



## An Investigation Regarding the Problems of Peach Growers in Goshta District, Nangarhar province, Afghanistan

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**ABSTRACT:** This investigation aimed to identify and analyze the primary challenges faced by peach growers in District Goshta. A systematic interview schedule was employed to gather data, and data analysis was performed using Excel and SPSS version 20. his study explores the major agricultural challenges encountered by peach growers. These challenges include weak market linkages, limited access to modern farming techniques, pest and disease issues, inadequate storage facilities, insufficient transportation infrastructure, restricted market access, a lack of cold storage options, limited access to institutional credit, and the need for timely advisory services. According to the study, the Afghan government should investigate subsidizing expensive inputs like fertilizers, pesticides, fungicides, high-quality varieties, and contemporary agricultural equipment so that they are available in the local market at the appropriate times and at fair prices. Additionally, extension workers should make frequent visits to ensure that the farming community is aware of the most recent farming techniques.

**KEYWORDS:** Goshta District, Farmers Problems, Market Linkages, Plant Diseases.

### INTRODUCTION

The peach (*Prunus persica* L.), a member of the Rosacea family, is believed to have originated in China around 2000 B.C. Today, it is cultivated in various temperate regions across the globe, specifically between latitudes 30° and 45° North and South. Peaches are highly nutrient-dense and rich in health-promoting phytochemicals. (Hans *et al.*, 2020). After apples, peaches are the second most popular temperate fruit crop in the world. However, the production patterns of peach farming in the west seem to have lost direction, ultimately relegating this species to the category of secondary fruit crops. China currently produces most of the peaches consumed globally, primarily for domestic markets. (FAOSTAT, 2022).

Strong antioxidants found in peaches, such as phenolic, carotenoids, and vitamin C, contribute to minimize oxidative stress and may offer protection against long-term conditions like cancer, heart disease, and neurological problems. Lack of improved cultivars, constant irrigation, poor soil health, poor pollination management, shifting climatic conditions, inadequate post-harvest management practices, unregulated markets, and insufficient storage and transportation infrastructures are the primary causes of the decreased peach productivity (ton/ha), which exacerbates the issues. (Lee *et al.*, 2020).

productivity remains low (5.17 t/ha) due to factors like poor irrigation, outdated crop varieties, soil degradation, pest and disease issues, and weak infrastructure. Horticulture occupies 13% of arable land, with 6.3% for orchards and 6.7% for vegetables, but only 25% of irrigated land is used for these crops (Yaqubi, 2021).

According to a survey of 110 peach farmers in Amritsar, Punjab, the main challenges to implementing recommended peach growth techniques included a shortage of skilled labor, high costs and insufficient availability of inputs, and a lack of expertise. The study recommends expanding training and extension programs, particularly on pruning, fruit thinning, and pest and disease management, as the majority of growers had no contact with extension. (Kalra *et al.*, 2006).

### OBJECTIVES

Objectives of the study were to:

1. Determine the demographic characteristics of the peach growers in the study area.
2. Identify the challenges faced by peach producers in the research area.
3. Determine how these issues influence the socioeconomic status and production of peach growers in the research area.

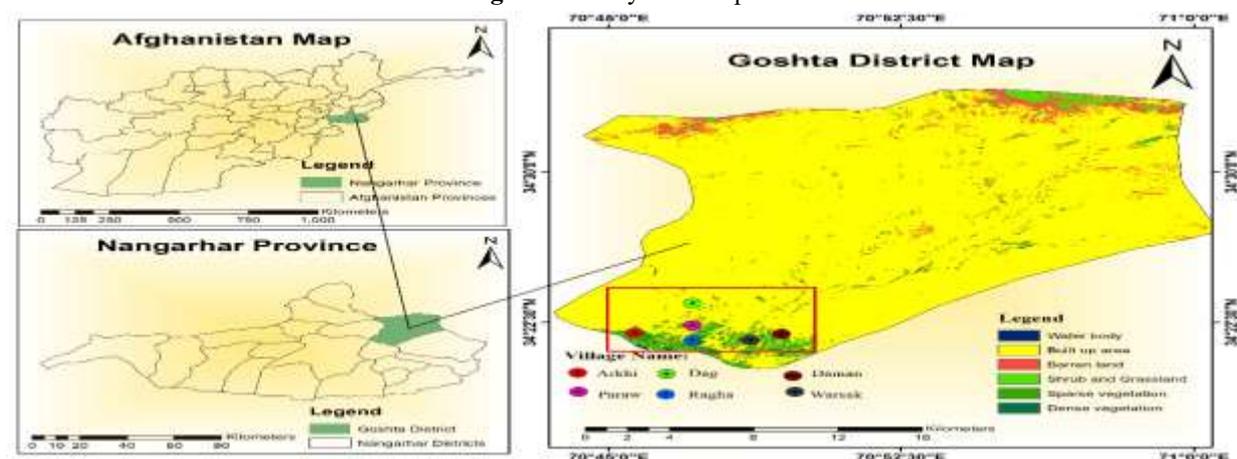
4. Provide recommendations and ideas for future developments.

**MATERIALS AND METHODS**

**Study Area**

The study was conducted in Nangarhar Province, Afghanistan, in October 2024. The Multi-Stage Sampling Technique was employed to select the sample. District Goshta, known for peach cultivation, was purposively chosen out of the twenty-two districts in the province. Six villages within District Goshta were then purposively selected for their peach cultivation. A list of 200 peach growers from these villages was obtained from the Agriculture Extension Department, and 60% of them (120 respondents) were proportionately allocated for data collection.

**Figure 1: Study area Map**



**Data Collection**

Both primary and secondary data were gathered for the research collection. A pre-tested interview schedule was utilized for primary data collection, while government, semi-government, and unpublished sources provided secondary data. The procedure of gathering information involved establishing the interview schedule, conducting pre-tests, and interviewing the participants. In conclusion, the study combined secondary data from several official and informal sources with primary data obtained through interviews ensuring a thorough data collection procedure.

**Data process and analysis**

The Statistical Package for Social Sciences (SPSS) version 20 was utilized to analyze the primary data. The data entered into the program generated results presented as percentages and counts.

**RESULTS AND DISCUSSION**

**Socio-Economic characteristics of the Citrus Growers**

**Age of the Peach Growers**

Age has a big impact on one's capacity to learn and understand new information and abilities as well as solve problems. Older farmers are less physically strong than younger farmers, but they have more experience. Figure 1 presents data regarding age of the respondents, 33% were in the age group between 41–50 years, 30% respondents were between 31–40 years, 25% up to 30 years and only 12% were from above were found in the age above 50 years, respectively. Compared to older farmers, younger farmers acquire and apply new technology more quickly. Our findings are comparable to those of Okwu *et al.* (2007) since most of the participants in the research region are ranging in age from 40 to 50, and were hesitant to embrace contemporary technology.

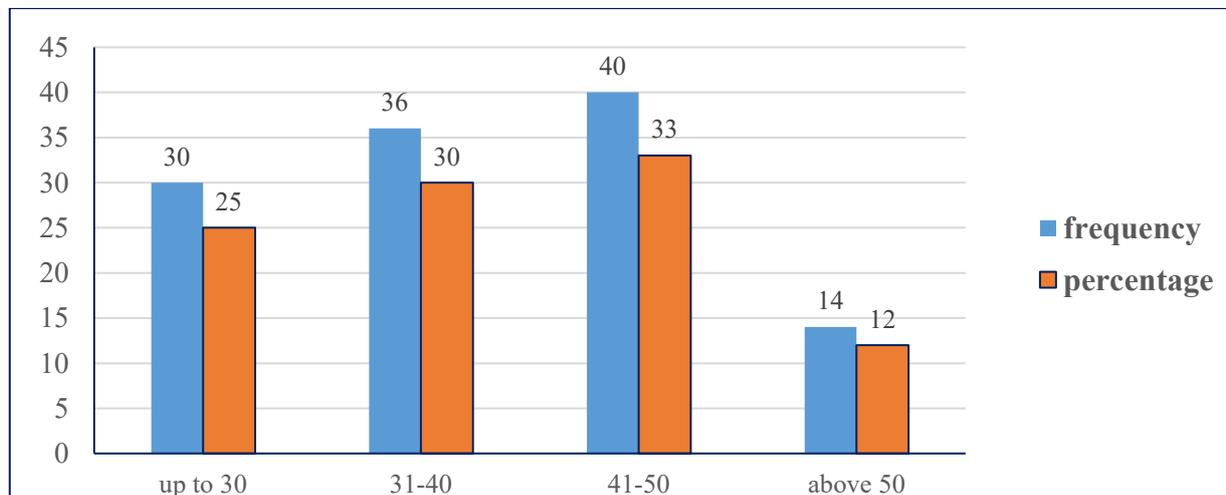


Fig 1: Distribution of the Peach growers according to their Age

**EDUCATION STATUS**

The most important component element in a country's development is thought to be education. Farmers who are illiterate are less likely to accept new technologies since it is harder to persuade them, whereas farmers who are literate quickly and easily adopt modern practices (Sanaullah *et al.*, 2020). According to Figure 2 shows 42.5% of the peach respondent were found illiterate literate and 42.5% were illiterate and remaining 57.5% were literate. Out of total literate respondents, 34.2% had an educational level up to 12class and above, 10% were middle, 13.3% were primary level respectively. These findings are different from those of Muhammad *et al.* (2023), who stated that in the research region, the majority of respondents (69%) were illiterate.

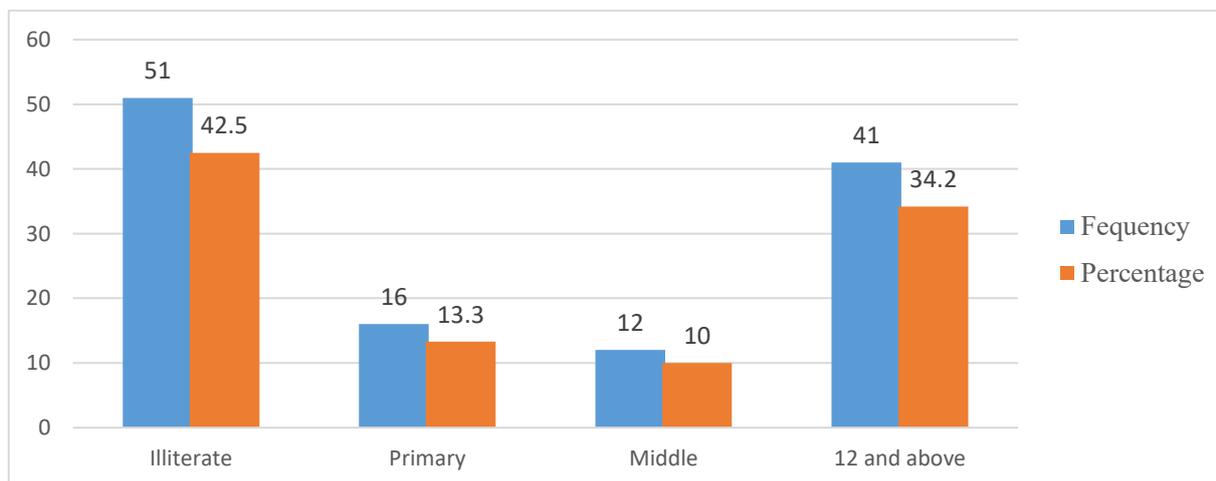


Fig 2: Distribution of Peach growers based on Level of Literacy

**House hold size**

Food and other necessities may become limited due to the world's fast growing human population. Controlling the world's population is necessary to address all of these issues. The size of the home is important during the adoption process (Sanaullah *et al.*, 2020). Data presented in Figure 3. That only 6% of the respondent had up to 4 members, 25% of the peach growers were between 4- 8, 26% belong to the house hold size above 12 members and the majority 43% of the respondents belong to the 9-12 members.

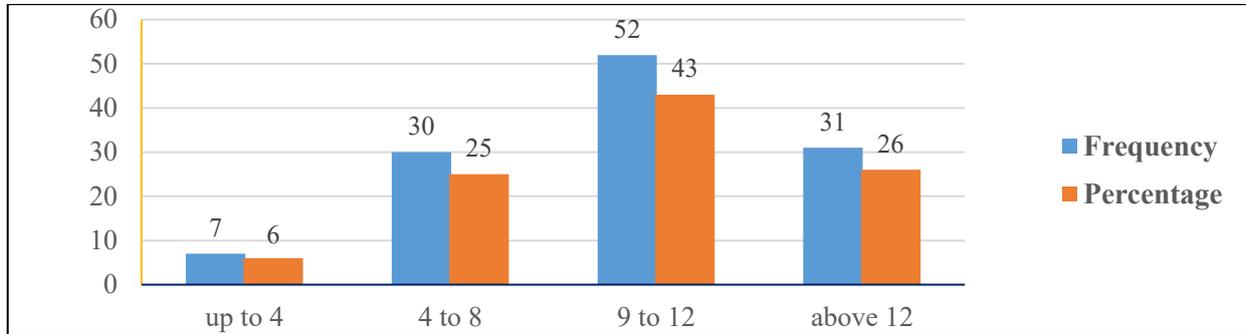


Fig 3: Distribution of Peach growers based on house hold size

**Farming Experience**

illustrates the years of farming experience, 40% of peach producers had farming experience between 11-15 years, 28% of peach growers had farming experience between 6-10 years, 22% had above 15 years, and 10% of respondents had from up to 5 years respectively. Sanaullah *et al.* (2020) observed that 63% of sample respondents in the research region had worked in agriculture for the preceding 11–20 years, which is comparable to our findings.

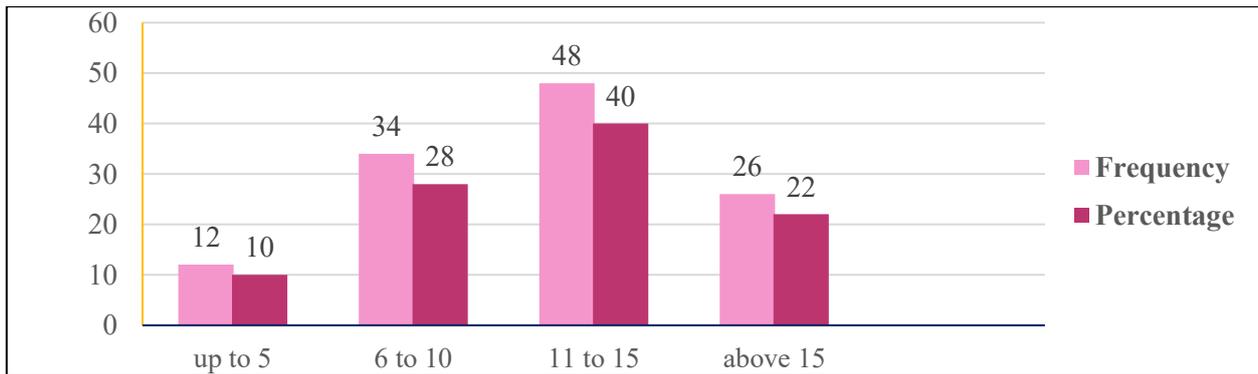


Fig 4: Distribution of Peach growers based on Farming Experience

**Total Cost of Production**

Table 1 presents data on the cost of peach producers in the study area. It reveals that 38.33% of peach growers stated that their cost per jerib was up to 30,000 AFG, and 34.16% said it was between 31,000 and 50,000 AFN. However, 27.5% of peach growers stated that their orchard costs exceeded 50,000 AFN per acre.

Table 1. Distribution of Sample Respondents on the basis Total Cost of Peach Orchard

villages	Cost on peach orchard (AFN/Jerib)						Total	
	Up to 30000		31000-50000		Above 50000			
	No.	%	No.	%	No.	%	No.	%
Arkhai	8	38.09	6	28.57	6	28.57	21	17.5
Dag kale	9	37.50	9	37.50	7	29.16	24	20
Daman	6	33.33	5	27.78	5	27.78	18	15
Paraw	6	40.00	6	40.00	4	26.66	15	12.5
Ragha	10	41.66	8	33.3	6	25.00	24	20
Warsak	7	38.88	7	38.88	5	27.77	18	15
<b>Total</b>	46	38.33	41	34.16	33	27.5	120	100

Source: Field data survey 2023



**Income of Peach Orchard**

According to data in Table 2, 58.33% of peach growers earned between 81,000 and 150,000 AFN per jerib from their peach orchard, while at least 5.8% earned up to 80,000 AFN per jerib. 37.5% of peach growers made more than 150,000 AFN per jerib. According to Khan et al. (2019), the average income value of peach orchards was 123125 rupees per ton before to farmers registering with MSFCs (model form services centers), and it increased to 165062 rupees per ton following MSFC registration.

**Table 2. Distribution of Respondents on the basis of Income from Peach Orchard AFN/acre**

villages	Income from peach AFN/ Jerib						Total	
	Up to 80000		81000-150000		Above 150000			
	No.	%	No.	%	No.	%	No.	%
Arkhai	3	14.28	10	47.61	8	38.09	21	17.5
Dag kale	2	8.33	11	45.83	13	54.16	24	20
Daman	0	0.00	13	72.22	5	27.78	18	15
Paraw	0	0.00	8	53.33	7	46.66	15	12.5
Ragha	2	8.33	17	70.83	5	20.24	24	20
Warsak	0	0.00	11	61.11	7	38.88	18	15
<b>Total</b>	<b>7</b>	<b>5.83</b>	<b>70</b>	<b>58.33</b>	<b>45</b>	<b>37.50</b>	<b>120</b>	<b>100</b>

Source: Field data survey 2023

**Main Problems that Farmers Are Facing Regarding Extension Staff**

Table 3 shows that 40.83% of peach growers identified a lack of extension field staff as their primary issue, while 20.83% pointed to uncooperative extension department staff as their main concern. Additionally, about 28.33% of peach growers noted that insufficient media attention on peach cultivation was their biggest challenge. The findings align with Saddam (2021), who reported that 47.1% of respondents identified a lack of extension personnel as a key issue for peach producers in Peshawar, Khyber Pakhtunkhwa. Similarly, Rabi et al. (2014) found that 51.6% of respondents faced challenges due to the unavailability of extension staff, while 48.3% cited a lack of cooperation from the staff as a major concern.

**Table 3. Main Problems Faced by Farmers in Obtaining Information from Extension Agent about Peach Cultivation**

villages	Main problems that farmers are facing regarding extension staff						Total	
	Non-cooperative staff of Extension department		Non-availability of Extension field staff		Non-focus on peach orchard in electronic media			
	No.	%	No.	%	No.	%	No.	%
Arkhai	4	19.00	10	47.61	7	33.33	21	17.5
Dag kale	8	33.30	8	33.33	8	33.33	24	20
Daman	6	33.33	6	33.33	6	33.33	18	15
Paraw	7	46.66	7	46.66	1	6.67	15	12.5
Ragha	7	29.16	11	45.83	6	25.00	24	20
Warsak	5	27.78	7	38.89	6	33.33	18	15
<b>Total</b>	<b>37</b>	<b>30.83</b>	<b>49</b>	<b>40.83</b>	<b>34</b>	<b>28.33</b>	<b>120</b>	<b>100</b>

Source: Field data survey 2023

**Input availabilities**

Data regarding production problems of the peach growers in the study area were presented in Table 4, show that 44.2% peach producers reported high price of the inputs as main problem in peach production, while 32.5% were reported lack of finance problems by peach growers. About 23.3% peach growers faced the irrigation problem. Our findings were quite comparable to those



of Rabi *et al.* (2014), who reported that 38.3% of respondents cited a shortage of irrigation water, 36.6% cited a lack of funding, and the remaining 25% cited high input costs as the primary issues affecting peach producers in the research region.

**Table 4. Distribution of Respondents on the Basis of Problems of Input Availabilities**

villages	Problems of input availabilities						Total	
	Lack of Finance		High price of input s		Lack of irrigation water			
	No.	%	No.	%	No.	%	No.	%
Arkhai	11	52.38	10	47.61	0	0.00	21	17.5
Dag kale	3	12.50	4	16.66	17	70.83	24	20
Daman	3	16.66	4	22.22	11	61.11	18	15
Paraw	6	40.00	9	60.00	0	0.00	15	12.5
Ragha	8	33.33	16	66.67	0	0.00	24	20
Warsak	8	53.33	10	66.67	0	0.00	18	15
<b>Total</b>	39	32.50	53	44.16	28	23.33	120	100

Source: Field data survey 2023

**Marketing Problems**

Illustrate data in Table 5, Peach growers face key marketing challenges, mainly due to the lack of cold storage (59.16%), transport issues (24.2%), and limited market information (16.6%). Peach marketing faces main challenges such as inadequate storage, limited packaging, delayed payments, low prices, and middlemen monopolies (Alamgir, 2019). Rabi *et al.* (2014) highlighted cold storage shortages (53.3%) and packaging-related disease issues (46.6%) as major concerns. Addressing these issues is essential for improving production and reducing poverty.

**Table 5. Problems Faced During Marketing of Peach Fruits by the Peach Growers**

villages	Problems faced during marketing						Total	
	Transportation Problem		Lack of Cold Storage		Lack of sufficient Information Regarding Marketing Intelligence			
	No.	%	No.	%	No.	%	No.	%
Arkhai	7	33.33	10	47.61	4	19.04	21	17.5
Dag kale	5	20.83	15	62.50	4	16.67	24	20
Daman	5	27.78	11	61.11	2	11.11	18	15
Paraw	3	20.00	9	60.00	3	20.00	15	12.5
Ragha	5	20.83	14	58.33	5	20.83	24	20
Warsak	4	22.22	12	66.66	2	11.11	18	15
<b>Total</b>	29	24.16	71	59.16	20	16.66	120	100

Source: Field data survey 2023

**Peach Diseases**

The majority of biotic and abiotic diseases affect peaches globally. According to Table 6, 47.5% of respondents reported experiencing leaf curl disease. Additionally, 18.38% mentioned having scab disease in their peach orchards, while 34.16% reported brown rot disease. These diseases result in significant losses for the crop.



**Table 6. Distribution of Respondents on the basis of Peaches Diseases Problem**

villages	Peaches diseases problems						Total	
	Leaf curl		Brown rot		Scab disease			
	No.	%	No.	%	No.	%	No.	%
Arkhai	10	47.61	8	38.09	3	14.28	21	17.5
Dag kale	13	54.16	7	29.16	4	16.66	24	20
Daman	9	50.00	6	33.33	3	16.67	18	15
Paraw	4	26.66	7	46.66	4	26.66	15	12.5
Ragha	11	45.83	8	33.33	5	20.83	24	20
Warsak	10	55.55	5	27.77	3	16.67	18	15
<b>Total</b>	<b>57</b>	<b>47.50</b>	<b>41</b>	<b>34.16</b>	<b>22</b>	<b>18.38</b>	<b>120</b>	<b>100</b>

Source: Field data survey 2023

**Pest of Peaches**

**Table 7.** The data regarding insect and pest attacks on peach orchards. indicates that a significant majority of respondents (94.16%) identified fruit flies as the primary pest affecting these orchards. In contrast, only 5.83% of respondents reported aphids as another pest. This information highlights that fruit flies are the main threat to peach fruit.

**Table 7. Distribution of Respondents on the Basis of insects/pest of Peaches**

villages	Insect/pest problems				Total	
	Aphids		Fruit fly			
	No.	%	No.	%	No.	%
Arkhai	1	4.76	20	95.23	21	17.5
Dag kale	3	12.50	21	87.50	24	20
Daman	2	11.11	16	88.89	18	15
Paraw	0	0.00	15	100	15	12.5
Ragha	1	4.16	23	95.83	24	20
Warsak	0	0.00	18	100	18	15
<b>Total</b>	<b>7</b>	<b>5.83</b>	<b>113</b>	<b>94.16</b>	<b>120</b>	<b>100</b>

Source: Field data survey 2023

**CONCLUSION**

The study highlights that the peach growers in the study area face a variety of challenges, including issues with market access and production constraints. The majority of the issues included the absence of field services provided by Agriculture Extension, a lack of irrigation water, a lack of income, a lack of cold storage facilities, transportation issues, inadequate marketing information, the distance between the market and the consumer, and infestations of pests and diseases. The productivity and profitability of peach growers in District Goshta are affected by these various issues. The Researchers must suggest measures regarding control disease and pest problems, provide training, workshop, field visit, field days with result demonstration create awareness to control pest and disease. provide subsidized agricultural inputs at fair prices in local markets, fertilizers, fungicides, insecticides, high-quality seeds, loans, and modern farming equipment application improve farmers agricultural productivity.

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