gilgit	100%	0%
Haripur	67%	33%
Islamabad	40%	60%
Jehlum	0%	100%
Jhelum Valley	100%	0%
Khushab	13%	88%
Khuzdar	4%	96%
Khyber	43%	57%
Kohat	100%	0%
Kurram Agency	0%	100%
Laki Marwat	100%	0%
Loralai	51%	37%
Lower Dir	64%	29%
Makhtar	0%	100%
Mansehra	75%	25%
Mardan	80%	20%
Mohmand	25%	75%
Musakhail	45%	55%
Muzaffarabad	100%	0%
Narowal	100%	0%
Nowshera	30%	60%
Pashin	30%	60%
Peshawar	100%	0%
Poonch	100%	0%
Qillasaifullah	21%	76%
Quetta	43%	57%
Rawalpindi	20%	80%
Sargoda	100%	0%
Sherani	0%	100%
South Waziristan	45%	55%
Swabi	50%	50%
Swat	100%	0%
Upper Dir	100%	0%
Upper Kurram	0%	100%
Wana	0%	100%
Zhob	45%	55%
Ziarat	29%	71%

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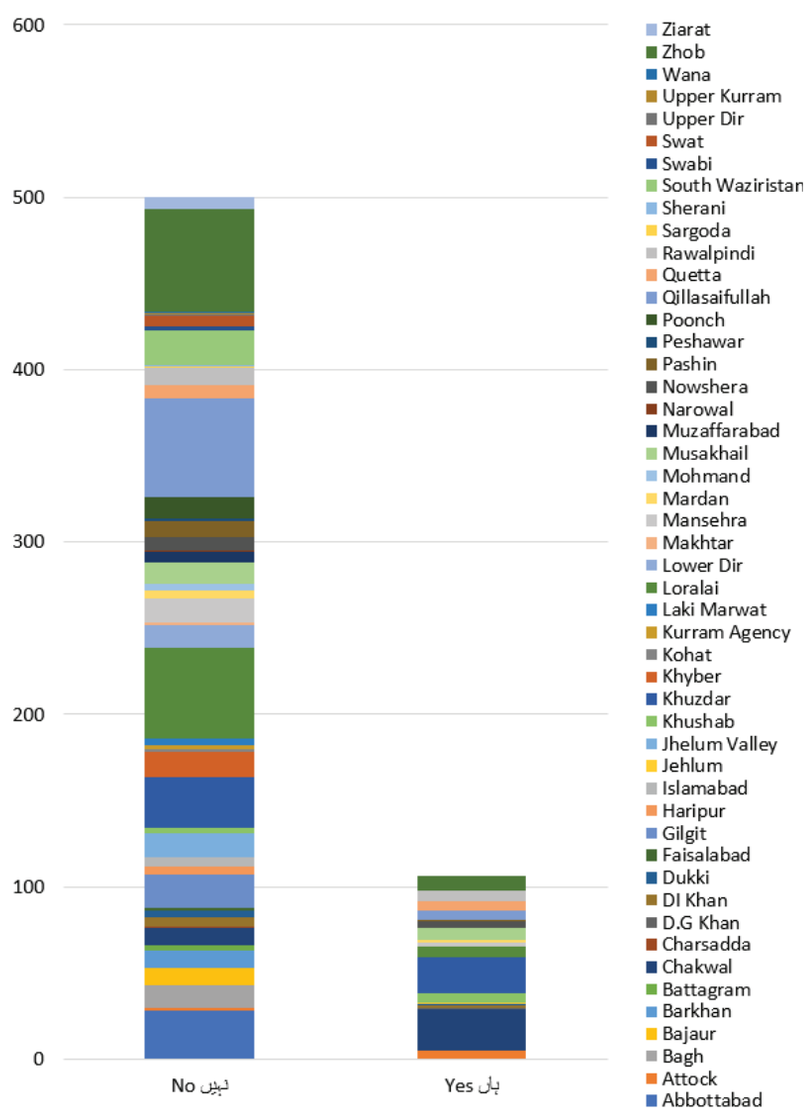
Table-4.11: District Level impact on Soil Degradation Types

	Decreasing soil nutrients	Decline in the organic matter in the soil	Decline in underground water due to over exhaustion for high water usage	Not applicable
Abbottabad	0%	0%	0%	100%
Attock	0%	0%	0%	0%
Bagh	0%	0%	0%	100%
Bajaur	56%	44%	0%	0%
Barkhan	0%	0%	0%	100%
Battagram	0%	0%	0%	100%
Chakwal	14%	0%	51%	23%
Charsadda	50%	50%	0%	0%
D.G Khan	100%	0%	0%	0%
DI Khan	38%	38%	8%	0%
Dukki	20%	0%	0%	80%
Faisalabad	0%	50%	0%	50%
Gilgit	0%	0%	0%	100%
Haripur	0%	0%	0%	100%
Islamabad	20%	0%	0%	40%
Jhelum Valley	0%	0%	0%	100%
Khushab	33%	17%	50%	0%
Khuzdar	6%	0%	0%	88%
Khyber	29%	21%	50%	0%
Kohat	33%	33%	0%	33%
Kurram Agency	50%	25%	25%	0%
Laki Marwat	25%	50%	0%	25%
Loralai	3%	2%	13%	79%
Lower Dir	48%	44%	4%	0%
Makhtar	0%	0%	0%	100%
Mansehra	0%	0%	0%	100%
Mardan	56%	33%	0%	0%
Mohmand	44%	44%	11%	0%
Musakhail	0%	0%	10%	90%
Muzaffarabad	0%	0%	0%	100%
Narowal	0%	0%	100%	0%
Nowshera	33%	0%	50%	0%
Pashin	0%	0%	10%	90%
Peshawar	0%	0%	0%	100%
Poonch	0%	0%	0%	100%
Qillasaifullah	0%	0%	21%	71%
Quetta	0%	0%	21%	79%
Rawalpindi	6%	0%	18%	18%
Sargoda	0%	0%	100%	0%
Sherani	0%	0%	100%	0%
South Waziristan	39%	30%	27%	0%
Swabi	0%	0%	0%	100%
Swat	0%	0%	0%	100%
Upper Dir	0%	0%	0%	100%
Upper Kurram	0%	50%	50%	0%
Wana	0%	50%	50%	0%
Zhob	0%	1%	24%	62%
Ziarat	0%	0%	0%	100%

Though there is huge variation in terms of impact of olive plantation on soil degradation, on the average the district level data reveals that majority of the respondents were of the opinion that there is no soil degradation in their area (see Table-4.11). Respondents from barely 3 districts reported some sort of decrease in the soil nutrients, while 4% on the average responded that water levels/ logging has increased in their area.

Likewise national or macro trend, a district-wise comparison also shows that majority of the farmers have not installed drip irrigation (see Figure-4.14). Hence no further assessment of the impact of drip irrigation would be useful in present scenario. Henceforth, the district wise explanation of the environmental effect of olive plantation shows an overall positive impact of the plantation of olive on the environment. Hence, this can be concluded that in spite inter district variations, the key environmental indicators confirm positive relationship of the olive plantation project on environment.



Findings & Analysis: Environmental Impact

4.4 Acre-wise or Farm Size-wise Assessment

This section explains the environmental impacts of olives plantation across different sizes of farms (acre-wise). The farm size varies according to acres, as 0-10, 10-20, 20-30 and greater than 30. Across different acres of farm, there are no major differences identified in terms of waste disposal practices. As this is evident from Figure-4.15 that despite the difference in the farm size, the majority of the farmers use the livestock waste as fertilizer.

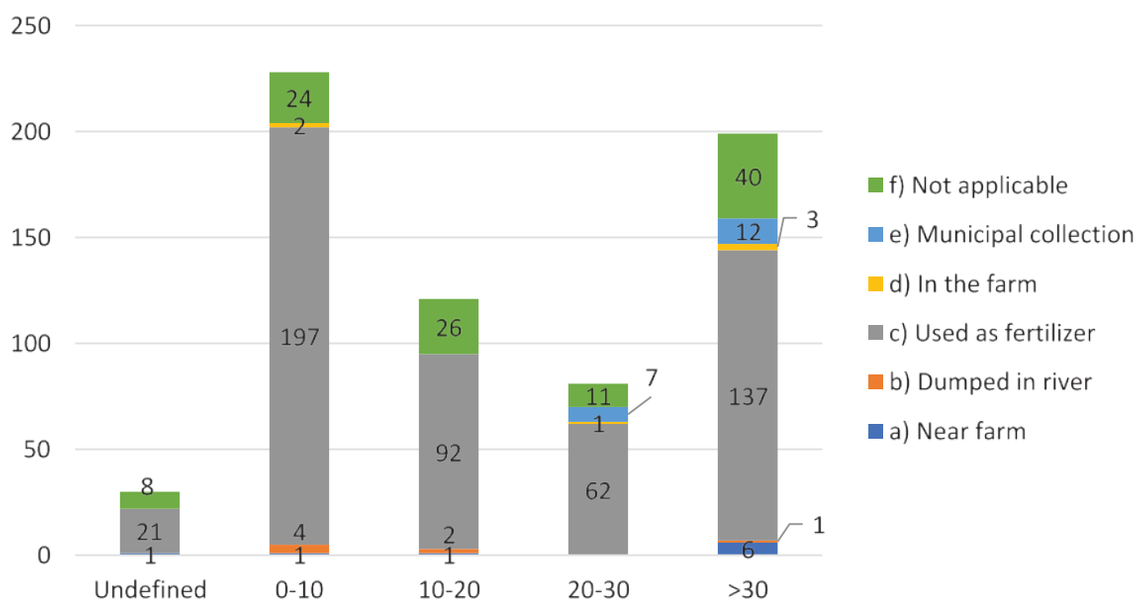


Figure-4.15: Waste Disposal (Farm size-wise in acres)

The green waste produced varies according to the farm size. Majority of the respondents of all farm sizes agreed that the green waste produced is less than 100 kg (see Figure-4.16).

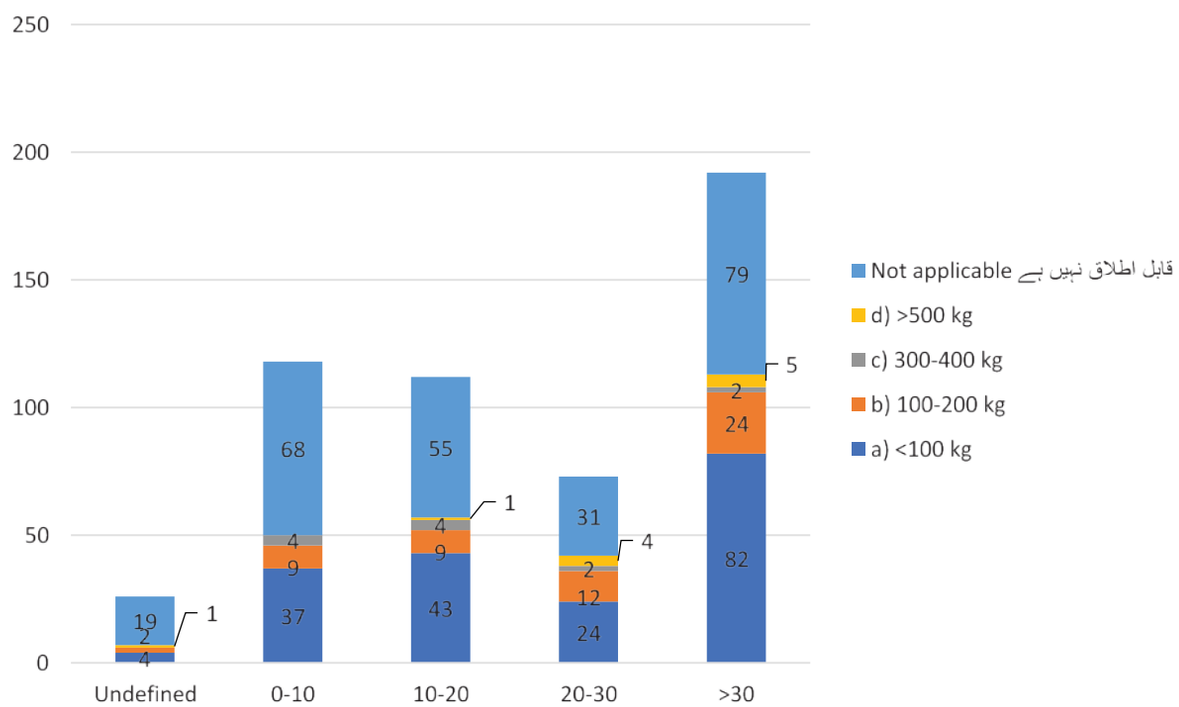


Figure-4.16: Green Waste (Farm size-wise in acres)

Various methods are used to dispose of the crop's wastage, different respondents use multiple methods for this purpose. As per the farm size, varied methods i.e., a combination of different methods to dispose of the waste are in usage. The farm size of 0-10 acres disposes it off by burning, use as animal feed, dump in canal, as well as crush to soil. Similarly other farm sizes also use a mix of different methods. However, most commonly used method is crushed to soil.

The diversification of crops is also adopted by majority of the farm holdings. On the average almost 80% farmers have approved the diversification of their cropping. There are no differences as far as size of the farms is concerned. For the farm size 01-10, almost 83% have acknowledged the use of crop diversification. Similarly, in case of farm size greater than 30 acres, 88% have responded positively.

The impact of plantation on wildlife has also been reported as positive across different farms sizes. On average almost 73% farmers have shown a positive impact on wildlife, which varies across different acres from 59% to 83%. Overall, majorit y of farmers of all the farm sizes have indicated a positive impact (see Figure-4.17).

Findings & Analysis: Environmental Impact

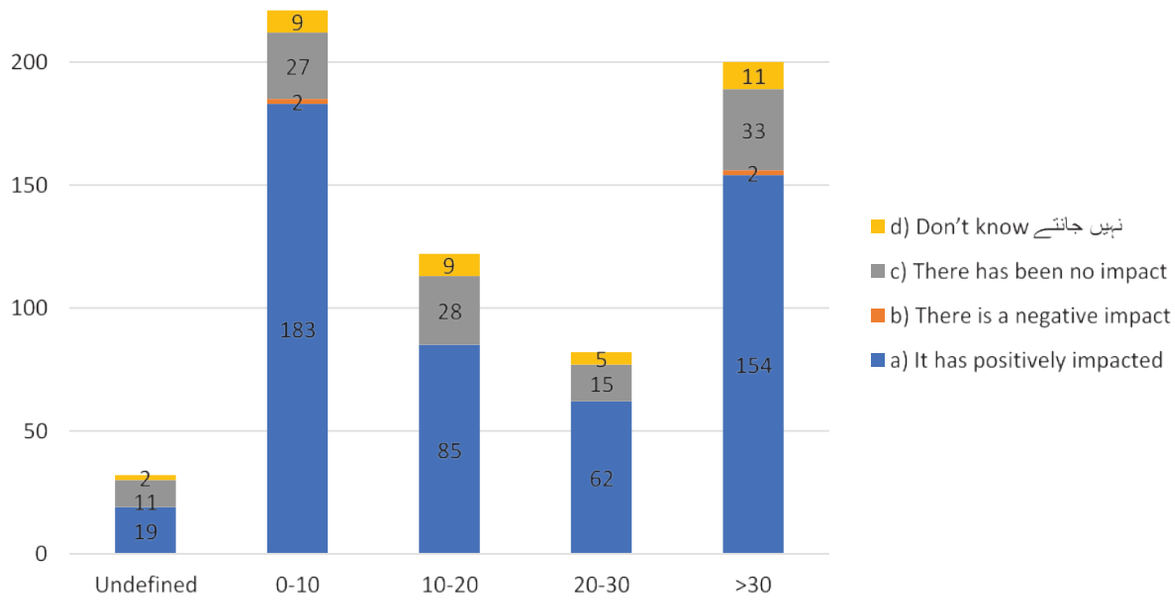


Figure-4.15: Waste Disposal (Farm size-wise in acres)

The environmental impact of plantation in terms of provision of habitat to birds indicate a positive impact acre-wise. Approx. 56% of the farmers across different farms agree that it has provided habitat to birds, the variation is from 30% to 72% across different farms sizes. The number of birds seen in the area has also been on the rise as reported by majority of the farmers across different farm sizes. Approx. 58% farmers agree to an increase in number of birds in the area. The results suggest that the bigger the farm-size, the more the agreement to olive plantation's positive impact on habitat of birds.

Regarding question related to land degradation, majority of the farmers having distinct farm sizes have opted for 'not applicable', although a mix of land degradation effects have been found on different farms as shown in Figure-4.18. Moreover, the positive spillover of olive plantation on soil degradation across different farms is also uncertain as bulk of the respondents considered the question as 'not applicable'. Nevertheless, almost 37% of the respondents (majority belonged to large farm-size holders) have indicated positive impact of olive plantation on the soil degradation (i.e., it stopped soil degradation); while 21% disagreed with this perspective, and 42% chose 'not applicable' as the response.

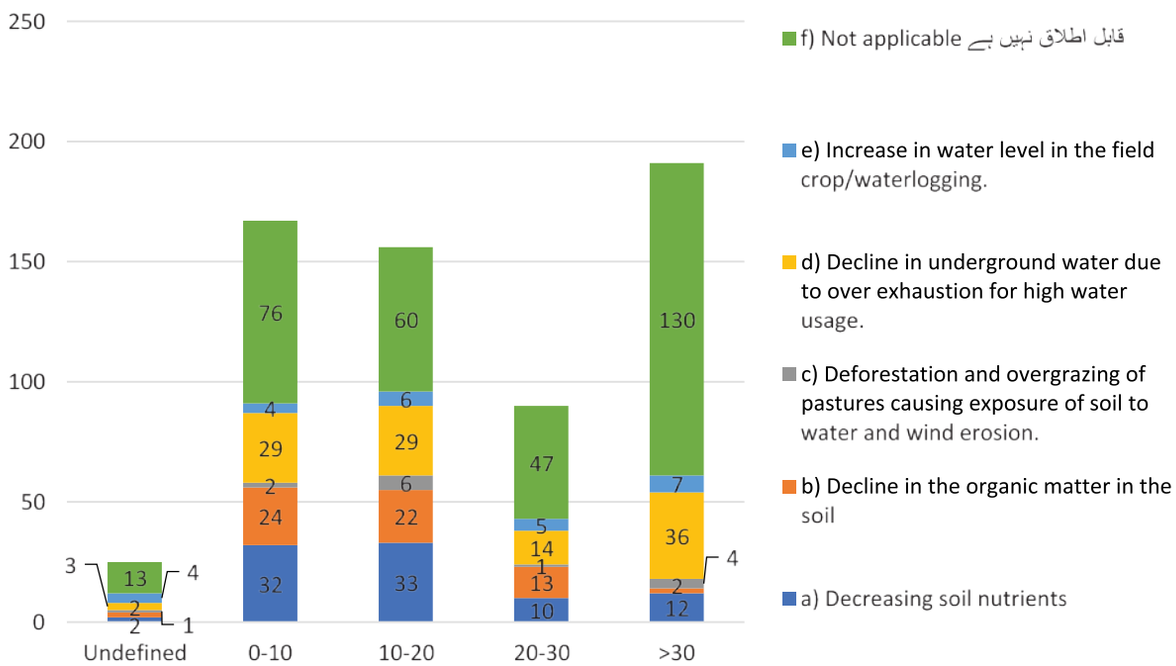
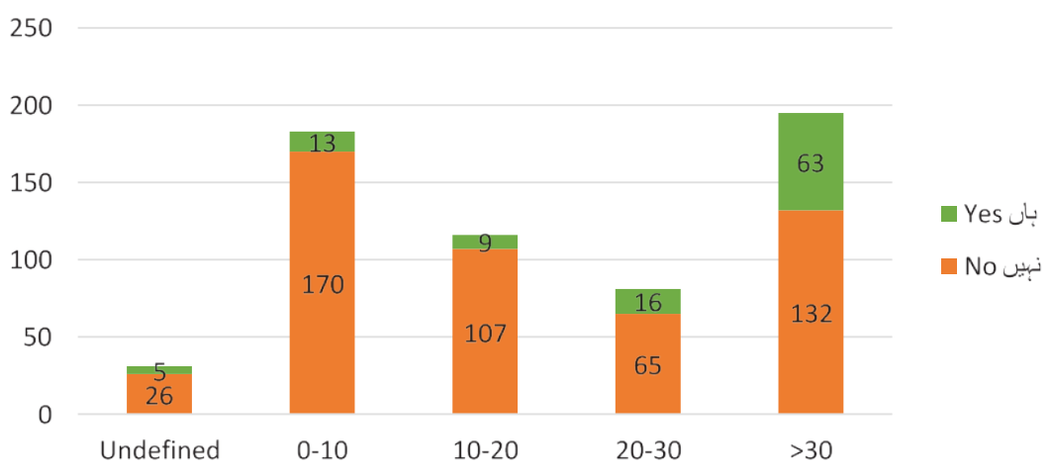


Figure-4.18: Land Degradation types of Farm Wise Comparison



Findings & Analysis: Social Impact

Figure-4.19: Drip Irrigation Farm Wise Comparison

Since the majority of the respondents, irrespective of the farm size, have not installed drip irrigation, the impact cannot be assessed (see Figure-4.19). Only a handful and majority of large land holdings have admitted the installation of Drip Irrigation on their farms.

Thus, it can be inferred that overall plantation of olives has created positive environmental impacts across different farm sizes. The impacts do not vary much in terms of average response.

5. Findings & Analysis: Social Impact

5.1 Macro or National Level Assessment

The social impact of plantation of olives has been described as ownership issues, reasons of conflict, improvement of connectivity between community, the modes of connectivity used by the farmers, sharing of tractor with other farmers for their own farm activities, and cooperation between farmers.

The analysis indicated that the plantation has increased the sharing and cooperation between the community and farmers, which may be due to increase in connectivity between them. As the results have shown (see Figure-5.1) that majority of the farmer community agrees that the plantation has increased the connectivity among them.

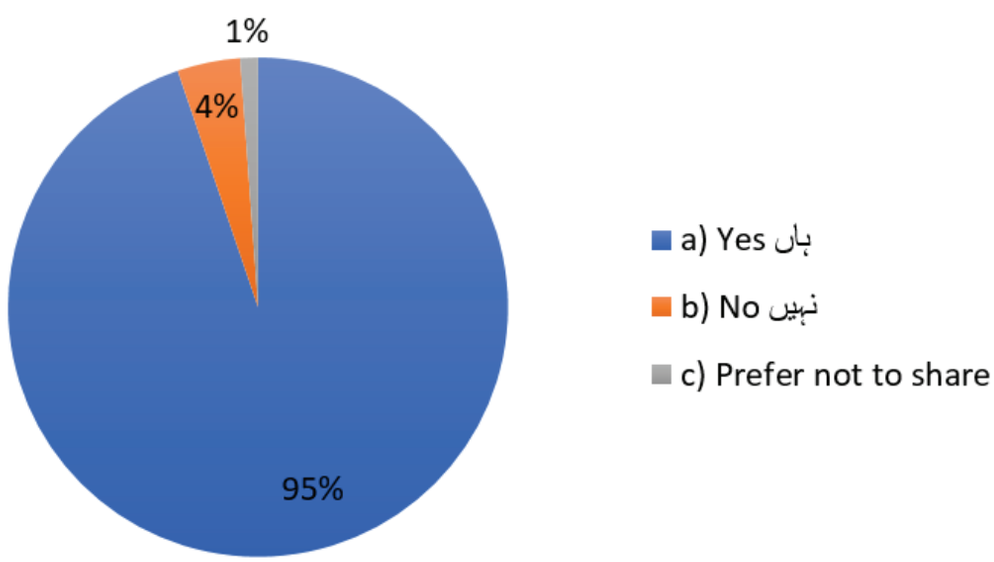


Figure-5.1: Olive Plantation & Increased Connectivity in the Farmer Community
The connectivity has been improved by using varying modes of communication. A considerable number of farmers use mobile as mean of connectivity. Results also show that this use of a mix of connectivity modes in the form of Facebook, visiting each other's farm and communication via someone has overall increased the connectivity of the farmer community (see Figure-5.2).

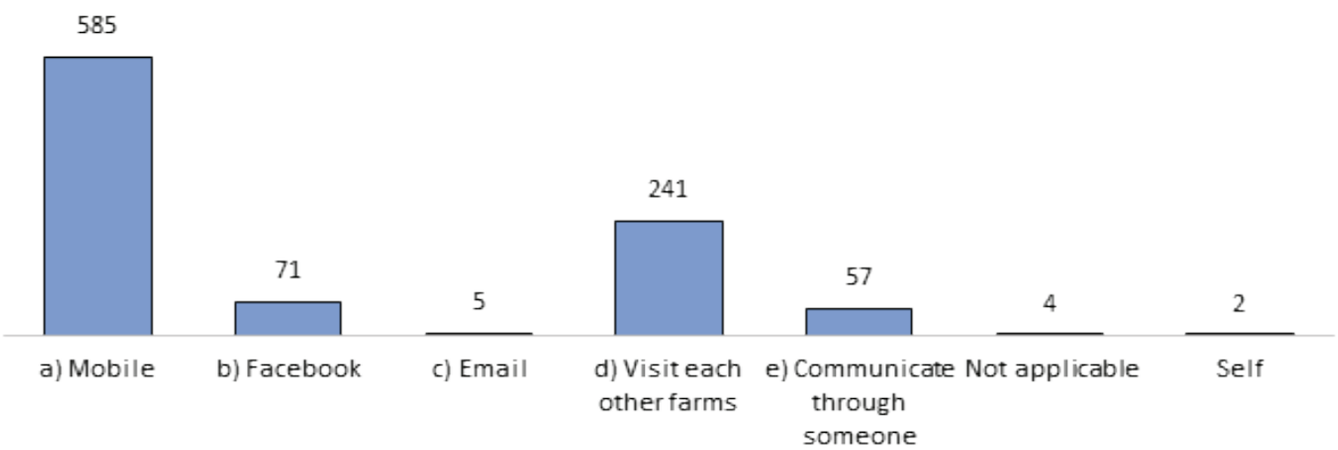


Figure-5.2: Mode of Connectivity among Farmers

Among local farmers, the increase in connectivity may be one of the reasons of improved cooperation and sharing of resources – identified as another positive social impact. This sharing of resources has been expressed in the form of sharing tractors for farm activities. Majority of the farmers share their tractors with other farmers. Overall, it can be concluded that the project has created positive social effects on the local farmers community.

Other social indicators included employment generation, poverty alleviation, management, and land ownership issues. Majority (93%, 600) of the respondents considered the olive plantation project as a success (see Figure-5.3).

Findings & Analysis: Social Impact

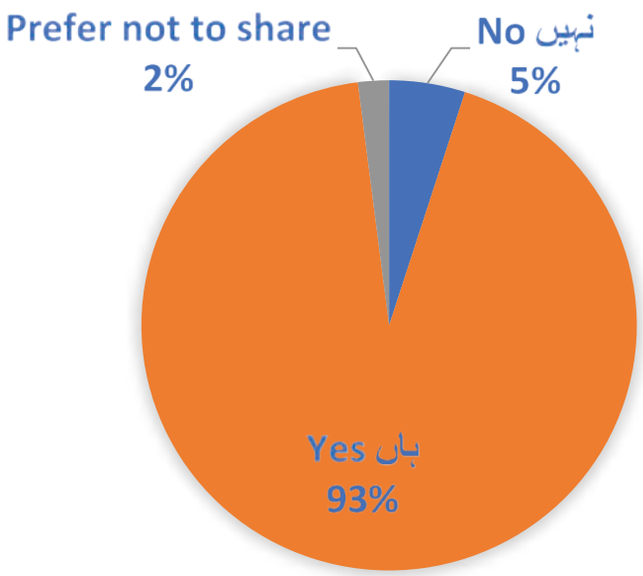


Figure-5.3: Project Success - Macro Data

Results indicate that olive plantation has contributed significantly to change the employment status of the households, as 35% (count: 210) of respondents agreed to this notion; however, 23% (count: 134) disagreed and 42% (count: 251) said it was not applicable. The initiative has created a positive impact in terms of job creation on the farm (see Figure-5.4).

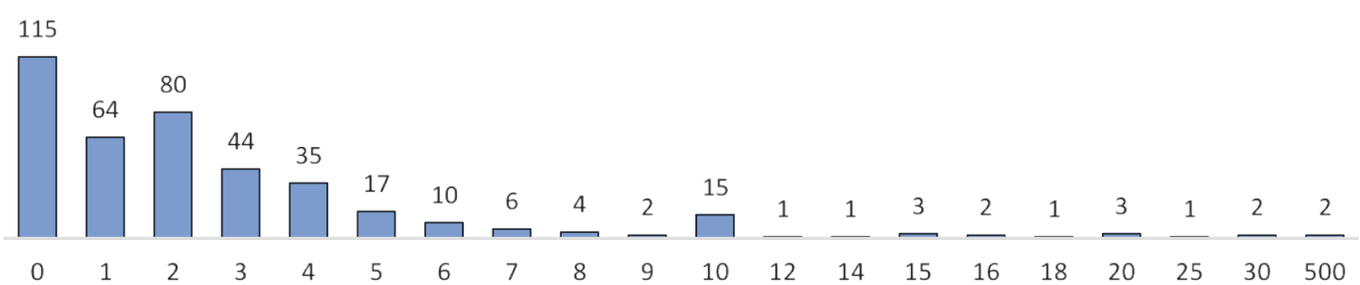


Figure-5.4: Number of Jobs created after Olive Plantation

Furthermore, the olive plantation project has not created the land ownership issues as well (reported by 92% respondents), as it has no impact on the fragmentation of ownership (reported by 97% respondents) which is a positive impact. However, it has created no impact as such in term of farm management, as majority of the respondents were not managing their farms.

On the other hand, in terms of olive plantation's impact on Poverty Alleviation, 39% respondents agreed that this initiative had a positive impact; however, 57% respondents said that the initiative had no impact (see

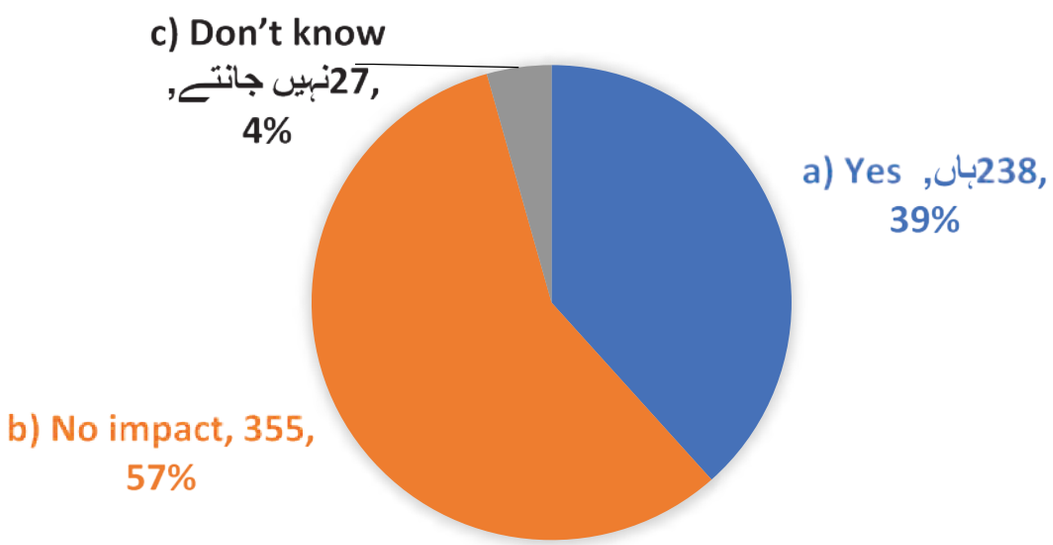


Figure-5.5: Poverty Alleviation through Olive Plantation

In terms of gender examination, only 19% of female farmers are directly engaged in cultivation, but this is not linked with the Olive Plantation, as it is a cultural phenomenon rather than the outcome of an intervention.

5.2 Provincial Level Assessment

The social impact of olive plantation project at the provincial level is now being presented here. This project has positively impacted the cooperation amongst the farmers in all the provinces (see Figure-5.6).

Findings & Analysis: Social Impact

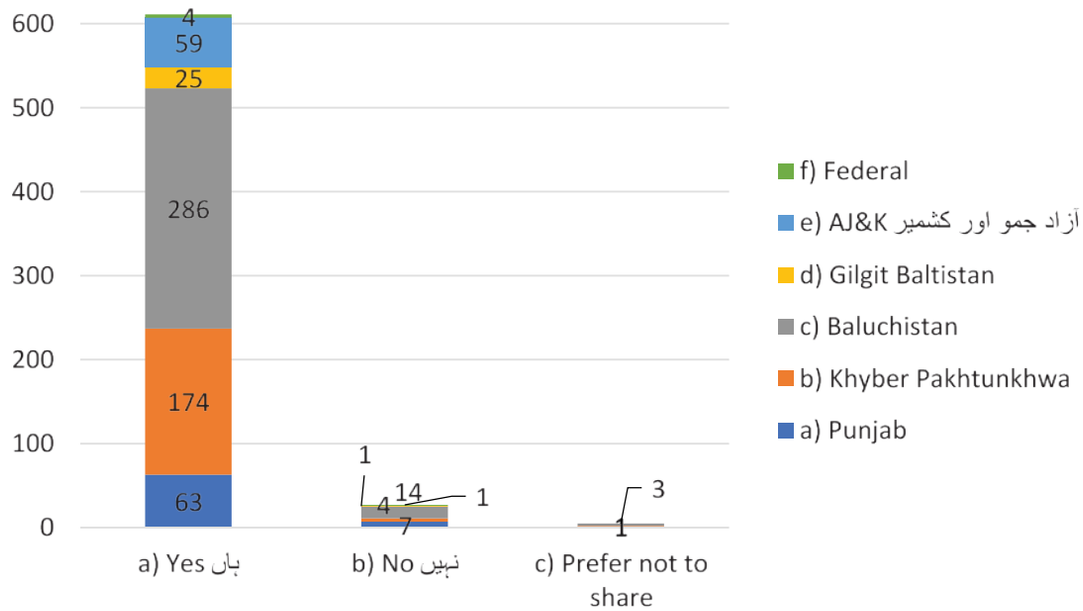


Figure-5.6: Impact on Cooperation Amongst the Growers – Provincial Data

Another aspect of social impact of the project has been that farmers share their tractors with each other for olive plantation (see Figure-5.7). In the province of Punjab, the percentage of sharing the tractors is relatively higher (81%) as compared to the other provinces, while in AJ&K it stands at 60%.

Average number obtained from q10b

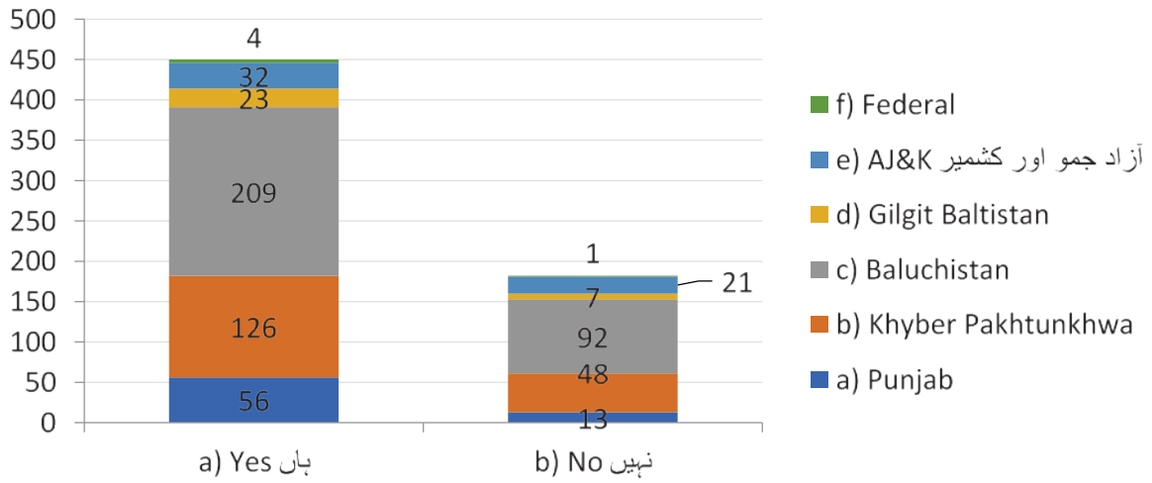
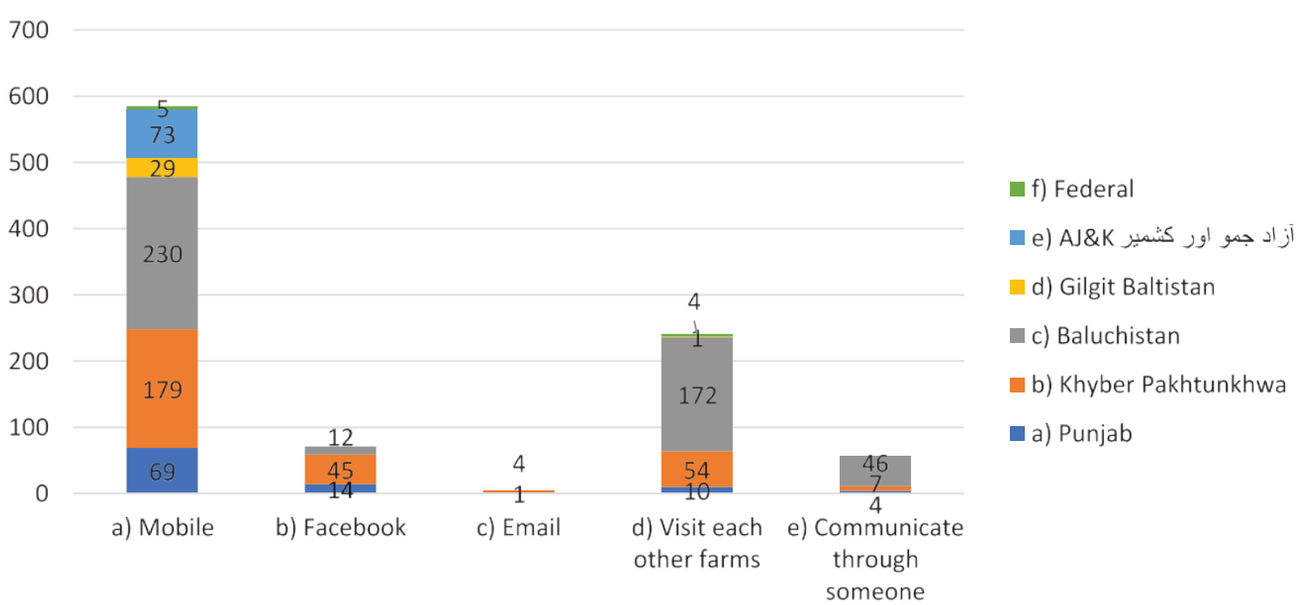


Figure-5.7: Tractor Sharing among Growers – Provincial Data

Project's social impact can further be identified in terms of improved connectivity between the farmers. The olive plantation has increased the connectivity among the farmers as this is evident based on the provincial disaggregated data set as well (see Figure-5.8). The province-wide data also reveals that majority of the farmers use mobile phone to communicate with each other along with the field visits. The response from KPK and Baluchistan is overwhelming.



Findings & Analysis: Social Impact

Figure-5.8: Modes of Connectivity among Farmers - Provincial Estimates

The impact of plantation of olives on the employment status has been phenomenal at the provincial level as well. This has been indicated in terms of change in the household's members employment status. At the provincial level except in GB and KPK, others have positively replied to the changes in the employment status of household's members. In GB, 68% said the project has no impact in their case, while in Punjab 76% respondents have acknowledged the positive impact of Plantation on their employment status.

The provincial level analysis also reveals that the plantation has created jobs on the farm, although there are minor differences in terms of number of jobs created, and there are few outliers as well. The overall scenario is a positive response, and majority of the respondents in all the provinces have acknowledged that the project has created a mark. The number is varying but this is evident that on the average more than 3 jobs are created at every farm based upon the provincial statistics (see Figure-5.9). Baluchistan led in job creation.

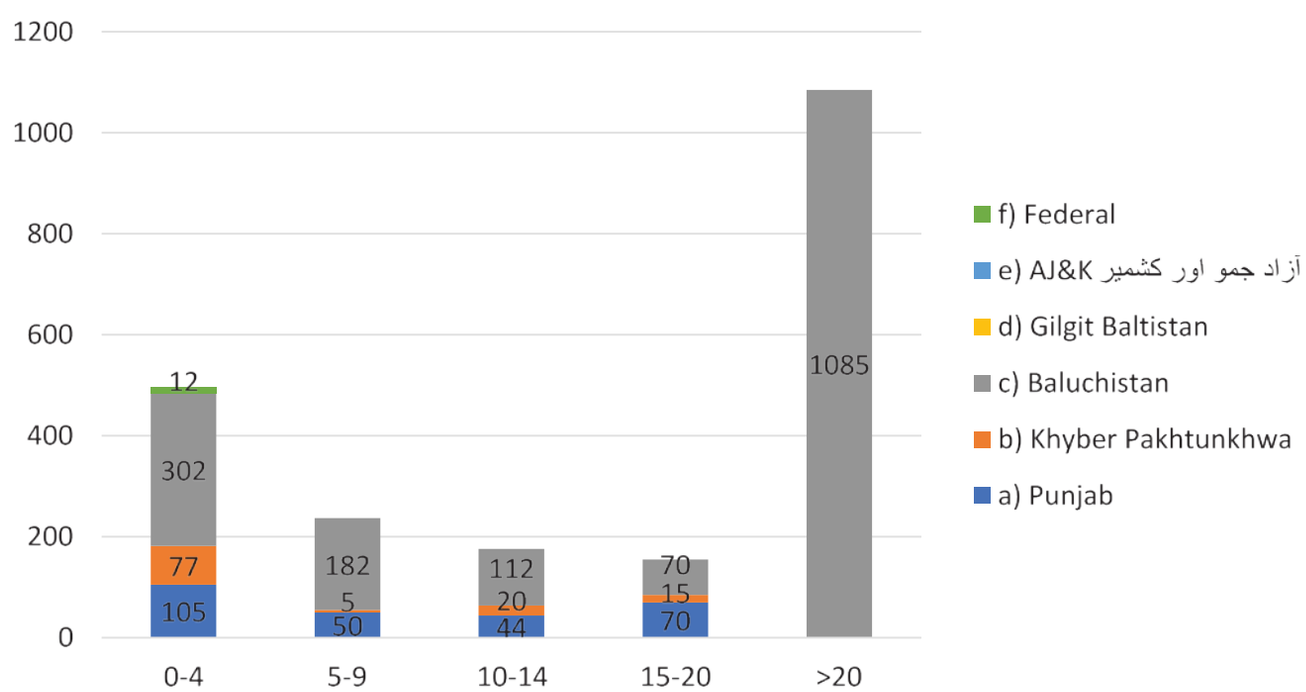


Figure-5.9: Number of Jobs Created on Farm - Province-Wise Estimates

Results have revealed that the plantation has not created the ownership issues. The contribution of the olive plantation towards poverty alleviation has also been assessed at the provincial level. The result is almost mixed as a significant number of respondents consented to a positive outcome of plantation in alleviating poverty, but majority has agreed to have no impact of plantation in alleviating poverty in the area. In terms of inter provincial differences, the respondents in all the three provinces have confirmed positive impact of poverty alleviation except Khyber Pakhtunkhwa (see Figure-5.10), where the majority respondents agreed to have no impact of plantation on alleviating poverty.

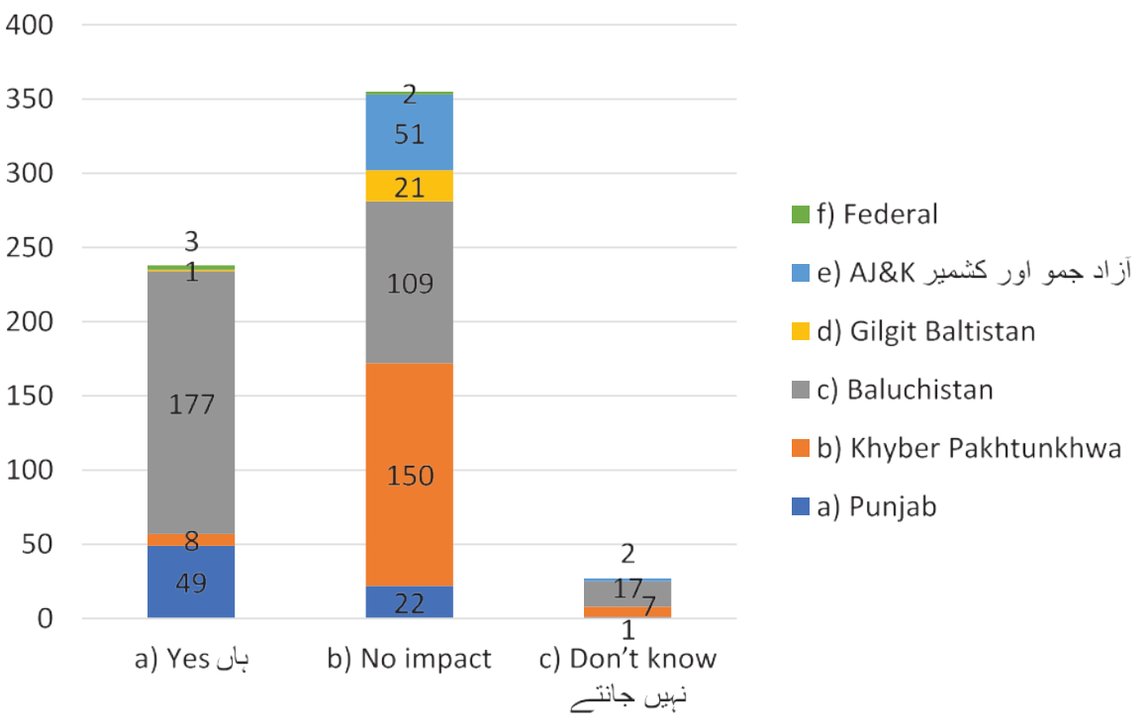


Figure-5.10: Poverty Alleviation via Olive Plantation Project - Province-Wise Data

In all provinces, the majority respondents considered the plantation of olives as a success; there are no differences at provincial level. This result is reflected in terms of positive effects on all other social indicators, though certain negative responses have been recorded in the province of Baluchistan, but these are trivial (see Figure-5.11).

Findings & Analysis: Social Impact

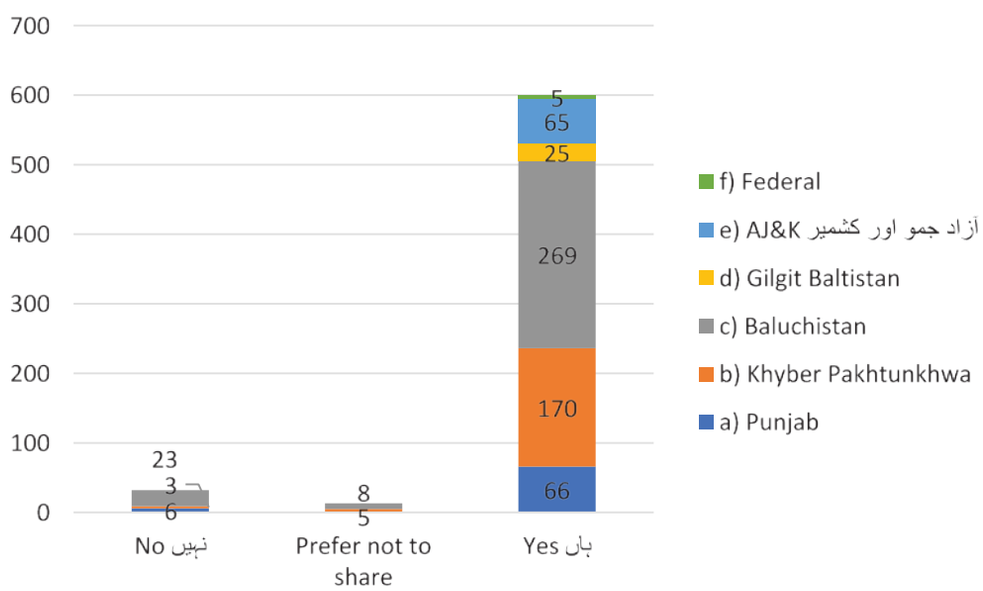


Figure-5.11: Perception of Project Success at the Provincial Level

Hence, it can be concluded that overall – at the provincial level, the olive plantation has created positive social ripple effects with a significant contribution to improvement of cooperation and sharing. Collaboration improved due to the improvement of connectivity, job creation, poverty alleviation and respondent's positive attitude by considering the intervention as a success. Therefore, it can be derived that the project is quite valuable in terms of its positive social effects. Besides, the provincial level analysis hasn't been a major deviation in terms of responses to that of national or macro statistics.

5.3 District Level Assessment

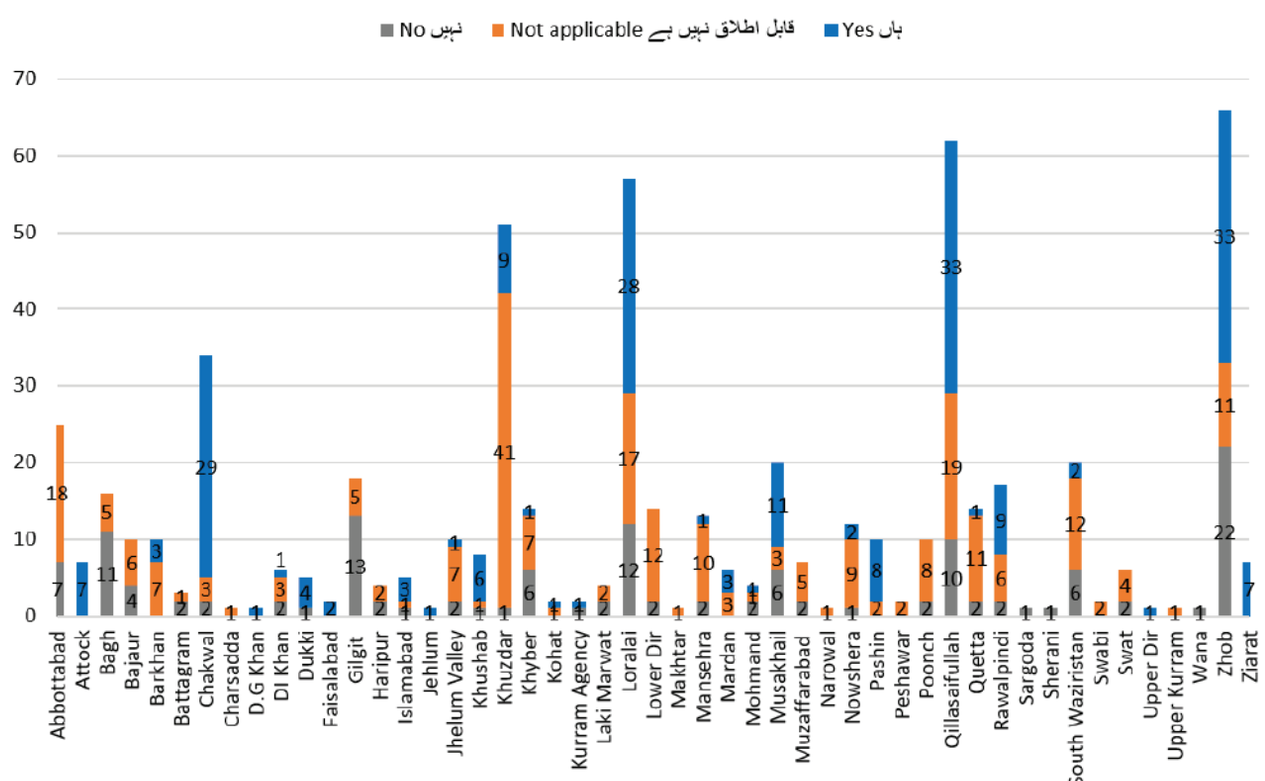
The social impact of olive plantation project has been investigated at the district level as well. This project has positively impacted the cooperation among the farmers. Respondents from Narowal where 100% (based on one sample only) claimed no increase in the cooperation among the local farmers. But in all other districts, the majority of the respondents were affirmative. Similar trends exist at the national as well as at the provincial levels. The availability and use of different communication channels has also boosted this positive inertia on connectivity built by the olive plantation project.

The project seems to have improved cooperation in terms of sharing of equipment, especially tractors etc. The district level data show that majority of the farmers in the districts share their tractors with each other for olive plantation. In few districts it is seen that their respondents did not share their tractors for olive plantation. For example, the respondents from Narowal, Quetta and most districts of KPK claimed that they do not share their equipment among each other. The trend of sharing is relatively higher in Punjab's districts.

Similarly at district level, almost all the districts identified that the olive plantation has not created the ownership issues, except districts of Abbottabad and Mansehra where ownership issues were reported.

Regarding household members' employment status, the results in the districts are mix. 35% said the project changed the employment status, 23% disagreed, while 42% opted 'not applicable' (mostly by districts of KPK) option – this doesn't confer negative effect (see Figure-5.12). The data on the impact

of olive plantation on employment generation, at the district level, are in line with the national and provincial estimates.



Findings & Analysis: Social Impact

Figure-5.12: Changes in Employment Status at the District Level

In terms of number of jobs created owing to present project, although on average the respondents from all the districts agreed to creation of around 4 jobs, but 17% respondents suggested the creation of 5 or more jobs on their farms. There were no responses to this query from respondents of GB and AJ&K.

Regarding poverty alleviation, the district level data signify that almost 39% respondents of all the districts (dominated by districts of Punjab and Baluchistan) have agreed towards the positive contribution of olive plantation, while 57% suggested it had no impact – dominated by districts of KPK, GB and AJ&K (see Figure-5.13).

At district-level, majority of the respondents considered the plantation of olives as a success. Results are in conformity with the national and provincial level responses. Therefore, the success of this project at the disaggregated district level data is

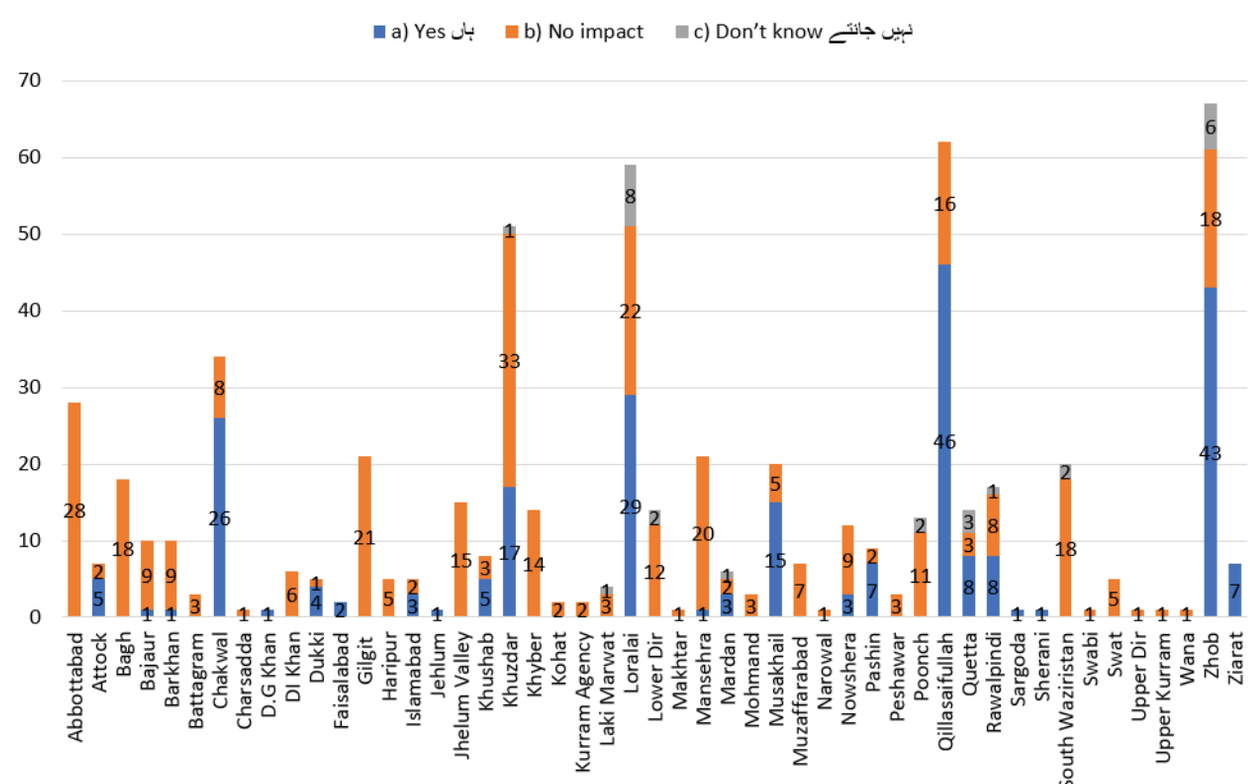
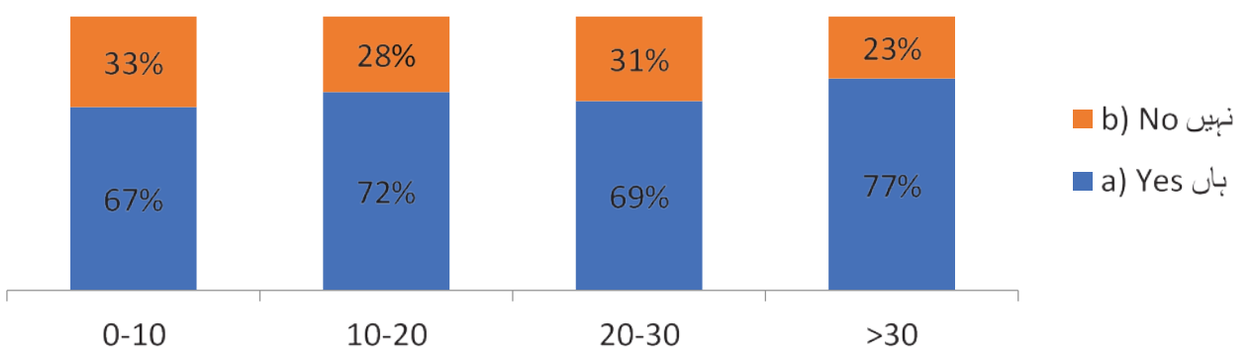


Figure 5.13: Poverty Alleviation Perception at the District Level

5.4 Acre wise or Farm Size-wise Assessment

This section explains, the social impacts of olives plantation across different sizes of farms acre wise. The farm size varies according to acres, as 0-10, 10-20, 20-30 and greater than 30. The survey shows that farmers having less than 10 acres are as cooperative with each other as the farmers having land of more than 30 acers. Above 90% farmers in all farm-size categories agree that olive plantation increased cooperation. This is also evident from the response to sharing of equipment /tractor with other farmers in Figure-5.14.



The data shows that majority of the farmers connect through mobile on all levels of land ownership. But the value of visiting each other's farms is increasing as the quantity of land increase and it goes from approx. 8% at 10 acres to 28% at more than 30 acres. The overall results shows that around 81% of the farmers connect through mobile with each other while 16% visit each other's farms and 2% connect through Facebook.

The data shows variation in job creation for the households as the land ownership increases. 16% of the farmers having less than 10 acres said that the project has changed employment status of their households. Among the farmers having 10-20 acres, 31% responded in affirmative, while 36% of those having 20-30 acres and 53% of those having more than 30 acres agreed to this perspective (see Figure-5.15).

Findings & Analysis: Social Impact

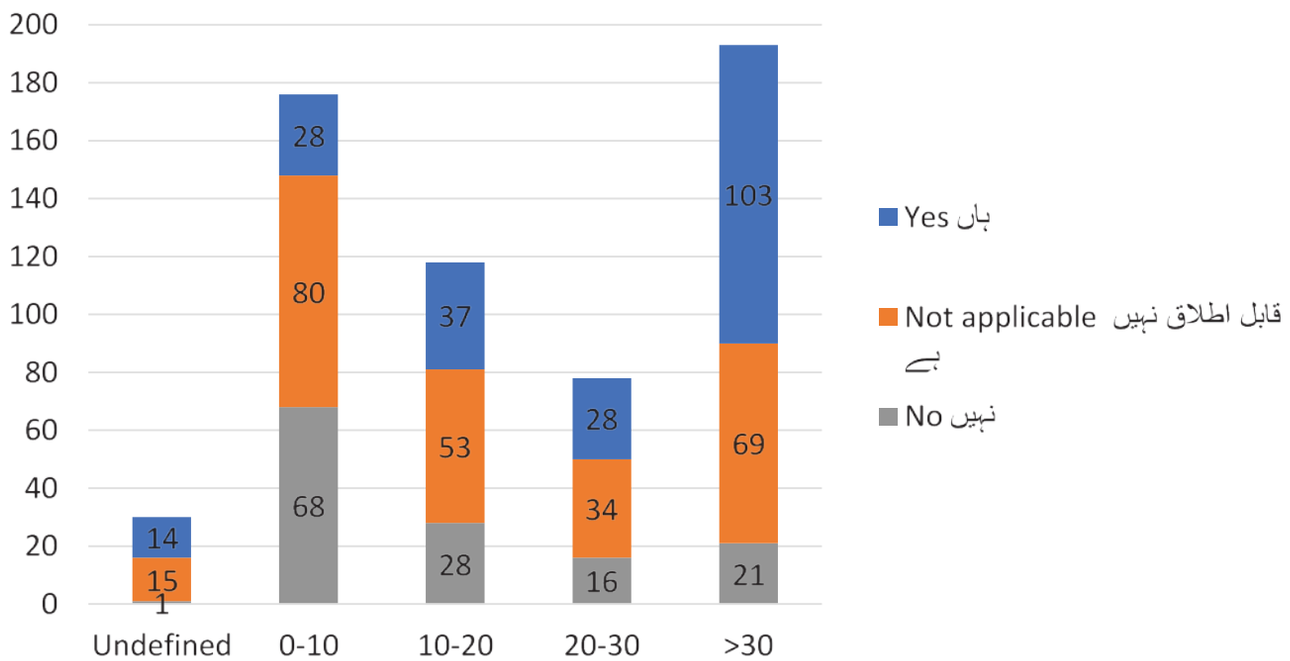


Figure-5.15: Changes in Employment Status (acre-wise Data)

The data shows variation among farmer's responses to the question of poverty alleviation. Table-5.1 shows combination of land ownership and the group's opinion about poverty alleviation in their respective areas. Overall data shows that 38% of the total respondents believed that the plantation of olives has led to poverty alleviation in the area, while 57% were of the opinion that the plantation of olives has no effect on poverty alleviation.

Table-5.1: Poverty Alleviation Perception: Farm Level Analysis

Land (acres)	Yes	No
0-10	19%	77%
10-20	40%	56%
20-30	34%	64%
>30	58%	37%

Farmers have shared opinion on the question of whether plantation of olives on their farm is a success or not. In all land ownership groups majority of the farmers believed that olive plantation is a success (see Figure-5.16). Among all respondents, 93% reported that plantation of olives is a success while 5% think that it is not.

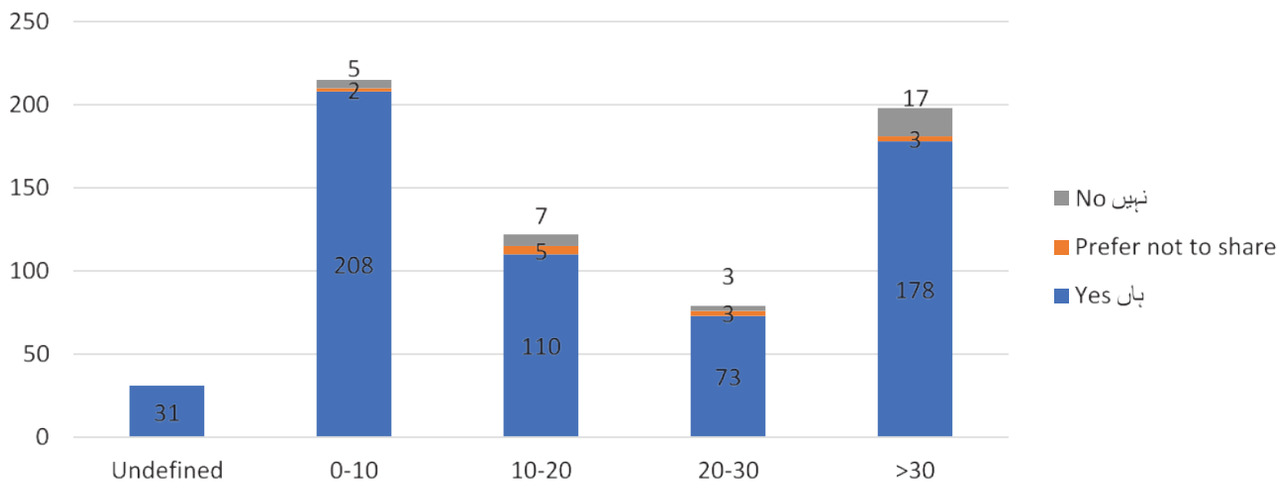


Figure-5.16: Olive Plantation Project is a Success (Farm Level Statistics)

Acre -wise, it has been extracted that the olive plantation project increased the overall connectivity and cooperation among the olive farmers. The project has led many job opportunities, though substantial number of farmers feel that it has fallen short in poverty alleviation – considering the current low age of olive farms, poverty alleviation may be taken as a long-term goal of this project. Overall, the farmers rated this project as a success.

Findings & Analysis: Economic Assessment

6. Findings & Analysis: Economic Assessment

This part of the study is reporting the economic implications of Olives Plantation in the different regions of Pakistan. This research project is undertaken with the primary purpose of evaluating the impact of Olive plantations on the economic welfare of residents across the different districts. Wherever appropriate, this section provides the four-layered analysis of the survey data, i.e., overall /macro, province-wise, district-wise, and farmer /acre-wise. This section furthers the discussion presented in the previous three sections.

6.1 Direct & Indirect Effects

6 .1.1 Returns from Olive Plantation Project

In terms of monetary return for olive plantation per acre, at macro level, 82% (count: 446) respondents opt for 'not applicable'. This is understandable as there are only 19% farms that have reached a status of fruiting (refer to section 3.4 and see Figure-3.16). 18% (count: 101) reported a return with: 8% getting less than PKR 50,000.00 per acre, while 10% getting a return more than that. Figure-6.1 shows the statistics of districts that have reported a return, and their average comes out to be the category of '(b) 50-100K per Acre'. Out of these, 75% were satisfied with this return, while 14% disagreed and 11% were somewhat satisfied. Regarding the impact of olive plantation on income from the livestock, 76% respondents (count: 497) said there was no impact.

Return per acre must be matched with the cost per acre of harvesting (see Figure-3.20), fertilizer (see Figure-3.14), pesticides (see Figure-3.11), maintenance (discussed later in this section), and transport (discussed later in this section) etc. As government purchased plants to distribute and equipment for weather stations, labs, and oil extraction units, the revenues /profits of specifically the local nurseries /suppliers will be considered as direct effect or economic output of the project (conceived outlay of: PKR 2,320.27 million).

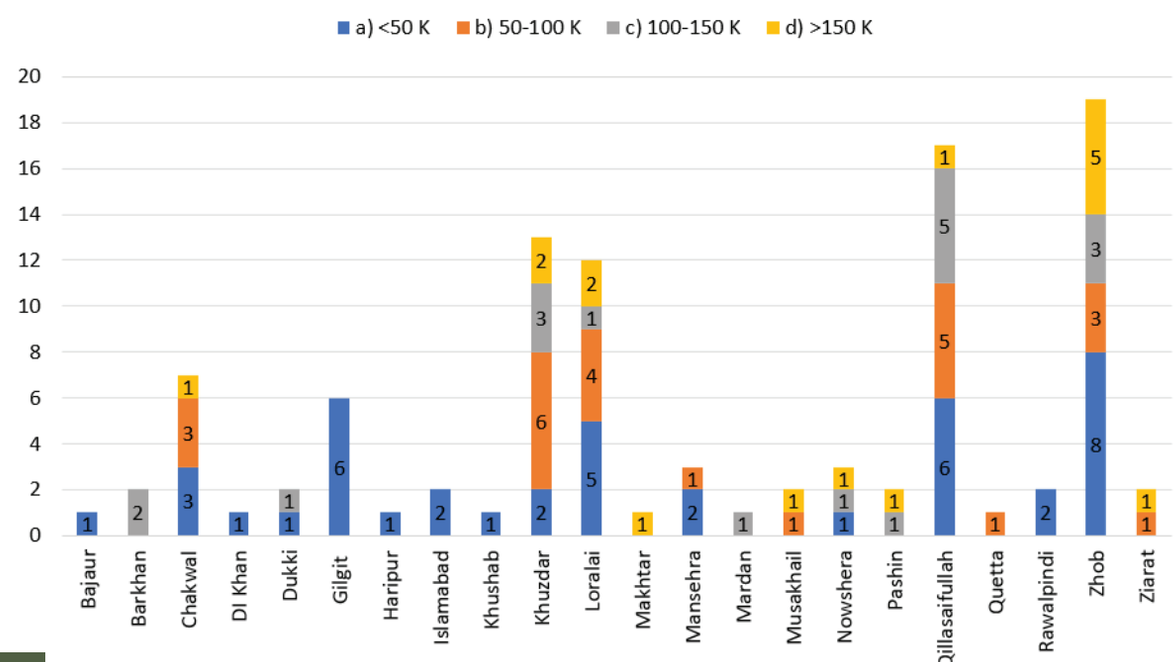


Figure-6.1: District-wise Overall Return from Olive Plantation per Acre (in PKR)

As we know that only 19% farms are only at their production stage, it is better to visualize how many farms are willing to replace olive orchards with other crops or alternatively increase the area of olive plant. This will help in predicting the future yield of olives in the selected regions of Pakistan under this study.

A majority of farmers, i.e., 70% (count: 431) declined to replace olive orchards with other crops, which is a positive sign and correlates well with the success attribution (see Figure-5.3) to this initiative. 20% opted for 'not applicable' (count: 123). As 7% (count: 45) farmers showed inclination to replace olive orchards with other crops, and they majorly belonged to districts of Baluchistan (it is not surprising, as most farmers sampled are from this province).

Findings & Analysis: Economic Assessment

In terms of increasing the area under olive cultivation, 94% (count: 602) of the respondents agreed to this proposition, while only 3% (count: 17) disagreed. Around 3% were found unsure. These findings reinforce the success attribution to the olive plantation project. Majority of the farmers who declined to increase the area for olives belonged to the following districts: Attock, Islamabad, Mardan, Narowal and Swabi. Another witness to the regional value-addition by the olive plantation project, it may be noted that 52% respondents (count: 303) reported that they used a barren land for olive cultivation; the provincial contribution to this percentage is: Punjab (17%), KPK (22%), Baluchistan (53%), GB (3%), AJ&K (4%), and Federal (1%). Majority (42%; count: 243) of the barren lands, converted for olive farming, were less than 10 acres.

6.1.2 Employment on Olive Farms

To build the context, section-5.1 may be referred where it was highlighted that 35% (count: 210) respondents agreed that the employment status of their household has changed. This is a significant impact of the project, when 42% (count: 251) opted for 'not applicable'. When these results are clubbed with returns discussed under section 6.1.1, it is evident that the project had a positive impact in uplifting the earnings and status of the household, and this will be considered as the regional value-added by the project.

In continuation of Figure-5.4 where 72% respondents (count: 293) agreed that jobs were created after olive plantation and cumulatively these new jobs witnessed by these 293 respondents on their farms are calculated as 2,149. Acre-wise, these jobs were created following these contributions: 0-10 acres (17%), 10-20 acres (19%), 20-30 acres (15%), more than 30 acres (44%), and Undefined acre holders (5%). It makes sense that 44% jobs of 2,149 were created on farms having sizes more than 30 acres.

For harvesting purposes, 88 respondents confirmed that they hired labor (see Figure-6.2). In terms of percentage: Punjab (14%); KPK (11%); Baluchistan (73%); and Federal (1%) and as per these 500 respondents, cumulatively they hired 500 individuals for olive harvesting. Wage rates are reflected as part of harvesting costs mentioned in Figure-3.20; harvesting cost on average stands in the bracket of '(b) Rs. 1000-5000 per Acre' (as per 97 respondents). The wages of these laborers hired for harvesting are considered as the indirect effect of the olive plantation project.

With these numbers, it can be deduced that on average each farmer witnessed the creation of at least 8 jobs. Linearly speaking, the project created 15,416 jobs, if we consider 50% farmers (of total population of 3,854 farmers benefitted from this initiative) witnessed this average number of jobs created. As this calculation is restricted to jobs created in cultivation and harvesting activities, more than 8 jobs are estimated to be created considering other activities, such as: oil extraction, value-added products manufacturing, in-bound and out-bound transportation and storage in various stages of the supply chain.

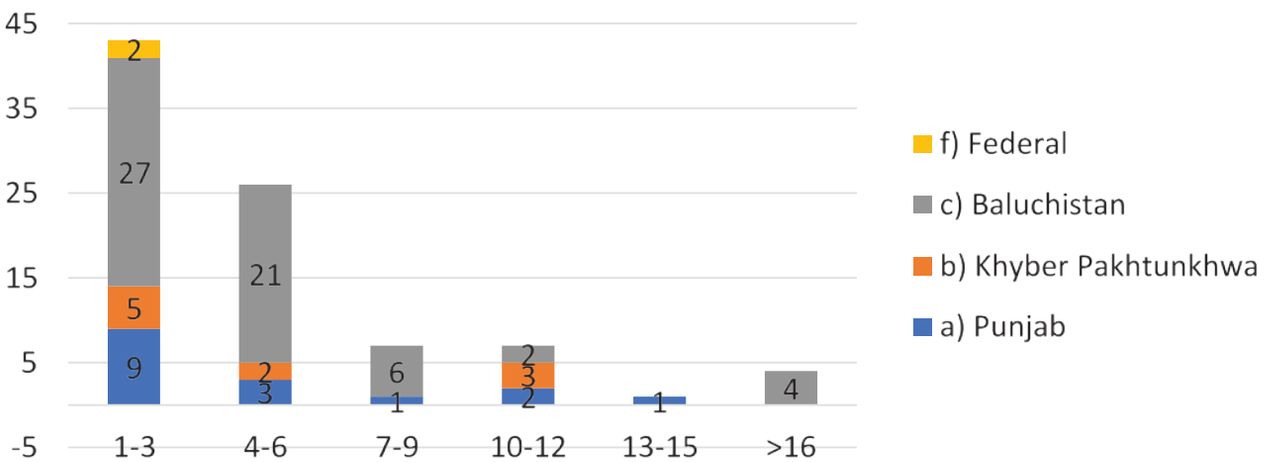


Figure-6.2: Number of Individuals Hired for Olive Harvesting

6.2 Supply & Demand Elements

This section discusses the inputs and outputs of the olive value chain, and specifically presents the findings in the sequence of downstream onwards to upstream.

6.2.1 Access to Markets

Farmers, located in different districts of Pakistan, can be divided into two major categories with respect to 'access to market': (a) around 43% (count: 201) are saying it is easy or Govt. is taking-care, while (b) other 41% (count: 190) are saying it is somewhat or fully difficult. 13% opted for 'not applicable' (see Figure-6.3, non-responsive districts are removed). Only 18 farmers reported that their market access is under the care of the government; while 16 (around 3%) farmers said they are selling via an Agent.

The districts that majorly belonged to category-(b) where they are facing some issues in accessing the market to sell olive products are: Barkhan, Khushab, Khuzdar, Loralai, Mardan, Musakhail, Pashin, Qillasaifullah, Zhob, and Ziarat. Districts that majorly belonged to category-(a) are: Abbottabad, Attock, Chakwal, Islamabad, Lower Dir, Marnsehra, Rawalpindi, South Waziristan. It is important to focus on the issues of category-(b) farmers in the follow-up rounds of this project. Access to the market is not only characterized by roads and transport but it is also the function of information collection and communication capability of farmers.

Findings & Analysis: Economic Assessment

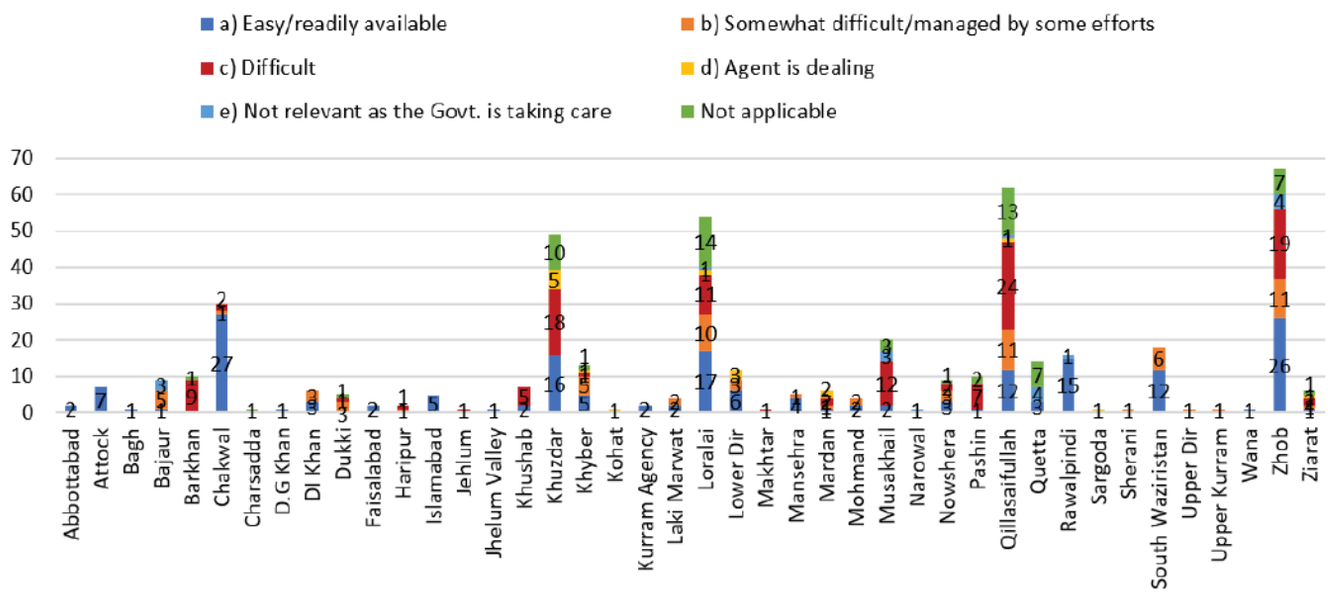


Figure-6.3: Farmers' Access to Markets (District-wise)

6.2.2 Distance to Markets

According to the Production Function Approach, inputs' distribution is important for the optimal production of output. To access inputs for the production process, it is necessary to connect to local markets. Farmers' direct connectivity with markets help them to reduce the cost of final products because the agents also increase the cost of production and ultimately increase the price of products. Table-6.1 shows the distances that respondents must traverse before their products land in the markets (or to acquire their inputs). As per findings, 32% (Count: 197) of the respondents travel less than 5km to the market, while 68% (Count: 415) travel more than that.

Districts where olive farms are more than 5km away from the market are: Attock, Bajaur, Barkhan, Chakwal, DI Khan, Gilgit, Jehlum, Khushab, Khuzdar, Khyber, Kurram Agency, Laki Marwat, Loralai, Makhtar, Mardan, Mohmand, Musakhail, Pashin, Qillasaifullah, Rawalpindi, Sherani, South Waziristan, Upper Kurram, Wana, Zhob and Ziarat.

The disparities in market access are quite observable from the survey but it has some factors behind it, which are lack of awareness, education, transport facilities' availability, and especially, in this case, the geographical factors. It is quite plausible to witness that every plant species can grow in such a vast geographical coverage having diverse environmental conditions.

Findings & Analysis: Economic Assessment

Table-6.1: Distance to Market for Selling Outputs & Buying Inputs

Districts	a) <1 Km	b) 1-5 Km	c) 6-10 Km	d) >10 Km	Grand Total
Abbottabad	3	13	11	6	33
Attock				7	7
Bagh		8			8
Bajaur			7	3	10
Barkhan				10	10
Battagram		2			2
Chakwal		4	1	29	34
Charsadda			1		1
D.G Khan		1			1
DI Khan		1		5	6
Dukki	2	1		2	5
Faisalabad		2			2
Gilgit		7	11		18
Haripur		2	2		4
Islamabad	1	3		1	5
Jehlum				1	1
Jhelum Valley	5	16			21
Khushab		1		7	8
Khuzdar	4	6	6	35	51
Khyber				14	14
Kohat		1		1	2
Kurram Agency				2	2
Laki Marwat			1	3	4
Loralai	3	10	9	37	59
Lower Dir	2	5	7		14
Makhtar				1	1
Mansehra	4	10			14
Mardan		1	2	3	6
Mohmand				4	4
Musakhail	1	2		17	20
Muzaffarabad		7	1		8
Narowal		1			1
Nowshera		6		6	12
Pashin			2	8	10
Peshawar		3			3
Poonch		13			13
Qillasaifullah		10	7	45	62
Quetta	2	3	8	1	14
Rawalpindi		4		11	15
Sargoda		1			1
Sherani			1		1
South Waziristan		1	3	16	20
Swabi		2			2
Swat		6			6
Upper Dir		1			1
Upper Kurram				1	1
Wana			1		1
Zhob	5	11	6	45	67
Ziarat				7	7
Grand Total	32	165	87	328	612

6.2.3 Local Customers' Access to Farms

In farm to fork models, one model can be designated as 'Farm Storage with Consumer Pickup' and this sub-section is relevant to this model. The results of the study show that more than 90% farms are attracting local clientele (regional value added by the project); 5% are not, while almost 5% opted for 'not applicable' (see Figure-6.4). The 5% farms that are not attracting local customers may be facing this due to their far location or unproductiveness or their direct connection to the market. Farmers directly selling in the markets are reluctant to the local customers, as the market's prices are higher. There may be some farms under the government care, which may not entertain local customers directly at the desk.

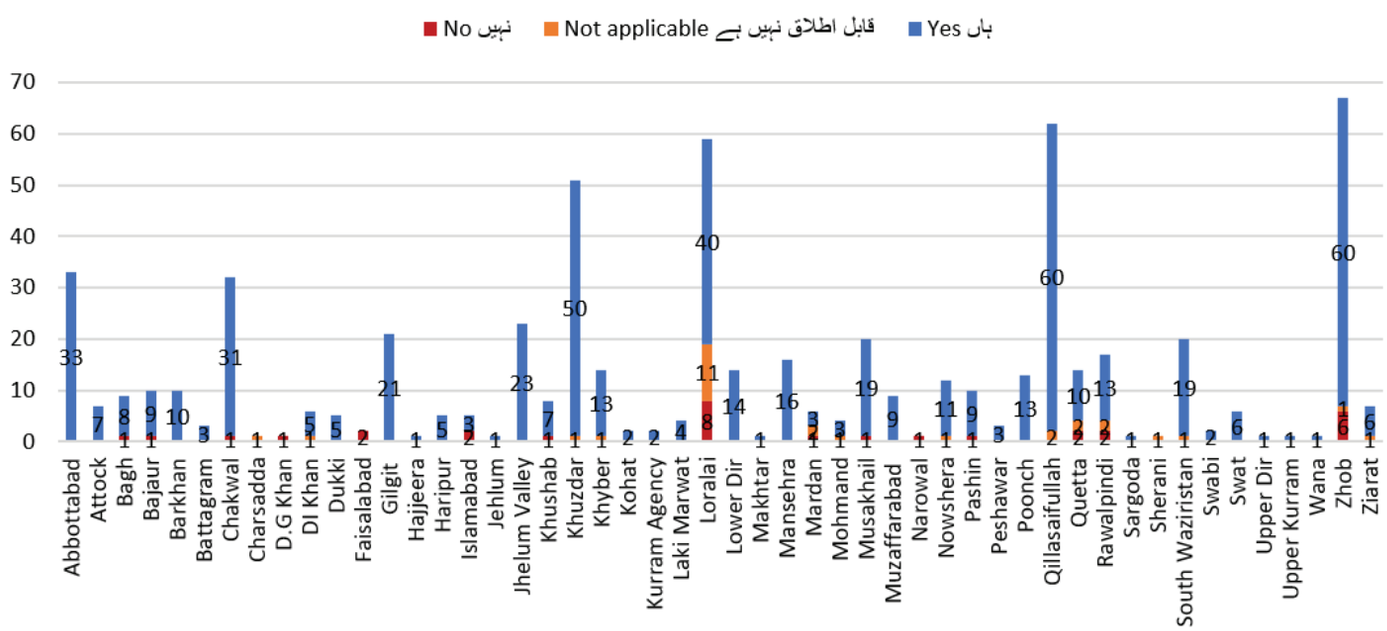


Figure-6.4: Does your Farm attract Local Customers? (District-wise)

6.2.4 Products from Olive Farms

Overall, the olive-based value-added products that are sold from the sampled farms are shown in Figure-6.5, meaning 35% (count: 172) of the respondents are producing value added products from olives of their farms, while 65% opted 'not applicable' as the response. Five respondents mentioned regarding producing the other products, e.g., one respondent mentioned of producing 29 products from olives, while another farmer was producing physiotherapy body massage lotion. This finding is also in line with a recent report .

https://www.oliveoiltimes.com/production/olive-farmers-in-pakistan-seek-government-assistance-to-scale-production/106497

Source: Client's provided data

Findings & Analysis: Economic Assessment

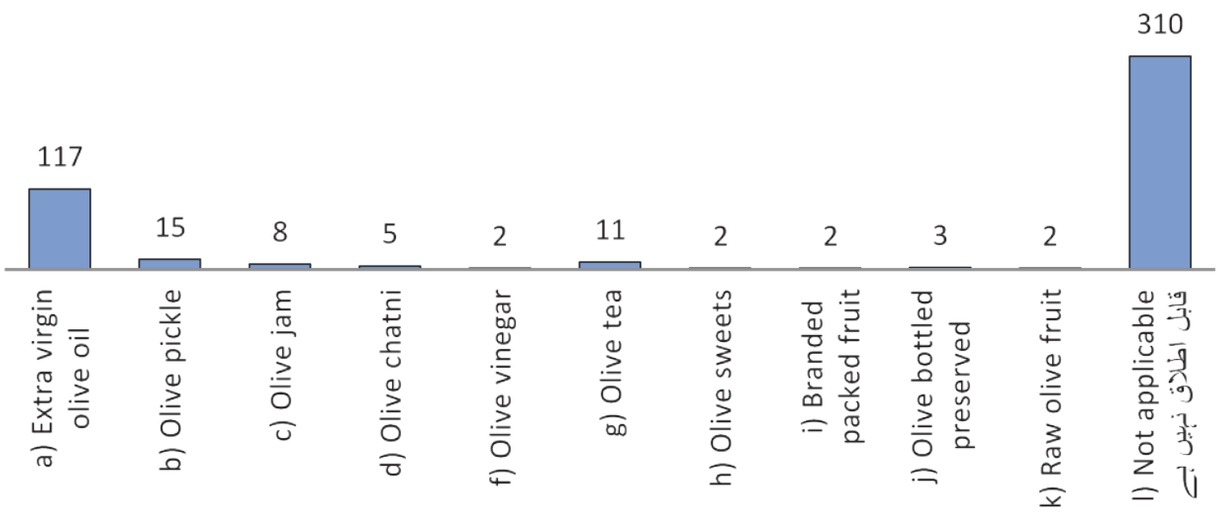


Figure-6.5: Olive-based Value-added Projects Sold

Provincially speaking, farmers who are producing olive-based value-added products and are selling these in the market belong to provinces in the following way: 28% from Punjab, 14% from KPK, 53% from Baluchistan, and 5% from Federal. From these results, the impact of the olive plantation initiative is visible in terms of creating a value chain regionally.

6.2.5 Access to Specialized Facilities

This sub-section will analyze the status of various facilities, namely: oil extraction units, and weather stations. Questionnaires were filled via self-administered method by eight oil extraction units (est. six in 2020 and two in 2021), one lab (est. 2018), and five weather stations (est. one in 2019 and 2021, and three in 2020). Descriptive statistics for these facilities are placed in Annexure-D.

Oil Extraction Units

Olive crop is a national need and facilitating its farmers would help increase edible oil production in the country and support national economy. Effective linkages would help to develop the whole value chain. Government has established nine (09) extraction units – three (03) large and six (06) small – in different areas successfully . All the extraction units are with govt research institutions. All the regional headquarters are providing full support to the farmers from nursery establishment to olive extraction/purchase. Larger units have capacity to handle 600kg olive per hour while small units have capacity to process 100 kg per hour .

liters of olive oil per day, whereas smaller units have ability to extract between 80-100 liters. Olive fruit supply varies in different regions mainly due to different age of the plants and currently only less than 20% are producing fruit in different regions. Supply of olives to extraction is expected to increase in near future. Certain units have storage capacity within their vicinity. The quality of the extracted oil is excellent, and no additives are added. One third (1/3) of the units also offer possibility of value addition products. Some units help the farmers to develop different products from olive. Few units are linked with metrological units as well and provide relevant services. Critically analyzing, this can be concluded that effective linkages from nursery to oil extraction have been development. As per responses and their age, the facilities seem to be adequately staffed and either have transportation facility or in the process of acquiring. Varying productivity can be linked with the age of the units as they have been established in different years; however, mostly are in their nascent stage. Keeping in view the potential improved availability of olive fruit in upcoming years, the performance and contribution of these units are expected to increase significantly.

In terms of the access to these olive oil extraction units, 63% respondents disagreed, which is a major point of concern (see Figure-6.6). This situation is prevalent in almost all the districts surveyed; however, districts of KPK, GB, and AJ&K are facing more issues than Punjab and Baluchistan. One respondent reported about owning an olive oil extraction facility.

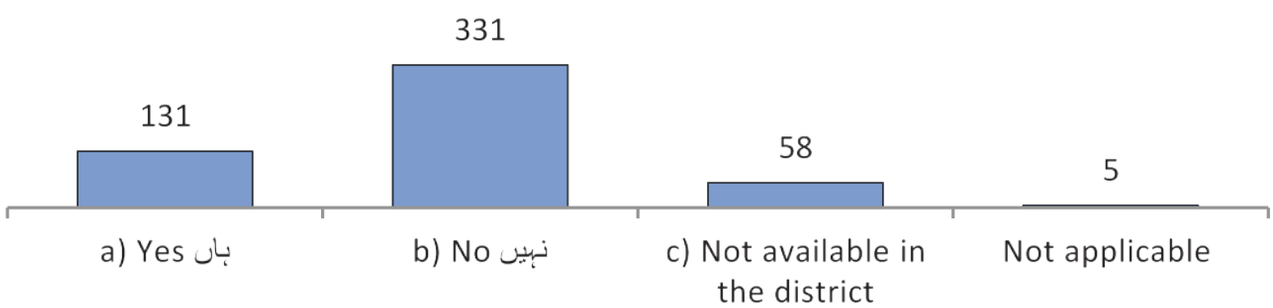


Figure-6.6: Are you Connected with an Olive Oil Extraction Unit? (Famers Survey)

In continuation, 78% respondents (count: 453) conveyed about having no access to Government supported olive oil storage facilities either, while 69% (count: 403) said that they do not even own any olive oil facility. Positive side is that 90% respondents (count: 550) wanted to establish their own oil storage facility with Government's support (see Figure-6.7). This shows an opportunity area which can be focused in the next phase of the project. Interestingly, districts of Faisalabad, Khushab, Mardan, Zhob, and Ziarat are not interested in establishing own oil storage facility, as they may not be producing olive oil. For subsidies in Figure-6.7, 61% respondents (count: 304) requested for a 100% subsidy, while 10% went for 80%.

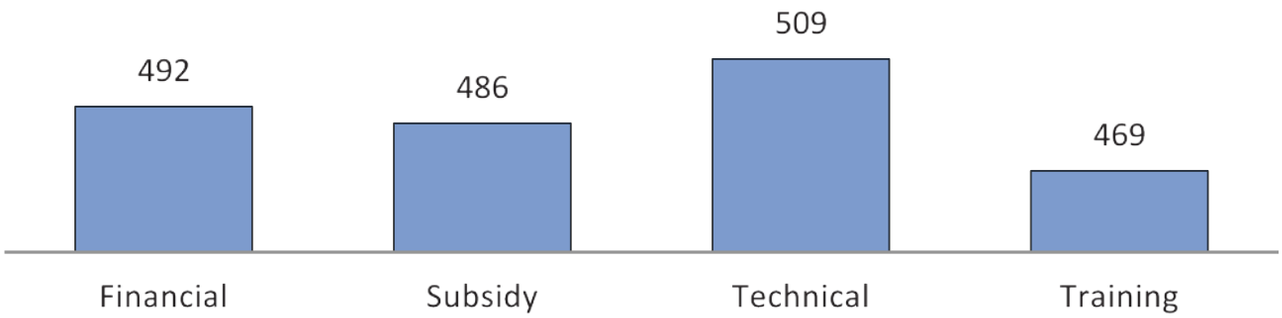


Figure-6.7: What Support Govt. should Provide in Establishing Oil Storage Units?

Value Addition Labs

Government has established three value addition labs with all facilities, equipment, and chemicals . For the lab, it is reported that plant, office, and transport facilities are lacking; however, it is only one sample from Barkhan, so, representativeness to population is unknown.

This is another opportunity area which can be focused on in the next phase of the project, as can be seen in Figure-6.8, where 48% respondents (count: 276) mentioned having no access to value addition labs. And 35% (count: 200) opted for 'not applicable' and 9% (count: 54) said they have no knowledge about the labs.

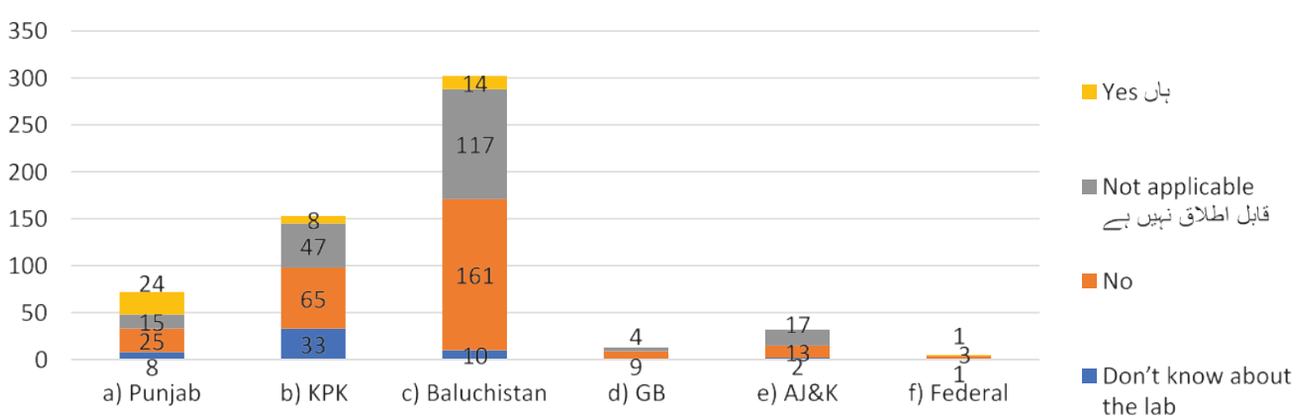


Figure-6.8: Access to Value Addition Labs?

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Weather Stations

Government has established five weather stations with all tools /modules /systems . These weather stations are providing majorly on-counter services; however, some have provisions of online service as well. Flood and storm forecasts /warnings are not provided by these stations via any channel. Except these, other services are available in both modes, e.g., forecast on temperature, rain, and humidity. Provision of advice to farmers is also there. Biggest problem that farmers face while accessing services of the stations is the long distance to reach the center and farmers' illiteracy. As 80% of the units don't have a mobile app, it may be suggested to acquire such facility to solve the problem of long distance travel of the farmer. 74% (count: 373) of the farmers said either they do not have a weather station nearby or they showed their unawareness, while only 11% (count: 57) responded in affirmative regarding access to weather station.

6.2.6 Maintenance & Transportation Costs

Table-6.2 is showing the estimated maintenance cost provincially. Farmers from Gilgit Baltistan remained non-responsive to this question of maintenance cost in their farms. Most (76%) of the respondents chose 'not applicable', while 21% (count: 101) said the cost is less than PKR 5000.00.

Table-6.2: Estimated Cost of Maintenance (PKR per Acre)

Provinces	a) <1000	b) 1000-5000	c) 5001-10000	d) >10000	Not Applicable	Grand Total
a) Punjab	6	39		2	23	70
b) KPK	2	5	4	1	83	95
c) Baluchistan	23	25	2	4	248	302
e) AJ&K					1	1
f) Federal		1	1		3	5
Grand Total	31	70	7	7	358	473

Similarly, another cost that has a significant impact on the value chain is 'transportation cost'. Most of the respondents (66%; count: 363) agreed to the presence and significance of this cost. Figure-6.9 shows the quantum of this cost; transportation cost on average stands in the bracket of '(a) Rs. <20,000 per Acre' (average of 293 respondents). If these results are matched with the 'distance to market' section (6.2.2), one can note that some of the districts having more than 5km distance to the market are reporting transportation costs in the range of Rs. 20-50K, namely: Mardan, Loralai, Musakhail, Pashin, Qillasaifullah, and Zhob.

10 ibid
11 ibid

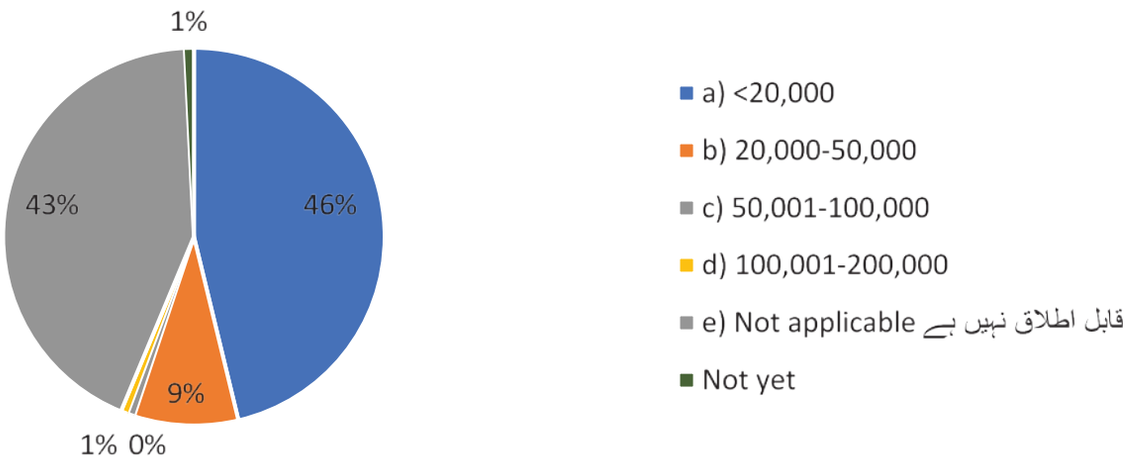

Figure-6.9: Cost of Transporting Products to the Market (in PKR)

Figure-6.9: Cost of Transporting Products to the Market (in PKR)

6.3 Benefit-Cost & Statistical Analyses

To carry out benefit-cost analysis, a non-parametric model was first used to know whether there was a difference between earnings before and after olive plantation. Although the median remained same, the test (count: 534) confirmed that earnings changed in the positive direction after olive plantation. Figure-6.10 reinforces this conclusion where more respondents shifted from lower earning categories into higher ones (see Figure-6.11 for earnings distribution in Baluchistan). These earnings, returns and various reported costs are summarized in Table-6.3. Plants' status also depicts the performance of the project (see Figure-6.12), which shows that number of plants got reduced. This same finding is reinforced by the non-parametric test (count: 668), concluding that number of plants changed in the negative direction after olive plantation. This finding is in line with the discussion under section-3.1 (see Figure-3.2).

12 Used as there were ordinal responses to q46-50, 104, and 105.
13 'Related-samples Wilcoxon Signed Rank Test' performed on q104 and 105 in SPSS.

Findings & Analysis: Economic Assessment

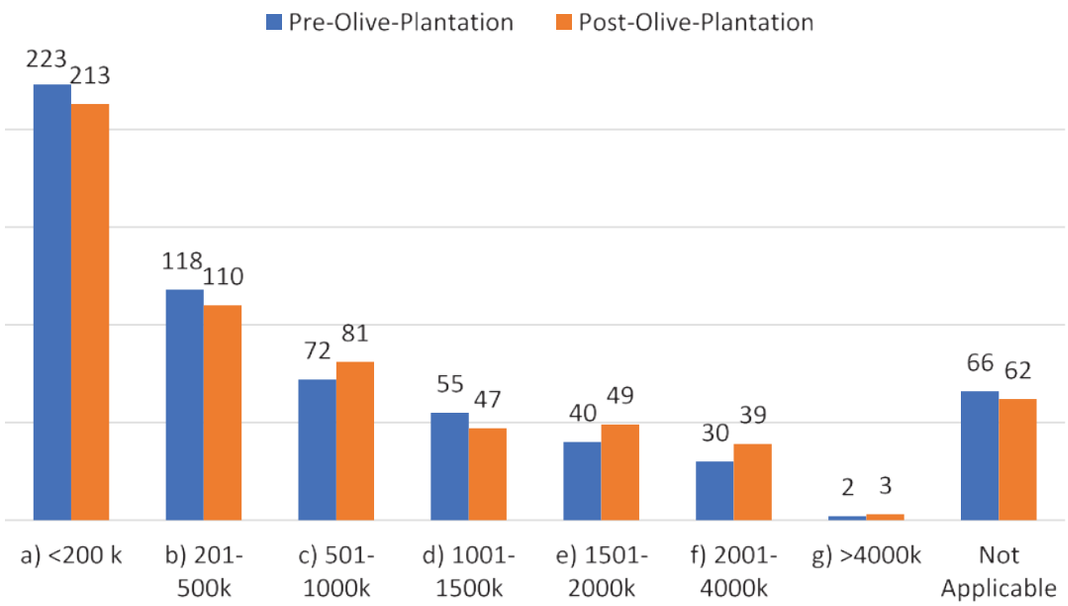

Figure-6.10: Overall - Earnings Before and After Olive Plantation (in PKR)

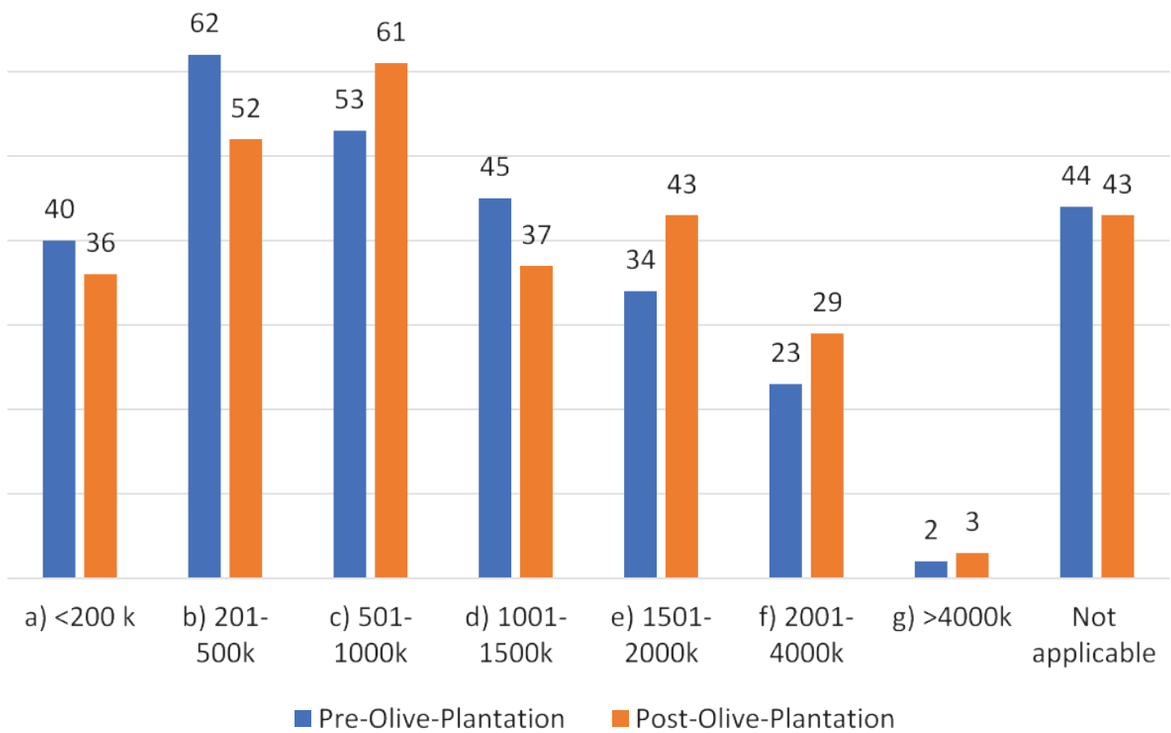

Figure-6.11: Baluchistan - Earnings Before and After Olive Plantation (in PKR)

[1] ibid

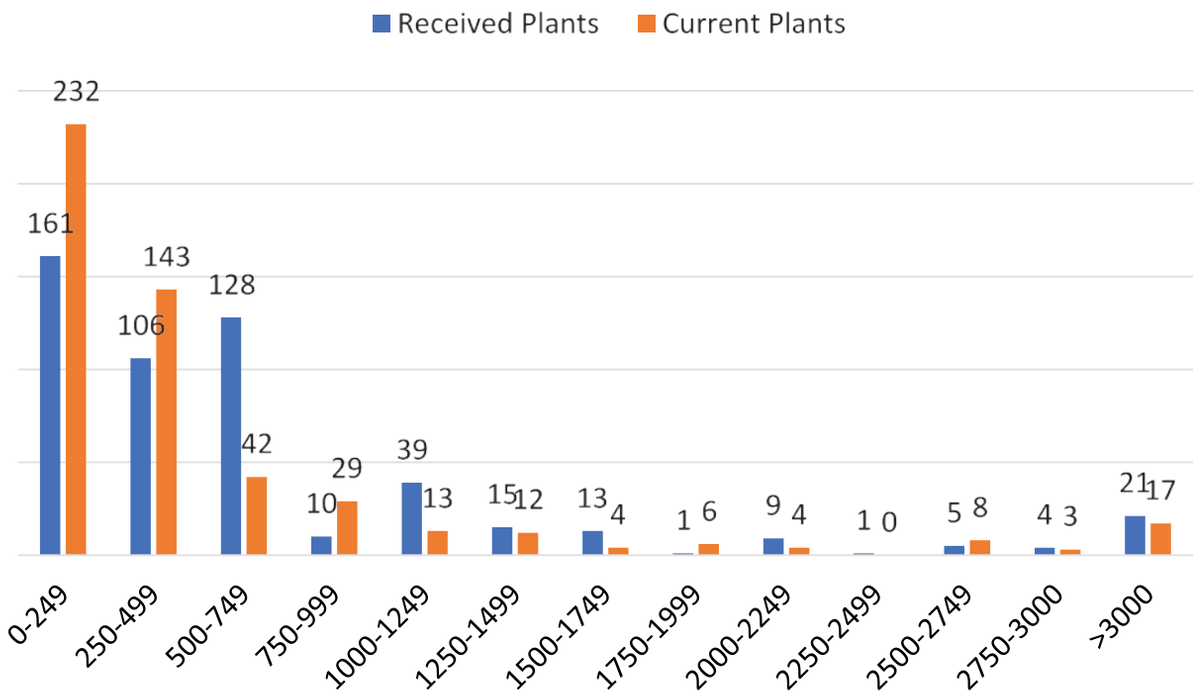

Figure-6.12: Overall – Number of Plants Received versus Current Status (in PKR)

Table-6.3: Summary of Earnings and Costs (in PKR)

Factor	Amount
Median Earnings	Rs. 201-500k
Median Return/Acre	Rs. 50-100k per acre
Median Pesticide Cost/Acre	Rs. 1-5k per acre
Median Fertilizer Cost/Acre	Rs. 6-10k per acre
Median Harvesting Cost/Acre	Rs. 1-5k per acre
Median Maintenance Cost/Acre	Less than Rs. 5k per acre
Median Transportation Cost	Less than Rs. 20k

Drip Irrigation System was installed at 1686 acres across Pakistan in Olive Fields . Regarding switching to Drip Irrigation System or DIS (see Figure-4.8 where 17% or 103 farmers sampled had installed DIS), the impact of this change was analyzed on soil erosion, desertification, fertilizer consumption, and water conservation (see Table-6.4). All those who installed DIS, reported more than 50% savings in water consumption.

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Table-6.4: Impact of Drip Irrigation System on Various Factors

Factor	Decreased	Increased	No Impact	Not Applicable
Soil Erosion	19%		5%	76% (count: 330)
Desertification	16%	2%	4%	78% (count: 344)
Fertilizer Consumption	15%	1%	8%	76% (count: 334)
Water Consumption	22%		1%	77% (count: 337)

[1] Source: Client's provided data

In light of Figure-6.9 and Tables-6.3 & 6.4 and considering fewer orchards reaching production, experts conducted a benefit-cost analysis for olive plantation and DIS only qualitatively or pseudo-quantitatively. This can be fully done quantitatively, when the project is fully deployed (in terms of DIS and olives fields in full production), and majority of respondents have not chosen 'not applicable'. The results of this analysis are shown in Table-6.5, which clearly depicts that both initiatives are worthy for mass deployment; however, for the next phases of the project, more training and awareness will be needed on enhancing the longevity of the plants' life. Though this qualitative benefit-cost analysis may seem weak; however, the scores reinforce the sense that all the results provide, i.e., with limited progress in terms of production status the success of the initiative is marginal.

Table-6.5: Benefit-Cost Analysis of the Project

Drip Irrigation System (DIS)			
Soil Erosion	High (3)	Equipment Cost	High (3)
Desertification	Medium (2)	Installation Cost	Medium (2)
Fertilizer Consumption	Medium (2)	Training Cost	Low (1)
Water Consumption	High (3)	-	-
Score: 10		**Score: 6**	
Olive Plantation			
Plants Growth[a]	Low (1)	Cost of Plants	High (3)
Environmental Impact[b]	High (3)	Cost of Facilities	High (3)
Social Impact[c]	Medium (2)	Various Costs	Medium (2)
Access to Facilities[d]	Low (1)	Training Cost	Medium (2)
Earnings Growth	High (3)		
Training	Medium (2)		
Score: 12		**Score: 10**	

aSurvival rate is lower
bHabitat, animals/birds growth, and waste reuse is higher
cCollaboration and jobs increased, while poverty alleviation impact remains average
dRefer to Section-6.2.5

Moreover, a statistical analysis was performed on the data gathered to determine the impact of (a) current number of olive plants on the field, (b) fertilizer cost per acre, (c) land size under olive cultivation, (d) drip irrigation system installed, and (e) access to oil extraction units, on the income /earnings. Table-6.6 shows the results of the statistical model .

The results of the model highlights the following:

- as number of olive plants increases, the probability of getting higher earnings also increases.
- as number of olive plants increases, the probability of getting higher earnings also increases.
- as fertilizer cost increases, the probability of getting higher earnings decreases.
- as access to oil extraction units increases, the probability of getting higher earnings also increases.

Table-6.6: Results of the Statistical Analysis

Findings & Analysis: Training Impact

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Income_After = 1]	-2.191	.734	8.906	1	.003	-3.630	-.752
	[Income_After = 2]	-.851	.725	1.378	1	.240	-2.272	.570
	[Income_After = 3]	.048	.723	.004	1	.947	-1.370	1.465
	[Income_After = 4]	.698	.725	.927	1	.336	-.723	2.119
	[Income_After = 5]	1.808	.740	5.976	1	.015	.358	3.258
	[Income_After = 6]	5.137	1.195	18.475	1	.000	2.795	7.480
Location	Plants_Current	7.400E-05	3.050E-05	5.886	1	.015	1.422E-05	.000
	[Fertilizer_CostperAcre=1]	-1.285	.387	10.992	1	.001	-2.044	-.525
	[Fertilizer_CostperAcre=2]	-1.840	.279	43.614	1	.000	-2.387	-1.294
	[Fertilizer_CostperAcre=3]	-.524	.229	5.225	1	.022	-.974	-.075
	[Fertilizer_CostperAcre=4]	0[a]			0			
	[Olive_Land=1]	-.681	.686	.984	1	.321	-2.025	.664
	[Olive_Land=2]	.487	.740	.434	1	.510	-.963	1.937
	[Olive_Land=3]	-.411	.959	.184	1	.668	-2.290	1.468
	[Olive_Land=4]	0[a]			0			
	[DIS=1]	.328	.301	1.188	1	.276	-.262	.917
	[DIS=2]	0[a]			0			
	[Access_OEU=1]	.547	.249	4.830	1	.028	.059	1.034
	[Access_OEU=2]	0[a]			0			

The results of the statistical analysis help us in predicting the impact of the input variables on the socio-economic impact (as defined in the model by 'income') of the project. Drip irrigation came out to be insignificant; however, as there is a low representation of these farmers in the sample; therefore, this model may provide different results with more representation.

7. Findings & Analysis: Training Impact

Training of the farmers and other stakeholders was one of the key components of this project. For this, 63 training programs were conducted over the period of 2014-2021 and two (02) international symposia were organized to share the experience with respect to cultivation of olives and productivity enhancement .

7.1 Training's Impact on Olive Plantation

The main objective was to provide technical support to the farmers of different provinces in Pakistan through provision of training programs about the soil and crop management, irrigation methods, fertilizer usage, pesticides usage and awareness about the new agro-practices. The individuals from the farming community were made to attend training/workshops, in which they were educated about the productivity enhancement practices. The community was also made aware about various olive plantation techniques.

Out of 670 farmers surveyed for this study, 54% (count: 339) were provided with the training related to productivity enhancement for olive, while 35% did not, and 11% showed their unawareness regarding any training program related to olive cultivation (see Figure-7.1).

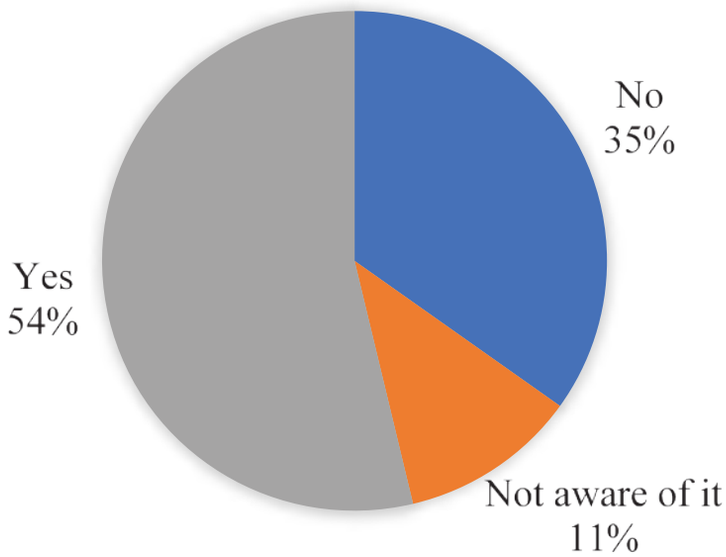


Figure-7.1: Participation in Training Program provided by the Project Team

Training/awareness sessions for farmers were organized by the project team to educate farmers about the recommended practices and, also to share the intervention details about productivity enhancement techniques. These sessions covered the basic knowledge about land preparation, soil and water tests, cropping pattern, quality Agro inputs selection (fertilizer, and weedicides etc.), balance fertilizer application, irrigation time, and yield, etc. These sessions also had exposure visits where farmers were taken to different farms and research institutes.

The training ratio in Punjab, KPK, GB and Federal regions was higher as compared to Baluchistan despite having very high number of olive farms in the province. This may be linked to accessibility issues both for the project teams as well as the farmers. In Baluchistan, the percentage of farmers who were able to avail the training was only around 35% (count: 107). However, the training beneficiaries were more than 55% in all other regions.

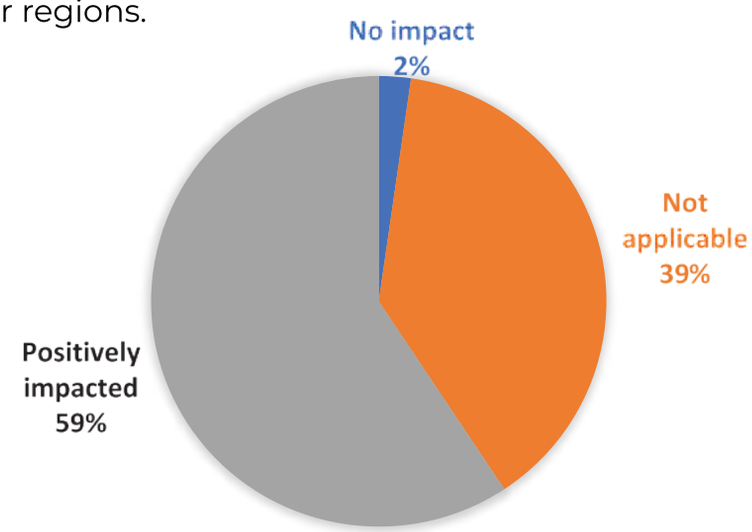


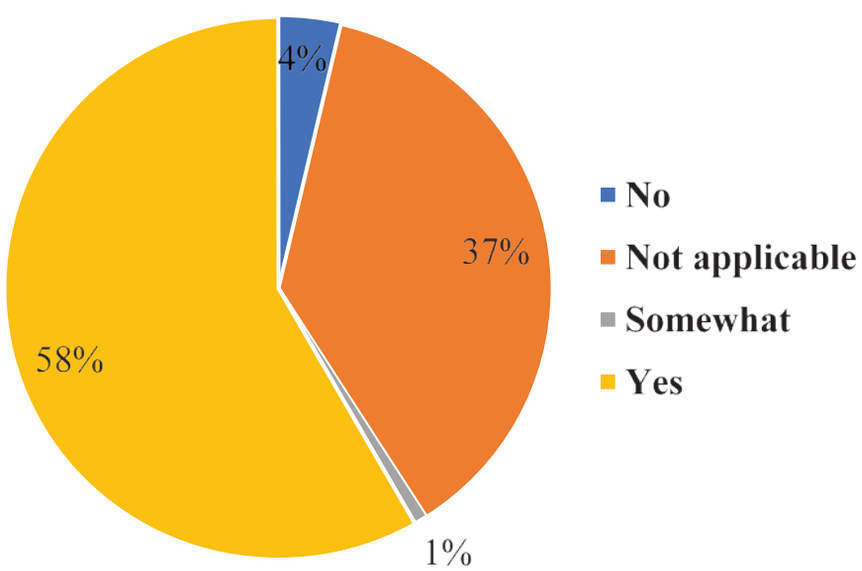
Figure-7.2: Impact of Training on Olive plantation

[1] Source: Client's provided data.

Findings & Analysis: Training Impact

Most of the farmers who obtained training appreciated and acknowledged that the training programs were useful for them (see Figure-7.2). Another major segment that appeared in the results was the farmers who didn't get the training, so represented as 'not applicable'. By excluding the not applicable component, in Punjab, KPK, GB and Islamabad, 98-99% highlighted the positive impact of the training programs on their capacity building for olive plantation.

Most of the farmers acknowledged that the trainings improved their understanding about olive plantation. Overall, 58% farmers replied positively in order to improve the knowledge about olive cultivation. The detailed distribution is provided in Figure-7.3. A small number, 4% framers claimed that the trainings had no impact and didn't enhance their knowledge about plantation as the trainings were of very basic nature.



Figur-7.3: Has training improved your knowledge about plantation?

7.2 Training's Impact on Productivity

This component is the actual outcome that was being targeted in this project. Out of 670 farmers who participated in this study, only one (01) farmer who was trained is having 100% productivity status while without training only two (02) farmers had 100% productivity status. The detailed analysis and numbers are presented in the Table-7.1. Considering 50-99% production status, the numbers are low. Nine (09) farms had 50-99% production status where no training was provided. However, 27 farms were having this same production status with the owners/managers trained by the project team. Overall, these productive farms constitute just 1-3% of the total farms that were part of the survey. Based upon these statistically non-significant numbers, it is not possible to come up with trends and real impact of the training at this stage towards overall productivity and income generation.

Detailed data analysis showed that the cost of production remained the same with or without training in olive planation. Most of the farms that are in productive phase are in the range of 1-10 acres. The dynamics and costs would change once the considerable number of productive farms will be of high acreage.

Another important aspect of this data is the average yield per acre that remained same. Considering the potential of olive plants producing more than 20 kg per plant and average number of plants per acre around 100, the minimum productivity should be more than 2000 kg (or 2 tons) per acre but that was not the case, as presented in Table-7.1. Even modestly speaking, expected production is around 25kg of olives per plant; and when 180 plants are placed per acre, it gives 4,500 kg per acre . This situation highlights that despite 50% or 100% production status, the individual plants are yet way behind their full potential for olive fruit production. In this scenario, any detailed economic analysis based upon pre-mature data would be misleading.

Production Status	Training Status	No. of Farmers (Total)	Average Yield per Acre	Average Return per Acre
100%	Yes	01	<1000 kg	>150K
	No	02	<1000 kg	100-150K (count: 1)
≥50% & <100%	Yes	27	<1000 kg	<50K (count: 4)* 50-100K (count: 7) 100-150K (count: 8) >150 K (count: 4)
	No	09	<1000 kg	<50K (count: 3) 100-150K (count: 2) >150 K (count: 3)

**In case sum of all counts do not match no. of farmers then the remaining opted 'not applicable'.*

Pre-feasibility Study on Olive Cultivation, SMEDA, Ministry of Industries & Production, GoP, December 2011,
http://www.amis.pk/files/PrefeasibilityStudies/olive_cultivation_fruit_only.pdf

7.3 Willingness to attend Future Training

As far as the willingness of the farmers to get trainings in future, 90% of the total were willing to engage themselves in future training (see Figure-7.4). On provincial level, the willingness varied. In Punjab, KPK, GB and Islamabad, 100% of the farmers were willing to attend training in future. However, in Baluchistan, the willingness to attend the trainings was around 80%. Most of the farmers who have not attended the training earlier were enthusiastic about getting involved in future training for improvement of their knowledge and skills about olive plantation and maximize their profit via this initiative. This finding is in line with the results of Figure-6.7 and the conclusions of the thematic analysis (section-8).

Findings & Analysis: Training Impact

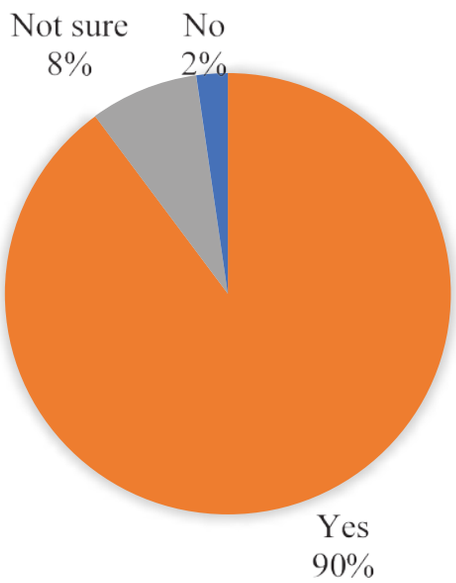


Figure-7.4: Willingness to Attend Training in Future

7.4 Training Requirements for Future

Training and continuous technical support are the critical components for the success of any initiative. The training programs are not only important for capacity building, but these also help in institutionalizing the initiative and building linkages among the key stakeholders. Based upon the detailed analysis of the information collected and interaction with the farmers, following were deduced for future trainings.

7.4.1 Agronomic Management Practices

Many farmers were not aware of the agronomic practices including fertilizer management, pesticides usages, pruning timing, and frequency, etc. There is also a pre-assessment required prior selecting the participants for any specific training. Some farmers need basic training while others are interested in advance level. So, all the individuals must not be enrolled to same training.

7.4.2 Cost Reduction

Along with capacity building of the farmers, there is a need for specialized training programs focusing on cost reduction to maximize the profit of farmers. Cost-cutting measures and saving patterns could be different at small and large farms. So, carefully designed training programs for targeted small and large land holders are required to maximize the output from the olive production and the initiative.

Thematic Analysis

7.4.3 Supply Chain Management for Higher Return

Supply chain for olive oil and products have certain issues in far-flung areas, especially in Baluchistan. Framers must be trained about overall supply chain management. The trainings must be devised for specific regions and economic status of the farmers. Certain farmers are willing to invest in supply chain of olives; their capacity building and guidance for developing infrastructure and allied facilities must be prioritized after detailed assessments.

7.4.4 Environment-friendly Handling of Residues

The outcomes of this survey have highlighted many positive aspects of olive planation initiative for the environment. Carbon sequestration potential of olive plants is one of those. With increasing numbers and age of the plants, biowaste/ biomass production would significantly increase. Targeted training programs for the farmers are required to guide them to harness the benefits from environment-friendly disposal/ management of the waste instead of just burning and creating problem for the environment. Safe handling of the biomass/waste would earn carbon credits for the country as well as some economic rebate for better environmental management.

8. Thematic Analysis

Thematic analysis was performed as per Braun and Clarke (2006) on open-ended questions of the survey questionnaire. Coding was done and responses were read and re-read to identify potential themes as shown in Figure-8.1. After identifying themes, an analysis was carried out.

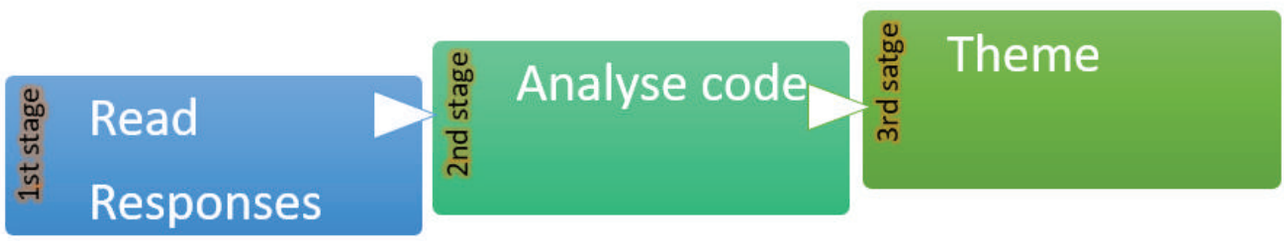


Figure-8.1: Hierarchy of coding and theming stages

Table-8.1 shows the list of coded themes and sub-themes produced by NVivo software and mentions how many times a particular theme has been mentioned in the responses of the selected questions. Only the most occurring themes are presented in this table (sorted according to the number of times these were referred in responses). These themes and sub themes along with the reference show the areas which have been important for the olive plantation project. It is evident from the table that 'drip irrigation system' is the highest referred theme. Figures 8.2 to 8.5 show the word clouds of the selected questions. Various recommendations can be developed using these exhibits (table and figures) and these are in line with recent reports .

Thematic Analysis

Figure-7.4: Willingness to Attend Training in Future

Coded Themes	Sub-Themes	References
Drip Irrigation System		**203**
	drip irrigation	*115*
	drip irrigation system	*60*
Irrigation system		**200**
	drip irrigation system	*30*
Water System		**145**
	water facility	*21*
	water issue	*15*
	water system	*64*
System		**138**
	drip irrigation system	*30*
	drip system	*13*
	irrigation system	*29*
	solar system	*16*
	water system	*32*
Creating Jobs		**130**
	creating jobs	*31*
	local job	*30*
Issue		**98**
	protection issues	*9*

1 Questions: 100, 139, 152, 153

1 https://www.pbc.org.pk/wp-content/uploads/Potential-of-Olives-and-Olive-Oil-in-Pakistan-PBC-Study.pdf

	training issue	*20*
	water issue	*15*
Olive		**92**
	olive department	*5*
	olive plantation	*9*
	olive plants	*22*
	wild olive	*7*
Plants		**88**
	baby plant	*5*
	good quality plants	*9*
	olive plants	*22*
	small plants	*4*
Facilities		**46**
	water facility	*21*
Subsidy		**46**
	financial subsidy	*20*
	increase subsidy percentage	*5*
Training		**46**
	proper training	*10*
	technical training	*5*
	training issue	*20*
Oil		**41**
	oil extraction	*11*
Increasing		**30**
	increase jobs	*2*
	increase subsidy percentage	*5*
	increasing plant numbers	*18*
	Irrigation	*135*
Problems		**30**
	big problem	*5*
	irrigation problem	*5*
	weather problems	*3*

Thematic Analysis

Figure-8.2: Word Cloud for: How should the Government Support to Establish Private Ownership in Value Chain

Figure-8.3: Word Cloud for: How can Olive Plantation Alleviate Poverty in your area?

Figure-8.4: Word Cloud for: Any Problems you would like to Highlight?

Word Cloud: pictorial representation, which shows text analysis; the broader the picture, the wider the term, the highest % it is in the responses.

Figure-8.5: Word Cloud for: Any suggestions for Future Implementation?

Conclusions

This study was comprised of various steps including developing a comprehensive survey form, sample size determination, field survey, data compilation, and analyses. From six different regions, 670 farmers were sampled for this self-administered questionnaire based survey. The maximum number was from Baluchistan, contributing 45% of the total and the lowest was from the Federal region. Facilities, such as oil extraction units, value added labs, and weather stations were also sampled with a different survey tool.

The comprehensive evaluation of the olive plantation initiative highlights the overall positive impacts for the farmers, community, and local environment. Majority of the indicators considered showed positive progress /impact of olive cultivation. Marginal lands have been utilized for olive plantation, making it attractive for the owners and farmers of such lands. It has a positive impact on other vegetation as verified by the survey's responses; thus, the expansion of this intervention will support other vegetation. The results show that the outcomes of this project are very promising and have a great potential to contribute to indigenous oil production significantly, reducing the import bill in near future .

Overall, the olive plantation has a positive impact on environment and is playing its part toward the development of the environment. The intervention has undoubtedly squeezed the land degradation, in addition to improving the soil quality, biodiversity, animal habitat, other crops, livestock, and waste emission etc. Drip irrigation offers an opportunity for better water consumption and management. Although, there are certain maintenance issues with drip irrigation, but these can be managed through capacity building and developing skilled labor. Drip irrigation has shown potential for water saving and reducing land degradation happening through erosion. Furthermore, the use of renewable energy is highly recommended for the entire process of Olive Production from the farm till transportation to have a complete 'Green Olive Production' Process.

Since the project was initiated in 2014 and plantation was carried out in different phases till 2021, the average age of olive plants varied throughout the country. The major impediment in comprehensive technical, economic, and social evaluations lied with the fact that only less than 20% of the orchards have started fruiting at varying capacity ranging from 0-50%. Actual picture will be clearer, once at least 50% of the farms start giving production at 100% capacity. So, it seems debatable that this survey may be considered as a baseline study for future evaluations. The real impact on the society will be depicted if an assessment is planned after another 5 years when significantly higher number of orchards would start producing olive fruit. Once olive

fruit will be available in abundance, allied facilities like extractions and value addition labs would be contributing effectively. At that stage, a better assessment seems in-sight. A baseline proforma for scoring farmers is attached as Annexure-E to become part of this next assessment.

As far as the job opportunities are concerned, findings show that the plantation of olives increased the job opportunity in the region. Regarding poverty alleviation, the results were mixed, and this can be attributed to partial olive production as the orchards are young in most of the cases and production and commercial activities have started on limited scale. With increase in production in near future, it is expected to create more jobs, alleviate poverty, provide quality oil and overall wellbeing of soil and environment. This report is concluded with the SWOT (strengths, weaknesses, opportunities, and

https://nation.com.pk/2022/05/03/pakistani-olive-oil-farmers-eying-cooperation-with-china/

threats) analysis of the project, that not only summarizes the initiatives achievements but also builds an improvement agenda (see Figure-9.1).

Conclusions

Figure-9.1: SWOT Analysis of Olive Plantation Initiative

As per the thematic analysis, the respondents identified the following areas to focus on in the next phases of the project:

- More drip irrigation systems be installed with Govt. support
- Better organized services be rendered during the whole initiative
- Financial support and subsidies be provided to install farmer-owned oil storage facilities
- More training programs be arranged with technical guidance
- More job opportunities be created

Thirty percent of the local demand of edible oil is met via local sources, while 70% via import . Pakistan has the highest per capita cooking oil consumption (24 kg) in the world , and has a demand growth of 2.3% per capita . The results of this IAS show that the outcomes of this project are very promising and have a great potential to contribute to indigenous oil production significantly, reducing the olive oil portion (0.4% or $11M) of the edible oil import bill in near future . However, export market potential is huge. In this light, it is suggestive to conduct a detailed market analysis.

Thus, it can be concluded that the positive effects of olives plantation are overall greater than the negative effects, in terms of all the three dimensions environmental, social, and economic. It is worthy to plant olives in the selected regions, as the area and community will be immensely benefitted.

https://tribune.com.pk/story/2355153/costly-veg-oil-a-test-for-pakistan
https://www.dawn.com/news/1648260
https://www.dawn.com/news/1680709
https://trendeconomy.com/data/h2/Pakistan/1509

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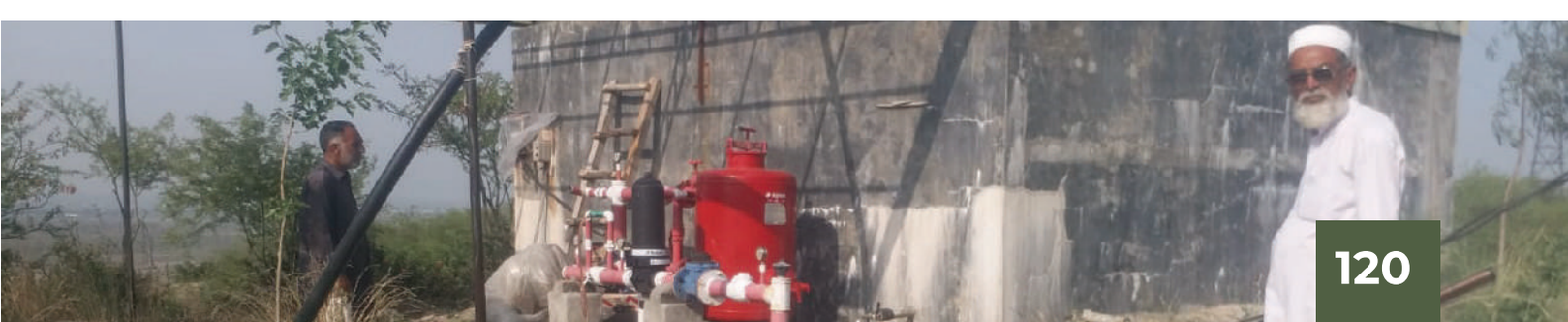
Annexure-A Visuals of the Effort

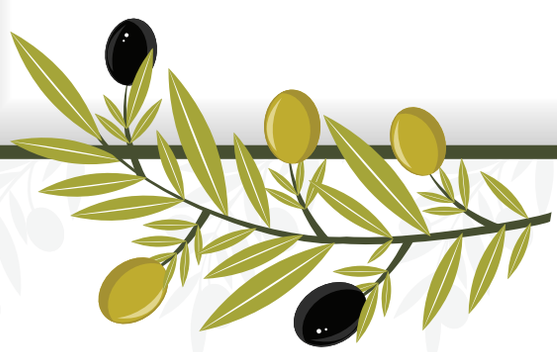



PIERALISI
Fattoria
PIERALISI
Fattoria


ZONE.3
HOJIBLANCA


Oil Extraction Unit
(100 Kg/hour)

Annexure-B: Sampling Strategy



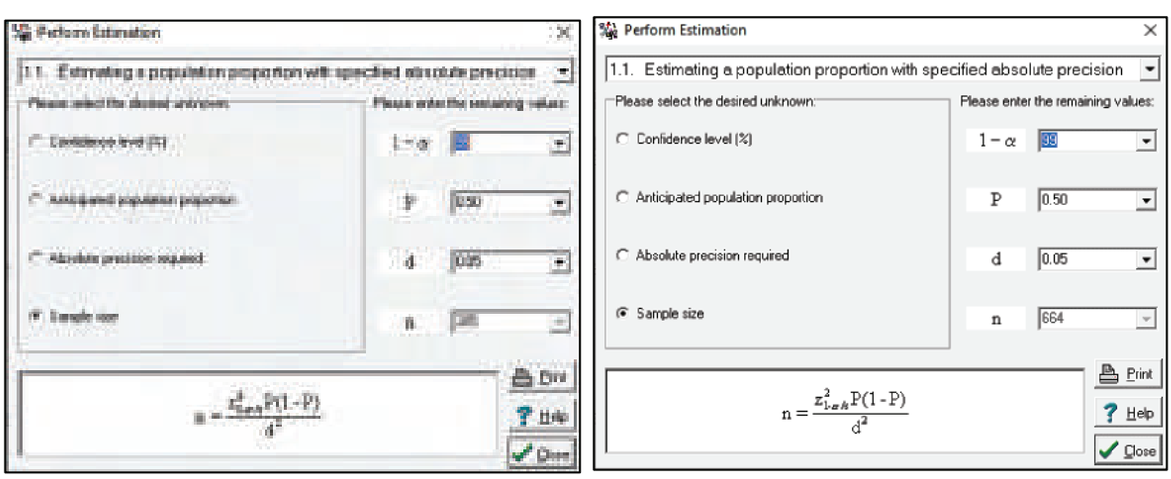
SAMPLE SIZE CALCULATIONS & JUSTIFICATIONS

This document presents the sampling strategy developed for the Olive Plantation Impact Assessment Project. All calculations of the sample sizes are based on the data provided by the client.

A. ESTIMATING A POPULATION PROPORTION WITH SPECIFIED ABSOLUTE PRECISION

The Cochran formula calculates an ideal sample size given a desired level of precision (e), desired confidence level (CI), and the estimated proportion (p) of the attribute present in the population. Cochran's formula is considered especially appropriate in situations with large populations. It is defined with the following formula:
n = z2 p(1-p)/e2

1) with Confidence Interval = 95% and farmer's population of 3854 (or N)
p = 0.5; 1-p = 0.5;
Margin of error (e) = 0.05
Sample size is 385



2) with a CI of 99% and same population
Sample size is 664

B. PROPORTIONAL SAMPLING

Six stratums were considered as provinces and the following formula was used to define the proportionate stratified sample for each province. The number in all following exhibits may vary a little bit because of rounding issue.

$$n_h = (N_h / N) * n$$

Annexure-B: Sampling Strategy

SAMPLE SIZE SUMMARY					Sample Size (SS) - Cochran's Formula		Drip Irrigation Sample Size	
	FARMER	PLANTS	ACRE	DRIP	CI=95%	CI=99%	SS @ 95%	SS @ 99%
PUNJAB	383	340058	2615.48	23	39	66	3	4
KPK	1034	411279	3202.13	35	104	179	10	17
BALOCHISTAN	1697	862568	6763.78	66	170	293	30	51
AJK	408	37220	291.28	0	41	71	0	0
GB	166	14015	103.815	0	17	29	0	0
FEDERAL	166	35259	270.34	0	17	29	0	0
TOTAL	**3,854**	**1,700,399**	**13,247**	**124**	**388**	**667**	**43**	**72**

The above exhibit displays the two province-wise stratified samples, i.e., for Confidence Intervals of 95% and 99%. The client may select anyone of them; however, the more the better.

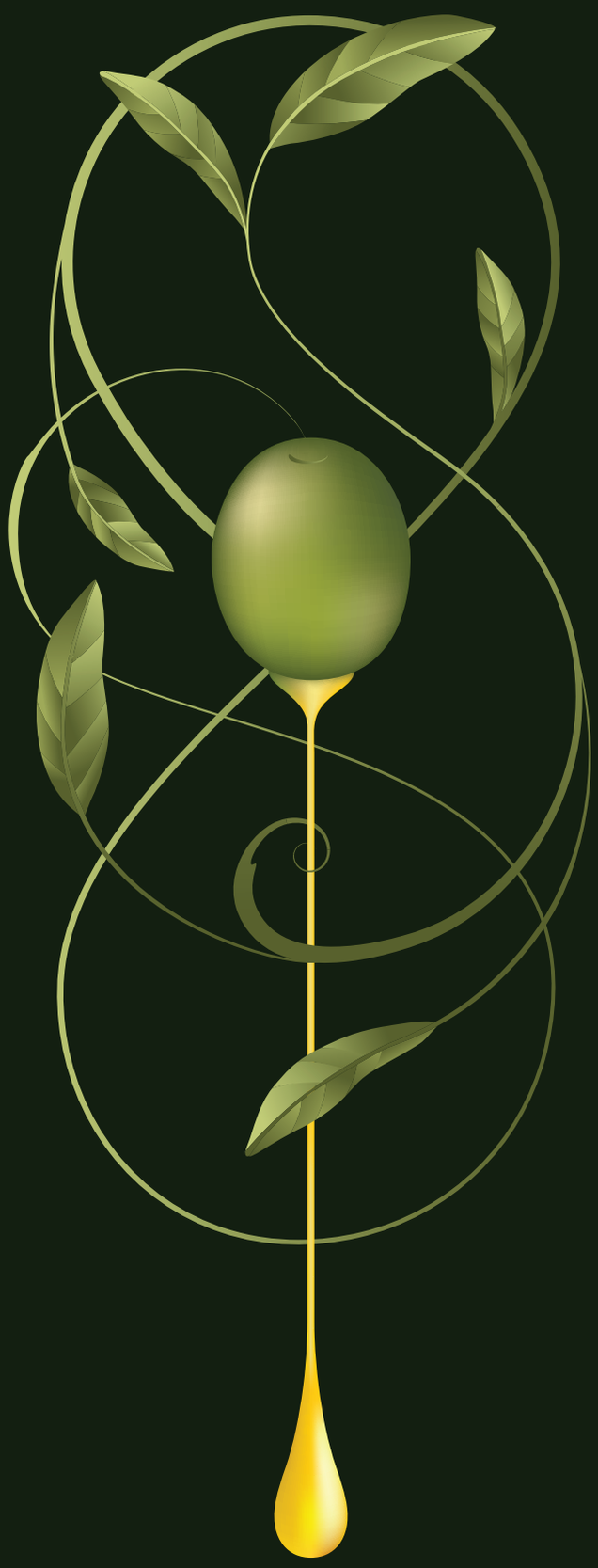
Also, the above exhibit defines the drip irrigation sample size, it means that out of 39 farmers of Punjab (for CI-95%) that the client has to sample, 3 should be the ones who have placed the drip irrigation system with the help of Government under the Olives Initiative. District-wise sampling scheme is now presented in following exhibits.

Sr. No.	District	Total farmers	SS @ 95%	SS @ 99%
1	Islamabad	166	17	29
PUNJAB			**District-wise**	
Sr. No.	**District**	**Total farmers**	**SS @ 95%**	**SS @ 99%**
1	Chakwal	178	18	31
2	Rawalpindi	70	8	13
3	Attock	36	4	7
4	Jhelum	18	2	4
5	Khushab	34	4	6
6	Jhang	1		
7	Multan	1		
8	Lahore	1		
9	Pakpattan	1		
10	Toba Take Sing	1		
11	Mianwali	18		1
12	Bhawalnagar	1		
13	Bahawalpur	1		
14	DG Khan	1		
15	Khaniwal	1		
	Others	20	3	4
KPK			**District-wise**	
Sr. No.	**District**	**Total farmers**	**SS @ 95%**	**SS @ 99%**
1	South Waziristan	161	17	28
2	Nowshera	72	8	13
3	Bajoor Agency	71	8	13
4	Lower Dir	103	11	18
5	Mansehra	164	17	29
6	KP swat	32	4	6
7	Peshawar	32	4	6
8	Khyber Agency	73	8	13
9	Battagram	24	3	5
10	D.I. Khan	16	2	3
11	Swabi	7		
12	Mardan	21	3	4
13	Momad Agency	14	2	3
14	Abbotabad	127	13	22
15	Kohat	9		2
16	Haripur	23	3	4
17	Kurram Agency	14	2	3

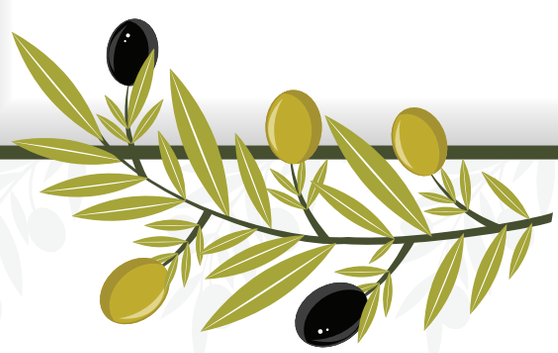
Annexure-B: Sampling Strategy

2	**Mastung**	**36**	**4**	**7**
3	Bolan	4		
4	Quetta	92	10	16
5	Nushki	74	8	13
6	Musakhail	97	10	17
7	Barkhan	47	5	9
8	Killa Saifullah	224	23	39
9	Pashin	75	8	13
10	Washuk	25	3	5
11	Loralai	247	25	43
12	Zhob	254	26	44
13	Khuzdar	270	28	47
14	Dukki	20	3	4
15	Harnai	19	2	4
16	Sherani	13		1
17	Killa Abdullah	44	5	8
18	Kharan	29	3	6
19	Chagai	9		
20	Kalat	14	1	3
21	Kohlu	6		
22	Ziarat	16	2	3
23	Jhal Magsi	1		
24	Dhera Bughti	1		
25	Awaran	13		1
26	Kachi	1		
27	Turbat	1		
28	Lasbella	3		
29	Surab	1		
30	DG Khan	1		
	Total	**1697**	**173**	**294**

AJ&K			**District-wise**	
Sr.	**District**	**Total farmers**	**SS @ 95%**	**SS @ 99%**
1	Kotli	51	6	9
2	Jhelum Valley	62	7	11
3	Muzaffarabad	61	7	11
4	Bagh	62	7	11
5	Bhimber	22		2
6	Mirpur	29	1	6
7	Poonch	53	6	10
8	Sudhanoti	60	7	11
9	Haveli	1		
10	Rawalakot	1		
11	Neelum Valley	5		
	AJK***	1		
	TOTAL	**408**	**41**	**71**



Annexure-C: Questionnaires



Impact Assessment of Olive Plantation

Note: All of the answers you give will be confidential and will not be shared with anyone other than members of our team. You are not bound to participate in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

آپ کے تمام جوابات خفیہ ہوں گے اور ہماری ٹیم کے اراکین کے علاوہ کسی اور کے ساتھ شیئر نہیں کیے جائیں گے۔ آپ سروے میں حصہ لینے کے پابند نہیں ہیں، لیکن ہم امید کرتے ہیں کہ آپ سوالات کا جواب دینے سے اتفاق کریں گے کیونکہ آپ کے خیالات اہم ہیں۔ اگر میں آپ سے کوئی سوال پوچھتا ہوں جس کا آپ جواب نہیں دینا چاہتے ہیں تو مجھے بتائیں اور میں اگلے سوال پر جاؤں گا ورنہ آپ کسی بھی وقت انٹرویو روک سکتے ہیں۔

Do you have any questions regarding survey? کیا آپ کے پاس سروے سے متعلق کوئی سوالات ہیں؟

a. Yes ہاں
b. No نہیں

Do you agree to participate in the survey? کیا آپ سروے میں حصہ لینے سے اتفاق کرتے ہیں؟

a. Yes ہاں
b. No نہیں

Section I: Respondent's Profile

جواب دینے والے کے کوائف

a. Name of Farmer _____

کسا ن کا نا م

Father'sName_____

والد کا نا م

b. Name of Village_____ Tehsil _____

گاؤں کا نا م تحصیل

c. District _____

1) In which province is the farm situated?

فارم کس صوبے میں واقع ہے؟

a) Punjab
b) Khyber Pakhtunkhwa
c) Baluchistan
d) Gilgit Baltistan
e) AJ&K آزاد جمو اور کشمیر

2) Are you/household (HH) practicing farmer?

کیا آپ/گھر والے کاشتکار ہیں؟

a) Yes, ہاں
b) No نہیں
c) Partially جزوی طور پر

3) Farming experience (years)

(کاشتکاری کا تجربہ (سال

a) 0-5
b) 6-10
c) 11-15
d) 16-20
e) >20

4) Relation with household head

گھر کے سربراہ سے رشتہ

a) Self
b) Father
c) Mother
d) Husband
e) Wife
f) Son
g) Daughter
h) Brother
i) Other ___

5) Gender جنس
a) Male
b) Female
c) Transgender
d) Prefer not to say بتانا نہیں چاہتے

6) Age عمر
a) 15-28
b) 29-42
c) 43-56
d) 57-70
e) >70

7) Education status تعلیمی معیار
a) Illiterate
b) Primary
c) Middle
d) Matriculation
e) Intermediate
f) Graduate
g) Master
h) MPhil
i) PhD

9) Ownership status: ملکیت

a) Rental کرایہ

b) Crop sharing فصل کی سانجھیداری

c) Error اس جواب کو چھوڑ دیں

d) Communal ownership مشترکہ

e) Private ownership ذاتی ملکیت

f) State land سرکاری زمین

g) Other

10) Owner's family members directly involved in farming activities.

کاشتکارکےخاندان کےکتنے افراد کاشتکاری میں حصّہ لیتےھیں

a) Male _____

b) Female _____

c) Other _____

d) No one

11) How much land (Acre) does the household (HH) have?

خاندان کے پاس کتنی ایکڑ ذمین استعمال میں ہے؟

a) Owned ذاتی ملکیت _____

b) Rented ٹھیکہ /کرایہ _____

c) State land سرکاری زمین _____

d) Total کُل _____

12) What was the land-use before olive cultivation?

زیتون لگانے سے پہلے زمین کا استعمال کیا تھا؟

a) Arid agriculture بارانی زراعت

b) Irrigated agriculture آب پاش زراعت

c) Pasture چراگاہ

d) Barren بنجر

e) Other _____

Section II: Land and Drip Irrigation

زمین اور ڈرپ آبپاشی

13) What type of soil you have?

آپکی مٹّی کس قسم کی ہے؟

a) Mera (Loamy) مرا

b) Bhari mera (Loamy + clay) بھاری مرا

c) Sandy (Retli) ریتیلی

d) Clayey (heavy/chikni) چکنی

e) Don't know

f) Other_____

14) Topography of the land

زمین کی ٹو پو گرافی

a) Levelled ہموار

b) Semi-levelled جزوی ہموار

c) Undulated غیر ہموار

d) Slopy ترچھی

15) Production from the land before olive plantation

زیتون کاشت کرنے سے پہلے زمین سے پیداوار کس کی ہوتی تھی

a) Cash crops نقد والی فصلیں
b) Fruits
c) Vegetables
d) Grazing land for livestock
e) No production at all

d) 16-20
e) >20

4) Relation with household head

گھر کے سربراہ سے رشتہ

a) Self
b) Father
c) Mother
d) Husband
e) Wife
f) Son
g) Daughter
h) Brother
i) Other ___

5) Gender جنس

a) Male
b) Female
c) Transgender
d) Prefer not to say بتانا نہیں چاہتے

6) Age عمر

a) 15-28
b) 29-42
c) 43-56
d) 57-70
e) >70

7) Education status تعلیمی معیار

a) Illiterate
b) Primary
c) Middle
d) Matriculation
e) Intermediate
f) Graduate
g) Master
h) MPhil
i) PhD
j) Technical education
k) Other:

8) Type of farming.

a) Mixed farming

کاشتکاری کی اقسام جو آپ کے استعمال میں رہی ہوں

b) Cooperative farming
c) Corporate farming
d) State farming
e) Other:

9) Ownership status: ملکیت
a) Rental کرایہ
b) Crop sharing فصل کی سانجھیداری
c) Error اس جواب کو چھوڑ دیں

d) Communal ownership مشترکہ
e) Private ownership ذاتی ملکیت
f) State land سرکاری زمین
g) Other

10) Owner's family members directly involved in farming activities.

کاشتکارکےخاندان کےکتنے افراد کاشتکاری میں حصّہ لیتےھیں

a) Male _____
b) Female _____
c) Other _____
d) No one

11) How much land (Acre) does the household (HH) have?

خاندان کے پاس کتنی ایکڑ ذمین استعمال میں ہے؟

a) Owned ذاتی ملکیت _____
b) Rented ٹھیکہ/ کرایہ _____
c) State land سرکاری زمین _____
d) Total کُل _____

12) What was the land-use before olive cultivation?

زیتون لگانے سے پہلے زمین کا استعمال کیا تھا؟

a) Arid agriculture بارانی زراعت
b) Irrigated agriculture آب پاش زراعت
c) Pasture چراگاہ
d) Barren بنجر
e) Other _____

Section II: Land and Drip Irrigation

زمین اور ڈرپ آبپاشی

13) What type of soil you have?

آپکی مٹّی کس قسم کی ہے؟

a) Mera (Loamy) مرا
b) Bhari mera (Loamy + clay) بھاری مرا
c) Sandy (Retli) ریتیلی
d) Clayey (heavy/chikni) چکنی
e) Don't know
f) Other_____

b) Semi-levelled جزوی ہموار
c) Undulated غیر ہموار
d) Slopy ترچھی

15) Production from the land before olive plantation

زیتون کاشت کرنے سے پہلے زمین سے پیداوار کس کی ہوتی تھی

a) Cash crops نقد والی فصلیں
b) Fruits
c) Vegetables
d) Grazing land for livestock
e) No production at all

ہوا
b) Decreased کم ہوئی/ہوا
c) No impact کوئی اثر نہیں
d) Not applicable قابل اطلاق نہیں ہے

17) Olive plantation impact on livestock heads?

زیتون لگا نے کا جانوروں کی تعداد پر اثر

a) Increased زیادہ ہوئی
b) Decreased کم ہوئی
c) No impact کوئی اثر نہیں
d) Other

18) What is the impact of olive plantation on income from the livestock?

زیتون لگا نے کی وجہ سے جانوں سے آمدن پراثر

a) Increased زیادہ ہوئی
b) Decreased کم ہوئی
c) No impact کوئی اثر نہیں
d) Other___

19) Land under olive cultivation

زیتون کی زیر کاشت رقبہ

a) 1-10 acres
b) 11-20 acres
c) 21-30 acres
d) >30 acres

20) The quality of soil you had before cultivation

زیتون کی کاشت سے پہلے مٹّی کی عمدگی

a) Good quality – very productive بہت اچھی کوالٹی
b) Poor quality – nutrient deficient خراب کوالٹی
c) Saline (kalrathi) سیم زداہ
d) Waterlogged
e) Any other _____

21) Were the soil tests conducted before or during plantation?

زیتون کاشت کرنے سے پہلے یا دوران کیا مٹّی کا تجزیہ کیا گیا

a) Yes, ہاں
b) No نہیں
c) Don't know نہیں معلوم

22) If YES (Q21), did you receive any recommendation after soil testing?

ا گر ہاں تو کیا تجزئیے کے بعد آپ کو کوئی سفارشات دی گئیں

a) Yes, ہاں
b) No نہیں
c) Not applicable قابل اطلاق نہیں ہے

23) The pH of soil if known

زیتو ن کے لئے استعما ل ہونے وا لی زمین میں تیزابئیت کی سطح

a) 5.5-6.5
b) 6.5-7.5
c) 7.5-8.5
d) >8.5
e) Don't know نہیں معلوم

24) Salinity level of the soil used for olive plantation

زیتو ن کے لئے استعما ل ہونے وا لی زمین میں نمکیا ت کی سطح

a) Not saline نمکیات نہیں
b) Slightly saline نمکیات کی تھوڑی مقدار
c) Moderately saline نمکیات کی درمیانی مقدار
d) Highly saline نمکیات کی بہت زیادہ مقدار
e) Don't know نہیں معلوم

25) Presence of organic matter in the soil

زیتو ن کے لئے استعما ل ہونے وا لی زمین میں نامیاتی مادّے کی مقدار

a) Low (<0.5%)
b) Medium (0.5-5%)
c) High (>5%)
d) Don't know نہیں معلوم

26) Was the test/recommendation beneficial for you?

کیا زمین کا تجزیہ آپ کے لئے فائدہ مند تھا۔

a) Yes, ہاں
b) No نہیں
c) Don't know نہیں معلوم
d) Not applicable قابل اطلاق نہیں ہے

27) Any soil preparations done for plantation?

کیا آپ نے پودے لگانے سے پہلے مٹی کی کوئی تیاری کی ؟

a) Soil surface cleaning مٹی کی سطح کی صفائی

b) Tillage ہل چلایا
c) Ridge making کھیلیاں بنائی
d) No preparations کوئی تیاری نہیں کی
e) Pit digging گڑھا کھودا
f) Others _____ دوسرے

28) If YES, then cost per acre for soil preparations

اگر ہاں تو مٹی کی تیاری کے لیے فی ایکڑ اخراجات کیا تھے؟

a) <5 k
b) 6-10 k
c) 11-20 k
d) 21-25 k
e) >25 k

29) Do you think olive plants are beneficial for the soil?

کیا آپ کے خیال میں زیتون کے پودے مٹی کے لیے فائدہ مند ہیں؟

a) Yes, ہاں
b) No نہیں
c) Don't know نہیں معلوم

b) Semi-levelled جزوی ہموار
c) Undulated غیر ہموار
d) Slopy ترچھی

30) Impact on soil nutrient quality after olive plantation

زیتون کے پودے لگانے کے بعد مٹی کے غذائیت کے معیار پر اثر

a) Improved بہتر ۔
b) Deteriorated بگڑ گیا
c) No impact کوئی اثر نہیں
d) Don't know نہیں معلوم
e) Not tested تجربہ نہیں کیا گیا۔

31) Did you notice any changes in the soil after olive cultivation?

کیا آپ نے زیتون کی کاشت کے بعد زمین میں کوئی تبدیلی محسوس کی؟

a) Yes, ہاں
b) No نہیں
c) If yes, please specify _____

32) How olive plantation in this area has impacted the utilization of uncultivable land?

اس علاقے میں زیتون کے پودے نے غیر قابل کاشت زمین کے استعمال کو کیسے متاثر کیا ہے؟

a) It is positively impacted
b) There is a negative impact
c) There has been no impact on such type of land
d) Don't know نہیں معلوم

33) Is there any forest area in the surrounding of your plantation used for daily activities and livelihood source of local community, who use it as a source of food, for building materials and medicines, etc.)?

کیا آپ کے باغات کے آس پاس کوئی جنگلاتی علاقہ ہے جو روزمرہ کے کاموں اور مقامی کمیونٹی کے ذریعہ معاش کے لیے استعمال ہوتا ہے، جو اسے خوراک، تعمیراتی سامان اور ادویات وغیرہ کے لیے استعمال کرتے ہیں؟

a) Yes, ہاں
b) No نہیں
c) Don't know نہیں معلوم
d) Not applicable قابل اطلاق نہیں ہے

34) If the answer to the above question is yes, what kind of actions you have taken to ensure the protection of the forest?

اگر پچھلے سوال کا جواب ہاں میں ہے تو آپ نے جنگل کے تحفظ کو یقینی بنانے کے لیے کس قسم کے اقدامات کیے ہیں؟

a) No action کوئی کارروائی نہیں۔
b) Did Fencing باڑ لگائی
c) Protecting from fire آگ سے بچایا
d) Habitat protection رہائش گاہ کا تحفظ
e) Other _____ دیگر

35) Are there any forest areas inside or in the concession of your plantations that are important for the sustainability of local/indigenous people's culture?

c) 21-30 acres
d) >30 acres

کیا آپ کے باغات کے اندر یا پاس میں کوئی ایسا جنگلاتی علاقہ ہے جو مقامی/دیسی لوگوں کی ثقافت کو برقرار رکھنے کے لیے اہم ہے؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

کیا آپ کے باغات کے اندر یا پاس میں کوئی ایسا جنگلاتی علاقہ ہے جو مقامی/دیسی لوگوں کی ثقافت کو برقرار رکھنے کے لیے اہم ہے؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

36) Current mode/source of Irrigation آبپاشی کا موجودہ ذریعہ

a) Arid/Rainfed بارانی
b) Canal water نہری پانی
c) Tube well ٹیوب ویل
d) Sprinkler چھڑکنے والا
e) Drip Irrigation ڈرپ ایریگیشن
f) Other: دیگر

37) Energy used for irrigation. آبپاشی کے لیے استعمال ہونے والی توانائی۔
a) Electricity بجلی
b) Generator جنریٹر
c) Solar Energy شمسی توانائی
d) Diesel engine ڈیزل انجن
e) Other _____ دیگر

38) Monthly cost of energy used for irrigation PKR _____.
آبپاشی کے لیے استعمال ہونے والی توانائی کے ماہانہ اخراجات

39) Do you have drip irrigation in your orchards?
کیا آپ کے باغات میں ڈرپ ایریگیشن (آبپاشی) ہے؟
a) Yes, ہاں
b) No نہیں

40) If yes (Q39), the land/area with drip irrigation installed?
اگر ہاں تو کتنے رقبے پر ڈرپ اریگیشن (آبپاشی) نصب ہے۔
a) 1-10 acres
b) 11-20 acres
c) 21-30 acres
d) >30 acres
e) Not applicable قابل اطلاق نہیں ہے

41) If yes (Q39), are there any maintenance issues regarding the drip irrigation? اگر ہاں تو
کیا ڈرپ اریگیشن (آبپاشی) کے حوالے سے دیکھ بھال/مرمت کے کوئی مسائل ہیں؟
a) Yes, ہاں
b) No نہیں
c) Not applicable قابل اطلاق نہیں ہے

42) If yes (Q41), what caused the damage to drip irrigation pipes on the field?
کھیت میں ڈرپ ایریگیشن (آبپاشی) کے پائپوں کو نقصان پہنچنے کی وجوہات؟
a) Animals, like pigs and rodents جانور، جیسے سور اور چوہا
b) Tractor working on the fields کھیتوں میں کام کرنے والا ٹریکٹر
c) Grazing animals/goats/cows, etc چرنے والے جانور/بکریاں/گائے وغیرہ
d) Hot temperature in the area علاقے میں زیادہ گرم درجہ حرارت
Poor quality of the material خام مال/مواد کا ناقص معیار
e) Not applicable قابل اطلاق نہیں ہے۔
f) Others _____ دوسرے

43) Estimated cost of maintenance per acre

فی ایکڑ دیکھ بھال/مرمت کی تخمینی لاگت

a) <1000
b) 1000-5000
c) 5001-10000 K
d) >10000
e) Not applicable قابل اطلاق نہیں ہے

44) From economic point of view, how sustainable is the practice of drip irrigation of olives trees?

معاشی نقطہ نظر سے، زیتون کے درختوں کی ڈرپ ایریگیشن کا عمل کس طرح پائیدار ہے؟

a) Low monetary cost irrigation کم خرچ طریقہ آبپاشی
b) Time saving وقت کی بچت
c) Easy to manage انتظام کرنے میں آسان
d) Have positive impact on production پیداوار پر مثبت اثر پڑتا ہے۔
e) Have negative impact on production پیداوار پر منفی اثر پڑتا ہے۔
f) Other_____ دیگر
g) Not applicable قابل اطلاق نہیں ہے

45) From environmental point of view, how sustainable is the practice of drip irrigation of olives trees?

ماحولیاتی نقطہ نظر سے، زیتون کے درختوں کی ڈرپ ایریگیشن کا عمل کس طرح پائیدار ہے؟

a) Not suitable in the local environment مقامی ماحول میں مناسب نہیں۔
b) Suitable in the local environment مقامی ماحول میں موزوں
c) Environmentally friendly ماحول دوست
d) Other_____ دیگر
e) Not applicable قابل اطلاق نہیں ہے

46) The impact of drip irrigation on soil erosion in comparison with before installation

تنصیب سے پہلے کے مقابلے میں مٹی کے کٹاؤ پر ڈرپ اریگیشن کا اثر

a) Decreased erosion کٹاؤ میں کمی ہوئی
b) Increased erosion کٹاؤ میں اضافہ ہوا
c) No impact on erosion کٹاؤ پر کوئی اثر نہیں پڑتا ہے۔
d) Not applicable قابل اطلاق نہیں ہے

47) The impact of drip irrigation on desertification in comparison with before installation

تنصیب سے پہلے کے مقابلے میں ڈرپ اریگیشن کا صحرا بننے کے عمل پر اثر

a) Decreased desertification صحرا بندی میں کمی ہوئی
b) Increased desertification صحرا بندی میں اضافہ ہوا
c) No impact on desertification صحرا بندی پر کوئی اثر نہیں
d) Not applicable قابل اطلاق نہیں ہے

48) The impact of drip irrigation on usage of fertilizers in comparison with before installation

تنصیب سے پہلے کے مقابلے میں کھاد کے استعمال پر ڈرپ ایریگیشن کا اثر

a) Decreased کمی
b) Increased اضافہ
c) No impact کوئی اثر نہیں۔
d) Not applicable قابل اطلاق نہیں ہے۔

49) The impact of drip irrigation on water conservation in comparison with before installation

تنصیب سے پہلے کے مقابلے میں پانی کے تحفظ پر ڈرپ اریگیشن کا اثر

a) Promoted water losses پانی کا ضیاعؑ بڑھا
b) Promoted water conservation پانی کے تحفظ کو فروغ دیا۔
c) No impact on water conservation پانی کے تحفظ پر کوئی اثر نہیں۔
d) Not applicable قابل اطلاق نہیں ہے۔

50) If it is efficient, how much water is saved through drip irrigation in comparison with before installation?

اگر یہ موثر ہے، تو تنصیب سے پہلے کے مقابلے میں ڈرپ اریگیشن کے ذریعے کتنا پانی بچا لیتے ہیں؟

a) <25%
b) 25%
c) 50%
d) 75%
e) >75%
f) Not applicable قابل اطلاق نہیں ہے

51) In your opinion, what is the impact of drip irrigation on crop production

آپ کی رائے میں ڈرپ ایریگیشن کا فصل کی پیداوار پر کیا اثر پڑتا ہے۔

a) It has positively impacted اس کا مثبت اثر ہوا ہے۔
b) There is a negative impact ایک منفی اثر ہے
c) There has been no impact on such types of land اس قسم کی زمین پر کوئی اثر نہیں ہوا ہے
d) Not applicable قابل اطلاق نہیں ہے

52) Do you think the irrigation water is suitable for olive plants?

کیا آپ کے خیال میں آبپاشی کا پانی زیتون کے پودوں کے لیے موزوں ہے؟

a) Yes, ہاں
b) No نہیں
c) Don’t know نہیں معلوم
d) Not applicable قابل اطلاق نہیں ہے

53) How many times do you irrigate the olives orchards?

آپ زیتون کے باغات کو کتنی بار سیراب کرتے ہیں؟

a) In winter season each month _____ سردیوں کے موسم میں ہر مہینے _____
b) In summer season each month _____ گرمیوں کے موسم میں ہر مہینے _____
c) Not applicable قابل اطلاق نہیں ہے

54) How long it takes to irrigate the olive orchards? زیتون کے باغات کو سیراب کرنے میں کتنا وقت لگتا ہے؟

a) In winter season hours per day per acre_____ سردیوں کے موسم میں گھنٹے فی دن فی ایکڑ _____
b) In summer season hours per day per acre_____ گرمیوں کے موسم میں گھنٹے فی دن فی ایکڑ
c) Not applicable قابل اطلاق نہیں ہے۔

55) How is your overall agricultural water requirement impacted after olive plantations?

زیتون کے باغات لگانے کے بعد آپ کی زرعی پانی کی مجموعی ضرورت پر کیا اثر پڑتا ہے؟

a) Increase اضافہ
b) Decreased کمی
c) No impact کوئی اثر نہیں
d) Don't know نہیں معلوم

Section III: Olive Plantation Management

زیتون کے پودے لگانے کا انتظام :III سیکشن

56) Plant density/ number of plants per acre _____. پودوں کی تعداد فی ایکڑ
57) How many olive plants you received from the authorities? _____

محکمہ سے آپ کو زیتون کے کتنے پودے ملے؟

58) How many plants do you have now in your orchards? _____

اس وقت آپ کے باغات میں کتنے پودے ہیں؟

59) If certain plants died, what was possible reasons?

اگر کچھ پودے مر گئے، تو کیا ممکنہ وجوہات تھیں؟

a) Water stress/drought پانی کا دباؤ/خشکسالی
b) Heat stress/high temperature گرمی کا دباؤ/اعلی درجہ حرارت
c) Nutrient deficiencies/no fertilizer application غذائیت کی کمی/ کھاد کا استعمال نہ ہو
d) Animals uprooted the plants جانوروں نے پودوں کو جڑ سے اکھاڑ پھینکا
e) Not applicable قابل اطلاق نہیں ہے
f) Any other _____ کوئی اور

60) Was the variety of olive of your choice? زیتون کی قسم جو آپ کو دی گئ کیا وہ آپ کی پسند کے مطابق تھی؟
a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

61) Is the variety received different from wild olives?
کیا حاصل شدہ قسم جنگلی زیتون سے مختلف ہے؟
a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

62) The names of olive varieties at your farm آپ کے فارم میں زیتون کی کونسی اقسام کاشت ہیں؟
a) Arbequina
b) Arbosana
c) Frontoio
d) Karoneki
e) Oliyana
f) Megaran
g) Leseno
h) Corotina
i) S.B
j) Chetoui
k) Picual
l) Nibali
m) Local/Wild مقامی/جنگلی
n) Grafted with _____ اگر پیوند شدہ ہیں تو کس کے ساتھ؟
o) Other

63) Are you happy with the variety/ies at your farm?
کیا آپ اپنے فارم میں زیتون کی اقسام سے خوش ہیں؟
a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

64) Land under wild olive plantation جنگلی زیتون کتنی زمین پر کاشت ہے؟
a) 1-10 acres
b) 11-20 acres
c) 21-30 acres
d) >30 acres
e) Not applicable قابل اطلاق نہیں ہے
65) Area under wild olive that is replaced with Govt varieties
جنگلی زیتون کی کاشت کی زمین جسے سرکاری اقسام سے تبدیل کیا جا چکا ہے۔
a) 1-10 acres
b) 11-20 acres
c) 21-30 acres
d) >30 acres
e) Not applicable قابل اطلاق نہیں ہے
66) Cultural practices during cultivation کاشت کے دوران ثقافتی طریقے
a) Weed control گھاس کا کنٹرول
b) Thinning پتلا ہونا
c) Pruning کٹائی
d) Not at all بالکل نہیں۔
e) Others _____ دوسرے

67) Do you use pesticides on your crops? کیا آپ اپنی فصلوں پر کیڑے مار دوا استعمال کرتے ہیں؟
a) Yes, ہاں
b) No نہیں
c) Don't know نہیں معلوم
68) If yes (Q67), how often do you use pesticides on your crops?
آپ اپنی فصلوں پر کتنی بار کیڑے مار دوا استعمال کرتے ہیں؟
a) Once in a year
b) Twice in a year
c) Other frequency ___
69) If yes (Q67), cost per acre incurred for pesticides usage.
کیڑے مار ادویات کے استعمال کی فی ایکڑ لاگت
a) <1 K
b) 1-5 K
c) 6-10 K
d) >10 K
e) Not applicable

70) Fertilizer applications to fulfil nutrient requirements

غذائیت کی ضروریات کو پورا کرنے کے لیے کھاد کا استعمال آپ کرتے ہیں

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

71) If yes (Q70), how often do you use fertilizers on your crops?

آپ اپنی فصلوں پر کتنی بار کھاد استعمال کرتے ہیں؟

a) Once in a year سال میں ایک بار
b) Twice in a year سال میں دو بار
c) Other frequency ____ دیگر تعدد

72) If yes (Q70), cost per acre for fertilizers. کھاد کے لیے فی ایکڑ اخراجات

a) <1 K
b) 1-5 K
c) 6-10 K
d) >10 K
e) Not applicable قابل اطلاق نہیں ہے

73) Do you use organic fertilizer? کیا آپ نامیاتی کھاد استعمال کرتے ہیں؟

a) Yes, ہاں
b) No نہیں
c) Partially (mix of organic and inorganic) جزوی طور پر (نامیاتی اور غیر نامیاتی مرکب
d) Not applicable

74) The type of organic fertilizer used نامیاتی کھاد کی قسم جو آپ استعمال کرتے ہیں

a) Animal manure جانوروں کی کھاد
b) Poultry waste پولٹری فضلہ
c) Compost ھاد
d) Vermi-compost ورمی کمپوسٹ
e) Not applicable قابل اطلاق نہیں ہے
f) Other _____ دیگر

75) Whether your orchards have started yield or not?

کیا آپ کے باغات نے پیداوار شروع کی ہے یا نہیں؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

76) What is the production status of your orchards?

آپ کے باغات کی پیداواری صورتحال کیا ہے؟

a) No production yet ابھی تک کوئی پیداوار نہیں ہے۔
b) 50%
c) 100%
d) Other ____

77) How was the harvesting of olive fruits done?

زیتون کے پھلوں کی کٹائی کیسے کی جاتی تھی؟

a) Manually دستی
b) Mechanically میکانکی طور پر
c) Mix of manual and machine methods دستی اور مشینی طریقوں کا مرکب
d) Others _____ دوسرے
e) Not done yet ابھی تک نہیں ہوا ہے

78) Who collected the harvest? فصل کون اکٹھی کرتا ہے؟
a) Farmer by himself خود کسان
b) Male member of household گھر کا مرد رکن
c) Female member of household گھر کی خاتون رکن
d) Children of household (below the age of 18) گھر کے بچے (18 سال سے کم
e) Relatives of household گھر کے رشتہ دار
f) Labor hired لیبر کی خدمات حاصل کی گئی ہیں۔
g) Not applicable قابل اطلاق نہیں ہے

79) If option (f) to (Q78) entertain this question, how many labor were hired to collect the harvest? _____. ؟(خالی چھوڑ دیں اگر اطلاق نہ ہو) تو فصل اکٹھا کرنے کے لیے کتنے مزدور رکھے گئے

80) What was the wage rate of labor at the time of harvesting? _____PKR. کٹائی کے وقت مزدور کی اجرت کیا رکھی تھی؟

81) Average cost of harvesting per acre _____ فی ایکڑ کٹائی کی اوسط لاگت
a) <10000
b) 1000-5000
c) 5001-10000
d) >10000
e) Not applicable
f) Other ____

Section IV: Economic and value chain analysis

سیکشن IV: اقتصادی اور ویلیو چین کا تجزیہ

82) Contribution of wild olive orchards to the production _____%

(پیداوار میں جنگلی زیتون کے باغات کا کل حصہ (فیصد

83) Are you directly connected to olive oil extraction units?

کیا آپ زیتون کا تیل نکالنے والے کارخانوں سے براہ راست جڑے ہوئے ہیں؟

a) Yes ہاں
b) No نہیں
c) Not available in the district اس ضلع میں دستیاب نہیں ہے
d) Other دیگر

84) Availability of market for selling the production پیداوار کی فروخت کے لیے مارکیٹ/بازار دستیاب ہے؟

a) Easy/readily
readily available آسان/ آسانی سے دستیاب

b) Somewhat difficult/managed by some efforts
کسی حد تک مشکل/کچھ کوششوں سے منظم

c) Difficult مشکل

d) Agent is dealing ایجنٹ ڈیل کر رہا ہے

e) Not relevant as the Govt is taking care off
متعلقہ نہیں کیونکہ حکومت دیکھ بھال کر رہی ہے۔

f) Other_____ دیگر

85) Distance to the market for selling and buying inputs?
ضرورت کی چیزیں بیچنے اور خریدنے کے لیے بازار کا فاصلہ؟

a) <1 Km
b) 1-5 Km
c) 6-10 Km
d) >10 Km

86) Does your farm attract local customers on your farm?
کیا آپ کا فارم اپنی طرف مقامی صارفین کو راغب کرتا ہے؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے
d) Not applicable قابل اطلاق نہیں ہے

87) Is there any transportation cost? کیا کوئی نقل و حمل کی قیمت آپ ادا کرتے ہیں؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

88) How much it costs you to transport products to the market?

مصنوعات کو مارکیٹ تک پہنچانے میں آپ کو کتنا خرچ آتا ہے؟

a) <20,000
b) 20,000-50,000
c) 50,001-100,000
d) 100,001-200,000
e) Not applicable قابل اطلاق نہیں ہے
f) Other_____

89) Productivity per acre. فی ایکڑ پیداوار

a) <1000 kg
b) 1000 kg
c) 1500 kg
d) 2000 kg
e) 2500 kg
f) >2500 kg

1 Km = Kilometers unit of Distance

90) Which value added product of olive is sold in the market from your farm?

آپ کے فارم سے زیتون کی کون سی ویلیو ایڈڈ پروڈکٹ مارکیٹ میں فروخت ہوتی ہے؟

a) Extra virgin olive oil یکسٹرا ورجن زیتون کا تیل
b) Olive pickle زیتون کا اچار
c) Olive jam زیتون کا جام
d) Olive chatni زیتون کی چٹنی
e) Olive syrup زیتون کا شربت
f) Olive vinegar زیتون کا سرکہ
g) Olive tea زیتون کی چائے
h) Olive sweets زیتون کی مٹھائیاں
i) Branded packed fruit برانڈڈ پیکڈ پھل
j) Olive bottled preserved زیتون کی بوتل محفوظ
k) Raw olive fruit کچا زیتون کا پھل
l) Not applicable قابل اطلاق نہیں ہے۔

91) Do you have olive oil storage facility? کیا آپ کے پاس زیتون کا تیل ذخیرہ کرنے کی سہولت

ہے؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے
d) Not applicable قابل اطلاق نہیں ہے

92) Do you have access to Govt storage facility ?

کیا آپ کو سرکاری اسٹوریج کی سہولت تک رسائی حاصل ہے؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

93) Would you like to develop oil storage facility?

کیا آپ تیل ذخیرہ کرنے کی سہولت تیار /حاصل کرنا چاہیں گے؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

94) If yes (Q93), do you need support from the Govt? کیا آپ کو حکومت کی حمایت /مدد کی ضرورت ہے؟

a) Yes ہاں
b) No نہیں
c) Don't know نہیں جانتے

95) If yes (Q93), what kind of support is required? اگر ہاں تو کس قسم کی حمایت /مدد کی ضرورت ہے؟

a) Technical
b) Financial
c) Subsidy
d) Training
e) Other

96) How much Govt must contribute to developing storage facility? _____%

ذخیرہ کرنے کی سہولت تیار کرنے میں حکومت کو کتنا حصہ (فیصد) ڈالنا چاہیے؟

97) Do you have access to value addition labs?

کیا آپ کو ویلیو ایڈیشن لیب تک رسائی حاصل ہے؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

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98) Was the training provided by experts/lab for value addition?
کیا ویلیو ایڈیشن کے لیے ماہرین کی طرف سے آپ کو تربیت فراہم کی گئی؟
a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے
99) If the training was provided, was it useful? آگر تربیت فراہم کی گئی تھی تو کیا یہ مفید تھی؟
a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

100) How should the government support to establish private ownership in value chain?
حکومت کو ویلیو چین میں نجی ملکیت قائم کرنے کے لیے کس طرح مدد کرنی چاہیے؟

101) What activities are performed to add value to your products?
آپ کی مصنوعات میں قدر بڑھانے کے لیے کون سی سرگرمیاں انجام دی جاتی ہیں؟
a) Unpaid labor used for harvesting of olive from trees
درختوں سے زیتون کی کٹائی کے لیے بلا معاوضہ مزدوری
b) Market price base segregation of olive fruits, while packing it
زیتون کے پھلوں کی مارکیٹ قیمت کی بنیاد پر اسے پیک کرتے وقت الگ کرنا
c) Use own transport service اپنی ٹرانسپورٹ سروس استعمال کریں۔
d) Attractive packaging پرکشش پیکیجنگ
e) Agents' connection in the market مارکیٹ میں ایجنٹوں کا رابطہ
f) Other _____ دیگر

102) How much each activity adds to the final product value, PKR per acre?
ہر ایک سرگرمی مصنوعات کی قیمت میں کتنا اضافہ کرتی ہے
a) Unpaid labor used for harvesting of olive from trees
درختوں سے زیتون کی کٹائی کے لیے بلا معاوضہ مزدوری
b) Market price base segregation of olive fruits, while packing it
زیتون کے پھلوں کی مارکیٹ قیمت کی بنیاد پر اسے پیک کرتے وقت الگ کرنا
c) Use own transport service اپنی ٹرانسپورٹ سروس استعمال کرنا۔
d) Attractive packaging پرکشش پیکیجنگ
e) Agents' connection in the market مارکیٹ میں ایجنٹوں سے رابطہ
f) Other _____ دیگر

103) Gross farming income earned from yield of crops annually (k = thousand).
سالانہ پیدا ہونے والی فصلوں کی پیداوار سے حاصل ہونے والی مجموعی کاشتکاری آمدنی۔
a) <200k
b) 201-500k
c) 501-1000k
d) 1001-1500k

104) Gross agricultural income/earning of the household before plantation of olive.
زیتون کے پودے لگانے سے پہلے گھر کی مجموعی زرعی آمدنی/کمائی کیا تھی؟
a) <200k
b) 201-500k
c) 501-1000k
d) 1001-1500k
e) 1501-2000k
f) 2001-4000k
g) Other_____

105) Gross agricultural income/earning of the household after olive plantation.
زیتون کے پودے لگانے کے بعد گھر کی مجموعی زرعی آمدنی/کمائی کیا ہے؟
a) <200k
b) 201-500k
c) 501-1000k
d) 1001-1500k
e) 1501-2000k
f) 2001-4000k
g) Other_____

106) The land that was barren and now became under olive cultivation
کتنی زمین جو بنجر تھی اور اب زیتون کی زیر کاشت ہے۔
a) <10 Acres
b) 10-25 acres
c) 26-50 acres
d) >50 acres
e) Not applicable قابل اطلاق نہیں ہے

107) Overall return for olive plantation per acre _____
زیتون کے باغات کا مجموعی منافع کیا ہے؟
a) <50 K
b) 50-100 K
c) 100-150 K
d) >150 K
e) Not applicable قابل اطلاق نہیں ہے

108) Are you satisfied with thus financial return? کیا آپ اس مالی منافع کی کمائی سے مطمئن ہیں؟
a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

109) Would you like to increase the area under olive cultivation?

کیا آپ زیتون کے زیر کاشت رقبہ کو بڑھانا چاہیں گے؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

110) Are you willing to replace the olive orchard with other crops?

کیا آپ زیتون کے باغ کو دوسری فصلوں سے بدلنے کے لیے تیار ہیں؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

کیا آپ زیتون کے زیر کاشت رقبہ کو بڑھانا چاہیں گے؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

110) Are you willing to replace the olive orchard with other crops?

کیا آپ زیتون کے باغ کو دوسری فصلوں سے بدلنے کے لیے تیار ہیں؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

111) If yes to (Q110), have you replaced the olive orchard with other crops?

اکر ہاں تو کیا آپ نے زیتون کے باغ کو دوسری فصلوں سے بدل دیا ہے؟

a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے۔
d) Not applicable قابل اطلاق نہیں ہے

Section V: Environmental and Social Impacts ماحولیاتی اور معاشرتی اثرات

112) What is the average height of olive plants on your field? _____Ft

آپ کے کھیت میں زیتون کے پودوں کی اوسط اونچائی کتنی ہے؟

113) What is the average width (stem diameter) of olive plants on your field?
_____Centimeters آپ کے کھیت میں زیتون کے پودوں کی اوسط چوڑائی (تنے کا قطر) کیا ہے؟

114) What is the average width (canopy) of olive plants on your field? _____Ft
آپ کے کھیت میں زیتون کے پودوں کی اوسط چوڑائی کتنی ہے؟

115) When did you start planting olives plants? _____ (in years)
(آپ نے زیتون کے پودے لگانا کب شروع کیے؟ _____ (سال بتائیں

116) What is the average age of plants on your farm? _____ (In years)
(آپ کے فارم پر پودوں کی اوسط عمر کتنی ہے؟ _____ (سالوں میں

117) Disposal of livestock waste. مویشیوں کے فضلے کوآپ کیسے ٹھکانے لگاتے ہیں
a) Near farm فارم کے قریب
b) Dumped in river دریا میں پھینک دیا گیا
c) Used as fertilizer کھاد کے طور پر استعمال کیا جاتا ہے
d) In the farm فارم میں
e) Municipal collection میونسپل کلیکشن
f) Not applicable قابل اطلاق نہیں ہے
g) Other _____ دیگر

118) Green waste produced from the olive plants per acre per year.
زیتون کے پودوں سے ہر سال فی ایکڑ پیدا ہونے والا سبز فضلہ/بھوسہ
a) <100 kg
b) 100-200 kg
c) 300-400 kg
d) >500 kg
e) Not applicable قابل اطلاق نہیں ہے

119) How the Crops wastage/residues is disposed of?
فصلوں کی بربادی/ باقیات کو کیسے تلف کیا جاتا ہے؟
a) We burn it ہم اسے جلا دیتے ہیں۔
b) We feed it to Animals ہم اسے جانوروں کو کھلاتے ہیں
c) We Dump it in the river ہم اسے دریا میں پھینک دیتے ہیں
d) We dump it in the Canal nearby ہم اسے قریبی نہر میں پھینک دیتے ہیں۔
e) We dump it in the Pond nearby ہم اسے قریبی تالاب میں پھینک دیتے ہیں۔
f) We Crushed it to the soil ہم نے اسے مٹی میں کچل دیا۔
g) We use it as an Energy source ہم اسے توانائی کے ذریعہ کے طور پر استعمال کرتے ہیں۔
h) Other

120) Have you diversified crops/mixed cropping? کیا آپ نےمختلف فصلوں کا اخطلات کیا ہے؟
a) Yes, ہاں
b) No نہیں
c) Other___

121) In your opinion, what has been the impact of plantation on other form of vegetation in the area? آپ کی رائے میں، علاقے میں دوسرے پودوں پر زیتون لگانے کا کیا اثر ہوا ہے؟

a) It has positively impacted اس کا مثبت اثر ہوا ہے۔
b) There is a negative impact ایک منفی اثر ہے
c) There has been no impact. کوئی اثر نہیں ہوا ہے
d) Don't know نہیں معلوم

122) In your opinion, what has been the impact of plantation on the wildlife in the area? آپ کی رائے میں، علاقے میں جنگلی حیات پرزیتون کی شجرکاری کا کیا اثر ہوا ہے؟

a) It has positively impacted اس کا مثبت اثر ہوا ہے۔
b) There is a negative impact ایک منفی اثر ہے
c) There has been no impact. کوئی اثر نہیں ہوا ہے
d) Don't know نہیں معلوم

123) Does olive plantation provide habitat for birds? کیا زیتون کا باغ پرندوں کے لیے رہائش فراہم کرتا ہے؟

a) Yes, ہاں
b) No نہیں
c) Other___

124) Have you seen an increase in number of birds? کیا آپ نے پرندوں کی تعداد میں اضافہ ہوتے دیکھا ہے؟

a) Yes, ہاں
b) No نہیں
c) Other___

125) What kind of land degradation is taking place? زمین کی کس قسم کی انحطاط ہو رہی ہے؟

a) Decreasing soil nutrients مٹی کے غذائی اجزاء میں کمی
b) Decline in the organic matter in the soil مٹی میں نامیاتی مادے میں کمی
c) Deforestation and overgrazing of pastures causing exposure of soil to water and wind erosion. جنگلات کی کٹائی اور چراگاہوں کی حد سے زیادہ چرائی مٹی کو پانی اور ہوا کے کٹاؤ کا باعث بنتی ہے
d) Decline in underground water due to over exhaustion for high water usage. پانی کے زیادہ استعمال کے لیے زیادہ تھکن کی وجہ سے زیر زمین پانی میں کمی۔
e) Increase in water level in the field crop/waterlogging. کھیتکی فصل میں پانی کی سطح میں اضافہ۔

126) Soil degradation was stopped by olive cultivation زیتون کی کاشت سے مٹی کا انحطاط کیا رک گیا۔

a) Yes, ہاں
b) No نہیں
c) Not applicable

127) Has the project increased cooperation between local farmers? کیا اس منصوبے سے مقامی کسانوں کے درمیان تعاون میں اضافہ ہوا ہے؟

a) Yes, ہاں
b) No نہیں
c) Prefer not to share بتانا نہیں چاہتے

128) Have you shared your tractor/equipment with a farmer for his own farm activities?

کیا آپ نے اپنا ٹریکٹر/سامان کسی کسان کے ساتھ اس کی اپنی کھیتی کی سرگرمیوں کے لیے شیئر کیا ہے؟

a) Yes, ہاں
b) No نہیں
c) Prefer not to share بتانا نہیں چاہتے

129) Has the project changed your household members' employment status?

کیا پراجیکٹ نے آپ کے گھر کے ارکان کی ملازمت کی حیثیت کو تبدیل کر دیا ہے؟

a) Yes, ہاں
b) No نہیں
c) Not applicable قابل اطلاق نہیں ہے

130) Number of jobs created on your farm after the plantation of olives _____

زیتون کے پودے لگانے کے بعد آپ کے فارم پر پیدا ہونے والی ملازمتوں کی تعداد

131) Has the olive plantation project increased connectivity between the farming community?

کیا زیتون کے پودے لگانے کے منصوبے نے کاشتکار برادری کے درمیان رابطے میں اضافہ کیا ہے؟

a) Yes, ہاں
b) No نہیں
c) Prefer not to share بتانا نہیں چاہتے

132) What is the mode of connectivity? آپس کے رابطے کا طریقہ کیا ہے؟

a) Mobile
b) Facebook) فیس بک
c) Email ای میل
d) Visit each other farms ایک دوسرے کے فارموں کا دورہ کریں
e) Communicate through someone کسی کے ذریعے بات چیت کریں
f) Other _____ دیگر

133) Has the project caused ownership issues of the land under olive planation?

کیا اس زیتون کی کاشت کے منصوبے کی وجہ سے زمین کی ملکیت کے مسائل پیدا ہوئے ہیں؟

a) Yes, ہاں
b) No نہیں
c) Prefer not to share بتانا نہیں چاہتے

134) What was the reason of conflict? تنازعہ کی وجہ کیا تھی؟

a) Grazing animals in olive orchards زیتون کے باغات میں جانور چرانا
b) Caught on olive cutting زیتون کاٹتے ہوئے پکڑا گیا
c) Property rights issues جائیداد کے حقوق کے مسائل
d) Water circulation turn پانی کی گردش کا رخ
e) Other ___ دیگر___

135) Does olive plantation project fragment the land ownership between families?
کیا زیتون کے پودے لگانے کا منصوبہ خاندانوں کے درمیان زمین کی ملکیت کو ٹکڑے ٹکڑے کر دیتا ہے؟
a) Yes, ہاں
b) No نہیں
c) Prefer not to share بتانا نہیں چاہتے

136) How do you manage your olive nursery on your farm?
آپ اپنے فارم پر زیتون کی نرسری کا انتظام کیسے کرتے ہیں؟
a) Storage facility ذخیرہ کرنے کی سہولت
b) Integrated pest management کیڑوں کا مربوط انتظام
c) Proper irrigation cycle مناسب آبپاشی کا چکر
d) We do not manage nursery ہم نرسری کا انتظام نہیں کرتے ہیں
e) Other _____ دیگر

137) Do you think that olive plantation is a success on your farm?
کیا آپ کو لگتا ہے کہ آپ کے فارم پر زیتون کا پودا لگانا کامیاب رہا؟
a) Yes, ہاں
b) No نہیں
c) Prefer not to share بتانا نہیں چاہتے

138) Has olive plantation led to poverty alleviation in the area?
کیا زیتون کے پودے سے علاقے میں غربت میں کمی آئی ہے؟
a) Yes, ہاں
b) No نہیں
c) Don't know معلوم نہیں

139) How can olive plantation alleviate poverty in your area?
زیتون کا پودا آپ کے علاقے میں غربت کو کیسے دور کر سکتا ہے؟ _____

Section VI: SWOT Analysis/Training Impacts
طاقت، کمزوری مواقع کے خطرات کا تجزیہ/تربیت کے اثرات

140) Who inspired you to cultivate olive /to develop olive orchards? آپ کو زیتون کی کاشت/زیتون کے باغات تیار کرنے کی ترغیب کس نے دی؟
(a) Government subsidy حکومتی سبسڈی
(b) Financial support مالی مدد
(c) Local community مقامی کمیونٹی
(d) NGOs این جی اوز
(e) Friends دوست
(f) Self-knowledge خود شناسی
(g) Other _____ دیگر

141) To what extent Govt has subsidized olive plantation?
_____ (%) حکومت نے زیتون کے باغات پر کس حد تک سبسڈی دی ہے؟

142) Are you Satisfied from the governmental support to olive plantation?
کیا آپ زیتون کے باغات کے لیے حکومتی تعاون سے مطمئن ہیں؟
a) Yes, ہاں
b) No نہیں
c) Prefer not to say بتانا نہیں چاہتے

143) To what extent Govt. subsidized drip irrigation?
_____ حکومت نے کس حد تک ڈرپ اریگیشن لگانے میں سبسڈی دی؟

144) Are you satisfied with the subsidy? کیا آپ اس سبسڈی سے مطمئن ہیں؟
a) Yes, ہاں
b) No نہیں
c) Not applicable قابل اطلاق نہیں ہے

145) Have you participated in training program provided by the project team?
کیا آپ نے پروجیکٹ ٹیم کے ذریعہ فراہم کردہ تربیتی پروگرام میں حصہ لیا ہے؟
a) Yes, ہاں
b) No نہیں
c) Not aware of معلوم نہیں
d) Other____146) What do you think about the impact of olive plantation related training provided to you?
زیتون کے پودے لگانے سے متعلق آپ کو فراہم کی جانے والی تربیت کے اثرات کے بارے میں آپ کا کیا خیال ہے؟
a) It has positively impacted اس کا مثبت اثر ہوا ہے۔
b) There is a negative impact ایک منفی اثر ہے
c) There has been no impact. کوئی اثر نہیں ہوا ہے
d) Don’t know نہیں معلوم

147) What do you think, has training improved your knowledge about olive plantation? آپ کے خیال میں اس تربیت نے زیتون کے حوالے سے آپ کے علم کو بڑھایا ہے؟
a) Yes, ہاں
b) No نہیں
c) Not applicable قابل اطلاق نہیں ہے

148) If you have not attended any training, would you like to attend in future?
اگر آپ نے کسی تربیت میں شرکت نہیں کی تو کیا آپ مستقبل میں شرکت کرنا چاہیں گے؟
a) Yes, ہاں
b) No نہیں
c) Not sure یقین نہیں ہے

149) How do you forecast weather to plan irrigation cycle? آپ آبپاشی کے دور کی منصوبہ

بندی کے لیے موسم کی پیشن گوئی کیسے کرتے ہیں؟

a) Weather station helps موسمی اسٹیشن مدد کرتا ہے۔
b) Mobile app موبائل ایپ
c) Indigenous knowledge مقامی علم
d) Not applicable قابل اطلاق نہیں ہے

150) Is there any weather station around in your town or nearby?
کیا آپ کے شہر یا آس پاس کوئی ویدر اسٹیشن ہے؟
a) Yes, ہاں
b) No نہیں
c) Don't know معلوم نہیں
d) Not applicable قابل اطلاق نہیں ہے

151) If yes (Q150), have you ever received any help in terms of weather forecast?
(اگر ہاں Q150) تو کیا آپ نے کبھی موسم کی پیشن گوئی کے حوالے سے کوئی مدد حاصل کی ہے؟
a) Yes, ہاں
b) No نہیں
c) Not applicable قابل اطلاق نہیں ہے

152) Would you like to highlight any other problem? _____ کیا آپ کسی اور مسئلے کو اجاگر کرنا
چاہیں گے؟

153) Do you have Any suggestions for future implementation? _____ کیا آپ کے پاس مستقبل
کے نفاذ کے لیے کوئی تجاویز ہیں؟

154) A) Farmer's Photograph _____
B) Soil Report (if any)_____
155) CNIC Number of Farmer (without spaces or dash)_____ کسان کا شناختی کارڈ نمبر

156) Mobile Number of Farmer (Format 03XXZZZZZZZ without spaces or dash)_____ کسان کا موبائل نمبر

Questionnaire for Olive Extraction Units

1. Name of the respondent: _____
2. Designation: _____
3. Affiliated to (name of organization/unit/ministry/university /department) _____
4. Location_____
5. District _____
6. Province_____
7. What was the target related to double shaded nursery/tunnels? _____
8. How many were installed? _____
9. Target for preparing plants (numbers) _____
10. Local plants prepared _____
11. What was plantation target for your center/unit? _____ Acres
12. Actual plantation _____acres
13. Target for conducting/arranging training programs on nursery, orchard manage ment, value addition _____
14. Actual number of training programs conducted on nursery, orchard manage ment, value addition _____
15. Target for establishment of mother orchard _____
16. Actual mother orchard established for olive _____
17. Target for variety adaptability trials _____
18. How many adaptability trials actually conducted on different areas _____?
19. Success of adaptability trials with respect to varieties/species? _____
20. Number of recipes/products developed for olive value addition _____
21. How many products developed from olive fruits _____?
22. Size of the unit in Acres _____?
23. How many employees are working on this unit _____?
24. What is the capacity of the unit to process olive fruit per day? _____kg
25. What is the capacity of the unit to extract oil per day? _____Litres
26. Do you have your own transport facility?

a. Yes
b. No
c. Planned

27. If yes (Q26), what is the mode of transport (type of vehicle)? _____
28. How many kg of Olive fruit is received on daily basis in the season?
29. Total olive fruit received/purchased annually_____ (in kg)

30. How much space is available for storage of raw Olive received from framers? (in square foot)
31. What is the brand/company name of Oil extraction machine/unit?
32. How much oil was extracted by the machine/unit per hour? _____ litres
33. What are steps of Olive oil extraction in this unit?
a. Washing process
b. Fine machining
c. Filtering process
d. Oil collection platform
e. Filling process
f. Packing process
g. Other ____
34. Do you use any chemicals while processing raw olive?
a. Yes
b. No
35. How many litres of Olive Oil are produced?
a. Hourly _____
b. Daily _____
c. Weekly _____
d. Monthly _____
e. Yearly _____
36. Is there any value addition process available on this unit?
a. Yes
b. No
37. What value addition facilities/activities are provided to olive farmers in this Unit?
a. Efficient extraction
b. Free of cost extraction
c. Filtering
d. Packing
e. Branding
f. Marketing
g. Delivery services
h. Other _____
38. Does this unit conduct trainings for framers about oil extraction?
a. Yes
b. No

39. If yes (Q38), on which of the following activities farmers have been trained?
a. Collection techniques
b. Extraction process
c. Attractive packaging
d. Branding the product
e. Online marketing
f. Other ____
40. What is the estimated cost paid for one-ton olive processing? PKR _____
41. Do you buy olive from farmers?
a. Yes
b. No
42. If yes (Q41), what is the current price of one-ton raw olive? PKR _____
43. Do you buy olive oil from farmers?
a. Yes
b. No
44. If yes (Q43), what is the current price of 1 Litre olive oil? PKR _____
45. Do you sell olive products?
a. Yes
b. No
46. If yes (Q45), what are the available products that you sell on this unit?
a. Virgin Olive Oil
b. Olive grains
c. Olive pickles
d. Bottle preserved
e. Olive vinegar
f. Raw Oil
g. Others
47. Is your unit connected to a weather station?
a. Yes
b. No
c. Don't know
48. If yes (Q47), is it helping in improving the services of your unit/center for the farmers?
a. Yes

b. No
c. Don't know
49. Overall, how many jobs have been created by this unit? _____
50. Overall, how many individuals have been trained? _____
51. Any problem being faced? _____
52. Any suggestion for improvement _____
53. Your Unit was Established in _____ (mention Year)

Weather Station/Metrological Unit Questionnaire
1. Name of the respondent: _____
2. Designation: _____
3. Affiliated to which organization /unit /ministry /university /department?
_____
4. Location_____
5. District _____
6. Province_____
7. Service provision mode?
a) Online
b) On-counter
8. Number of employees currently employed.
a) On-counter service.....
b) Online services.....
c) Others _____
9. What services are provided online to Olive Farmers?
a) Flood forecast
b) Temperature forecast
c) Rain forecast
d) Humidity data
e) Famer advisory services, extension worker services
f) Storm warnings
g) Others _____

10. What services are provided to farmers on counter?
a) Flood forecast
b) Temperature forecast
c) Rain forecast
d) Humidity data
e) Famer advisory services, extension worker services
f) Storm warnings
g) Others _____
11. Mention the number of people signing the permission letter for any service required by farmers on counter? (Mention Designation Hierarchy-wise).....
a) Designation.....
b) Designation.....
c) Designation.....
d) Designation.....
e) Other _____
12. How many requests are received online on monthly basis?
13. What is the average feedback time online?
a) Minutes.....
b) Hours.....
c) Days.....
d) Weeks.....
e) Months.....
f) Years.....

14. How many olive farmers visit daily for counter services?.....
15. How long it takes to attend one farmer at a time on counter? (in minutes)
16. Do you think that farmers are satisfied after services are received?
a) Yes
b) No

17. If not satisfied, what other efforts, you did to satisfy the farmer?
a) Sending more information
b) Calling
c) Visited to farmer's house or farm
d) Not applicable
e) Other _____
18. Do you take the farmers or consumer data for records?
a) Yes
b) No
19. Is your station connected through any mobile app?
a) Yes
b) No
c) Planned

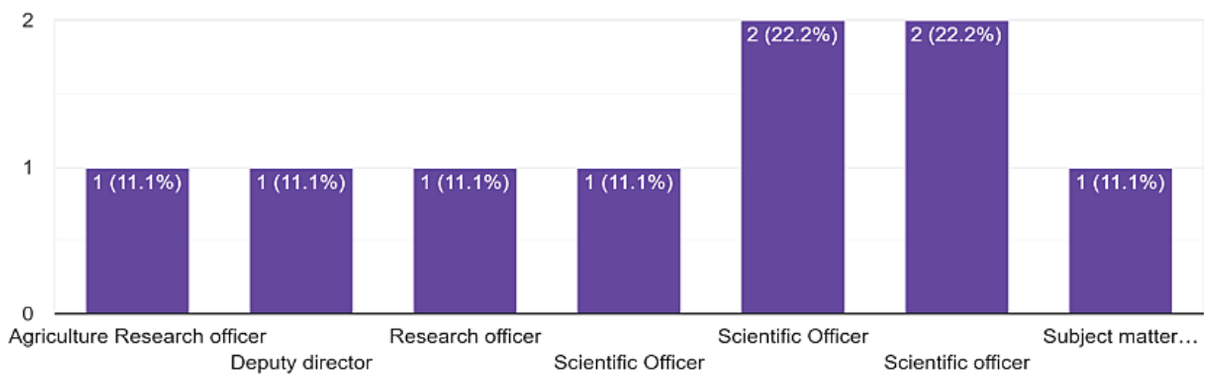
20. What problems are farmers facing in terms of service understanding?
a) Comprehension of data
b) Visualization of data
c) Too much scientific to understand easily
d) Long Distance to cover to reach the information center
e) Uneducated
f) Unaffordable to spend on information
g) Other _____
21. Your Unit was Established in _____ (mention Year)

Annexure-D: Descriptive Statistics of Facilities' Responses

Oil Extraction Charts

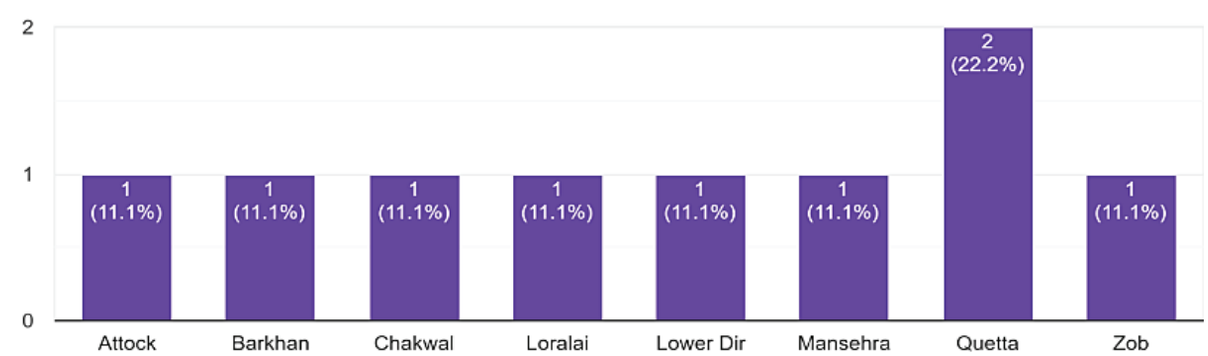
2. Designation.

9 responses



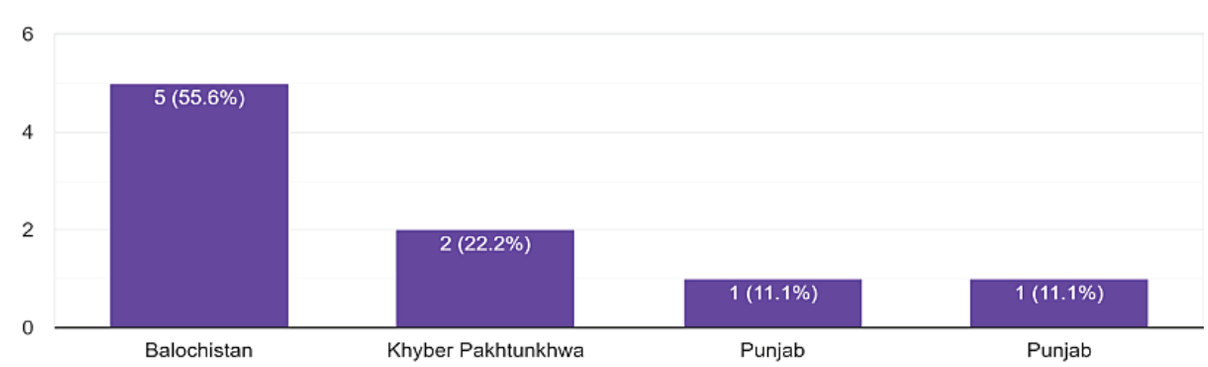
5. District.

9 responses



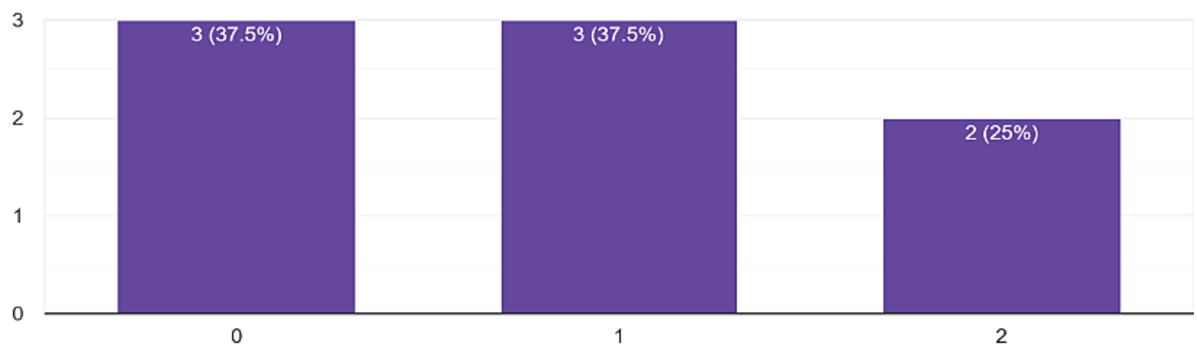
6. Province.

9 responses



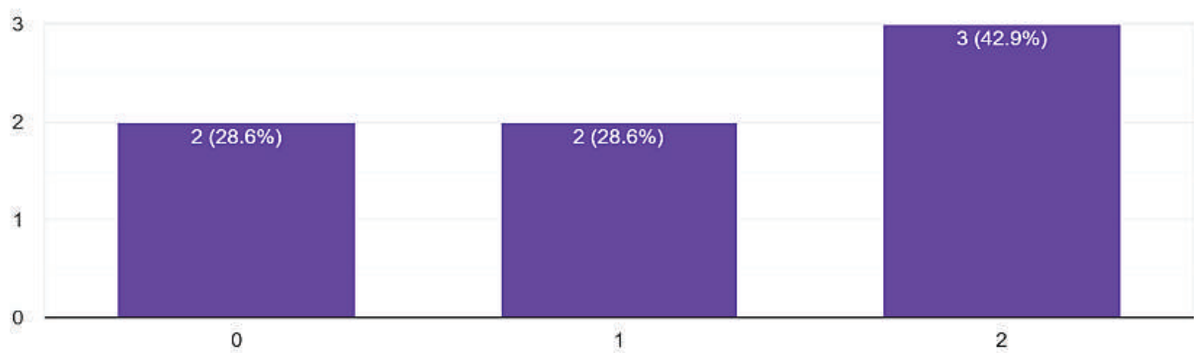
7. What was the target related to double shaded nursery tunnels?

8 responses



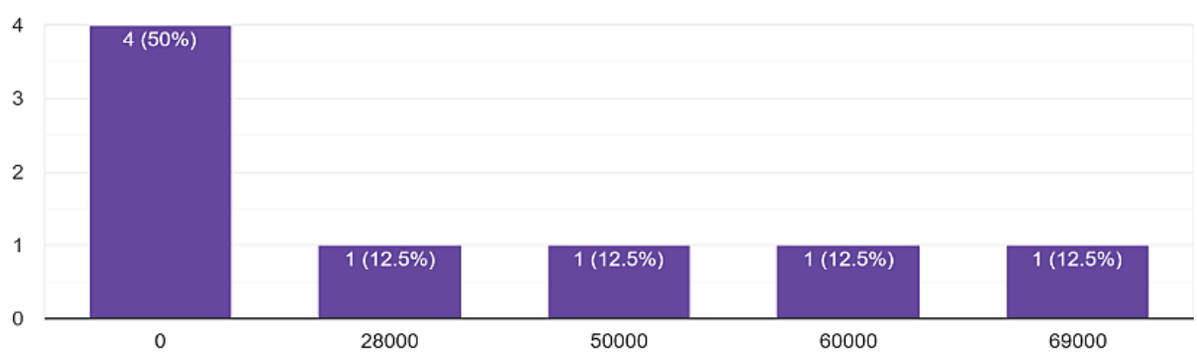
8. How many were installed ?

7 responses



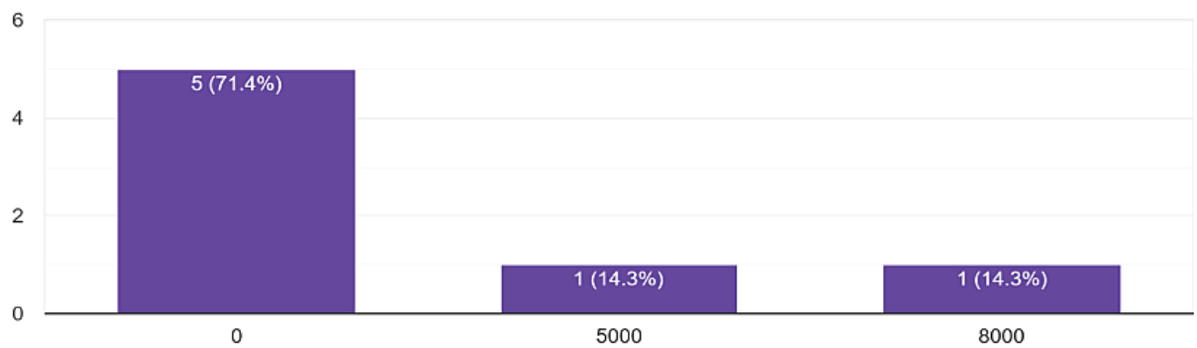
9. Target for preparing plants (numbers).

8 responses



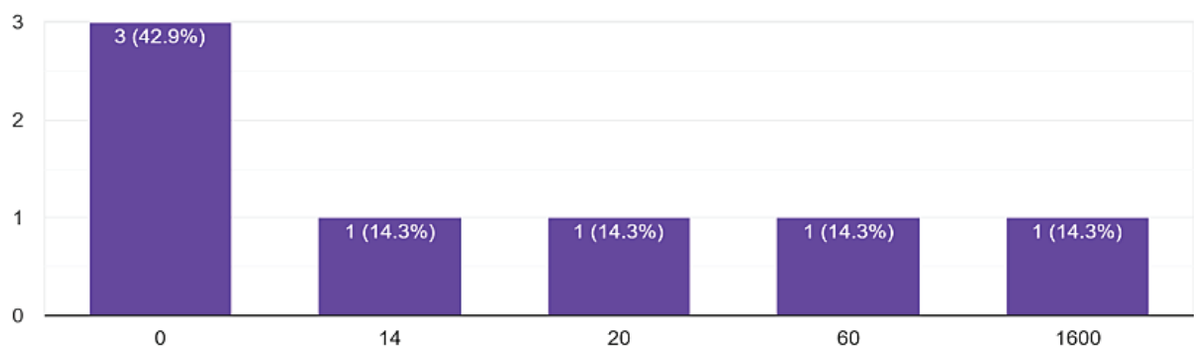
10. Local plants prepared.

7 responses



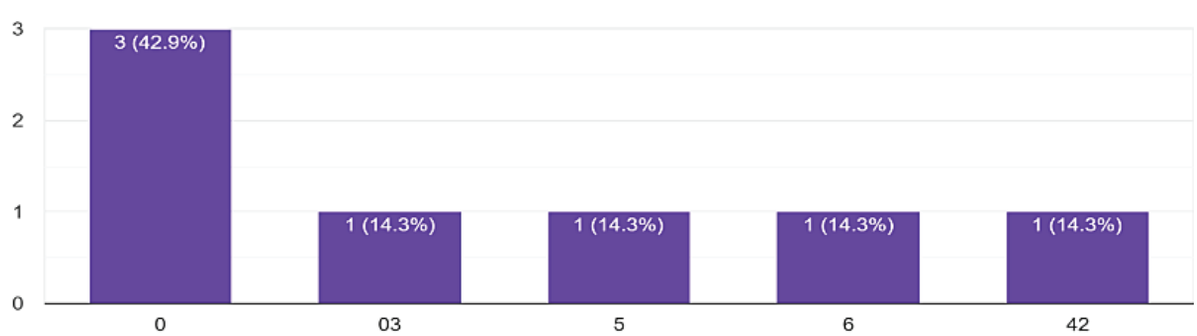
11. What was plantation target for your center/unit? _____Acres

7 responses



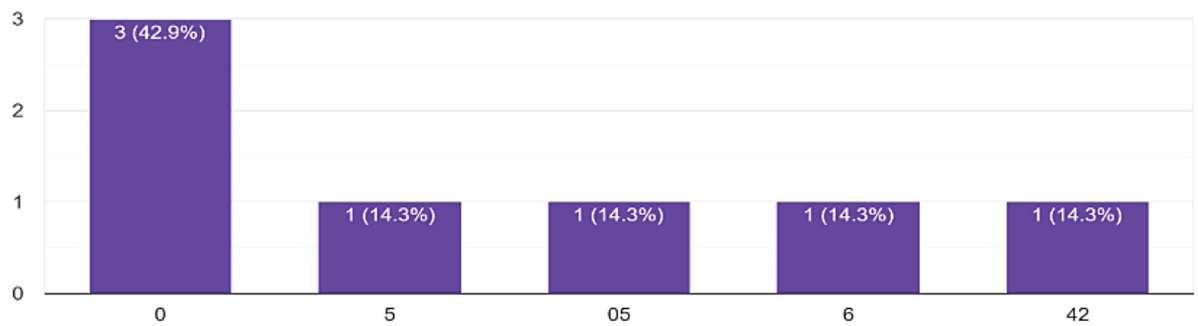
13. Target for conducting/arranging training programs on nursery, orchard management, value addition.

7 responses



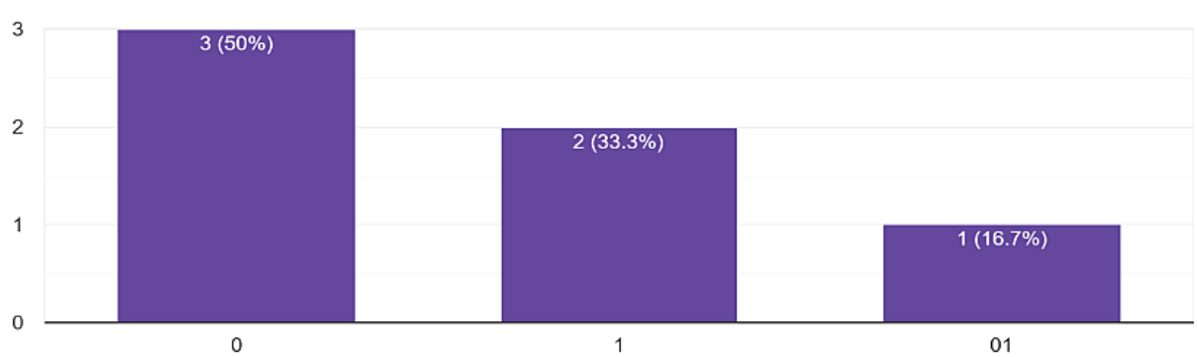
14. Actual number of training programs conducted on nursery, orchard management, value addition.

7 responses



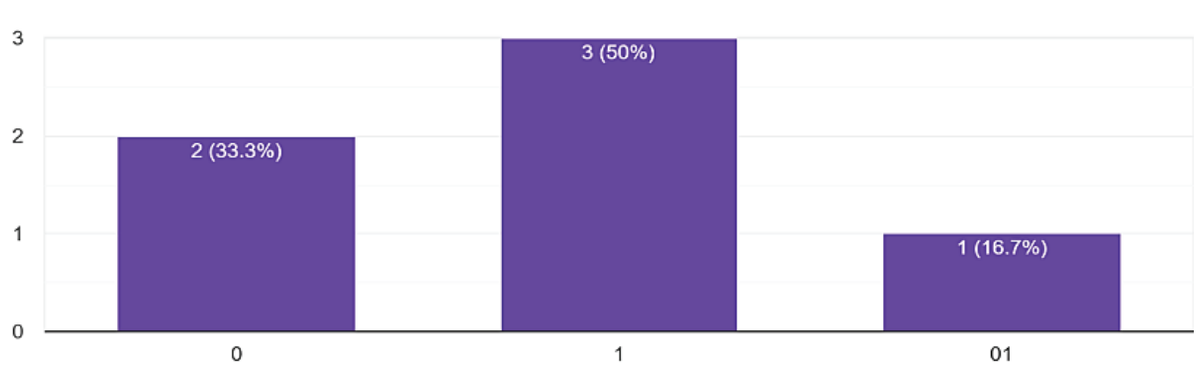
15. Target for establishment of mother orchard.

6 responses



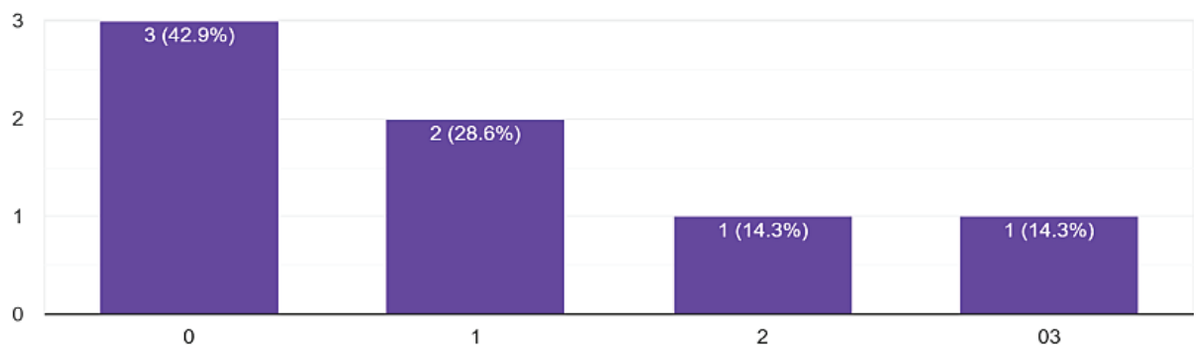
16. Actual mother orchard established for olive.

6 responses



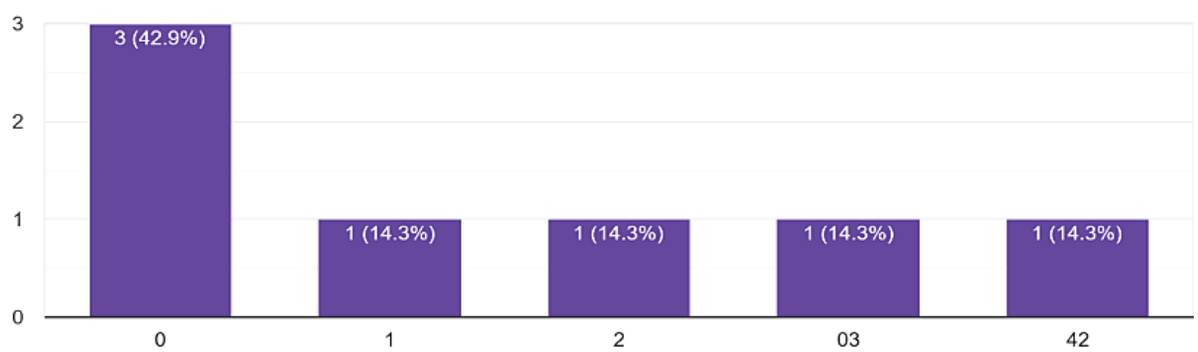
17. Target for variety adaptability trials.

7 responses



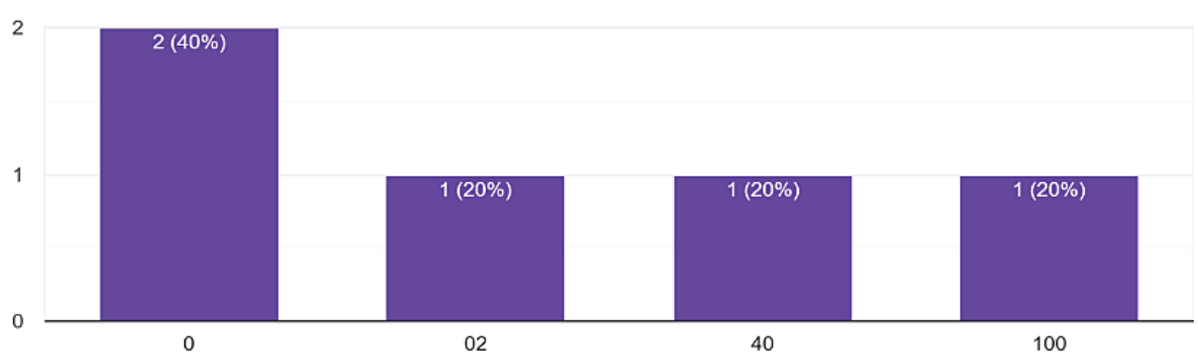
18. How many adaptability trials actually conducted on different areas?

7 responses



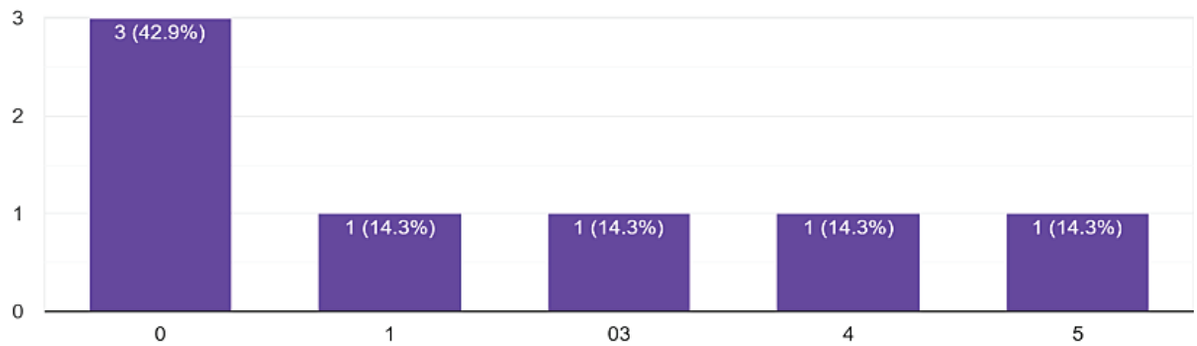
19. Success of adaptability trials with respect to varieties/species?

5 responses



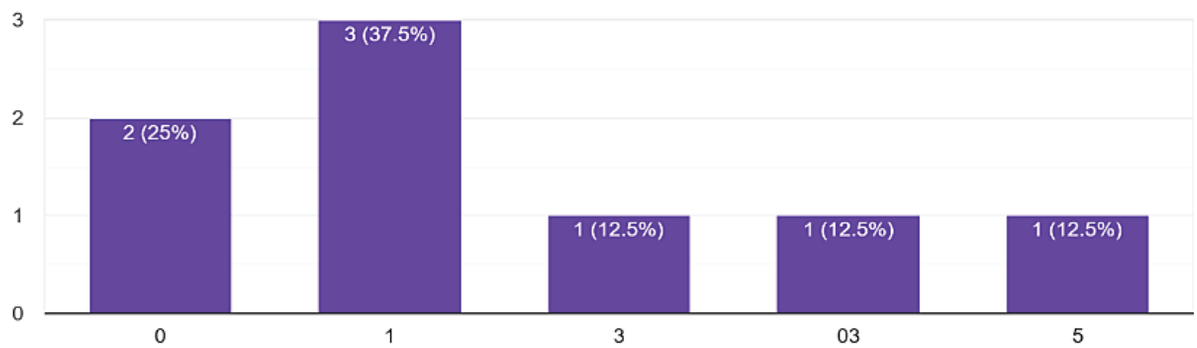
20. Number of recipes/products developed for olive value addition.

7 responses



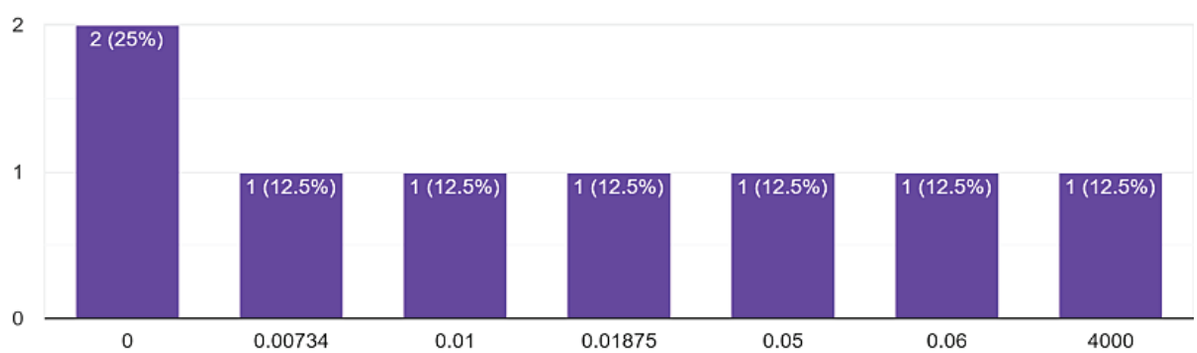
21. How many products developed from olive fruits?

8 responses



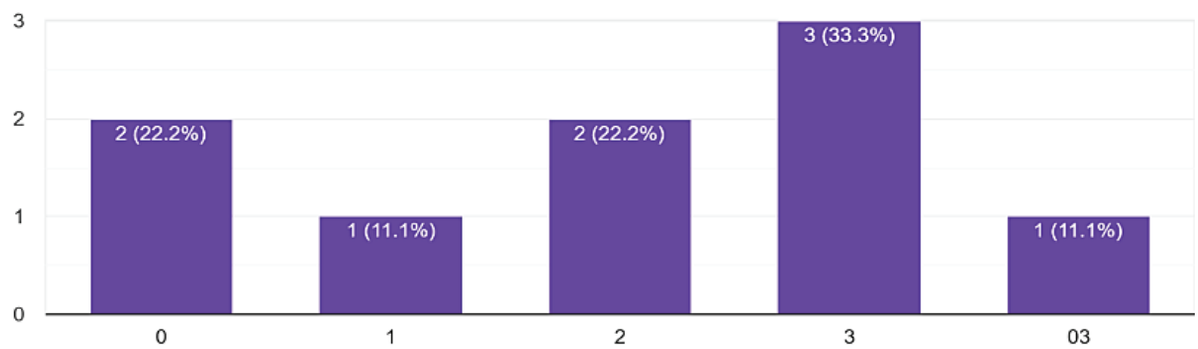
22. Size of the unit in Acres ?

8 responses



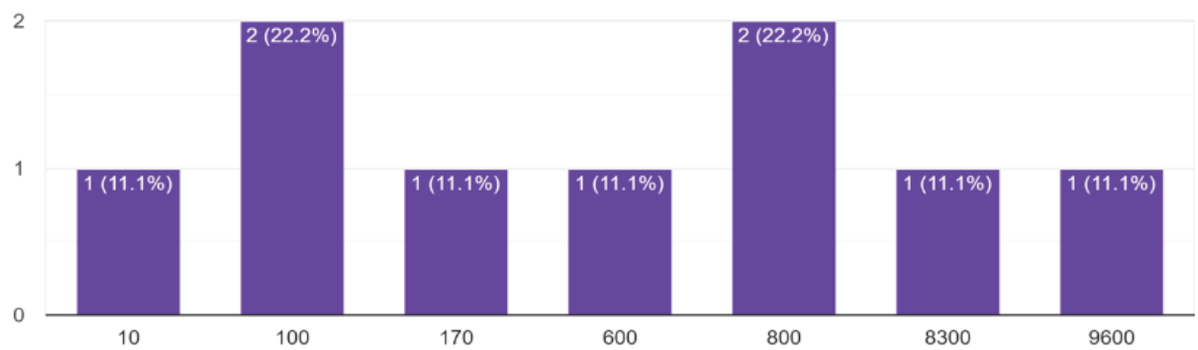
23. How many employees are working on this unit?

9 responses



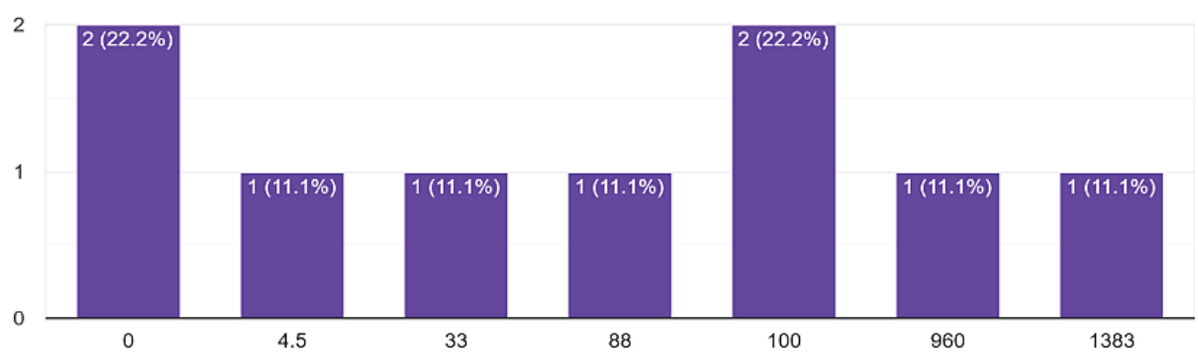
24. What is the capacity of the unit to process olive fruit per day? (in kg)

9 responses



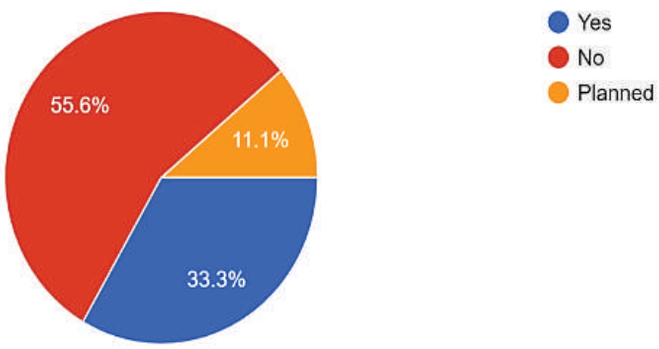
25. What is the capacity of the unit to extract oil per day? (in litres)

9 responses



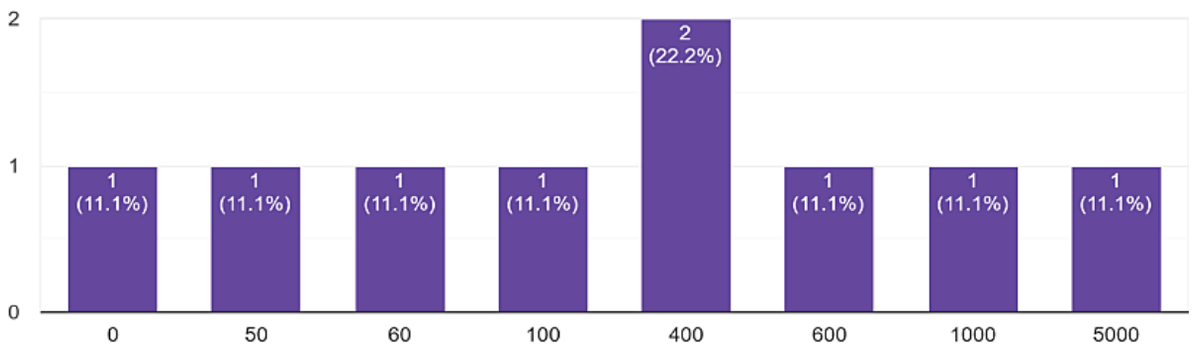
26. Do you have your own transport facility?

9 responses



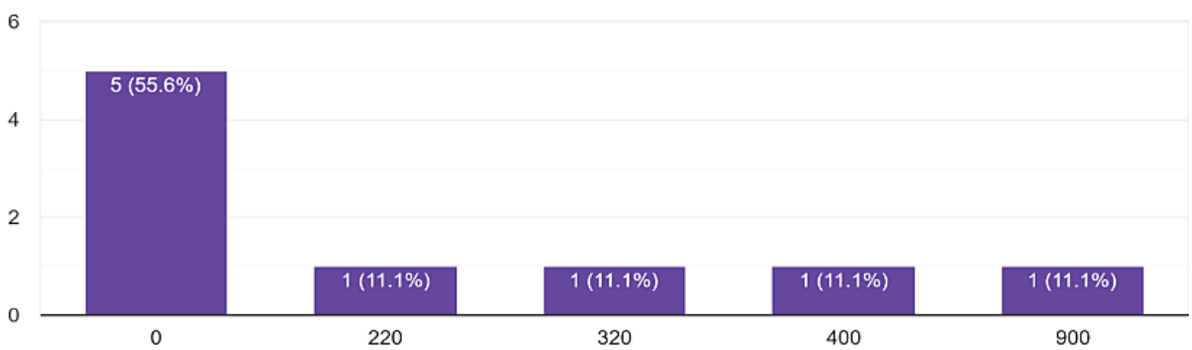
28. How many kg of Olive fruit is received on daily basis in the season?

9 responses



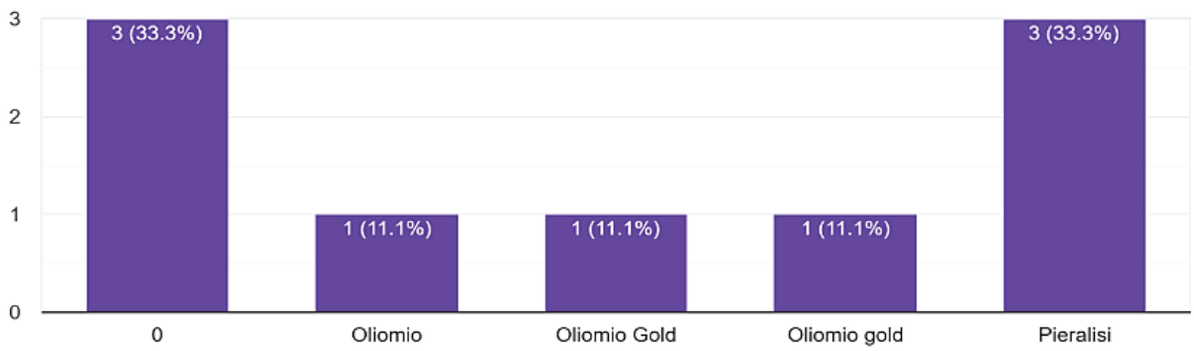
30. How much space is available for storage of raw Olive received from framers? (in sq foot)

9 responses



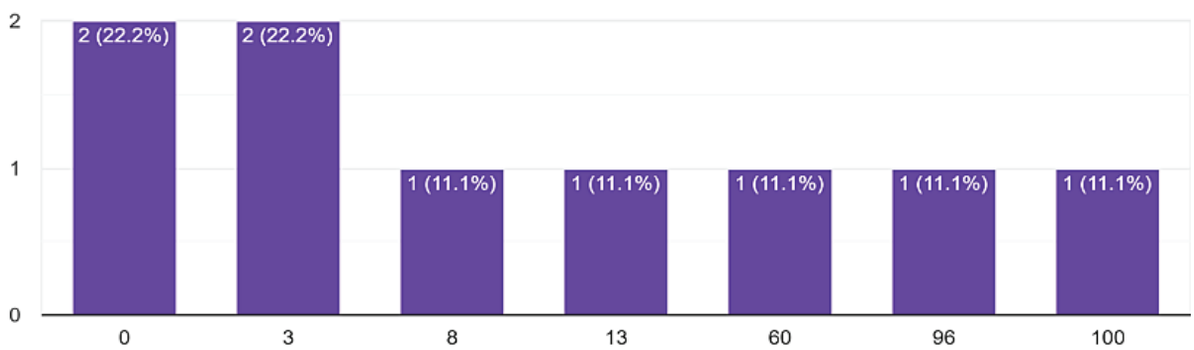
31. What is the brand/company name of Oil extraction machine/unit?

9 responses



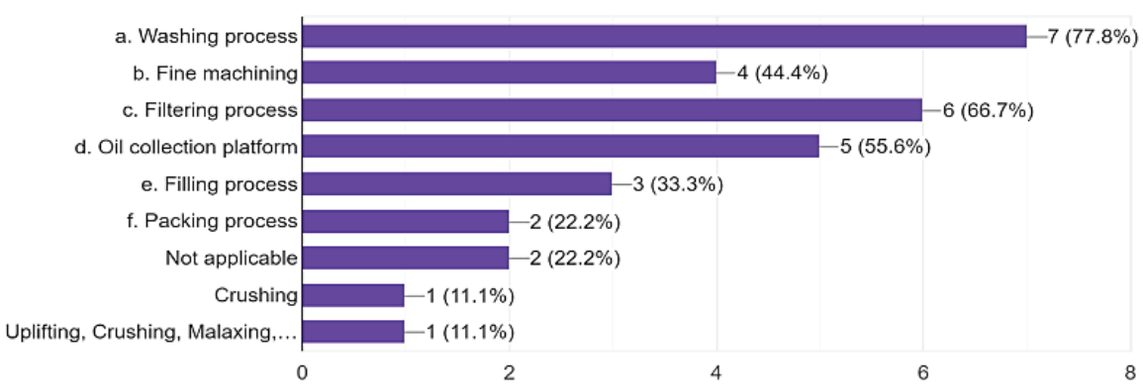
32. How much oil was extracted by the machine/unit per hour? (in litres)

9 responses



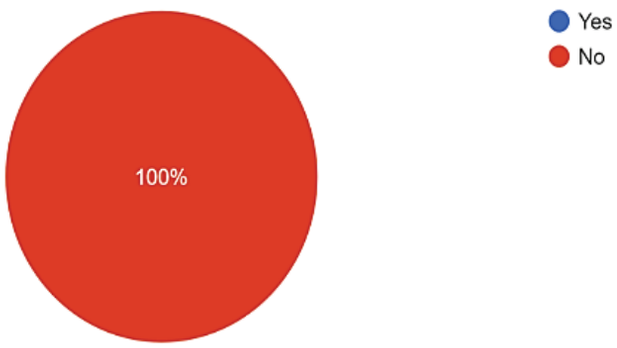
33. What are the steps of Olive oil extraction in this unit?

9 responses



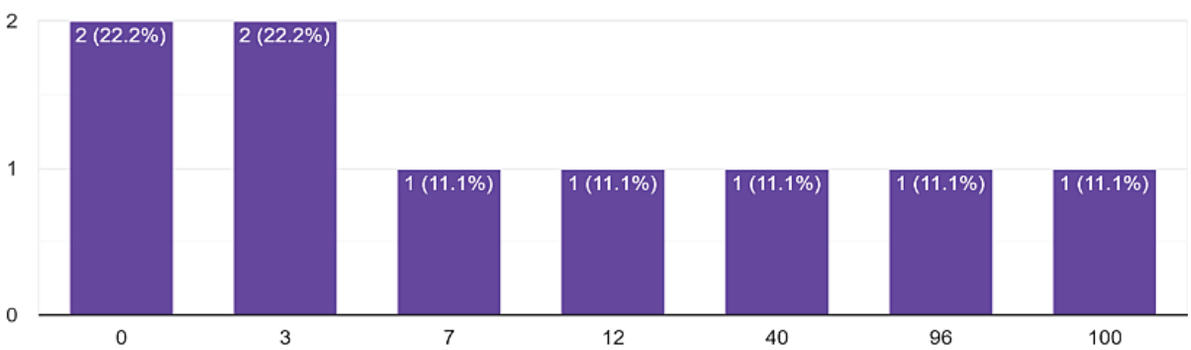
34. Do you use any chemicals while processing raw olive?

9 responses



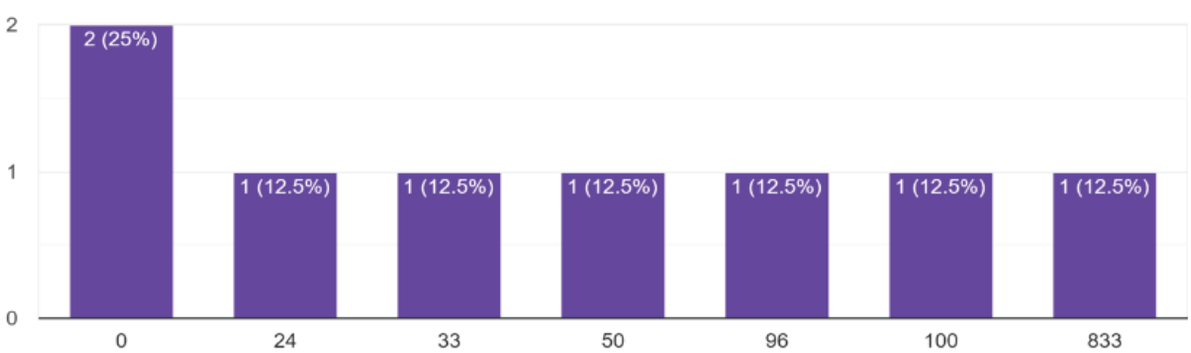
35a. How many litres of Olive Oil are produced on HOURLY basis?

9 responses



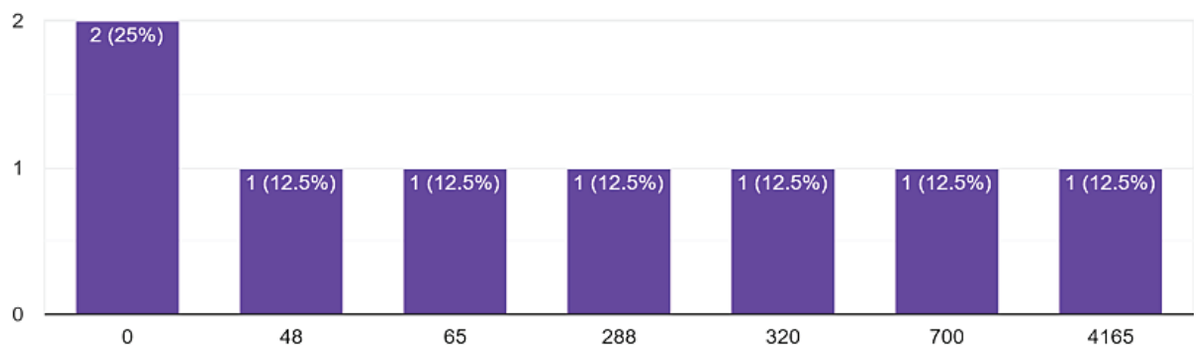
35b. How many litres of Olive Oil is produced on DAILY basis?

8 responses



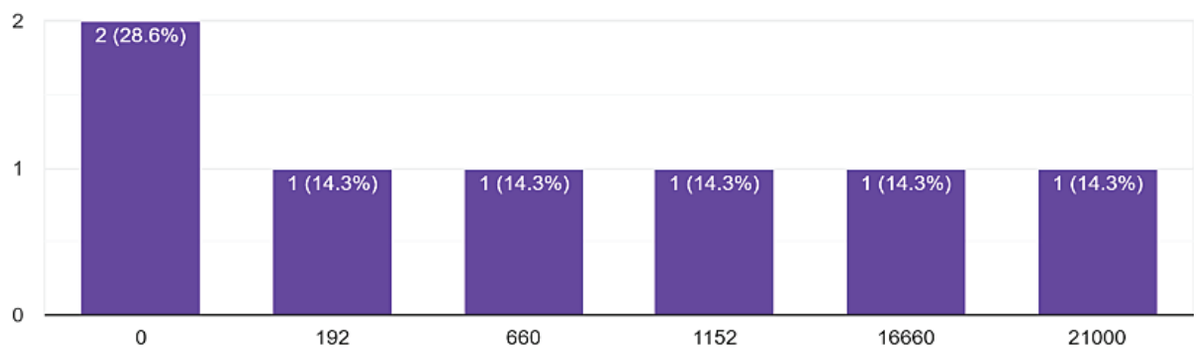
35c. How many litres of Olive Oil is produced on WEEKLY basis?

8 responses



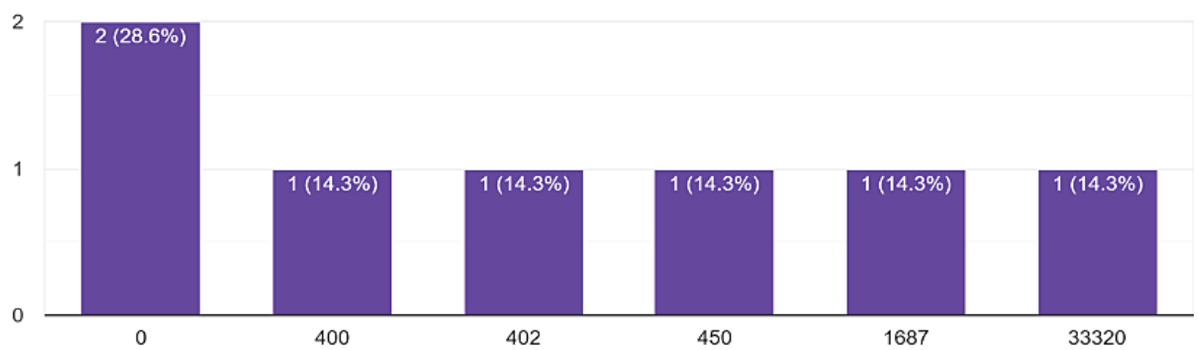
35d. How many litres of Olive Oil is produced on MONTHLY basis?

7 responses



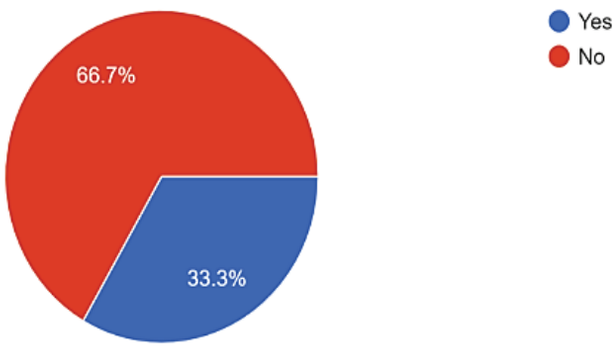
35e. How many litres of Olive Oil is produced on YEARLY basis?

7 responses



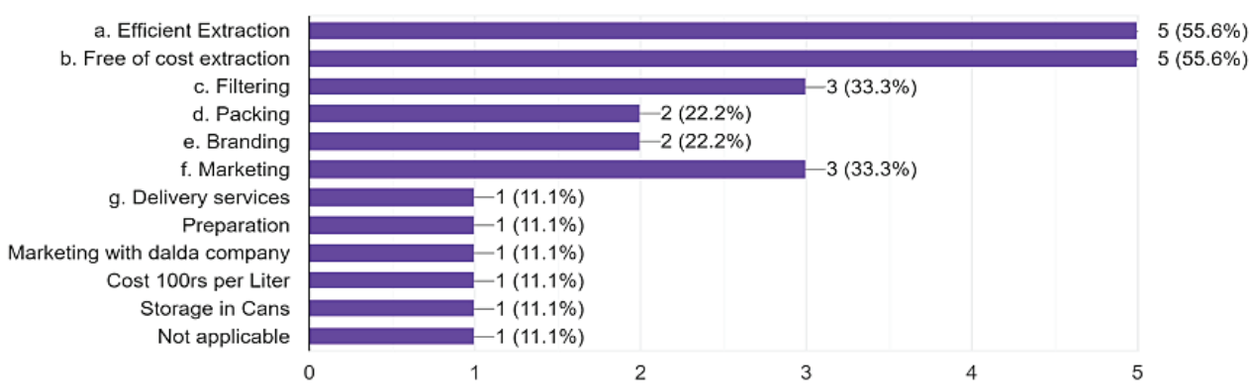
36. Is there any value addition process available on this unit?

9 responses



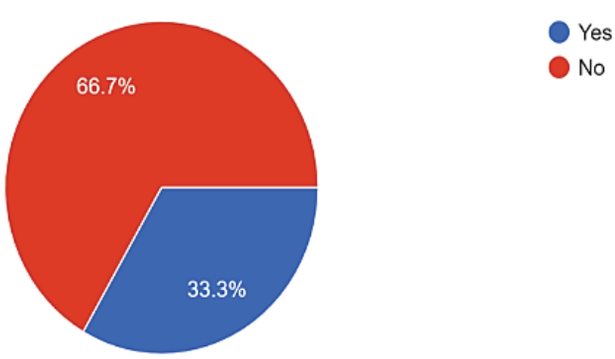
37. What value addition facilities/activities are provided to olive farmers in this Unit?

9 responses



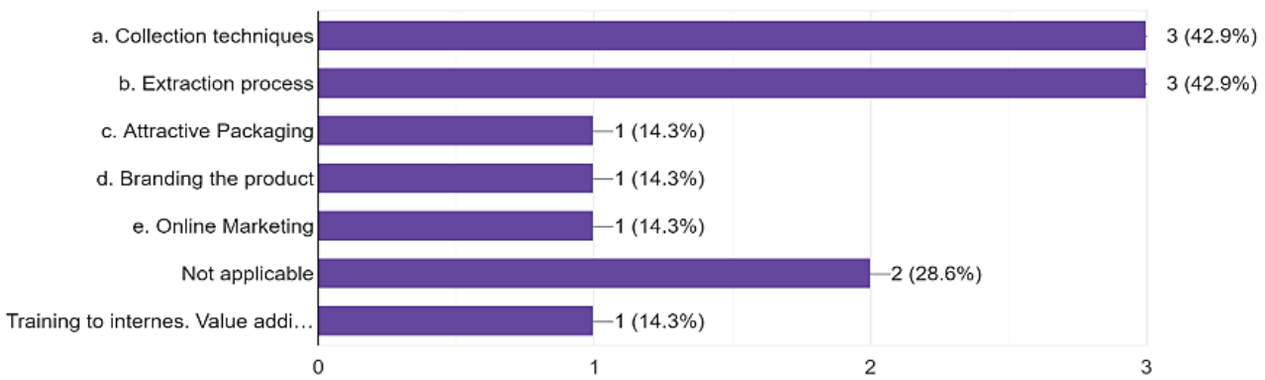
38. Does this unit conduct trainings for framers about oil extraction?

9 responses



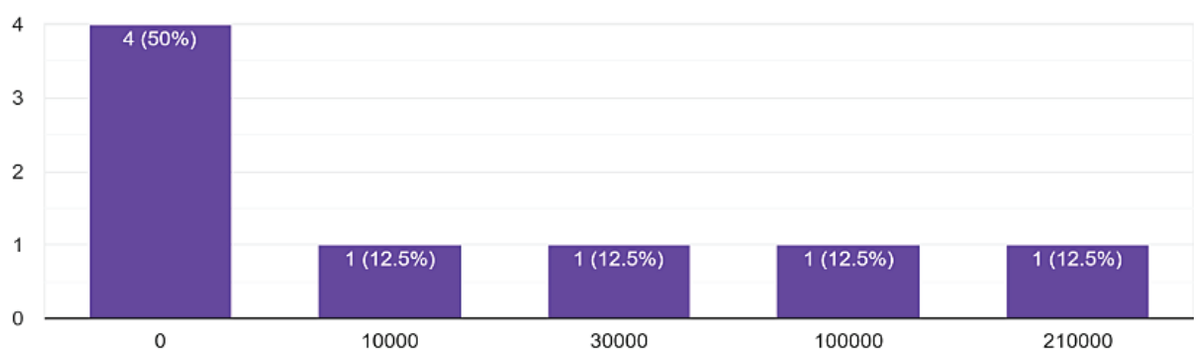
39. If YES (Q38), on which of the following activities farmers have been trained?

7 responses



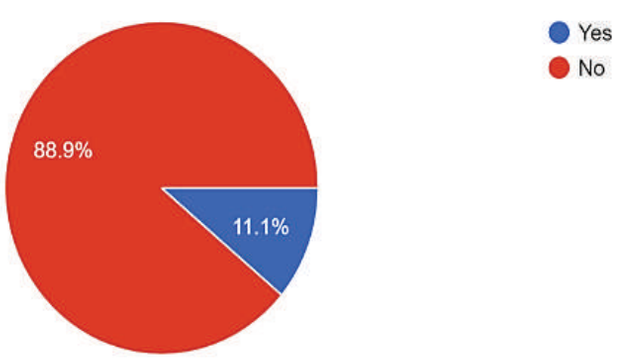
40. What is the estimated cost paid for one-ton olive processing? in PKR

8 responses



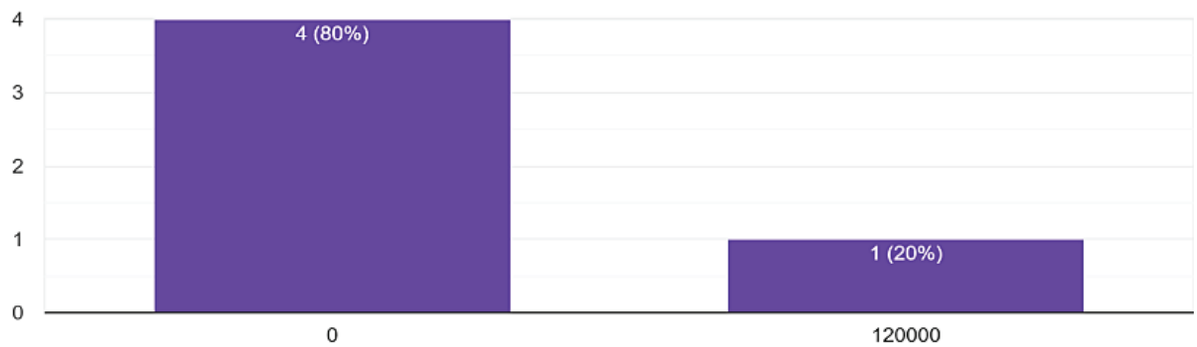
41. Do you buy olive from farmers?

9 responses



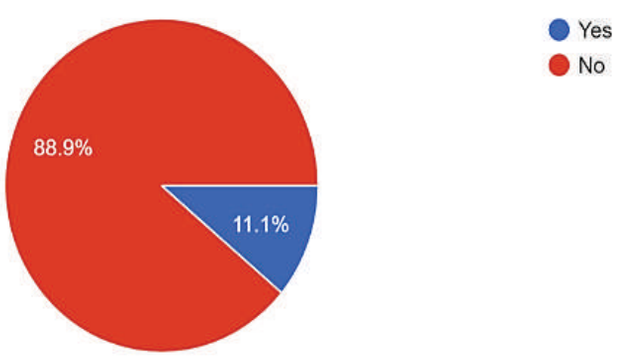
42. If YES (Q41), what is the current price of one-ton raw olive? in PKR

5 responses



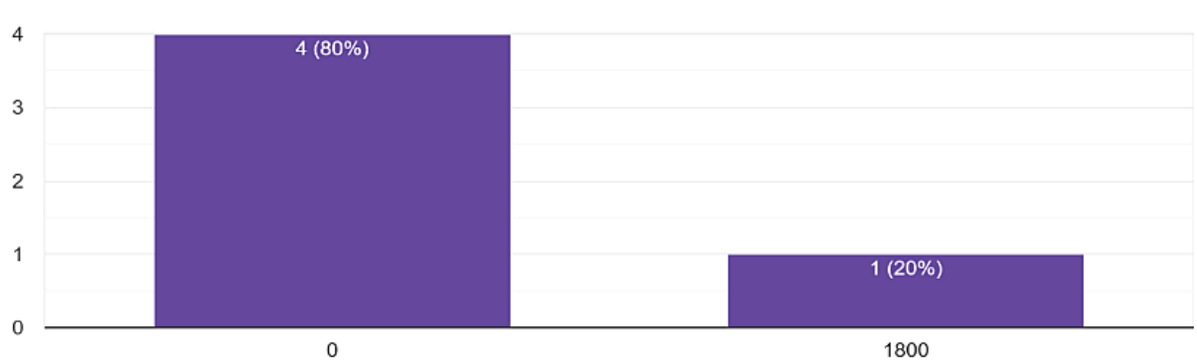
43. Do you buy olive oil from farmers?

9 responses



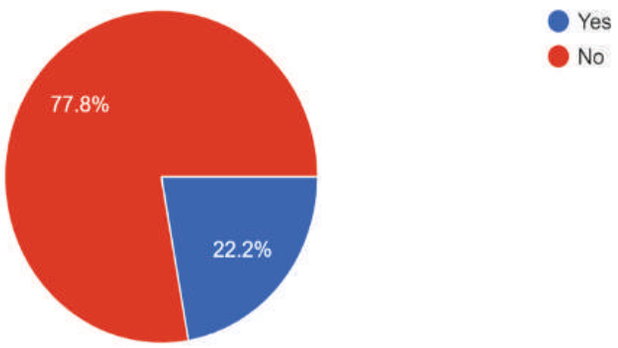
44. If YES (Q43), what is the current price of one litre olive oil? in PKR

5 responses



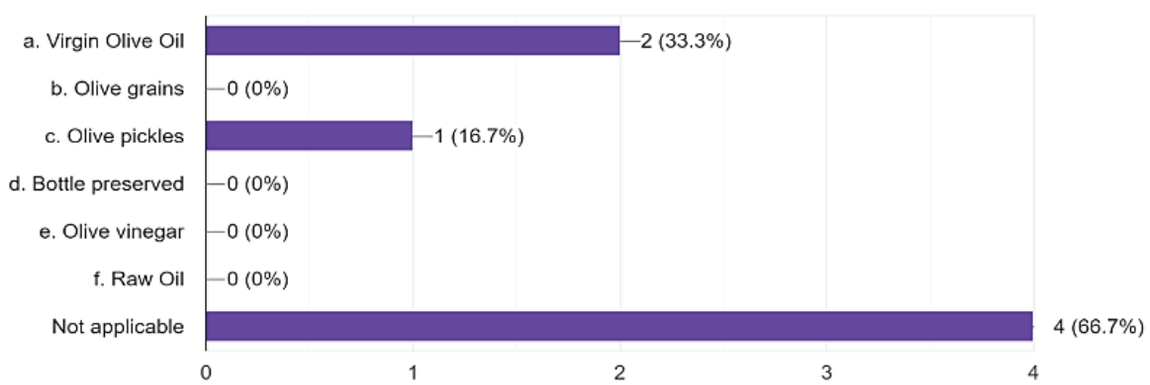
45. Do you sell olive products?

9 responses



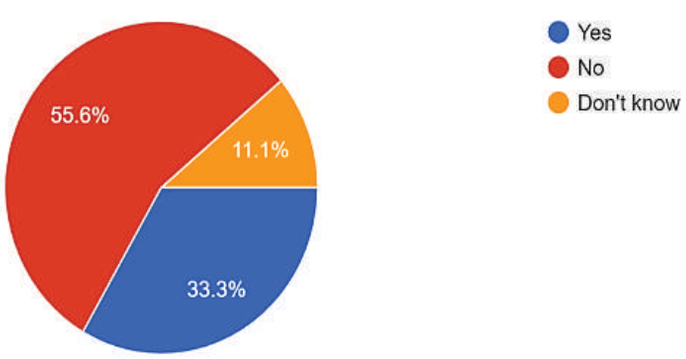
46. If YES (Q45), what are the available products that you sell on this unit?

6 responses



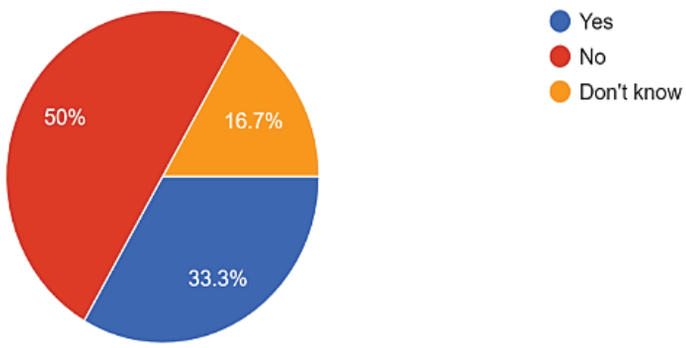
47. Is your unit connected to a weather station?

9 responses



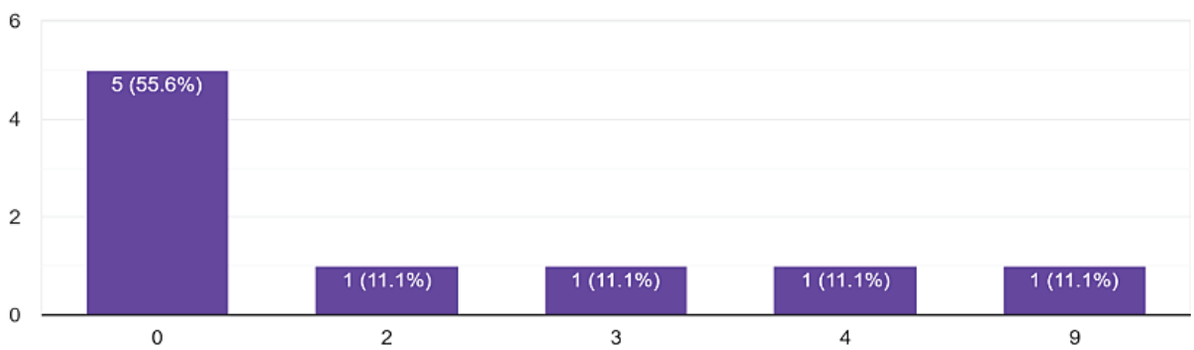
48. If YES (Q47), is it helping in improving the services of your unit/center for the farmers?

6 responses



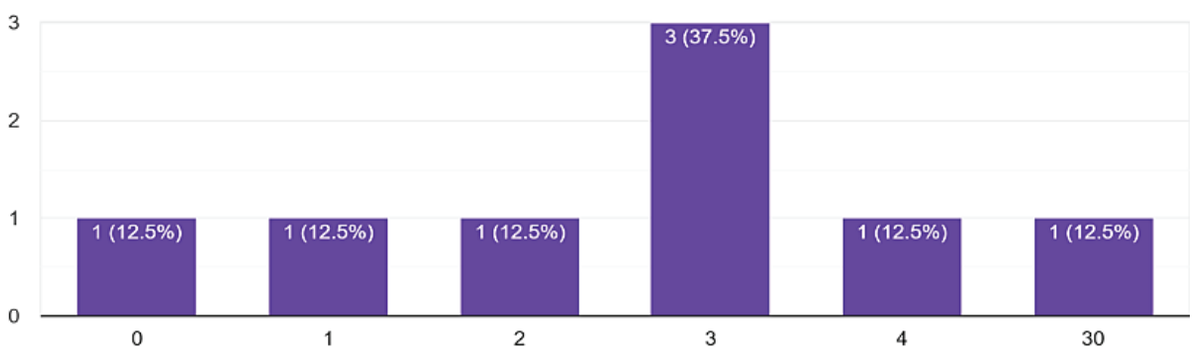
49. Overall, how many jobs have been created by this unit?

9 responses



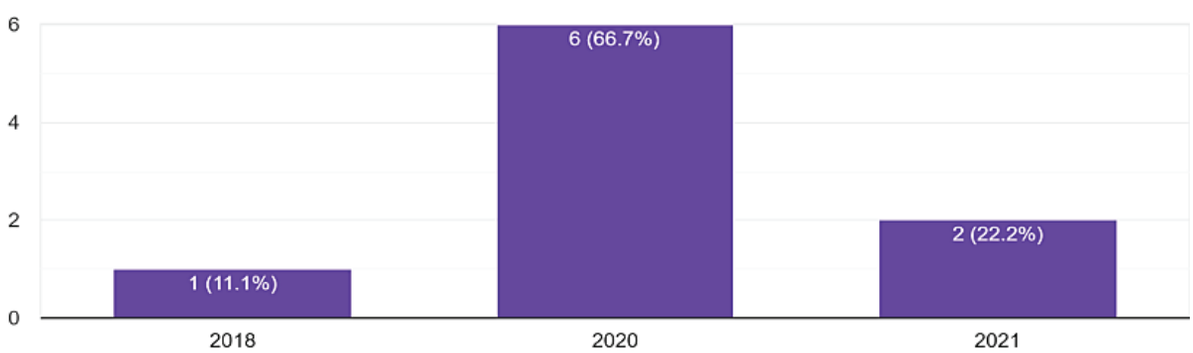
50. Overall, how many individuals have been trained?

8 responses



53. Your Unit was Established in: (Year)

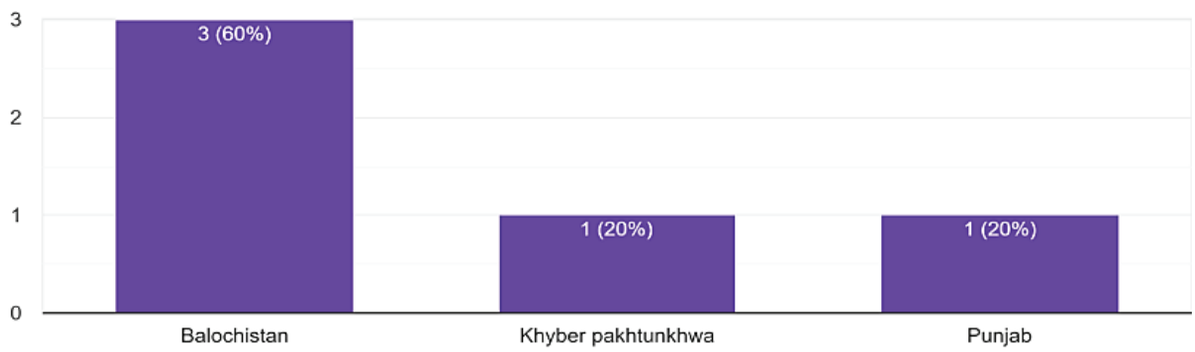
9 responses



Weather Station Charts

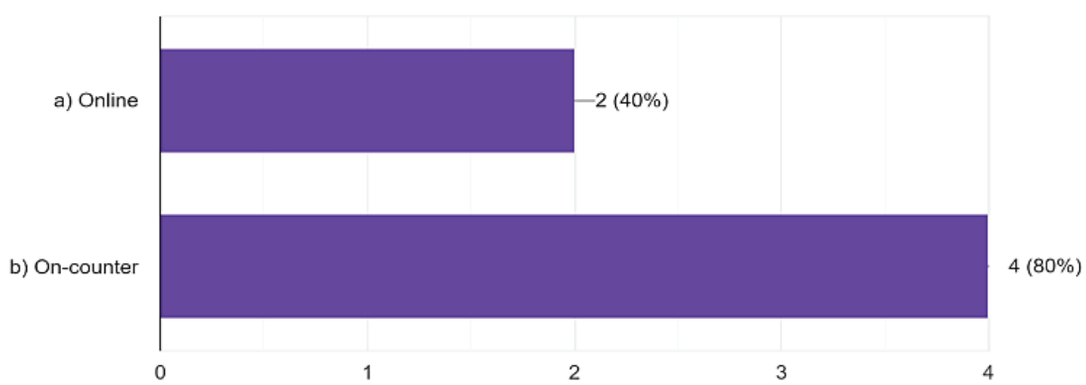
6. Province.

5 responses



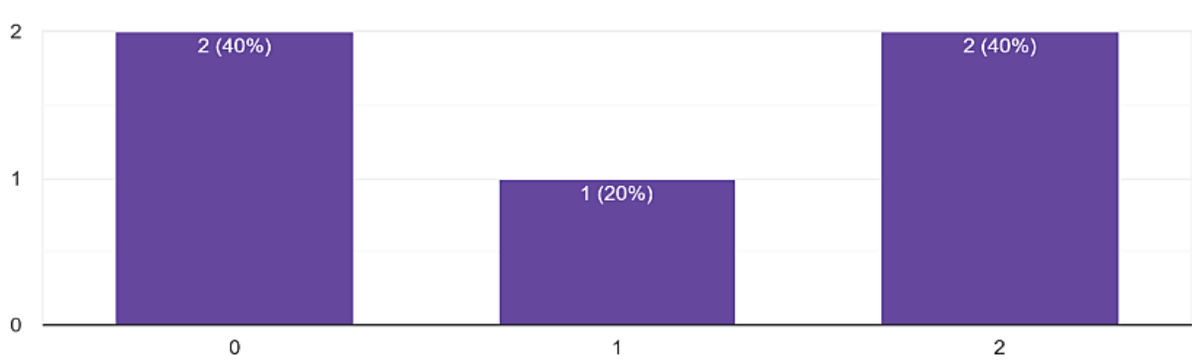
7. Service provision mode?

5 responses



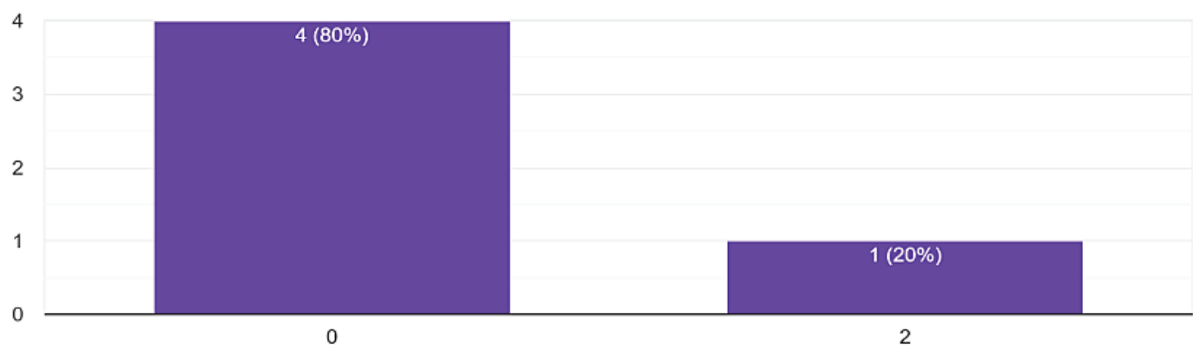
8a. Number of employees currently employed for ON-COUNTER SERVICES

5 responses



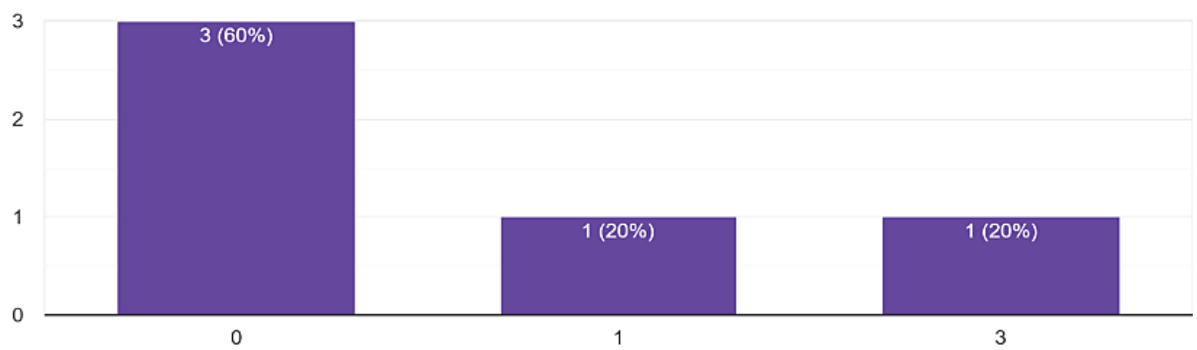
8b. Number of employees currently employed for ONLINE SERVICES

5 responses



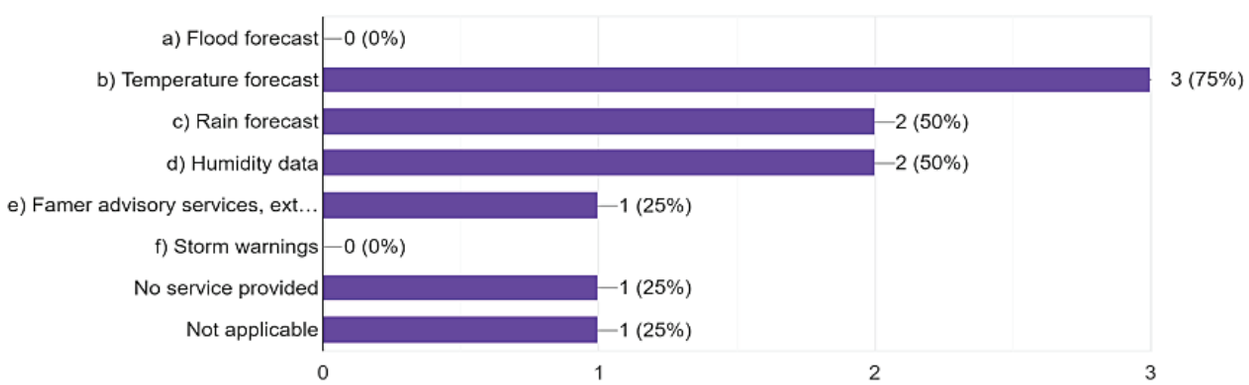
8c. Number of employees currently employed for OTHER SERVICES

5 responses



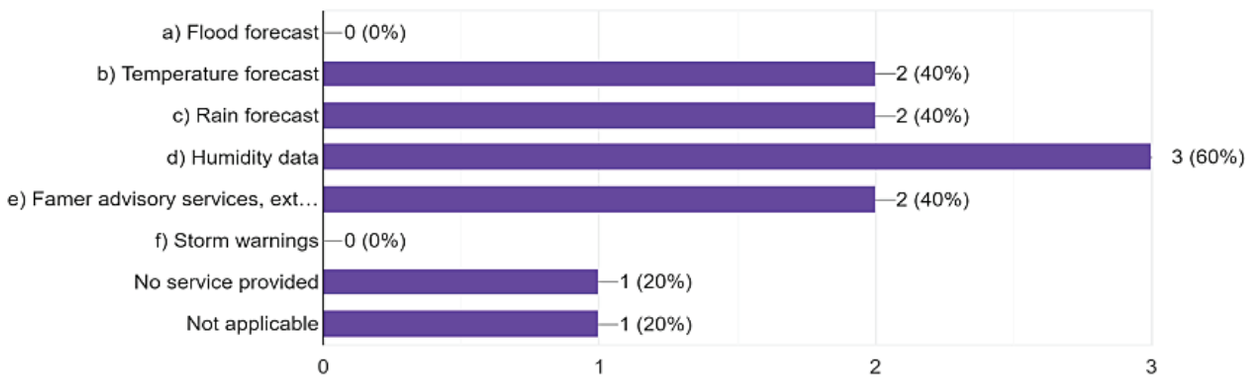
9. What services are provided ONLINE to Olive Farmers?

4 responses



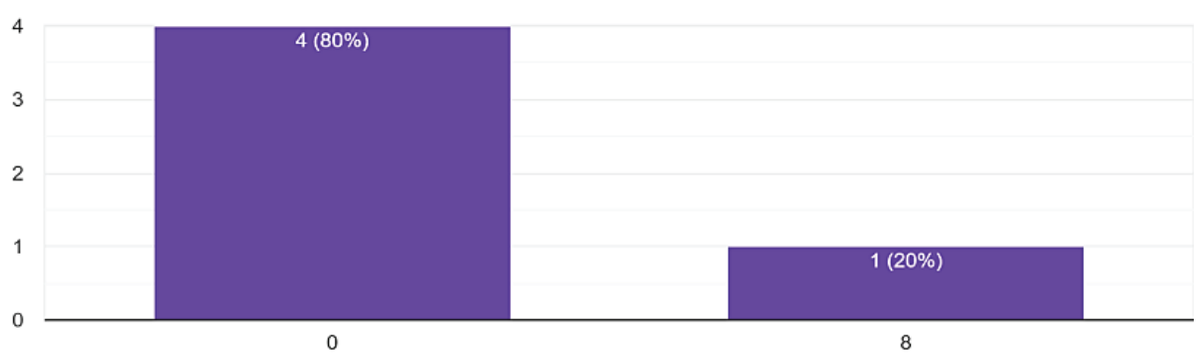
10. What Services are provided to farmers ON-COUNTER?

5 responses



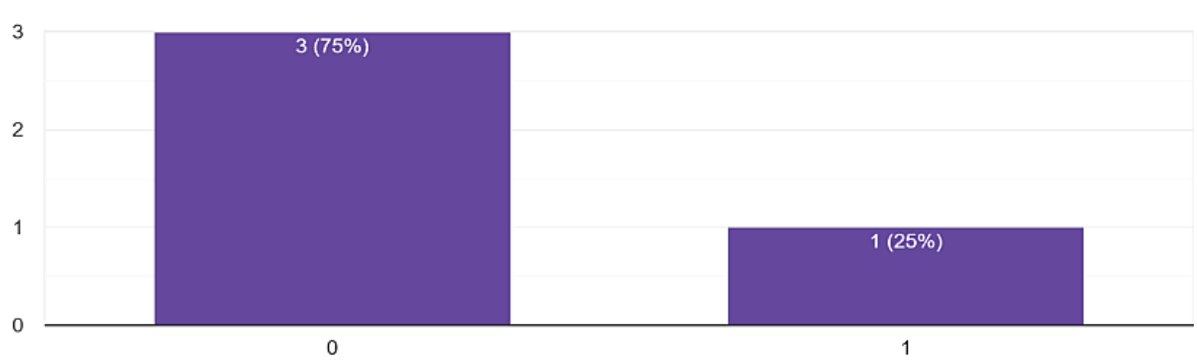
12. How many requests are received online on monthly basis?

5 responses



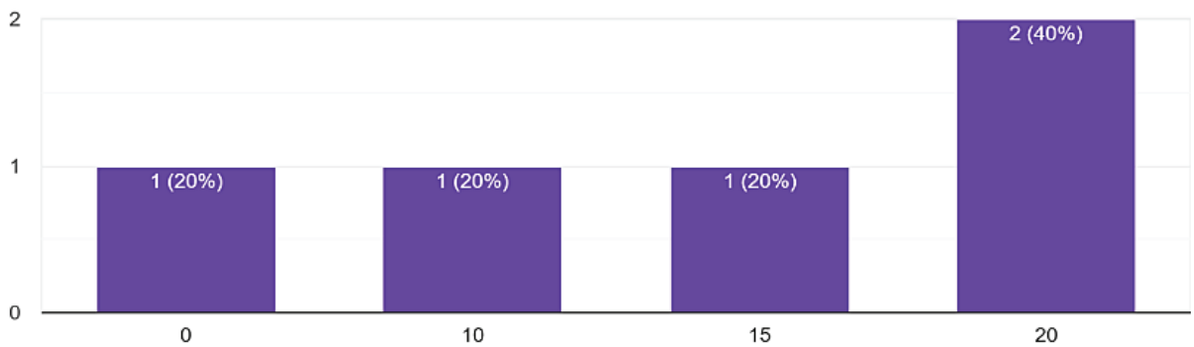
13. What is the average feedback time online? (Mention in terms of hours)

4 responses



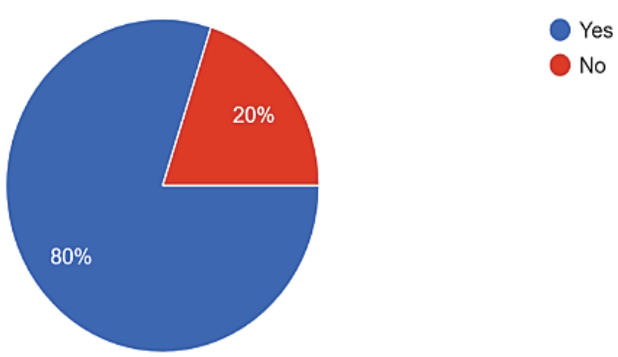
15. How long it takes to attend one farmer at a time on-counter? (in minutes)

5 responses



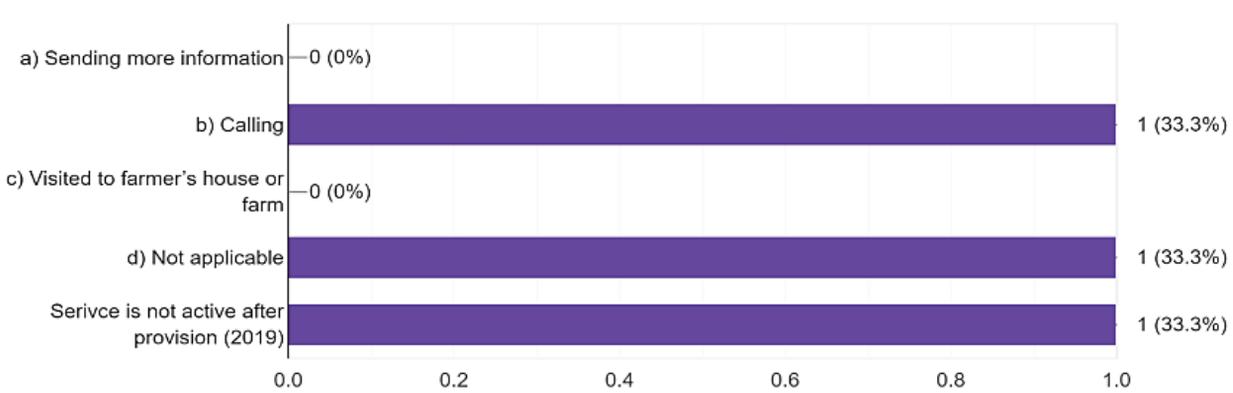
16. Do you think that farmers are satisfied after services are received?

5 responses



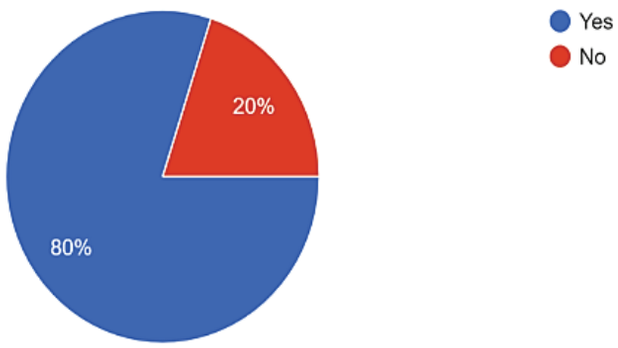
17. If NOT satisfied, what other efforts, you did to satisfy the farmer?

3 responses



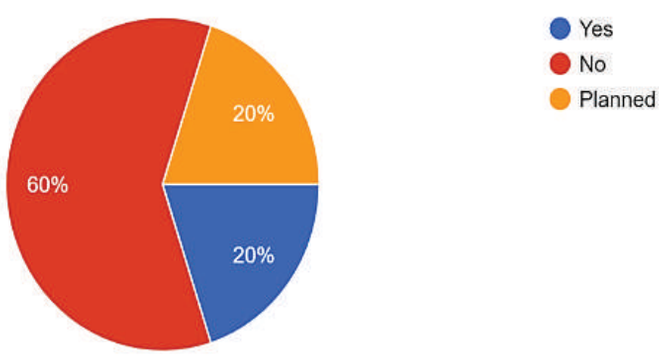
18. Do you take the farmers or consumer data for records?

5 responses



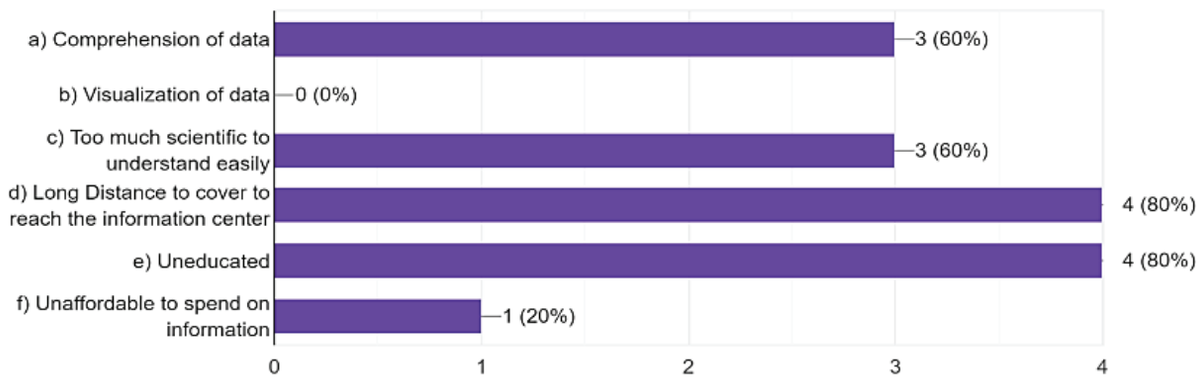
19. Is your station connected through any mobile app?

5 responses



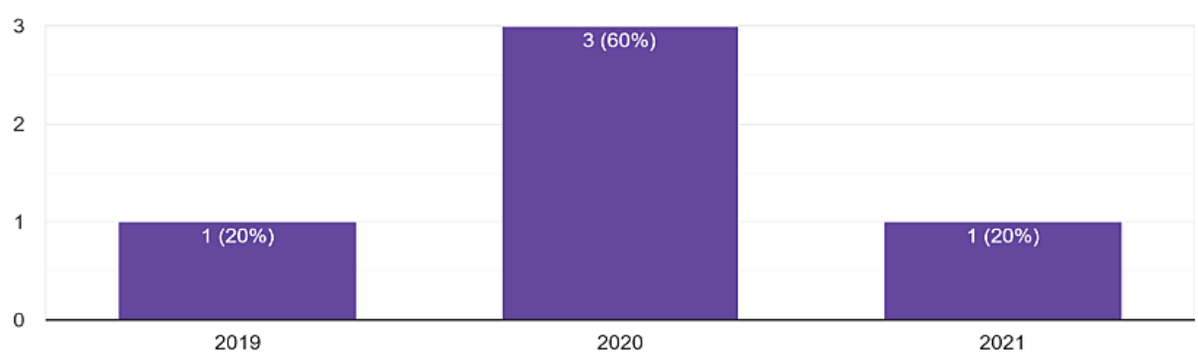
20. What problems are farmers facing in terms of service understanding?

5 responses



21. Your Unit was Established in: (Year)

5 responses



Annexure-E: Farmers' Baseline Scoring Proforma

FARMER'S BASELINE SCORING PROFORMA

Name of Farmer _____ Father's Name _____

Name of Village_____ Tehsil _____

District _____ Cell No. _____

Rate the following Attributes on a scale from 1-5

Non Satisfactory – Average – Satisfactory – Good – Very Good

Indicator	Non-satisfactory	Average	Satisfactory	Good	Very Good
Is the individual technically qualified to develop olive orchards?					
Awareness of the farmer/ individual about cultural practices for olive plantation					
Productivity per acre in terms of kg of olives produced (in one season)					
Knowledge of olive supply chain and value-added products					
Overall earnings from the olive products (in one season)					
Number of jobs created on the farm (in one season)					
Environmental awareness and friendliness of the farm					
Usage of advance instrumentation /mechanization of the farm					
Progressive and ready to develop respective facilities (e.g., oil storage unit) at farm					
Potential to manage drip irrigation at the farm					
Innovative and capable of developing branded products					
Potential to get benefits from the allied facilities like extraction units, value-added labs, and weather stations etc.					
Willingness to improve/ involve in training programs/group discussions					

Readiness to help others/ neighboring farmers of olive					
Willing to invest in olive supply chain development					
Implementing capacity building program for the labor for olive plantation					
Making efficient use of govt subsidies/support					
Conscious about over abstraction of water from solar tube wells					
Knowledge of soil health					
Gender equality/ women involvement for different activities on the farm					
Total (Out of 100 max.) *Note: all questions carry 0.5 weightage.*					

Annexure-F: Farmers Sampled

#	NAME	FATHER'S NAME	TEHSIL	DISTRICT	PROVINCE	AGE	EDUCATION	CNIC	MOBILE
1	Syed Yousaf Ali shah	Syed Sultan Shah	Kalar kahar	Chakwal	a) Punjab	57-70	g) Master		
2	Sadaqat hayat	Noor Muhammad	Kalar kahar	Chakwal	a) Punjab	57-70	d) Matriculation		
3	Malik Bostan	Muhammad Gulistan	Kalar kahar	Chakwal	a) Punjab	29-42	c) Middle		
4	Khizar hayat	Subha sadiq	Chakwal	Chakwal	a) Punjab	57-70	b) Primary		
5	Allah ditta	Malik Muhammad	Chakwal	Chakwal	a) Punjab	43-56	d) Matriculation		
6	Mehboob hasan	Muhammad Ismaeel	Chakwal	Chakwal	a) Punjab	29-42	a) Illiterate		
7	Adeel Ahmad	Muhammad Hanif	Chakwal	Chakwal	a) Punjab	29-42	e) Intermediate		
8	Shafqat Mehmood	Mehmmod Shoukat	Chakwal	Chakwal	a) Punjab	43-56	d) Matriculation		
9	Ghulam Ali	Fazal khan	Chakwal	Chakwal	a) Punjab	43-56	d) Matriculation		
10	Muhammad Ashraf Qazi	Haji Abdul kream	Chakwal	Chakwal	a) Punjab	29-42	f) Graduate		
11	Hafiz Jawad Ahmad	Maj Muhammad Yaqoob	Chakwal	Chakwal	a) Punjab	43-56	f) Graduate		
12	Abdul khaliq	Fazal Mehmood	Choa syden shah	Chakwal	a) Punjab	>70	d) Matriculation		
13	Raja Zulfiqar Aslam	Raja Muhammad Aslam	Choa Syden Shah	Chakwal	a) Punjab	43-56	f) Graduate		
14	Ibne Hassan kazmi	Bagh Hussain shah	Chakwal	Chakwal	a) Punjab	43-56	a) Illiterate		
15	Raees M warind		Rawalpindi	Rawalpindi	c) Baluchistan	43-56	c) Middle		
16	Shera khan	Muhammad khan	Chakwal	Chakwal	a) Punjab	>70	e) Intermediate		
17	Hayat Muhammad Bhatti	Muhammad Bakhsh Bhatti	Chakwal	Chakwal	a) Punjab	43-56	b) Primary		
18	Zaffer Ahmad khan	Muhammad khan	Chakwal	Chakwal	a) Punjab	29-42	b) Primary		
19	Muhammed Aslam Khan	Abdul Karim khan	Chakwal	Chakwal	a) Punjab	15-28	g) Master	3730162835483	03206083007
20	Syed Wajahat Hussaini	Syed Muzzam Ali	Chakwal	Chakwal	a) Punjab	15-28	c) Middle	3520245320199	03228020553
21	Muhammad imran	Muhammad ibraheem	Zidi	Khuzdar	c) Baluchistan	15-28	b) Primary	514012254275	03347323310
22	Haji karim	Haji yaqub	Quetta	Quetta	c) Baluchistan	29-42	e) Intermediate	5440010851995	03337929165
23	Brg. Tariq Saddozai	Sardar Ishaq khan	Chakwal	Chakwal	a) Punjab	57-70	f) Graduate	4230161795727	03085692064
24	Fazal hussain	Ghulam haider	Chakwal	Chakwal	a) Punjab		d) Matriculation	3820117177189	03335921827
25	Syed mohsin ali kazmi	Syed nasar asghar kazmi	Chakwal	Chakwal	a) Punjab	43-56	c) Middle		03455889460
26	Ameer Baksh	Dhani Bux	Zeedi	Khuzdar	c) Baluchistan	29-42	a) Illiterate	5140147002741	03337983144
27	Abdul naeem	Haji Abdul wahab	Quetta	Quetta	c) Baluchistan	29-42	g) Master	5440020958419	03337844649
28	Sabz ali	Munir ahmed	Quetta	Quetta	c) Baluchistan	29-42	c) Middle	5440101508169	03063694721
29	Kalimullah khan	Nasurullah khan	Rawalpindi	Rawalpindi	a) Punjab	29-42	h) MPhil	4220167979833	03009786246
30	Samiullah khan	Nasurullah khan	Rawalpindi	Rawalpindi	a) Punjab	29-42	h) MPhil	42201718005903	03009786246
31	Muhammad salim	Sahib khan	Quetta	Quetta	c) Baluchistan	29-42	c) Middle	5440048152471	033417329068
32	Khizer hayat	Muhammad Hayat	Chakwal	Chakwal	a) Punjab	43-56	f) Graduate	3230331015527	03015794979
33	Abdul baqi	M. Ramzan	Quetta	Quetta	c) Baluchistan	29-42	c) Middle	5440103893549	03168754062
34	Aqeel Tariq	M.Tariq	rawslpindi	rawslpindi	a) Punjab	57-70	c) Middle		03225300814
35	Abad Ali	Fazal elahi	Rawalpindi	rswalpindi	a) Punjab	43-56	c) Middle	3740585374085	03315075459
36	Muhammad Ashraf Zaki	Zaki khan	Chakwal	Chakwal	a) Punjab	29-42	c) Middle		03335231232
37	Ch Ghulam Shabir	Ch Muzafer khan	Chakwal	Chakwal	a) Punjab	29-42	e) Intermediate	3720168836469	03348758695
38	Muhammad Zeeshan	Dur Muhammad	Quetta	Quetta	c) Baluchistan	43-56	d) Matriculation	5120217907683	03318012253
39	Major(R)Matters Zaman		rawalpindi	rawalpindi	a) Punjab	43-56	d) Matriculation		03449748576
40	Nasar Jabbar khan		rawalpindi	rawalpindi	a) Punjab	29-42	b) Primary	3740295966567	03005230024
41	Ch Tariq Mehmood	Ch Gulistan	Chakwal	Chakwal	a) Punjab	57-70	a) Illiterate	3840144802137	03368281515
42	Syed ali haider ghelani	Peer zain din agha	Bori	Loarlai	c) Baluchistan	29-42	f) Graduate	2170759706735	03352797764
43	Abdur Razaq	Ghulam haider	Chakwal	Chakwal	a) Punjab	57-70	b) Primary	3720145921441	03435612192
44	Habib ullah abbasi		Rawalpindi	rawalpindi	a) Punjab	43-56	d) Matriculation	6110149624017	03361553349
45	Haji khuda dad	Haji shah nawaz	Chakwal	Chakwal	a) Punjab	57-70	e) Intermediate	3720116329523	03345061040
46	Dr Iftikhar zahid	Zahid Ahmad	Chakwal	Chakwal	a) Punjab	29-42	c) Middle		03437412952
47	Muhammad akbar	Kharot khan	Loralai	Loralai	c) Baluchistan	43-56	a) Illiterate	5630287898005	033307777486
48	Pir zainuddin Agha	Ali hadair galani	Loralai	Loralai	c) Baluchistan	57-70	f) Graduate	1270759706735	03448940081
49	Breg (R)M.Tariq jillani		Taxila	Rawalpindi	a) Punjab	57-70	b) Primary	3740519713043	03005554763
50	Muhammad Riaz		Garhi kapoora	Mardan	b) KPK	43-56	e) Intermediate		03028306699
51	Shahbaz khan	Qazi Sher Muhammad	Chakwal	Chakwal	a) Punjab	29-42	e) Intermediate	3730134100721	03325383403
52	Ameer Muhammad khan	Ch Fazul rehman	Kalar kahar	Chakwal	a) Punjab	57-70	f) Graduate		03077864777
53	Dr.M Taj	karam khan	taxila	Rawalpindi	a) Punjab	29-42	c) Middle	3740616299923	03009715565
54	Abdul haq	Milak fath khan	Loralai	Loarlia	c) Baluchistan	43-56	d) Matriculation	563022303064931	03337715514
55	Taqeer shah		Taxila	Rawalpindi	a) Punjab	29-42	c) Middle		03335107211
56	Arif shah	Abdullah shah	Loralai	Loarlia	c) Baluchistan	29-42	a) Illiterate	5630226606670	03363761231
57	Zubair Mehmood khan		Taxila	Rawalpindi	a) Punjab	29-42	c) Middle	3740690719975	03005499110
58	Qari Abdul haq	Malik fateh khan	Loralai	Loralai	c) Baluchistan	29-42	d) Matriculation	56302303064931	+923342323379
59	Riaz khan	Muhammad akbar khan	Mardan	Mardan	b) KPK	43-56	e) Intermediate	1610167070581	03416405127
60	Ghulam Abas sanga	Allah buksh	Khushab	Khushab	a) Punjab	29-42	b) Primary	3820198719503	03000776565
61	Yasir Hamayun	Hamayun Sarfraz	Chakwal	Chakwal	a) Punjab	43-56	f) Graduate	3720160966005	03212960044
62	Sardar yaya khan jogezai	Samander khan	Loralai	Loralai	c) Baluchistan	43-56	f) Graduate		03337958829
63	Sub M Afzal Khan		Nowshera	Nowshera	b) KPK	43-56	d) Matriculation		03454704985
64	Kashif Alam	Sardar Alam	Nowshehra	Nowshehra	b) KPK	43-56	b) Primary	1720157671105	03008563894
65	Nurul Haq/Asgher		Nowshehra	Nowshehra	b) KPK	43-56	b) Primary		03336471078
66	Masri/Khalid	Khan Muhammad	Nowshehra	Nowshehra	b) KPK	43-56	b) Primary	1720121395265	03427803619
67	Qaid Khan	Naubat Khan	Nowshehra	Nowshehra	b) KPK	43-56	a) Illiterate	1720105755577	03455131744
68	malak muhammad aslam	haji abdul baqi	lorlai	lorlai	c) Baluchistan	43-56	e) Intermediate	5630208489261	03342946921
69	Muhammad Ashraf	Muhammad Saleem	Loralai	Loralai	c) Baluchistan	29-42	f) Graduate		+923356353416
70	Muhammad Ashraf	Wali Muhammad	Lorlai	Lorlai	c) Baluchistan	29-42	e) Intermediate	5630281474453	03341981555
71	Maj.Syed Habib Ahmad	Syed Bashir Ahmad	Khushab	Khushab	a) Punjab	43-56	b) Primary		03008459129
72	Tariq Qudoos		kahuta	Rawalpindi	a) Punjab	29-42	d) Matriculation	3740538914397	03335517481
73	Muhammad Tahir		islamabad	island/Rawalpindi	a) Punjab	15-28	c) Middle	6110176021859	03008545447
74	Sher Akser		kahuta	Rawalpindi	a) Punjab	29-42	e) Intermediate	3740295314629	03465052531
75	Amanullah nasar	Abdul manan	Loralai	Loralai	c) Baluchistan	43-56	h) MPhil	5630208375199	03342322363
76	Raja Gul Jabbar	raja Gulzar Ali	kahuta	Rawalpindi	a) Punjab	29-42	f) Graduate	3740209958675	03008560024
77	Hashim mardazai	Wadera Abdul Haq	Loralai	Lorali	c) Baluchistan	29-42	f) Graduate	5630238369257	03331391658
78	Khalil ur Rehman	Hashim mardanzai	Loralai	Loralai	c) Baluchistan	29-42	e) Intermediate		
79	Amir ILyas	Muhammad ILyas	Noor pur thal	Khushab	a) Punjab	29-42	e) Intermediate	3820273024673	03007202287
80	Shoaib Ghani	Hafiz Awais Ghani	Noorpur thal	Khushab	a) Punjab	15-28	g) Master	5440080348607	03090666019
81	M.Umer Farooq Gheeba	Farooq Gheeba	Khushab	Khushab	a) Punjab	43-56	d) Matriculation	3520229463277	03014973642
82	Faisal Khan Tarakai	Liaqat Khan Tarakai	Rajar	Swabi	b) KPK	43-56	b) Primary	1620225072605	03135755999
83	Mukhtiar Hussain / Kernel Sher Cadet Co	Taj Umar	rajar	Swabi	b) KPK	43-56	d) Matriculation	1620209452313	0938430535
84	AttaUllah		Nowshera	Nowshera	b) KPK	43-56	e) Intermediate	1730112454923	03249911802
85	Haji Tor Khan	Haji Mather Khan	Patankot	Loralai	c) Baluchistan	15-28	e) Intermediate		

#	NAME	FATHER'S NAME	TEHSIL	DISTRICT	PROVINCE	AGE	EDUCATION	CNIC	MOBILE
86	Jahan zaib	Hiji tor khan	Loralai	Loralai	c) Baluchistan	43-56	e) Intermediate	56302529554410	03118844771
87	Muhammad kaleem	Muhammad Saleem	Loralai	Loralai	c) Baluchistan	29-42	c) Middle		
88	Aitmad khan		Nowshera	Nowshera	b) KPK	29-42	d) Matriculation	1720187072075	
89	Farhad khan		Nowshera	Nowshera	b) KPK	29-42	c) Middle	6110173214219	03008500003
90	Farhad		Nowshera	Nowshera	b) KPK	29-42	d) Matriculation	611017321421	03008500003
91	Zain u din	Muhammad din	Loralai	Loralai	c) Baluchistan	57-70	d) Matriculation	5630225321603	03358022777
92	Shah Nawaz	peer bux	Fateh jhang	Attock	a) Punjab	43-56	d) Matriculation	3210239016775	03365305898
93	Syed Aal e Ali		Fateh jhang	Attock	a) Punjab	29-42	c) Middle	6110137214063	03429860747
94	Noor Zada		Nowshera	Nowshera	b) KPK	43-56	c) Middle		03365318810
95	De	Dr. Yaya	Loralai	Loralai	c) Baluchistan	29-42	f) Graduate	5630291220621	03112211713
96	Ali Khan Khattak	Anayat ullah khan	fateh jhang	attock	a) Punjab	15-28	b) Primary	6110154321079	03215100800
97	Liaqat khan	Malik fareed khan	Jehangira	Nowshera	b) KPK	43-56	d) Matriculation	1720122812361	
98	Muhammad Farooq Awan	Haji Ghulam Muhammad	Noshera	Khushab	a) Punjab	43-56	d) Matriculation	3820120707793	03219212829
99	Abdul baseer	Muhammad din	Uryagi	Loralai	c) Baluchistan	57-70	a) Illiterate	5630225321603	03358022777
100	Mehmood ul hasan	Haji Akram	Noshera	Khushab	a) Punjab		Worker	3520227546127	03004371718
101	Abdul malik	Maalik khuda dad	Uryagi	Loralai	c) Baluchistan	15-28	f) Graduate	5630235967617	03361415827
102	Abdul Shakoor	Musaraf khan	Takhtbhai	Mardan	b) KPK	29-42	e) Intermediate	1610223011051	03459363623
103	Shah Khalid Munir		Takhtbhai	Mardan	b) KPK	29-42	c) Middle	1610224269547	03491903096
104	GranUllah khan	Burhan khan	Charsadda	Charsadda	b) KPK	57-70	b) Primary	1710199017845	03169944513
105	Tahir Mehmood Bhutta		Attock	Attock	a) Punjab	43-56	d) Matriculation	6110191346983	03335274016
106	Col.Zafar		Hassan Abdal	Attock	a) Punjab	43-56	d) Matriculation	6110181681801	03215380844
107	Dr.Zafar Mahboob khan	Mehboob Ali khan	Hassan Abdal	Attock	a) Punjab	29-42	e) Intermediate	3710220681633	03335584789
108	M.Ramzan Shauqi	Haji khuda Bux	Fateh jhang	Attock	a) Punjab	43-56	f) Graduate	3740540001675	03030592654
109	Mohd Fareed Khan	M Sultan Khan	Haripur	Haripur	b) KPK	43-56	f) Graduate		03005639911
110	Hakeem Ullah	Hidayat Urrahman	Peshawar	Peshawar	b) KPK	43-56	b) Primary	1730135075107	03005872421
111	Junaid Ahmad (Women University peshawar)		Peshawar	Peshawar	b) KPK	29-42	c) Middle	1720148907665	03329004026
112	Tariq Mehmood	Bashir Ahmed	Khushab	Narowal	a) Punjab	29-42	c) Middle	3450250365817	03077177316
113	Abdul Akbar	Zahid Shah	Peshawar	Peshawar	b) KPK	29-42	b) Primary	1730115982509	03065968584
114	muhammad jaffar	abdul shakoor	Khushab	Khushab	a) Punjab	29-42	d) Matriculation	3820141986175	03040654478
115	M saleem khan	Aslam khan	RWp	Rwp	a) Punjab	>70	f) Graduate	6110104505133	03215006720
116	Saleem KHAN	Aslam khan	Rwp	Rwp	a) Punjab		f) Graduate	3740552354071	03325755535
117	Gul Daad Khan	gull Nabi	Islamabad	Islamabad	a) Punjab	29-42	a) Illiterate	1330269380319	03105441710
118	Tasawar abbas	Abbas	Basti, balocha	Sargoda	a) Punjab	43-56	a) Illiterate	61101040505133	03138888885
119	Arif shah	Ghulam ali shah	Musakhail	Musakhail	c) Baluchistan	29-42	d) Matriculation	56304057220751	03459862429
120	Syed mujeeb ur reman shah	Ghulam shah	Musakhail	Musakhail	c) Baluchistan	43-56	d) Matriculation	5630405720751	034559862429
121	Syed mazher shah	Ghulam shah	Musakhail	Musakhail	c) Baluchistan	43-56	e) Intermediate	5630405720751	03459862429
122	Zareen khan	Muhammad arzii	Musakhail	Musakhail	c) Baluchistan	57-70	a) Illiterate	5430499937651	03468121326
123	Umer Farooq	Zafar Ali	Jaranwala	Faisalabad	a) Punjab	29-42	a) Illiterate	3310401596683	03414256224
124	Aurangzaib	Abdul Salam	dubai ada	mardan	a) Punjab	57-70	a) Illiterate	1610112833819	03159466875
125	Muhammad Abubakar	Muhammad khan	Chatta	D.G khan	a) Punjab	15-28	d) Matriculation	3210404325534	03407113832
126	Tasawar Hussian	Sharif Hussain	Noshera	Noshera	a) Punjab	57-70	a) Illiterate	1720188302465	03175840552
127	Abdul Rehman Buzdar	Noor Hasain	Kingri	Musakhail	c) Baluchistan	29-42	b) Primary	5640131006969	030487172704
128	Maj Tahir		Haripur	Haripur	b) KPK	43-56	e) Intermediate		03018264166
129	Maj M Tahir		Haripur	Haripur	b) KPK	43-56	e) Intermediate		03018264166
130	Abdul samad	Nazar Muhammad	Haripur	Haripur	b) KPK	57-70	b) Primary		03345278084
131	Khalid Mehmood		Haripur	Haripur	b) KPK	57-70	d) Matriculation		03008307953
132	Gohar Rehman	mian Daad	Havalian	Abbottabad	b) KPK	43-56	b) Primary		03005632245
133	Gohar rehman	mian Daad	havailian	Abbottabad	b) KPK	43-56	b) Primary		03005632245
134	Gohar Rahman	Mian dad	Havailian	Abbottabad	b) KPK	43-56	b) Primary		03005632245
135	Muhammad Shehzad	Riyasat Khan	havallian	Abbottabad	b) KPK	29-42	b) Primary	1310121022891	03468110767
136	M Shehzad	Raza Muhammad	Havailian	Abbottabad	b) KPK	29-42	b) Primary	1310134114579	03105123974
137	M Nawaz	Nadar Ali	Havailian	Abbotabad	b) KPK	29-42	b) Primary		03165758640
138	Muhammad Javed	Sardar	Havallian	Abbotabad	b) KPK	29-42	b) Primary	1310158143297	03379811684
139	M Shahnawaz	Nadir Ali	Havillian	Abbottabad	b) KPK	43-56	b) Primary		
140	Waleed Astam	M. Astam	Havailian	Abbotabad	b) KPK	29-42	e) Intermediate	1310203684617	03160889605
141	M Ashiq	M Akhtar	Havailian	Abotabad	b) KPK	43-56	b) Primary		
142	Shahnawaz Khan	Kaala Khan	Havillian	Abbottabad	b) KPK	43-56	b) Primary		
143	Abdul Rauf	Molvi Abdul Haq	Zhob	Zhob	c) Baluchistan	15-28	b) Primary	5650388592839	03455362521
144	Imran Ullah		Lal Qilla	Lower Dir	b) KPK	29-42	e) Intermediate	1530572725747	03002124085
145	Bakht ahmad		Adenzai	Lower Dir	b) KPK	57-70	d) Matriculation	153020963	
146	Wasif shah	Rahim Shah	Asbanr	Lower Dir	b) KPK	29-42	d) Matriculation	1560243448615	0345
147	Wasif shah	Rahim Shah	Azbanr	Lower Dir	b) KPK	15-28	c) Middle	1560243448615	03455706788
148	Naveed Akhtar	M Ilyas	Havailian	Abbotabad	b) KPK	43-56	f) Graduate	1310175641091	03428999452
149	Naveed Akhtar	M Ilyas	Havillian	Abbottabad	b) KPK	43-56	f) Graduate	1310175641091	03428999452
150	Asif Sarfaraz	M Sarfaraz	Havailian	Abbotabad	b) KPK	43-56	e) Intermediate	1310151374133	03034089146
151	Asif Sarfaraz	M sarfaraz	Havellian	Abbottabad	b) KPK	43-56	e) Intermediate	1310151374133	03034089146
152	Hukam Dad		Havillian	Abbottabad	b) KPK	29-42	d) Matriculation		03109439624
153	M Azram		Havailian	Abbotabad	b) KPK	57-70	a) Illiterate		
154	Azad bakht	Gul badshah khan	Timergera	Lower dir	b) KPK	29-42	f) Graduate	1530675464139	03018525355
155	M dawood		Havellian	Abbottabad	b) KPK	43-56	b) Primary		03145198686
156	Aurangzeb		Havailian	Abbotabad	b) KPK	43-56	b) Primary		
157	Sohil Ahmed	Murad khan	Zhob	Zhob	c) Baluchistan	15-28	g) Master	5650352008523	03337976854
158	Ans Ali	Muzafer khan	Chakwal	Chakwal	a) Punjab	43-56	c) Middle		03328309999
159	Eid Muhammad	Haji tawaz kahan	Zhob	Zhob	c) Baluchistan	43-56	g) Master	5650318528663	03124321777
160	Muhammad Alyas	Muhammad Hasan	Sohawa	Jehlum	a) Punjab	15-28	f) Graduate		03339342640
161	Sabir khan	Zahir khan	Zhob			29-42	c) Middle	5650397598775	03138308851
162	Abdullah	Kishwar	islamabad	Islamabad	a) Punjab	15-28	a) Illiterate	4240133048589	03464605506
163	Abdul Qayum	Abdul rehman	deer	kpk	a) Punjab	43-56	d) Matriculation	1570310404705	03215238939
164	M Abbas	M Ishaq	Havailian	Abbotabad	b) KPK	43-56	d) Matriculation		03018543429
165	M abbas	M ishaq	havillian	Abbottabad	b) KPK	43-56	d) Matriculation		03018543429
166	Jamil Akhtar	M Ilyas	Havailian	Abbotabad	b) KPK	29-42	f) Graduate		03465358825
167	Khani Zaman	Mir Alam	Havillian	Abbottabad	b) KPK	29-42	f) Graduate		03459584836
168	Haleem Ullah		Balambut	Lower Dir	b) KPK	29-42	e) Intermediate	1530241536155	03429671890
169	M Ilyas	Qazi Andurrehman	Havailian	Abbotabad	b) KPK	29-42	d) Matriculation		03428999452
170	Shamraiz Khan	Abdul Rehman	Havillian	Abbottabad	b) KPK	29-42	d) Matriculation		03124835697
171	Gul Naeem	Fateh Rehman	Balambut	Lower Dir	b) KPK	15-28	d) Matriculation	15306656094571	03018872618

#	NAME	FATHER'S NAME	TEHSIL	DISTRICT	PROVINCE	AGE	EDUCATION	CNIC	MOBILE
172	Hafiz Juma Khan	Painda Khan	Zhob	Zhob	c) Baluchistan	43-56	e) Intermediate	565035514139	030400432349
173	Rahim udin	Painda Khan	Zhob	Zhob	c) Baluchistan	43-56	f) Graduate	565035514139	03400432349
174	Hafiz Muhammad Zaman	Hafiz Wali Dad	Kingri	Musakhail	c) Baluchistan	57-70	f) Graduate	5630475022565	03416829330
175	Sardar Ghani	Adam khan	Zhob	Zhob	c) Baluchistan	43-56	d) Matriculation	5650318462923	03342794120
176	Sardar Abdul Ghani	Sardar Adam khan	Zhob	Zhob	c) Baluchistan	29-42	e) Intermediate	5650318462923	03342794120
177	Hazar khan	Haji hayatullah	Zhob	Zhob	c) Baluchistan	15-28	b) Primary	5650318462923	03342794120
178	Hafiz sadruddin	Molvi Habib ullah	Kingri	Musakhail	c) Baluchistan	29-42	e) Intermediate	5640161204869	034562766379
179	Raiz khan	Haji bahudar	Zhob	Zhob	c) Baluchistan	29-42	a) Illiterate		03368025835
180	Muhammad din	Saleh Muhammad	Zhob	Zhob	c) Baluchistan	43-56	a) Illiterate	5650355427761	03456051674
181	Muhammad shafi	Baran khan	Zhob	Zhob	c) Baluchistan	29-42	d) Matriculation	5650344376343	03327890515
182	Rauf	Baran khan	Zhob	Zhob	c) Baluchistan	29-42	e) Intermediate	5650344376343	03327890515
183	Abdul Rahim	Muhammad Ismail	Balambut	Lower Dir	b) KPK	43-56	b) Primary	1530612139915	03459537379
184	Sher Zamin		Balambut	Lower Dir	b) KPK	15-28	c) Middle	1530637161671	03469739064
185	Haroon Rashid	Muhammad Rasool	Balambut	Lower Dir	b) KPK	15-28	c) Middle	153068728315	03059449708
186	Muhammad Nawaz	Muhammad Amir	Balambut	Lower dir	b) KPK	29-42		153063667451	03419023041
187	Muhammad Din	Jamal din	Zhob	Zhob	c) Baluchistan	29-42	d) Matriculation	5650383557557	03496255511
188	Haji naser din	Haji zoher khan	Zhob	Zhob	c) Baluchistan	29-42	d) Matriculation	5650354985761	03337773374
189	Adam khan	Jan Muhammad khan	Timergara	Lower Dir	b) KPK	43-56	d) Matriculation	1530621244439	03469047846
190	Shahid Khan	Noor Islam	Timergara	Lower Dir	b) KPK	29-42	d) Matriculation	1530223061977	03449116504
191	Qayum khan		Timergara	Lower Dir	b) KPK	29-42	e) Intermediate	1530239597767	03445186633
192	Wahid Ullah	Zrawar khan	Salarzai	Bajaur	b) KPK	29-42	c) Middle		03089110110
193	Gohar Ali	Abdul khaliq	Salarzai	Bajaur	b) KPK	29-42	d) Matriculation	2110630267227	03028051265
194	Adnan	Sher Ali	Khar	Bajaur	b) KPK	29-42	d) Matriculation	2110478958935	03069227934
195	Shahid Ali	Sher Ali	Salarzai	Bajaur	b) KPK	29-42	d) Matriculation	2440404989525	03024332430
196	Muhammad	Sher Ali	Salarzai	Bajaur	b) KPK	29-42	d) Matriculation		03015138808
197	Shahbaz khan mahodkheil	Shah jan khan	Killasaifullah	Killasaifullah	c) Baluchistan	15-28	b) Primary	5620186695633	03329953699
198	Muhammad Anwer	Haji zoher khan	Zhob	Zhob	c) Baluchistan	15-28	c) Middle	560354985761	03427098136
199	Prof Dr Sher Muhammad	Atta Muhammad	Islamabad	Islamabad	a) Punjab	43-56	i) PhD	6110119700467	03145072464
200	Zameer hussain	Noor rehmat	Islamabad	Islamabad	a) Punjab	29-42	c) Middle	3710480993111	03429295200
201	WAQAS masoos	MIAN MASOOD ASLAM	JHANG	FAISALABAD	a) Punjab	29-42	h) MPhil	3310050488407	03007673977
202	Dr Noor Ullah	Haji Saif ullah		Zhob	c) Baluchistan	29-42	f) Graduate	56301192160297	03318000005
203	Usman khan	khalid khan	Suri bhawal	Mardan	a) Punjab	15-28	c) Middle	1610247855339	03135175145
204	Haji faiz ullah	Haji Naser ullah	Zhob	Zhob	c) Baluchistan	29-42	c) Middle	5650388311767	03343052416
205	Muhammad sadiq	Zafar ullah	Zhob	Zhob	c) Baluchistan	15-28	f) Graduate	5440108208513	03336140776
206	Haji Abdul quyyem	Khaliq dad	Loralai	Loralai	c) Baluchistan	43-56	f) Graduate	5630268081555	03303796605
207	Sulam ur rehman	Abdul Rahim	Chakwal	Chakwal		43-56	f) Graduate		03085004489
208	Jan Muhammad	Durk	Loralai	Loralai	c) Baluchistan	43-56	a) Illiterate	5630229755563	03315717878
209	Muhammed sadiq	Muhammad nabi	Loralai	Loralai	c) Baluchistan	43-56	c) Middle	56302422332299	03353818318
210	Muhammad sadiq		Loralai	Loralai	c) Baluchistan	29-42	d) Matriculation	5630242332299	03353818318
211	M Azam Jadoon	Asfar Khan	Mansehra	Mansehra	b) KPK	15-28	d) Matriculation	9040301085309	03360544068
212	M Azam Jadoon	Asfar Khan	Mansehra	Mansehra	b) KPK	15-28	d) Matriculation	9040301085309	03360544068
213	Najeem Ul Hasan	Zafar Ullah	Mansehra	Mansehra	b) KPK	29-42	f) Graduate		03129523677
214	M Azam Jadoon	Asfar Khan	Mansehra	mansehra	b) KPK	15-28	d) Matriculation		
215	Muhammad Qasim	Naseer Ahmed	Loralai	Loralai	c) Baluchistan	43-56	d) Matriculation	5630275714325	03361845097
216	Haji Amin Ullah	Haji khuda Dad	Loralai	Loralai	c) Baluchistan	43-56	c) Middle	5540474506413	03448010510
217	Akhtar Munir	Azam khan	Khar	Bajaur	b) KPK	29-42	d) Matriculation	2110352564181	03041918662
218	Haider Shah	Gran Bacha	Khar	Bajaur	b) KPK	43-56	d) Matriculation		03009058692
219	Zia Ud Din		Khar	Bajaur	b) KPK	29-42	b) Primary	2110378199045	03005829834
220	Mehraban shah	Saaz Gul	Utmankhel	Bajaur	b) KPK	43-56	d) Matriculation	2110709617721	03068184190
221	Zia Ur Rahman	Fazal e Rahman	Utmankhel	Bajaur	b) KPK	29-42	e) Intermediate	2110753156989	03068532804
222	Shahzad Gul		Yakagund	Mohmand	b) KPK	43-56	b) Primary	2140729613633	03049966986
223	Sher Ali khan		Yakagund	Mohmand	b) KPK	43-56	c) Middle	2140620390343	03239208897
224	Hidayat khan			Mohmand	b) KPK	29-42	c) Middle	2140787260431	03049955285
225	Salman khan		Yakagund	Mohmand	b) KPK	29-42	c) Middle	2140798993531	03338787927
226	Abdul Basit	Musafer khan	Landi kotal	Khyber	b) KPK	43-56	c) Middle		03319953096
227	Muhammad shah	Abdul Quyyum	Kabal	Swat	b) KPK	43-56	e) Intermediate	1560280583113	03459515343
228	Asad Ali	M ayoub Khan	Kabal	Swat	b) KPK	43-56	e) Intermediate	1560260074033	03429832697
229	Musafer khan		Landi kotal	Khyber	b) KPK	57-70	b) Primary		03321934639
230	Atta Ullah		Kabal	Swat	b) KPK	29-42	e) Intermediate	156029907421	03009079318
231	Aleem Ullah		Kabal	Swat	b) KPK	29-42	e) Intermediate	1560271726889	03335555875
232	Wahid Ullah		Landi Kotal	Khyber	b) KPK		d) Matriculation		03359918561
233	Shaukat Ali Khan	Sher Fateh Ali khan	Matta	Swat	b) KPK	15-28	d) Matriculation	5440003486323	03009119991
234	Rahmat Khan	Shatir Khan	Kabal	Swat	b) KPK	15-28	d) Matriculation	1560286006567	3441896030
235	Gul Majan	Khyber khan	Landi Kotal	Khyber	b) KPK	43-56	b) Primary		03329938095
236	Lal Zali	Zaman Jan	Landi kotal	Khyber	b) KPK	43-56	c) Middle		03369250743
237	Najeem ul Hasan	Zafar Ullah	Mansehra	Mansehra	b) KPK	43-56	f) Graduate		03129523677
238	Najeem ul hasan	Zafar ullah	Mansehra	Mansehra	b) KPK	43-56	f) Graduate		03129523677
239	Zia khan	Basheer khan	Mansehra	Masehra	b) KPK	43-56	e) Intermediate		03229929519
240	Dil Dar	Noor Badshah	Landi kotal	Khyber	b) KPK	43-56	c) Middle		03329035372
241	Gran	Haji Gulab	Landi kotal	Khyber	b) KPK	29-42	c) Middle	2120303732363	03319394465
242	Muhammad Wali	Haji Gulab	Landi Kotal	Khyber	b) KPK	43-56	b) Primary	2120304417435	03319394465
243	Haati khan	Painda khan	Landi kotal	Khyber	b) KPK	43-56	b) Primary	2120342932777	03328844190
244	Hazrat Ullah		Landi kotal	Khyber	b) KPK	43-56	d) Matriculation	2120328647555	03365729838
245	Azmat Riaz		Landi kotal	Khyber	b) KPK	29-42	c) Middle		03360997311
246	Qasim khan	Abid jadoon	Mansehra	Mansehra	b) KPK	43-56	c) Middle		
247	M ali	Taufeeq	Mansehra	Mansehra	b) KPK	43-56	d) Matriculation		03361013262
248	Dr Himayat Ullah	Abdul Qadir	Battagram	Battagram	b) KPK	43-56	g) Master	1320207512591	03459595243
249	Dr Himayat Ullah		Batagram	Batagram	b) KPK	43-56	g) Master	1320207512591	03459595243
250	Abdul Wahab		Battagram	Battagram	b) KPK	29-42	f) Graduate		03469627211
251	Ikram Khan	Shad Muhammed	Battagram	Battagram	b) KPK	29-42	f) Graduate		03469622922
252	Ikram Khan	Shad Muhammad	Batagram	Batagram	b) KPK	29-42	f) Graduate		03469622922
253	Liaqat Ali Khan	Ghulam sandhani	Mansehra	Mansehra	b) KPK	29-42	f) Graduate		03135631699
254	Liaqat Ali	ghulam sandhani	Mansehra	Mansehra	b) KPK	29-42	f) Graduate		03135681699
255	Abdul baseer		Mansehra	Mansehra	b) KPK	43-56	e) Intermediate		3459615729
256	Mohd . Javed Khan Sawati	Abdul Qayyum Khan	Mansehra	Mansehra	b) KPK	43-56	e) Intermediate		03365055225
257	M.Javed Khan Sawati	Abdul Qayyum Khan	Mansehra	Mansehra	b) KPK	43-56	e) Intermediate		03365055225

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258	M.Javed Khan Sawati	Abdul Qayyum Khan	Mansehra	Mansehra	b) KPK	43-56	e) Intermediate		03365055225
259	Hasan Wajid	Wajid Ali	Mansehra	Mansehra	b) KPK	29-42	f) Graduate	1350391997377	03155611691
260	Usama Ali Khan	Amjad ali	Mansehra	mansehra	b) KPK	29-42	f) Graduate	1350379541577	03165248885
261	Salah Uddin		Baffa	Mansehra	b) KPK	43-56	f) Graduate		03335059345
262	Police Line		Mansehra	Mansehra	b) KPK	29-42	e) Intermediate		03458944842
263	Dr Atique ur rehman	Abdul Latif	Baffa	Mansehra	b) KPK	29-42	g) Master		03439479800
264	Riaz Khan		Baffa	Mansehra	b) KPK	43-56	e) Intermediate		03005635670
265	Amir Shahzad		Baffa	Mansehra	b) KPK	29-42	e) Intermediate		03499157585
266	Zahoor Ahmad		Baffa	Mansehra	b) KPK	29-42	e) Intermediate		03313733422
267	Khayal Muhammad		Landi Kotal	Khyber	b) KPK	43-56	e) Intermediate	2120304412183	03309016546
268	Qari khalid	Hai haroon	Mansehra	Mansehra	b) KPK	29-42	d) Matriculation		0314501148
269	Gul nabi		Baffa	Mansehra	b) KPK	29-42	d) Matriculation		03005333183
270	Fida Hussain		Mansehra	Mansehra	b) KPK	43-56	e) Intermediate		03005333183
271	Raheem		Landi Kotal	Khyber	b) KPK	29-42	c) Middle	2120395631287	03369269902
272	Raheem		Landi kotal	Khyber	b) KPK	57-70	a) Illiterate	2120395631287	03369269902
273	Fahad khan	Ghulam nabi	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation	8230226684087	03345559135
274	Faseeh Mohammad	Naeem khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation	8230314695333	03458995547
275	Muhammad nisar	Muhammad shafi	Muzafarabad	Muzafarabad	e) AJ&K	29-42	g) Master	8220331038939	03465490632
276	Raja majid	Raja m rasheed	Muzaffarabad	Muzaffarabad	e) AJ&K	29-42	e) Intermediate	8220351060511	03418812426
277	M.Hafeez	Sarwar khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		
278	M.Hafeez	Sarwar khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		03425394233
279	Sumaira ajmal	Muhammad ajmal khan	Dhirkot	Bagh AK	e) AJ&K	15-28	f) Graduate	8210238563448	03431523141
280	NTHRI		Baffa	Mansehra	b) KPK	29-42	g) Master		0997530155
281	NTHRI GPU		Baffa	Mansehra	b) KPK	29-42	g) Master		0997530155
282	NTHRI		Baffa	Mansehra	b) KPK	29-42	g) Master		0997531270
283	M Saeed		Baffa	Mansehra	b) KPK	29-42	e) Intermediate		03219225351
284	Sikandar majeed	Raja gull majeed	Muzaffarabad	Muzaffarabad	e) AJ&K	29-42	d) Matriculation	8220382424211	03469681807
285	Imran Raza	Muhammad Raza	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		03115056787
286	M.Haroon	Yaqoob khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		03455539556
287	Shan javeed	M javeed	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		03138840521
288	M.Bashrat	Abdul Razaq khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		03465757722
289	Saed ul hassan gillani	Ali akbar shah gillani	Hattian bala	Jhelum valley	e) AJ&K	15-28	e) Intermediate	8220218264515	03455490384
290	Shabeer ahmad slariea	Basheer ahmad slariea	Hattian bala	Jhelum valley	e) AJ&K	29-42	d) Matriculation	8220203972025	03453291880
291	Ijaz Afzal	Afzal khan	Rawalakot	Poonch	e) AJ&K	29-42	f) Graduate	3740532818389	03008563445
292	Ali zaman	Azmat ullah	Hatian bala	Jhelum valley	e) AJ&K	29-42	d) Matriculation	8220231327481	03435605778
293	Amjad Ayoub	Ayoub khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation		03145267693
294	Khalid Iqbal	M. Rasheed khan	Rawalakot	Poonch	e) AJ&K	43-56	e) Intermediate	8230383946555	03331574233
295	M.Niaz	Gulab khan	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation	8230379665575	03315181953
296	Syed sakhawat hussain	Sadiq hussain	Hattian bala	Jhelum valley	e) AJ&K	15-28	f) Graduate		03126668987
297	Khobaib parvaiz	Parvaiz Afzal	Rawalakot	Poonch	e) AJ&K	29-42	d) Matriculation	8230393634873	3335437997
298	M. Jamil	M. Latif khan	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation	8220297359039	03452959936
299	Siaad mihnas	M.yaqoob	Chikar	Jhelum Valley	e) AJ&K	29-42	e) Intermediate	8220320372611	03433975166
300	Sijad Qasim	M Qasim	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220318416371	02465438998
301	Raja Fariz	M. Ayoub khan	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220311774389	03433975166
302	Shahid Faris	Faris khan	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220311835171	03449005516
303	Raja Ateeq	Raja Ali Asghar khan	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220374574865	03435609756
304	M.waseem	Raja ahlaq Hussain	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220341290845	03455200132
305	Raja Zafar Ali	Raja Nazir Ali	Muzaffarabad	Muzaffarabad	e) AJ&K	29-42	f) Graduate	8220351967601	03435787223
306	Atif Aziz	Abdul Aziz	Muzaffarabad	Muzaffarabad	e) AJ&K	29-42	g) Master	8220339696059	03459263415
307	Rafique shaheen	Salam din	Chikar	Jhelum valley	e) AJ&K	29-42	e) Intermediate	8220203920551	03459592467
308	Tufail khan	Fida khan	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation	8220357407445	03459614770
309	M.tariq	Habib ullah	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation	3740532713279	
310	Akmal Qureshi	Zulfiqar Qureshi	Muzaffarabad	Muzaffarabad	e) AJ&K	29-42	f) Graduate		03435573004
311	M Tariq	Habib Ullah	chikar	Jhelum Valley	b) KPK	29-42	d) Matriculation	3740532713279	03445281615
312	Nadeem Ashraf	M Ashraf khan	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220320594447	03415261587
313	Nadeem ashraf	Jamal din	Chikar	Jhelum valley	e) AJ&K	29-42	e) Intermediate	8220319750649	03475005004
314	Raja Abdul Rasheed Khan		Hathian bala	Jhelum Valley	e) AJ&K	43-56	f) Graduate		03005512201
315	waseem abbasi	abdul qayum	dhirkot	Bagh	e) AJ&K	43-56	e) Intermediate		03435895101
316	Israr Ahmad		Dhirkot	Bagh	e) AJ&K	43-56	d) Matriculation		03418879842
317	Abdul Qadir	M Younis	Dhirkot	Bagh	e) AJ&K	43-56	e) Intermediate		03449038310
318	M Obaid Masood	M Masood	Hari ghal	Bagh	e) AJ&K	43-56	d) Matriculation		03465162541
319	Shahzad Sabir	Sabir Hussain	Hari Ghal	Bagh	e) AJ&K	43-56	e) Intermediate		03480413404
320	Faisal Bashir	M bashir	hari ghal	Bagh	e) AJ&K	29-42	e) Intermediate		03448886445
321	Tayyab khursheed	M khursheed	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation	3740517647661	03480534206
322	abdul hakeem	kalo khan	hari ghal	bagh	e) AJ&K	43-56	d) Matriculation		03465069889
323	Azad Khan	Abdul Ghani	Hari Ghal	Bagh	e) AJ&K	29-42	e) Intermediate		03465233720
324	Raja shamriz	Raja abdul latif	Muzaffarabad	Muzaffarabad	e) AJ&K	29-42	d) Matriculation	822039083144	03465432311
325	Sikandar Majeed	Raja Gul Majeed khan	Muzaffrabad	Muzaffrabad	e) AJ&K	29-42	d) Matriculation	8220382424211	03469681807
326	Ghayoor Abbas women university		bagh	bagh	e) AJ&K	29-42	i) PhD		03440590620
327	M Pervaiz		Bagh	Bagh	e) AJ&K	29-42	f) Graduate		03418929632
328	Ahmed khan	M latif khan	Ponch	Hajjeera	e) AJ&K	29-42	d) Matriculation		03465928119
329	Amjad Manzoor	Manzoor khan	Muzaffrabad	Muzaffrabad	e) AJ&K	29-42	e) Intermediate	3740505901081	3445496148
330	Nasseer Khan	Juma Khan	Bagh	Bagh	e) AJ&K	29-42	f) Graduate	8210176983509	03455736603
331	syed tasawar gurdaizi	syed ahmad shah	bagh	bagh	e) AJ&K	43-56	e) Intermediate		03334806442
332	Ajaib hamdani	Syed saif ali shah	Hattian bala	Jhelum valley	e) AJ&K	29-42	e) Intermediate	8220263031573	03454546248
333	Shujat Hussain	Noor Muhammed	Bagh	Bagh	e) AJ&K	43-56	f) Graduate		03455531077
334	Nafees Ali sheikh	Faqeer Ali sheikh	Hatian Bala	Jhelum Valley	e) AJ&K	43-56	d) Matriculation	82202767990429	3445787272
335	adeeb mukhtar	mukhtar ahmad	bagh	bagh	e) AJ&K	29-42	d) Matriculation		03435460382
336	Mushtaq ahmad khan	Ali zaman	Chikar	Jhelum valley	e) AJ&K	15-28	c) Middle	8220211941619	03469374363
337	Ishtiaq Ahmad	M Yaseen	bagh	bagh	e) AJ&K	43-56	e) Intermediate		03164227222
338	Jasim Farooq	Farooq	bagh	bagh	e) AJ&K	43-56	e) Intermediate		03421474146
339	Tariq Rasheed	AbdurRasheed	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220282765905	3459582798
340	Sikandar Hayat	Ashraf	Bagh	Bagh	e) AJ&K	29-42	f) Graduate		03421474127
341	M azam	Nizam udin	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation	8220281596533	
342	Nadeem Ahmed	Ghulam Muhayodin	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220209023361	3442912937
343	Nasir shah	Syed ghulam mustafa shah	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation		03435006768

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344	Rafaqat Hussain	Raja M.Nazir	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220322545079	3440942481
345	Raja shafaat	Raja mustafa khan	Chikar	Jhelum valley	e) AJ&K	29-42	e) Intermediate		03449005607
346	M tariq	Habib ullah	Chikar	Jhelum Valley	e) AJ&K	43-56	d) Matriculation		
347	Jahangir anjum	M sawar khan	Rawlakot	Poonch	e) AJ&K	43-56	d) Matriculation		03469863443
348	Zubair Ashraf	M Ashraf khan	Chikar	Jhelum Valley	e) AJ&K	29-42	d) Matriculation	8220352548263	3455312132
349	Raja naseem	Raja khalid hussain khan	Chikar	Jhelum valley	e) AJ&K	29-42	d) Matriculation	8220389057483	03413265726
350	Sharif Ullah	Jan Mir	Bermal	South Waziristan	b) KPK	29-42	d) Matriculation	2170801568773	03059021020
351	Salman khan	Muhammad Aslam	Bermal	Wana	b) KPK	29-42	d) Matriculation	2170859040929	03065702591
352	Muhammad Umar	Haji Mali	Wana	South Waziristan	b) KPK	29-42	c) Middle	21701117685067	03336175383
353	Abdul Samad	Taja Khan	Wana	South Waziristan	b) KPK	29-42	e) Intermediate	2170162666371	03059558920
354	Sana ullah	Rehmat ullah		Gilgit	d) GB	29-42	d) Matriculation		03555624181
355	Imam Yar bag	Sohrab Bag			d) GB	43-56	d) Matriculation		03435180199
356	Rehmat Jan	Sharif khan		Gilgit	d) GB	29-42	d) Matriculation	7150165294023	3555115963
357	Nisar Ali	Ali Madad		Gilgit	d) GB	15-28	d) Matriculation	7150105051555	03469868356
358	Shujaat ali	Nisar ali		Gilgit	d) GB	29-42	e) Intermediate	7150140113355	03449568155
359	nasir ali	Sarwar Khan		Gilgit	d) GB	29-42	e) Intermediate		03555282988
360	Noor u Deen	Sakhawat shah		Gilgit	d) GB	29-42	d) Matriculation		3555285601
361	Ali baig	Ali madad		Gilgit	d) GB	29-42	d) Matriculation	7150189523719	
362	Afsar jan	Mola jan		Gilgit	d) GB	29-42	c) Middle		03555106789
363	Shukur ullah Baig	Mola jan		Gilgit	d) GB	29-42	d) Matriculation		03555106789
364	Alam jan	Mola jan		Gilgit	d) GB	29-42	d) Matriculation		03555106789
365	Ghulam U Deen	Shamim U Deen		Gilgit	d) GB	15-28	e) Intermediate	71501642117929	3444644705
366	Mehmood ali	Mola dad		Gilgit	d) GB	29-42	d) Matriculation	7150148417763	03554125570
367	Jahangir Alam	Darwesh khan		Gilgit	d) GB	29-42	d) Matriculation	7150169985545	3469549274
368	Khan bahadur	Ghulam haider		Gilgit	d) GB	29-42	f) Graduate	7150136311047	03555282988
369	Darvish Khan	Walit khan		Gilgit	d) GB	29-42	d) Matriculation	7150169985545	3555727554
370	Khan bahadur	Ghulam haider		Gilgit	d) GB	29-42	f) Graduate	7150136311047	03469751952
371	Sartaj Ayoub	M ayoub		District	d) GB	43-56	e) Intermediate		03469511064
372	Aleemuddin	Ali hurmat		Gilgit	d) GB	29-42	d) Matriculation	7150141868799	03460260625
373	Ikram khan	Ghareeb .M		Gilgit	d) GB	43-56	d) Matriculation		
374	Jamal-ud-din	Dolat shah		Gilgit	d) GB	29-42	c) Middle		3555178430
375	Didar Ali	Farman Ali		Gilgit	d) GB	29-42	e) Intermediate		3475021459
376	Taja khan	Bakht Alam	Bermal	South Waziristan	b) KPK	43-56	b) Primary	2170124178973	03306361762
377	Khan Sarwar	Amir Alam khan	Wana	South Waziristan	b) KPK	43-56	b) Primary	2170161558145	03038747323
378	Gul badshah	Qadar khan	Wana	South Waziristan	b) KPK	43-56	b) Primary	2170888436299	03059446266
379	Bilal Ahmad	Garray khan	Tanaie	South Waziristan	b) KPK	15-28	e) Intermediate	2170877716661	03039043700
380	Abbas khan		Wana	South Waziristan	b) KPK	29-42	d) Matriculation	2170124921461	03009788723
381	Shah Khalid Khan		Wana	South Waziristan	b) KPK	29-42	c) Middle	2170147767673	
382	Inayatullah		Wana	South Waziristan	b) KPK	43-56	b) Primary		03038478075
383	Mubeen khan		Wana	South Waziristan	b) KPK	43-56	c) Middle	2170133733015	03009788723
384	Abdul Basit	Mir Shahid khan	Bermal	South Waziristan	b) KPK	29-42	d) Matriculation	2170181548029	03059790044
385	piyar ali	Mirbas		Gilgit	d) GB	43-56	d) Matriculation		03555140876
386	M Khan	Ali Sarwat		Gilgit	d) GB	29-42	e) Intermediate		03463172705
387	Abdul Basit	Mir Alam khan	Bermal	South Waziristan	b) KPK	29-42	d) Matriculation	2170181548029	03049790044
388	Molana Zarwali (Died)		Bermal	South Waziristan	b) KPK	15-28	d) Matriculation	2170173773391	03075666769
389	Zarwali Molvi		Bermal	South Waziristan	b) KPK	29-42	d) Matriculation	2170173773391	03049042540
390	Qasim khan		Tanaie	South Waziristan	b) KPK	29-42	c) Middle	2170848873393	03047847488
391	Musa khan	Muhammad Amin Jan	Tanaie	South Waziristan	b) KPK	29-42	c) Middle	2170823649563	03030900725
392	Saifullah	Abdullah khan	Wana	South Waziristan	b) KPK	29-42	c) Middle	2170857340363	03069748467
393	Abdul Kareem	Akbar Khan		Gilgit	d) GB	43-56	e) Intermediate	7150102067955	03444522219
394	M Arif	Arab Khan		Gilgit	d) GB	29-42	e) Intermediate		03554503264
395	Sher Ghazi	Farman Ali		Gilgit	d) GB	43-56	d) Matriculation	7150102176129	03125353582
396	Alham Ali	Ahsan ALi		Gilgit	d) GB	43-56	d) Matriculation		03554458426
397	Sangi Khan	Wilayat Khan		Gilgit	d) GB	29-42	e) Intermediate		03469236051
398	Sanan Moiz	Moeez ud din		Gilgit	d) GB	43-56	e) Intermediate		03131400875
399	Eid muhammad	Lal khan	Wana	South Waziristan	b) KPK	29-42	d) Matriculation	2170861683171	03368720430
400	Zubair Muhammad		Wana	South Waziristan	b) KPK	29-42	c) Middle	2170843615887	03039606446
401	Dildar Hussain	Haji Mukhtar Ali	Parachinar	Kurram Agency	b) KPK	29-42	b) Primary		03069372366
402	Haider Ali	Rahmat Ali	Parachinar	Kurram Agency	b) KPK	29-42	d) Matriculation		03049026746
403	Malik Nasrullah	Abdullah Jan	Para chinar	Upper kurram	b) KPK	29-42	e) Intermediate	2130342009493	03049755629
404	Adnan khan	Abdul Halim	Panyala	DI khan	b) KPK	29-42	d) Matriculation	1220118847251	03139512223
405	Taimoor khan		Panyala	DI Khan	b) KPK	29-42	d) Matriculation	1220118847251	03139512223
406	Raja Mudasir	Muhammad Akhlaq	DI Khan	DI Khan	b) KPK	29-42	e) Intermediate	1210158849933	03339953392
407	Dr. Iqbal	Gul Muhammad		ID Khan	b) KPK	43-56	f) Graduate	1730160361367	03339121433
408	Fida Muhammad	Malik Afzal Khan	Kohat	Kohat	b) KPK	29-42	e) Intermediate	2240140250999	03333016086
409	Abid mumtaz	Mumtaz khan	Panyala	DI khan	b) KPK	43-56	e) Intermediate	173014855991	03444344000
410	Hamid Masood	Muhammad usman	DI khan	DI khan	b) KPK	43-56	f) Graduate	1720121994823	03355050036
411	Imran khan	Ghulam ali haider	Abbotabad	Abbotabad	b) KPK	29-42	d) Matriculation	1310123912291	03135950335
412	Iftikhar Hussain	Khadim Hussain	Kohat	Kohat	b) KPK	43-56	e) Intermediate	143019909365	03360969720
413	Abdul qudoos	Ghulam rabbani	Abbotabad	Abbotabad	b) KPK	29-42	c) Middle	1310108425393	
414	M.ayub	Mia dad	Abbotabad	Abbotabad	b) KPK	43-56	c) Middle		03018700560
415	M.sadiq	M.yousaf	Balakot	Mansehra	b) KPK	43-56	b) Primary	1350313472441	
416	M azar	Meer m.irfan	Abbotabad	Abbotabad	b) KPK	29-42	e) Intermediate	1310139235379	
417	Khurshid	Ali zaman	Abbotabad	Abbotabad	b) KPK	29-42	e) Intermediate	1310109579811	03129965403
418	Kaleem Ullah		Ghazni khel	Laki Marwat	b) KPK	29-42	d) Matriculation	1120129069159	03319124787
419	Riyan Ahmed khan	Aftab Ahmed khan	Qalandrabad	Abbotabad	b) KPK	29-42	e) Intermediate	1310178221483	03465685371
420	Salman Saleem	Tariq Saleem	Sarai Naurang	Laki Marwat	b) KPK	43-56	c) Middle	1120165425483	03005767074
421	Muhammad Naeem	Ghulam Haider	Abbotabad	Abbotabad	b) KPK	29-42	d) Matriculation		03125550071
422	NoorUllah	Rashid Ahmad	Ghazni Khel	Laki Marwat	b) KPK	29-42	d) Matriculation	1120162066033	03009065311
423	M.Sabar sultan	Ghulam Haider	Abbotabad	Abbotabad	b) KPK	43-56	e) Intermediate	1310108309449	03143214271
424	Dr. Junaid		Serai Naurang	Laki Marwat	b) KPK	29-42	f) Graduate	1110196933565	03339105154
425	Abdul kareem	Abdullah	Quetta	Quetta	c) Baluchistan	29-42	b) Primary	5440177063605	03132235077
426	Javed ahmad	Saifal khan	Quetta	Quetta	c) Baluchistan	29-42	h) MPhil		03323579792
427	Javed ahmad	Saiful khan	Quetta	Quetta	c) Baluchistan	29-42	h) MPhil	5310132328235	03323579792
428	Abdul Hakeem	Fata Muhammed	Nall	Khuzdar	c) Baluchistan	29-42	b) Primary	5140203456613	03342564408
429	Muzaffar Zeshan	Mohammed Anwar	Quetta	Quetta	c) Baluchistan	43-56	h) MPhil	5440097453003	03218001107

#	NAME	FATHER'S NAME	TEHSIL	DISTRICT	PROVINCE	AGE	EDUCATION	CNIC	MOBILE
430	Arbab	Sawali	Nall	Khuzdar	c) Baluchistan	43-56	c) Middle	5140201837417	03368351728
431	Bailal Ahmed	Mubarak Khan	Nall	Khuzdar	c) Baluchistan	43-56	b) Primary	5150201837451	034481547487
432	Muneer Ahmed	Sultan Ahmad	Nall	Khuzdar	c) Baluchistan	29-42	e) Intermediate	5120116063455	03333333229
433	Azeem Banzanjo	Ghulam Raza	Nal	Khuzdar	c) Baluchistan	29-42	f) Graduate	5140190022611	03338911129
434	Ghulam Hussein	Ghulam Rasool	Baghbana	Khuzdar	c) Baluchistan	43-56	d) Matriculation	5140123992137	03318911695
435	Ejaz Ahmed	Eid Muhammad	Bagbana	Khuzdar	c) Baluchistan	15-28	e) Intermediate	5140185803183	03332717789
436	Abdul Ghani	Abdul Nabi	Bagbana	Khuzdar	c) Baluchistan	29-42	c) Middle	5140110938701	03337984488
437	Tarique Ahmed.	Abdul Haque	Baghban.	Khuzdar .	c) Baluchistan	15-28	g) Master	5140137081149	03327975050
438	Malik Attaullah	Haji Khuda rahim	Bori	Loralai	c) Baluchistan	43-56	d) Matriculation	5630208495201	03333986477
439	Mujeeb ur Rehman	Abdul Qadir	Bagbana	Khuzdar	c) Baluchistan	29-42	e) Intermediate	5140110938701	03337984488
440	Abdul jabbar	Haji Abdul gaffar	Bori	Loralai	c) Baluchistan	29-42	e) Intermediate	5630207956179	03338322190
441	Habib ullah kakar	Haji mazo jaan kakar	Bori	Loralai	c) Baluchistan	43-56	h) MPhil	5630224866519	03342407822
442	Mohammad ashraf	Sher khan	Sanjavi	Ziarat	c) Baluchistan	29-42	g) Master	5540283731196	03337748033
443	Atta Mohammad	Haji Mohammad noor	Sanjavi	Ziarat	c) Baluchistan	29-42	e) Intermediate	5540212394865	03327866539
444	Abdul Bari	Ghulam qadir	Loralai	Loralai	c) Baluchistan	15-28	b) Primary	5630237337995	03343006236
445	Khalid Ahsan..	Ahsan Ahmed.	Totak.		c) Baluchistan	15-28	e) Intermediate	5140140068453	03342951700
446	Raiz Ahmed	Muhammad Yousuf	Totok	Khuzdar	c) Baluchistan	15-28	e) Intermediate	5140122534683	03352238287
447	Jahan zaib	Eisaf Khan	Totak	Khuzdar	c) Baluchistan	15-28	f) Graduate	5140154445357	03318488679
448	Siraj Ahmed.	Muhammad Akbar.	Totak.	Khuzdar.	c) Baluchistan	15-28	b) Primary		033222740213
449	Gull Shar	Goriya Khan	Bagbana	Khuzdar	c) Baluchistan	29-42	a) Illiterate	5120243659791	03333984846
450	Abdul Rahman.	HAJI Muhammad Karim.	Totak.	Khuzdar.	c) Baluchistan	29-42	a) Illiterate	5140147817075	03311359933
451	Kalimullah	Lutfullah	Bagbana	Khuzdar	c) Baluchistan	43-56	c) Middle		03357483764
452	Muhammad Asif	Muhammad Qasim	Bahbana	Khuzdar	c) Baluchistan	29-42	f) Graduate	5140123196267	03337981095
453	Gul Badin	Malik Mohammad din	Sanjavi	Ziarat	c) Baluchistan	29-42	e) Intermediate	5540231152513	03342322182
454	Muhammad Arif	Malik Mohammed khan	Sanjavi	Ziarat	c) Baluchistan	29-42	e) Intermediate	5540202288153	03228115284
455	Miraj u din	Muhammad din	Quetta	Quetta	c) Baluchistan	29-42	h) MPhil	5540212520851	03337852448
456	Muhammad saleem	Khudadad	Sanjavi	Ziarat	c) Baluchistan	43-56	a) Illiterate	5540249122683	03337860900
457	Abdul samad	Haji Deen Mohammad	Sanjavi	Ziarat	c) Baluchistan	29-42	e) Intermediate	5540297543541	03341670385
458	Miraj u din	Muhammad din	Quetta	Quetta	c) Baluchistan		h) MPhil	554021252051	03337852448
459	Miraj u din	Muhammad din	Quetta	Quetta	c) Baluchistan	29-42	h) MPhil	5540212520851	03337852448
460	Mando khail	Mohammed ramzan	Bori	Loralai	c) Baluchistan	15-28	e) Intermediate	5630208302307	03342325081
461	Amanullah nasar	Abdul manan	Loralai	Loralai	c) Baluchistan	43-56	g) Master	5630208375199	03342322363
462	Mohammed yousuf	Haji Rahim dad	Bori	Loralai	c) Baluchistan	29-42	d) Matriculation	5630292764199	03342325933
463	Gulam sarwar	Haji sanjar khan	Bori	Loralai	c) Baluchistan	43-56	c) Middle	5630275011713	03358192852
464	Ali Akbar	Sahar Muhammad	Baghbana	Khuzdar	c) Baluchistan	43-56	e) Intermediate		
465	Abdul rehman	Sher ali	Bori	Loralai	c) Baluchistan	43-56	g) Master	5630250443651	03342325164
466	Salahuddin	Habibullah	Bori	Loralai	c) Baluchistan	15-28	f) Graduate	5630214575685	03342563637
467	Ali Nawaz	Ali dost	Bagbana	Khuzdar	c) Baluchistan	29-42	c) Middle	5120135646395	03323070982
468	Abdul Sattar	Abdul Nabi	Bagbana	Khuzdar	c) Baluchistan	29-42	b) Primary	5140156331171	03333319003
469	Ali Nawaz.	Abdul Rahman.	Baghban.	Khuzdar.	c) Baluchistan	57-70	f) Graduate	5140122773481	03333243380
470	Amir Bux.	Nizamuddin.	Baghban.	Khuzdar.	c) Baluchistan	15-28	a) Illiterate	4120366034791	03333507903
471	Miraj u din	Muhammad din	Quetta	Quetta	c) Baluchistan	29-42	h) MPhil	5540212520851	03337852448
472	Naik Muhammad	Khudadad khan	Mekhtar	Lorlai	c) Baluchistan	57-70	a) Illiterate	563028027309	03023890712
473	Ramazan	Waliullah	Mekhtar	Lorlai	c) Baluchistan	43-56	a) Illiterate	5630208250035	03333256369
474	Ali Nawaz.	Muhammad Aalam.	Baghban.	Khuzdar.	c) Baluchistan	29-42	a) Illiterate		
475	Noorul haq	Haji raaz muhammad	Lorlai	Lorlai	c) Baluchistan	43-56	e) Intermediate	5630208514509	03353844211
476	Mubarak.	Abdul Aziz.	Wadh.	Khuzdar.	c) Baluchistan	57-70	a) Illiterate	5140312541827	03331254093
477	Zamn shah	Muhammad ali	Laghai	Lorlai	c) Baluchistan	29-42	f) Graduate	5630237406581	03318381202
478	Ghulam muhammad	Din muhammad	Mekhtar	Lorlai	c) Baluchistan	29-42	e) Intermediate		
479	Obaidullah .	Yard Muhammad.	Wadh.	Khuzdar	c) Baluchistan	15-28	b) Primary		03331973103
480	Ahsanullah	Fazal Muhammad	Bori	Loralai	c) Baluchistan	29-42	g) Master	5630222578855	03347064242
481	Nasir khan	Habib ullah	Loralai	Loralai	c) Baluchistan	15-28	f) Graduate	5630256192213	03363291273
482	Jamal khan	Haji sher jan	Mekhtar	Lorlai	c) Baluchistan	15-28	d) Matriculation	5630314573419	03332733159
483	Dr malik aman	Muhammad yaqoob	Bori	Loralai	c) Baluchistan	43-56	Medical Doctors	5630295965243	03063713219
484	Munawer Khan	Habibullah	Bori	Loralai	c) Baluchistan	29-42	g) Master	563016000721	03113944479
485	Nazeer Ahmed	Peer Jan	Zehri	Khuzdar	c) Baluchistan	43-56	f) Graduate		03312551357
486	Niaz Ahmed .	Muhammad Umar.	Zehri.	Khuzdar.	c) Baluchistan	29-42	d) Matriculation	5140122909641	03357959461
487	Abid u Rehman	Khuda baksh	Zehri	Khuzdar	c) Baluchistan	29-42	d) Matriculation	5140108531493	03333136164
488	Sanaullah	Muhammad Hussein	Zehri	Khuzdar	c) Baluchistan	43-56	b) Primary	5140412609463	03337933484
489	Hafizullah	Habibullah	Zehri	Khuzdar	c) Baluchistan	29-42	b) Primary	5120260718853	03313052696
490	Dr malik aman	Muhammad yaqoob	Bori	Loralai	c) Baluchistan	43-56	Medical Doctor	5630295965243	03063713219
491	Syed taimoor shah	Ghulam rasool shah	Kingri	Musa khail	c) Baluchistan	29-42	g) Master	5630457151935	03451058838
492	Tahir Latif	Abdul latif	Musa khel	Musa khel	c) Baluchistan	29-42	d) Matriculation	5650362600101	03125011882
493	Malik ahmad khan buzdar	Malik darwaish	Kingri	Musa khail	c) Baluchistan	43-56	f) Graduate	5630414297875	03337847210
494	Abdul Waheed	Abdul Hadi	Wadh	Khuzdar	c) Baluchistan	15-28	f) Graduate	5140316254955	03337864760
495	Shabir Ahmed	Fazal Deen	Wadh	Khuzdar	c) Baluchistan	29-42	e) Intermediate	5140164785383	033608802577
496	Obaidullah.	Yar Muhammad.	Wadh	Khuzdar	c) Baluchistan	15-28	b) Primary	5140368231005	03332588246
497	Rahmatullah	Rasool Bux	Wadh	Khuzdar	c) Baluchistan	43-56	b) Primary	5140310660097	03368339747
498	Nabi waris	Abdul haq	Wadh	Khuzdar	c) Baluchistan	43-56	b) Primary	5150140003653	03331254093
499	Anwarullah shah	Hafiz Abdul raheem	Kingri	Musakhail	c) Baluchistan	29-42	h) MPhil	5640116324691	03455343051
500	Malik ahmad khan	Malik darwaish	Kingri	Musa khail	c) Baluchistan	43-56	f) Graduate	5630414297875	03337847210
501	Syed yameen khan	Syed hassan	Musakhail	Musakhail	c) Baluchistan	29-42	d) Matriculation	5640156750391	03455466437
502	Anwarullah shah	Hafiz Abdul Rahem	Kingri	Musakhail	c) Baluchistan	29-42	h) MPhil	564011632469	03455343052
503	Abdul haq	Muhammad Yaqoob	Zeedi	Khuzdar	c) Baluchistan	29-42	b) Primary	5140155796211	03330399574
504	Muneer Ahmed	Jan Muhammed	Zeedi	Khuzdar	c) Baluchistan	43-56	c) Middle	5140164532899	03337970250
505	Sardar taimor	Mir Hamid ullah	Musa khail	Musa khail	c) Baluchistan	15-28	e) Intermediate	5630474220963	033394114445
506	Asmat ullah	Alam khan azad	Musa khail	Musa khail	c) Baluchistan	29-42	f) Graduate	5630433325749	03337738849
507	Nadir khan	Allam khan	Musakhail	Musakhail	c) Baluchistan	29-42	f) Graduate	5630433325749	03337738849
508	Sardar taimor khan	Mir hameed ullah	Musa khail	Musa khail	c) Baluchistan	15-28	e) Intermediate	563047422093	03339414445
509	Sardar taimor	Mir hamad ullah	Musa khail	Musa khail	c) Baluchistan	29-42	e) Intermediate	563047422093	03218168368
510	Abdul Samad	Muhammad Ramzan	Zeedi	Khuzdar	c) Baluchistan	29-42	c) Middle	512018544137	03339995752
511	Ali Akbar	Muhammad Ramzan	Zeedi	Khuzdar	c) Baluchistan	29-42	c) Middle	5140143990615	03317545954
512	Haji musa kaleem	Malik jamali	Musa khail	Musa khail	c) Baluchistan	43-56	a) Illiterate	5630487876247	03472516508
513	Rabnawaz	Muhammad Umar	Zeedi	Khuzdar	c) Baluchistan	29-42	e) Intermediate	5140107922077	03337986894
514	Haji fazal qadir	Haji muhammad ali	Zob	Zob	c) Baluchistan	43-56	f) Graduate	5650310142883	03008385077
515	Muhammad Kareem	Muhammad Khan	Zeedi	Khuzdar	c) Baluchistan	29-42	b) Primary	5140137298275	03366337029

#	NAME	FATHER'S NAME	TEHSIL	DISTRICT	PROVINCE	AGE	EDUCATION	CNIC	MOBILE
516	Gulab khan	Hayat khan	Zob	Zob	c) Baluchistan	57-70	d) Matriculation	5650361943511	03100005566
517			Zhob	Zhob	c) Baluchistan	43-56	c) Middle	4210117868111	03310263400
518	Wazir Ahmad	Gull Muhammad	Zeedi	Khuzdar	c) Baluchistan	43-56	c) Middle	5140157048033	03366999033
519	Nasrullah	Bashkal Khan	Zeedi	Khuzdar	c) Baluchistan	29-42	b) Primary	5140156037229	03366667633
520	Abdul jabbar	Haji abdul wahid	Zob	Zob	c) Baluchistan	57-70	f) Graduate	5650318458685	03158071912
521	Muhammad meer	Haji Ibrahim khalil	Zhob	Zhob	c) Baluchistan	43-56	a) Illiterate	5650337515865	03402765358
522	Abdul jabbar	Haji abdul wahid	Zob	Zob	c) Baluchistan	57-70	f) Graduate	5650318458685	03158071912
523	Ajab khan	Lal khan	Zhob	Zhob	c) Baluchistan	43-56	c) Middle	5650303717561	03498960726
524	Muhammad Qasim	Muhammad Waris	Nall	Khuzdar	c) Baluchistan	43-56	f) Graduate	5140246568403	03337984683
525	Gulam Qadir	Miya dad	Nall	Khuzdar	c) Baluchistan	29-42	c) Middle	5120116063455	0332371105
526	Mohammed faroq	Khan gul	Zhob	Zhob	c) Baluchistan	29-42	b) Primary	5650399305327	03455004408
527	Hafiz rahman	Hafiz nawab	Zob	Zob	b) KPK	15-28	e) Intermediate	5650318420671	03138401174
528	Lal gul	Rehmat khan	Zhob	Zhob	c) Baluchistan	57-70	a) Illiterate	5650318421341	03022000644
529	Nisar Ahmed	Muhammad Ashraf	Nall	Khuzdar	c) Baluchistan	29-42	d) Matriculation	5140211955441	03353028557
530	Farooq Ahmed	Eid Muhammad	Nall	Khuzdar	c) Baluchistan	29-42	c) Middle	5140210162785	03355002201
531	Juma Rahim	Muhammad Raza	Zob	Zob	c) Baluchistan	29-42	g) Master	5440088294851	03363333322
532	Mohammed shah	Haji Gul baran	Zhob	Zhob	c) Baluchistan	43-56	b) Primary	5650379417507	03458986247
533	Sadiq	Ghulam Muhammad	Zob	Zob	b) KPK	15-28	a) Illiterate	5650380552901	03483650976
534	Ahmad khan apozai	Azmir khan	Zob	Zob	c) Baluchistan	43-56	a) Illiterate	5650318420659	03138309084
535	Hassan mandokhail	Jabbar Mando khail	Zhob	Zhob	c) Baluchistan	57-70	a) Illiterate	5650318278909	03333807526
536	Shams rehman	Haider	Zob	Zob	c) Baluchistan	43-56	a) Illiterate	5650374488919	03312773533
537	Nazar Khan	Abdullah Khan	Zhob	Zhob	c) Baluchistan	43-56	a) Illiterate	5650355655159	03243008898
538	Khudaidad khan	Gul baran	Zhob	Zhob	c) Baluchistan	29-42	a) Illiterate	5650390165721	03015301484
539	Mehmood Shah	Muhammad Shah	Zhob	Zhob	c) Baluchistan	29-42	f) Graduate	4210116918791	03153764469
540	Rozi Khan	Saib jan	Zhob	Zhob	c) Baluchistan	29-42	d) Matriculation	5650318349655	03443290950
541	Asadullah	Mohammed ayoub	Zhob	Zhob	c) Baluchistan	29-42	d) Matriculation	5650366848513	03430400358
542	Altaf	C/o major nadir	Zhob	Zhob	c) Baluchistan	29-42	Army officer		03456597421
543	Sulain shah	Omer shah	Zhob	Zhob	c) Baluchistan	43-56	c) Middle	5650318399333	03138800560
544	Mehmmod khan	Muhammad ilyaz	Zhob	Zhob	c) Baluchistan	43-56	c) Middle	5650320910337	03327889398
545	Dawood khan	Juma khan	Zhob	Zhob	c) Baluchistan	29-42	b) Primary	5650360345031	03108002054
546	Abdul Qayyum	Abdul karim	Zhob	Zhob	c) Baluchistan	29-42	g) Master	5650203619135	03318312409
547	Afzal khan	Kala khan	Zhob	Zhob	c) Baluchistan	29-42	d) Matriculation	5660103399173	03482630287
548	Ajmal Khan	Kala khan	Zhob	Zhob	c) Baluchistan	29-42	e) Intermediate	5660103399173	03482630287
549	Sardar masoom khan	Samad khan	Zhob	Zhob	c) Baluchistan	29-42	a) Illiterate	5650382593407	03462684043
550	Tahir khan	Hassan khan	Zhob	Zhob	c) Baluchistan	29-42	f) Graduate	5650387297119	03338329004
551	Dr hadi	Sardar haji roedad	Zhob	Zhob	c) Baluchistan	29-42	g) Master	5650379428905	03023815449
552	Habib ur rheman	Sardar roedad khan	Zhob	Zhob	c) Baluchistan	29-42	g) Master	5650379428905	03023815449
553	Hakim ullah	Hayat khan	Zob	Zob	c) Baluchistan	29-42	d) Matriculation	5650320087409	03342428231
554	Karim khan	Sardar khudai dost	Zhob	Zhob	c) Baluchistan	15-28	e) Intermediate	5650347511827	03412225776
555	Hasin ullah	Haji amin ullah	Zob	Zob	c) Baluchistan	29-42	g) Master	5650364405691	03442844195
556	Haji asmatullah	Sahib jaan	Zob	Zob	c) Baluchistan	57-70	a) Illiterate	5650363306519	03402864066
557		Nawabzada Hamayoon jogezai	Qilla saifullah	Qilla saifullah	c) Baluchistan	43-56	a) Illiterate		03337805477
558	Haji asmatullah	Sahib jaan	Zob	Zob	c) Baluchistan	57-70	a) Illiterate	5650363306519	03402864066
559	Nawabzada Hamayoon johezai	Haji nawabzada jandar	Qilla saifullah	Qilla saifullah	c) Baluchistan	43-56	a) Illiterate		03008381188
560	Zain ullah	Haji amin ullah	Zob	Zob	c) Baluchistan	29-42	h) MPhil	5850364405601	03442844195
561	Dawood Khan	Musa Khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	a) Illiterate		03128138465
562	Zain ullah	Haji aman ullah	Zob	Zob	c) Baluchistan	29-42	h) MPhil	5850396383717	03412020027
563	Zahid ullah	Sardar mehr ullah	Zob	Zob	c) Baluchistan	29-42	g) Master	5650355416249	03342419711
564	Shamsuddin	Haji naseeruddin	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	g) Master	5620117614571	03337998889
565	Haji abdul aziz	Sardar mir adam	Zob	Zob	c) Baluchistan	29-42	g) Master		03337869466
566	Hameedullah	Shamsuddin	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	a) Illiterate	5620167576125	03128138465
567	Rehmat ullah	Haji neemat ullah	Zob	Zob	c) Baluchistan	43-56	a) Illiterate	5650383321445	03328090520
568	Haji Mohammed siddque	Haji Kalha khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	43-56	f) Graduate	5620112689943	03073829854
569	Haji amin ullah kibzai	Sahib jaan	Zob	Zob	c) Baluchistan	>70	a) Illiterate	5650378136097	03318352268
570	Shadi Khan	Jalat khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	e) Intermediate	5620147125381	03008170601
571	Shaikh haroon	Hazrat noor	Zhob	Zhob	c) Baluchistan	29-42	g) Master		03138455532
572	Qudrat ullah	Haji asmat ullah	Zob	Zob	c) Baluchistan	29-42	g) Master	5650395533133	03494511152
573	Dilawer khan	Naimat ullah	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	g) Master	5620192384255	03153927717
574	Shafiq ullah	Haji asmat ullah	Zob	Zob	c) Baluchistan	29-42	g) Master	5650331278123	03402864067
575	Abdul samad	Hamdullah	Muslim Bagh	Killa saifullah	c) Baluchistan		e) Intermediate	5620290268075	03023876660
576	Umar khan	Haji nawab khan	Zhob	Zhob	c) Baluchistan	57-70	a) Illiterate	5660103656541	
577	Abdul Malik	Abdul Manan	Killi saifullah	Killi saifullah	c) Baluchistan	15-28	b) Primary	5620114517417	03138819871
578	Attaullah	Haji afzal	Sherani	Sherani	c) Baluchistan	43-56	e) Intermediate	5660103656541	03488520075
579	Saeed khan	Shah khan	Zhob	Zhob	c) Baluchistan	43-56	a) Illiterate		03338288882
580	Karim ullah	Khurasan	Killa saifullah	Killa saif ullah	c) Baluchistan	43-56	a) Illiterate	5620117623067	03108271124
581	Muhammad Amin	Abdul Rasheed	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620111407001	03151808858
582	Muhammad ismail	Baran sheikh	Kila saifullah	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620169395019	03138715203
583	Azmir khan	Rozi Khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	43-56	e) Intermediate	5650372033887	03083760644
584	Allah dad	Musa khan	qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	b) Primary	5650379094827	03083760644
585	Saleh Muhammed	Raheem khan	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	b) Primary	5630208324905	03312938036
586	Muhaib ullah	Abdul wasir	Muslim bhag	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620256024089	03337834655
587	Paind khan	Niyazai	Kharoti	Killa saifullah	c) Baluchistan	43-56	c) Middle	5620107338121	03342268146
588	Dr Mohammed Arif	Abdul Wahab	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	g) Master	5440038487841	03337871740
589	Muhaib ullah	Abdul wasir	Muslim bhag	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620256024089	03337834655
590	Muhammad Ashraf	Abdul Hamid	Killa saifullah	Killa saifullah	c) Baluchistan	43-56	e) Intermediate	5440033242773	03312291690
591	Attaullah	Haji Mohammed Deen	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	d) Matriculation	5440035497169	03323916974
592	Abdul Rehman	Haji Malik Mohammad	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	e) Intermediate	5440015653913	03353692090
593	Muhaib ullah	Abdul wasir	Muslim bhag	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620256024089	03337834655
594	Khuda dad khan	Haji Muhammed afzal	Batozai	Killa saifullah	c) Baluchistan	43-56	d) Matriculation	5620117712427	03337078916
595	Khaliq dad	Muhammed Afzal Khan	Batozai	Killa saifullah	c) Baluchistan	43-56	c) Middle	5620146499613	03333288003
596	Baridad	Muhammed Afzal	Batozai	Khuzdar	c) Baluchistan	29-42	b) Primary	5620113126917	03302584243
597	Rahimullah	Zainullah	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	d) Matriculation	5550103447797	03110805253
598	Haji Mohammad aslam	Gulam Mohammad	Qilla saifullah	Qilla saifullah	c) Baluchistan	15-28	a) Illiterate	5440085005793	03003824401
599	Salam Jan	Abdul malik	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	a) Illiterate		03302652639
600	Muhammad isaq	Haji hamhamhd ullah	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620117583625	03333335301
601	Naqibullah	Bahktullah	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	b) Primary	5620108243757	03178139324

#	NAME	FATHER'S NAME	TEHSIL	DISTRICT	PROVINCE	AGE	EDUCATION	CNIC	MOBILE
601	Naqibullah	Bahktullah	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	b) Primary	5620108243757	03178139324
602	Salam Jan	Abdul malik	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	a) Illiterate		03302652639
603	Azizullah	Muhammad Akhtar	Killa saifullah	Killa saifullah	c) Baluchistan	43-56	b) Primary	5620209573889	03320665570
604	Boorjan		Killa saifullah	Killa saifullah	c) Baluchistan	29-42	a) Illiterate	2170756974451	03108894173
605	Naseeb ullah	Shah Khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	e) Intermediate	5620209510649	03337870525
606	Mujeebullah	Obaid ullah	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	c) Middle	5620119085153	03323850540
607	Janu Khan	Abdul Gafoor	Killa saifullah	Killa saifullah	c) Baluchistan	57-70	c) Middle	5620117619067	03138363616
608	Kalim ullah	Malik loghang	Killa saifullah	Killa saifullah	c) Baluchistan	29-42	g) Master	5620117829133	03344558889
609	Muhammad isaq	Haji hamhd ullah	Killasaifullah	Killasaifullah	c) Baluchistan	29-42	f) Graduate	5620117583625	03333335301
610	Akter M	Gulam nabi	Killa saifullah	Killa saifullah	c) Baluchistan	15-28	a) Illiterate	5620161699337	03228143371
611	Ameer Muhammed	Muhammad Ali	Killa saifullah	Killa saifullah	c) Baluchistan	43-56	c) Middle	5620208710647	03333014109
612	Azizullah	Naqibullah	Killa saifullah	Killa saifullah	c) Baluchistan	43-56	e) Intermediate	5620145048841	03218129384
613	Abdul hameed	Ahmed shah	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	e) Intermediate	5620125637729	03133830055
614	Naseeb ullah	Shah Khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	e) Intermediate	5620209510649	03337870525
615	Mohammad Ibrahim	Mohammed hessa	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	a) Illiterate	5620144588083	03336372228
616	Mohammad Azeem	Mohammad Siddque	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	d) Matriculation	5620117672947	03218070094
617	Rehmat khan	Wali khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	b) Primary	5620117706607	03058010180
618	Mohammad Akhtar	Mohammad Ismail	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	e) Intermediate	56503212140025	03063895524
619	Abdul Waheed	Mohammed Ramzan	Qilla saifullah	Qilla saifullah	c) Baluchistan	15-28	a) Illiterate	5620193435309	03333875586
620	Zahoor Ahmed Khan	Raaz Mohammad	Qilla saifullah	Qilla saifullah	c) Baluchistan	15-28	b) Primary	5440050516065	03003868686
621	Mufti asmatullah	Mullvi abdul hakeem	Muslim bhag	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620257465651	03333351970
622	Abdul Salam	Haji Rahimuddin	Qilla saifullah	Qilla saifullah	c) Baluchistan	15-28	b) Primary	5620167700523	03133337227
623	Jameel khan	Ruhullah khan	Muslim bagh	Killa saifullah	c) Baluchistan	29-42	c) Middle	5620283503291	03138495913
624	Aimal Ahmed Khan	Haji Agha Mohammad	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	b) Primary	54401852519633	03063716161
625	Mufti asmat ullah	Mullvi abdul hakeem	Muslim bhag	Killa saifullah	c) Baluchistan	29-42	f) Graduate	5620257465651	03333351970
626	Abdul jabbar	Wali khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	c) Middle	520117706608	03058010108
627	Hafiz ullah	Inayatullah	Muslim Bagh	Killa saifullah	c) Baluchistan	15-28	e) Intermediate	5620292659011	03052099611
628	Samiullah	Molvi Abdul sattar	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	b) Primary	5620104724034	03003839358
629	Mehboob Jogezai	Nawaz khan	Qilla saifullah	Qilla saifullah	c) Baluchistan	29-42	b) Primary	5620191280703	03003827499
630	Muneer Ahmed	Haibetullah	Muslim Bagh	Killa saifullah	c) Baluchistan	43-56	f) Graduate	5620229766447	03003626812
631	Ahsanullah	Muhammad naheem	Muslim bhag	Killa saifullah	c) Baluchistan	29-42	a) Illiterate	41190979311	03188844920
632	Saifudin	Deen Muhammed	Makhtar	Makhtar	c) Baluchistan	29-42	c) Middle	5630357449163	03313805080
633	Kaleem ullah	Haji khuda Dad	Loralai	Loralai	c) Baluchistan	15-28	b) Primary	03322831815	5.54017E+11
634	Sadiq Buzdar	Muhammad Jan	Larashrim	Barkan	c) Baluchistan	29-42	f) Graduate	56402034011831	03453128790
635	Naimat ullah	Rahim udin	Loralai	Loralai	c) Baluchistan	29-42	a) Illiterate	03027479360	
636	Shams u din	Taj Muhammad	Loralai	Loralai	c) Baluchistan	29-42	e) Intermediate	5630208270979	03351226383
637	Fazal Muhammad	Shah Muhammad	Loralai	Loralai	c) Baluchistan	43-56	f) Graduate	5630208270979	03351226383
638	Muhammad Suleman	Muhammad Jan	Barkhan	Barkhan	c) Baluchistan	29-42	e) Intermediate	5640106106605	03442368501
639	Saifullah	Miyya khan	Barkhan	Barkhan	c) Baluchistan	43-56	c) Middle	5630444218151	03480734671
640	Haji kafi	Abdul Nafi	Loralai	Loralai	c) Baluchistan	15-28	d) Matriculation		03328097091
641	Haji essa khan	Haji Fazal khan	Loralai	Loralai	c) Baluchistan	43-56	c) Middle		
642	Saif ur Rehman	Naseer Ahmed	Loralai	Loralai	c) Baluchistan	29-42	d) Matriculation	5630296635351	03313856732
643	Saif Ur Rehman	Naseer Ahmed	Loralai	Loralai	c) Baluchistan	15-28	b) Primary	56302966353511	03313856732
644	Paruuddin	Haji baran khan	Loralai	Loralai	c) Baluchistan	29-42	c) Middle	5630208295423	03313856732
645	Sharbat khan	Hazar khan	Sanjavi	Zariat	d) GB	15-28	d) Matriculation	5540263718767	03352747789
646	Abdul Rasheed	Haji ghafoor	Duki	Duki	d) GB	15-28	a) Illiterate	5440032657311	03330200220
647	Muhammad Akber	Khan Bhudar murtza khan	Dukki	Dukki	c) Baluchistan	29-42	b) Primary	5630188425071	03354170008
648	Malik asad	Malik zarif khan	Duki	Duki	c) Baluchistan	15-28	a) Illiterate	5530173955357	03313433875
649	Haji Ali Ahmed	Khair Muhammed	Barkan	Barkan	c) Baluchistan	43-56	e) Intermediate	5610142684687	03336545186
650	Naseeb ullah	Habib ullah	Lorlai	Lorlai	c) Baluchistan	29-42	c) Middle	5620150804759	03333833367
651	Said ur Rehman	Naseer ahmed	Loralai	Loralai	c) Baluchistan	43-56	c) Middle	56302963535351	03313856732
652	Haji ishaq	Hamdullah	Lorlai	Lorlai	c) Baluchistan	29-42	c) Middle	5620185261729	03333335310
653	Sardar akber khan	Khan Bhudar murtza khan	Duki	Duki	c) Baluchistan	29-42	d) Matriculation	563017380119	03323292245
654	Dr malik tareen	Haji sobdar khan	Dukki	Dukki	c) Baluchistan	43-56	c) Middle	563014535914	03428025995
655	Muhammad Noroz	Mir Hazar Khan	Barhkan	Barhkan	c) Baluchistan	43-56	f) Graduate	5630390289041	0335839936
656	Khalil Ahmed	Painda Khan	Barhkan	Barhkan	c) Baluchistan	29-42	f) Graduate	5610155217435	03322433766
657	Najeebullah	Haji kamal khan	Barkan	Barkan	c) Baluchistan	29-42	f) Graduate	56101057102749	03336063169
658	Haji Ali Ahmed	Khair Muhammed	Barkan	Barkan	c) Baluchistan	15-28	b) Primary	5610142684687	03336545186
659	Abdul Ghani	Kamal khan	Barkan	Barkan	c) Baluchistan	43-56	g) Master	5630323265451	03337711313
660	Ali Ifterkhar	Karam Khan	Barkhan	Barkhan	c) Baluchistan	29-42	b) Primary	5440058701679	03218007121
661	Naseerdin	Haji Muhammad Kareem	Oragzai	Pashin	c) Baluchistan	29-42	b) Primary		031580
662	Wakeel agha	Syed muhammad khair	Urangzai	Pashin	c) Baluchistan	29-42	f) Graduate	5440037367829	03003894554
663	Zaiudin	Haji Muhammad Zarif	Pishin	Pishin	c) Baluchistan	43-56	d) Matriculation	5440022178269	03003806566
664	Zaiul haq	Ali Khan	Pishin	Pishin	c) Baluchistan	43-56	f) Graduate	54400443392441	03018385544
665	Munir khan	Sabal khan	Saranan	Pashin	c) Baluchistan	29-42	b) Primary	5440038541581	03022960689
666	Syad samiullah	Agha Mohammad shah	Saranan	Pashin	c) Baluchistan	29-42	a) Illiterate	5430320591631	03106611004
667	Engineer nasrullah khan	Mohammad baskh	Saranan	Pashin	c) Baluchistan	29-42	a) Illiterate	5440076460071	03337819201
668	Mohammed Hashim	Musa Khan	Saranan	Pashin	c) Baluchistan	29-42	b) Primary	5430320538381	03337801452
669	Naimatullah	Kushal Khan	Saranan	Pashin	c) Baluchistan	29-42	b) Primary	5430307838903	03422299922
670	Hameedullah tareen	Abdul baser	Saranan	Pashin	c) Baluchistan	29-42	a) Illiterate	543032051430	03363835369

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