BASELINE SURVEY REPORT

Mission Samriddhi FPOs Promotion Project

Maharashtra

Submitted by

Indian Society of Agribusiness Professionals (ISAP)

E16/B1, Mohan Cooperative Industrial Estate Mathura Road, New Delhi – 110044

www.isapindia.org

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Introduction to Mission Samriddhi

Mission Samriddhi is a social impact enterprise by Polaris Foundation. The purpose of this venture is to work dedicatedly towards holistic human development in India. This is done by designing and developing projects that are sustainable and capable of scale with a view to positively impact the larger population.

Mission Samriddhi currently supports projects in seven clusters including: Leadership Capacity Building; Farm-to-Fabric (organic *khadi*); Farm-to-Table (organic foods); Scientific Agricultural Training; Education; Community Health; and Grassroots Relief.

The current project is being planned with the idea of strengthening on-farm livelihood by creating Farmer Producer Organizations (FPOs). A total of seven blocks spanning two states, i.e. Uttar Pradesh and Maharashtra are intended to receive the benefits of this project.

Aim of Baseline Survey Report

This Baseline Survey Report is commissioned to identify and assess a value proposition for the formation of these FPOs. The project is ambitious and aims to set-up and make sustainable, a total of 10 FPOs within a span of 1 year. The financial viability of the project is pegged at Rs 6,606,666 and the investment for this project is being made by the Polaris Foundation.

The project is being executed in partnership with the Indian Society for Agribusiness Professionals. The *Gramin Samasya Mukti Trust*, Yavatmal, Maharashtra and *Banwasi Sewa Ashram*, are also facilitating this project at the grassroot level as local partners.

Background

The FPO intervention being planned by Mission Samriddhi can help small and marginal farmers to alleviate some of their difficulties helping them by making collective efforts.

The concept of collective strength is not new, and the results have always been noteworthy. Cooperatives are working traditionally for the benefit of farmers and development of agriculture by supplying credit and other services. But most of these institutions are weakened due to poor financial resources and lack of professional management. This has often resulted in defunct institutions. Hence, the context of collective efforts needs to be relooked at in terms of extent of work, ownership and participation of farmers in the process.

It is here that ISAP partners Mission Samriddhi and assists to carry out a baseline survey, cluster finalization, value chain study, formation of groups and FPOs. They also actively participate in periodical meetings, steer registration of FPOs, conduct training and capacity-building. In addition, ISAP provides market linkages to these newly formed entities to input suppliers, technology providers as well as market players. ISAP plays the role of regular interfacing with various stakeholders at the cluster level and facilitates them to avail the equity grant and credit guarantee facility as per their needs for creation of necessary common pool production, marketing and processing infrastructure.

In order to mainstream the process of institutional development of Farmer Producer Organizations, DAC & FW have issued operational guidelines to encourage and support FPO promotion as a regular activity. The NPMA guidelines are at the core of all the FPO promotion activities carried out under the aegis of this prestigious endeavour. ISAP has prepared this comprehensive project report on the basis of these guidelines to promote Farmer Producer Organizations (FPO) under the Central Sector Scheme for formation and promotion of 10 FPOs in the Wardha and Yavatmal district of Maharashtra.

District Profile – Wardha

Wardha district is in the state of Maharashtra in western India. This district is a part of the Nagpur Division. The city of Wardha is the administrative headquarters of the district. Hinganghat, Arvi and Wardha are the major cities in district. The district has a population of 1,300,774; this gives it a population ranking of 377 in India (out of a total of 640). The district has a population density of 205 inhabitants per square kilometre (530/sq mi). Its population growth rate over the decade 2001-2011 was 4.8%. Wardha has a sex ratio of 946 females for every 1000 males, and a literacy rate of 87.22%. Scheduled Castes and Scheduled Tribes make up about 14.52% and 11.49% of the population, respectively.

District Profile – Yavatmal

Yavatmal formerly known as Yeotmal is a district of the Indian state of Maharashtra. It is located in the region of Vidarbha, in the east-central part of the state. It is Vidarbha's third-largest district by population, after Nagpur and Amravati. Yavatmal city is the administrative headquarters of the district.

According to the 2011 census Yavatmal District had a population of 2,772,348. Its population ranking was 141st in India (out of a total of 640), and 21st in the state (out

of 35). The district had a population density of 204 inhabitants per square kilometre (530/sq mi). Its population growth rate over the decade 2001–2011 was 12.9%. Yavatmal had a sex ratio of 947 females for every 1000 males, and a literacy rate of 80.7%. Scheduled Castes and Scheduled Tribes make up about 11.85% and 18.54% of the population, respectively.

Location of Wardha District

Latitudinal and longitudinal extent – 20 deg 18 ‘ N to 21 deg 21’ N latitudes, 78 deg 4’ to 79 deg 15’ E longitude.

Location of Yavatmal District

The geographical location of the district falls in 19.26 and 20.42 North latitudes and 77.18 to 7.9.9 in the Eastern line.

Geography of Wardha District

Wardha forms a distinct part of the north-eastern part of the state of Maharashtra. Formerly, it was a part of Nagpur but was subsequently separated and given its own identity in 1962. The physiographic division of Wardha yields three separate sections – the region surrounding the Talegaon plateau, along the uplands of the north and northeast, the narrow stretch of land forming the Arvi plains, which are situated to the West of the northern uplands and Wardha-Hinganghat plains.

The northern and eastern regions of Wardha are generally filled with hilly regions which are a part of the Satpura ranges, projected southwards; these mountainous regions have distinct slopes in the north, south and east directions and gradually merge with the Wardha lowlands. The southward descent of the slopes is marked by a number of geographically prominent contours or terraces.

The western boundary of the Arvi subdivision is marked by a narrow and elongated strip of plains called the ‘Arvi plains. These plains, running from north to south along the western boundary of Arvi, are more than 65 kilometres in length and 7 kilometres in width. They are situated very close to the Wardha valley, with the average elevation levels in the hill slopes being 300 metres.

The most fertile region in Wardha is the Wardha-Hinganghat plains – they constitute nearly the entire area of the Hinganghat subdivision and about two-thirds of the southern regions of the Wardha subdivision. They form an area of high fertility that

has a gentle slope directed towards the Wardha River. This region has elevations ranging from 300 metres in the North to 200 metres in the South.

Geography of Yavatmal District

Yavatmal District is situated in the south-western part of the Wardha Penganga-Wainganga Basin. Amravati and Wardha districts, from east to Chandrapur District, Andhra Pradesh and Nanded District are from the North, whereas Parbhani and Akola districts are surrounded by west.

The district covers 13,582 sq km (5,244 sq mi) (4.41 per cent of the state). The total length of the district is 190 kilometres (120 mi), and the maximum width from north to south is 160 km (100 mi). The district occupies the southeastern part of Berar.

The two main rivers are the Penganga and Wardha. The Wardha originates in Madhya Pradesh. The Penganga River is the main tributary of the Wardha, and marks the southern boundary of the district before joining the Wardha River. Wardha River's other tributaries include the Banmbala and Nirguda, which flow only during the monsoon season. Other rivers include the Bembala and Nirguda rivers on the Yavatmal Plateau.

Climate of Wardha District

The climate of this district is characterised by a hot summer and general dryness throughout the year, except during the southwest monsoon season. The year may be divided into four seasons. The winter is from December to February. The hot season is from March to the middle of June. This is followed by the southwest monsoon season which extends up to the first week of October. The rest of October and November constitute the post-monsoon season.

The average annual rainfall in the district is 1090.3mm (42.93"). Out of this total rainfall during the period from June to September amounts to about 87 per cent. July being the rainiest month. The rainfall generally increases from the west to the east in the district. The rainfall during the year, outside monsoon months, even though low is well-distributed among different months.

There is no Meteorological Observatory in the district. As the climatic conditions in the neighboring districts are like those in this district, the account that follows is mainly based on the records of the observatories in the neighboring districts.

Temperatures increase steadily from about the beginning of March. May is the hottest month of the year with the mean daily maximum temperature at about 42° C and the mean daily minimum, at about 28°C. The heat in the summer season is

severe during the day, but the nights are comparatively cooler. The afternoon heat is sometimes relieved by thundershowers. With the onset of the southwest monsoon by about the middle of June, there is an appreciable drop in day temperatures and the weather becomes pleasant. With the withdrawal of the southwest monsoon by about the first week of October, the day temperatures increase slightly and there is a secondary maximum in day temperatures in October. The night temperatures, however, decrease progressively after September. After October, both day and night temperatures decrease rapidly till the end of December, which is the coldest month with the mean daily maximum temperature at about 28°C and the mean daily minimum at about 15°C.

In the wake of western disturbances which move across North India in the cold season, the district is sometimes affected by cold waves, and the night temperatures go down to about 5°C at times.

Climate of Yavatmal District

The climate of the district is in general hot and dry with moderately cold winters. The year may be divided into four seasons. The hot season begins in March and extends up to the first week of June. This is followed by the south-west monsoon season which lasts up till the end of September. October and November constitute the post-monsoon season and is followed by the cold season which lasts up till February.

Most of the total annual rainfall is reserved during the southwest monsoon season. The rainfall is not uniform in all parts of the district. Wani in the eastern part of the district and receives 1,125 mm of rain. Darwha in the western part of the district receives 889 mm of rain. Yavatmal in the central portion of the district receives 1099.5 mm of rain. In general, the amount of rainfall increase as one proceeds from west to east.

The summer season is from March to May and one can observe continuous rise in both day and night temperature during this period. May is generally the hottest month of the year with the mean daily maximum temperature at about 42°C. With the onset of the south-west monsoons there is an appreciable fall in temperatures and the weather becomes pleasant. With the withdrawal of the monsoon, day temperatures increase slightly, while night temperatures progressively decrease. From about the end of November, both day and night temperatures fall rapidly. December is usually the coldest month of the year with the mean daily minimum temperature at about 13°C. The cold waves over northern India sometimes affect the district and the minimum temperature may drop to about 5°C.

During the southwest monsoon season the air is humid and the skies are heavily clouded to overcast. During the rest of the year, the air is generally dry and the skies

are clear or lightly clouded. Winds are generally light to moderate with some increase in force in the latter part of the summer season and the monsoon months.

Ecology of Wardha District

Wardha is a city and a municipal council in Wardha District. It is the administrative headquarters of Wardha District. Wardha gets its name from the Wardha River which flows at the north, west and south boundaries of the district. Founded in 1866, the town is now an important center for the cotton trade. It was an important part of the Gandhian Era.

Ecology of Yavatmal District

The city of Yavatmal is located at the eastern part of Maharashtra. Its geography and climate are greatly influenced by its location. The district of Yavatmal shares its boundaries with Washim and Hingoli districts in the west, Amravati District and Wardha districts in the north with Chandrapur District lining the east. To the south of the district lies the Nanded District and the state of Andhra Pradesh. The National highway number 7 passes through Yavatmal, connecting Varanasi and Kanyakumari. The important places along this highway are Wadki, Karanji, Pandharkawda and Patanbori.

Physiography of Wardha District

The area is physiographically divided into two parts, the north and northeastern parts forming into a hilly spur projecting south and south eastwards from the Satpura Mountain ranges. While the southern part forms into an undulating plain with average elevation ranging between 300 and 500 metres above mean sea level. The general slope is southwards. It is gentle towards Wardha River, but tends to become steeper in the northern uplands.

The entire district is mainly drained by the Wardha River and its tributaries viz., Yashoda, Wunna and Bakli. Based on geomorphological setting and drainage pattern, the district is divided into 39 watersheds.

Physiography of Yavatmal District

Yavatmal District is in the southern mountain ranges of Berar, situated on a wide plain surrounded by hilly terrain and mountain ranges running east to west. The central part is a plateau 300 to 600 metres which is 980 to 1,970 ft above sea level. On its northern border is the Panighat, called the valley of Berar, which is 65 to 80 kilometres (40 to 50 mi) wide; only a 8 to12-kilometre-wide (5 to 7 mi) portion of the valley is within the Yavatmal District.

Soil in Wardha District

The type of soil generally found in Wardha can be distinctly subdivided into the following categories – m*orand* (dark brownish or black colour), b*ardi* (found in the hilly regions that are filled with large boulders and rocks), *kali* (black soil that is rich in minerals), *kharadi* (dark black soil that is mixed with sand and lacks well-defined texture due to impurities).

Soil in Yavatmal District

Three types of soils are observed in the district i.e., the shallow coarse soil which is reddish brown and brownish in colour, occurring in general at higher elevations along the ridges and also at the foothills zone of the major hills. The medium black soil is developed along the tributary drainages and also along the intermediate gradient area. The deep black soil, which is developed along the lower reaches of Wardha and Penganga riverbeds. They differ from medium black soil in depth and fertility. The soils in the district are slightly alkaline, clayey loamy in texture and contain calcium carbonate.

Agriculture and Crop Patterns in Wardha District

In the district of Wardha, *kharif* and *rabi* are the two agricultural seasons, and *kharif* has always been the most important season with regard to area brought under cultivation.

The *kharif* season begins in mid-June with the onset of the monsoon and extends up to December depending on the type of crop sown. The *rabi* season commences in October and extends up to February or March. The important crops grown in *kharif* season are cotton, sorghum, and pulses, and since the mid-1980s, soyabean has become an extremely important *kharif* crop in the Wardha District. In the *rabi* season, wheat and gram are cultivated.

Agriculture and Crop Patterns in Yavatmal District

Cotton is the most important crop under the rainfed area of this (MH-8) zone and occupies 4, 05,000 ha of land. It is largely grown during the *kharif* season. Soyabean is cultivated on 2, 87,000 ha of land, while pigeon pea is cultivated on 1, 06,000 ha of land. Sorghum, green pea, black gram are also grown in this rainfed area in 70,000 ha, 12,000 ha, and 10,000 ha of land, respectively.

Although some crops such as gram, wheat and safflower were grown in the *rabi* season. Wheat remains the main crop in the Yavatmal District post the rainy season.

The most prominent cropping pattern followed by the farmers of Yavatmal included cotton and pigeon pea.

Maregaon

(Yavatmal)

Maregaon

Block Profile

Maregaon is a *tehsil*/Block in the Wani Subdivision of the Yavatmal District of Maharashtra. The total area of Maregaon is 607 sq km. Maregaon has a population of 78,713 people. There are 19,776 houses in the sub-district. There are about 108 villages in Maregaon Block. It has 17 wards and is located on the Wani-Yavatmal Road nearly 18 kms from Wani. The major profession is agriculture. It has black soil which is suitable for growing cotton and soyabean. The local language is Marathi. The population of the *tehsil* mostly comprises of tribals including Gond and Kolam tribes in nearby villages. The *tehsil* has been bifurcated to form another *tehsil* called *Zari-Jamani*. New coal mines have been discovered in recent times in this area. This could help to improve the economy of this belt.

Socioeconomic status of respondents of Maregaon block

Age of the respondents

Figure 1 shows that most of the farmers, 38%, of Maregaon Block were between the age group of 31 and 45 years and 46 and 60 years. 19% of them were between the age group of 15 and 30 years and 5% of them were between 61 and 75 years.

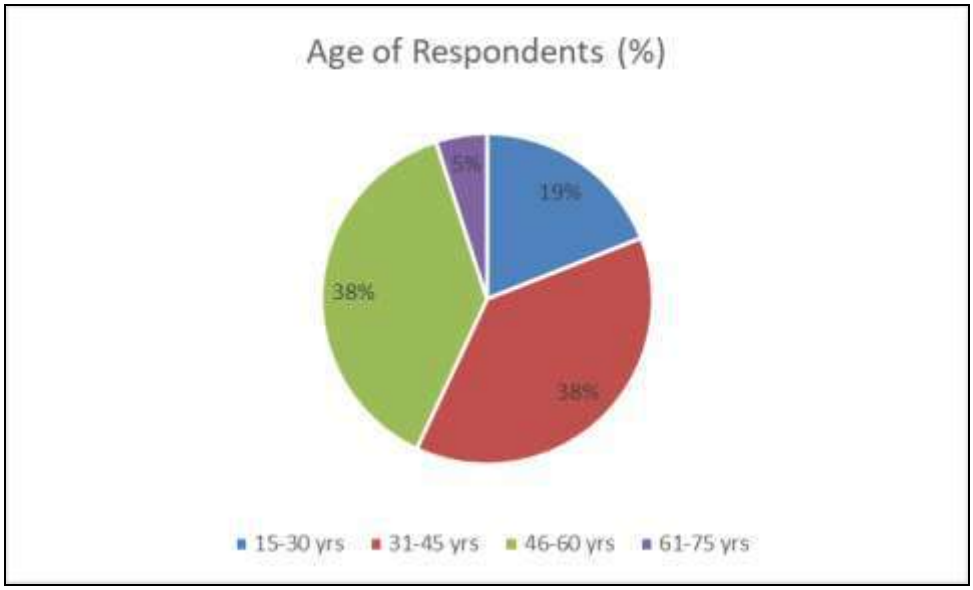

Figure 1: Age of the respondents of Maregaon Block

Category of the respondents

Figure 2 shows that 50% of the respondents of the Maregaon Block belonged to SC/ST Category. 48% of them were from OBC and 2% belonged to the Others Category.

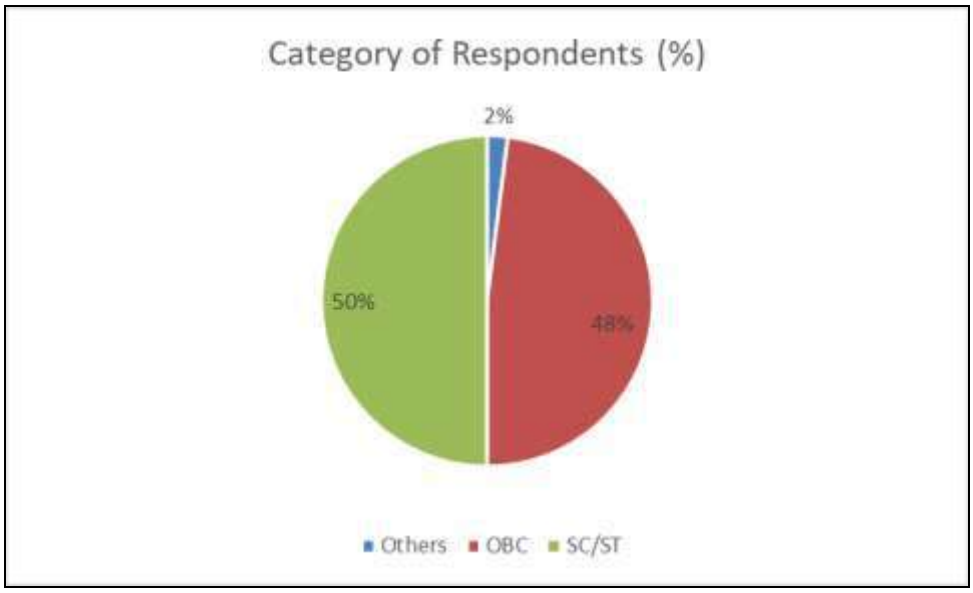

Figure 2: Category of the respondents of Maregaon Block

Gender of respondents

According to **Figure 3**, 4% of the respondents were females and 96% of the respondents were male.

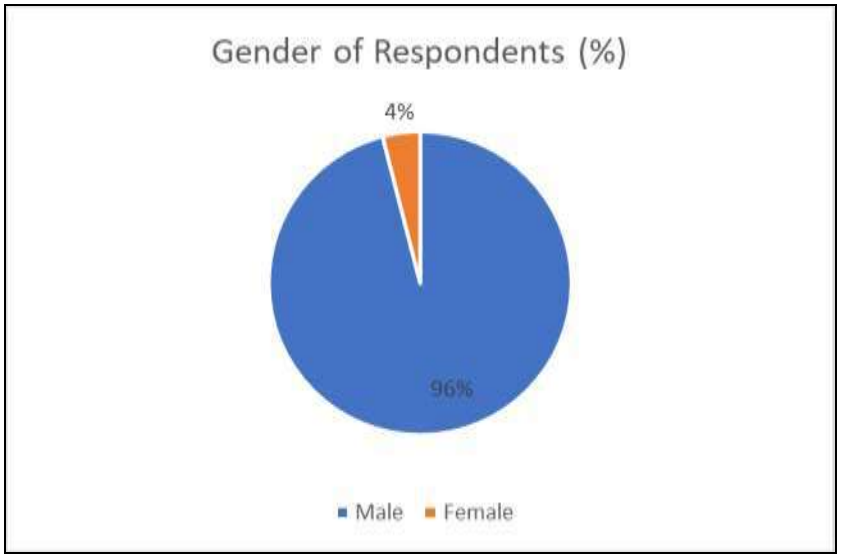

Figure 3: Gender of the respondents of Maregaon Block

Educational qualification of respondents

Figure 4 shows that 42% of the respondents of the Maregaon Block were educated up to the primary and Class 8, respectively. 13% were educated up to Class 10. Only 1% were graduates and above, and 2% could read and write.

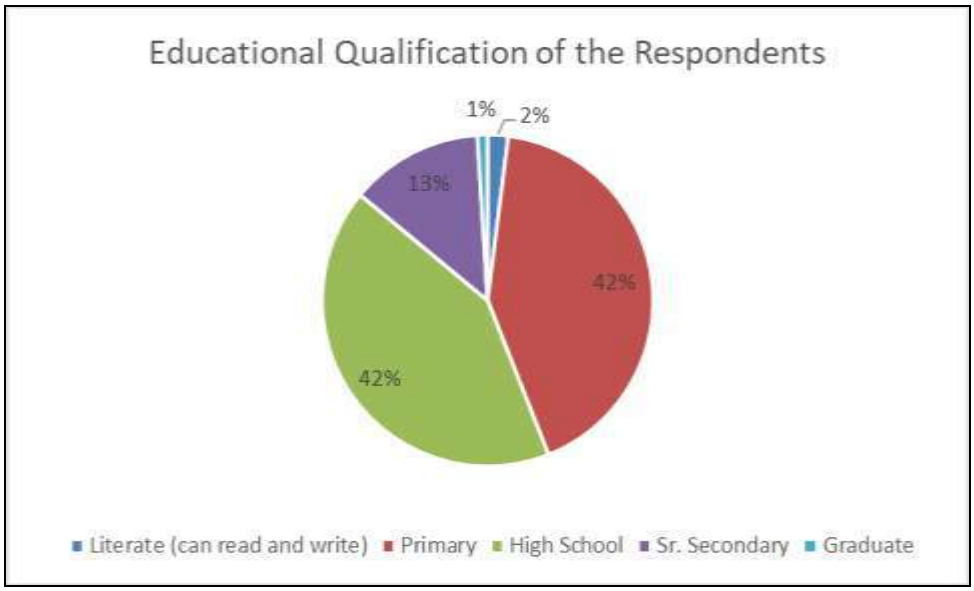

Figure 4: Educational qualifications of the respondents of Maregaon Block

Number of family members

Table 1 shows that the average number of adult members per family of the Maregaon Block is 3. The average number of children per family is 2 and school-going children are 1. The average number of dependent members in a family is less than 1. So, it can be inferred that on an average, one person in the household is an earning member.

Family members	Average number
Adult	3
Children	2
School-going children	1
Dependent members	1

Table 1*: Average number of members in a family in Maregaon Block*

Involvement of women in agriculture

100 per cent of the families have women involved in agriculture.

Activities performed by women

Figure 5 shows that women of the Maregaon Block are involved in various agricultural activities such as sowing, weeding, harvesting, sorting, and grading. Most of the women perform sowing & weeding of crops. 95% of the women carry out sorting & grading activities. 86% of the women are involved in the harvesting of crops. 99% of the females carry out sowing and weeding. 16% do some kind of processing and 10% of women are involved in the spraying of pesticides. Women usually perform household activities or farming activities.

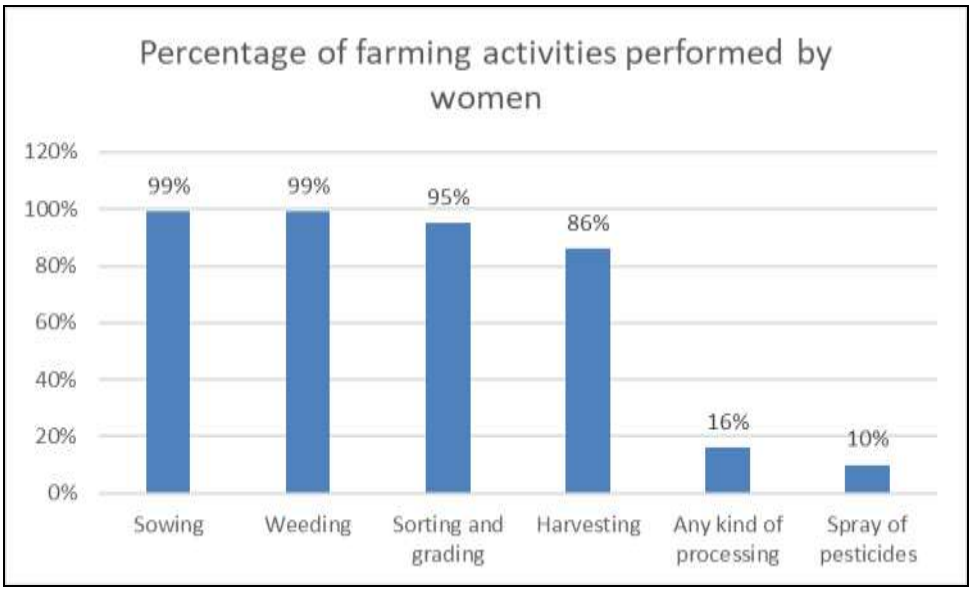

Fig 5: Percentage of farming activities performed by women in Maregaon Block

Annual income of the respondents from farming

Figure 6 shows that around 5% of the respondents had an annual income of less than 25 thousand, 23% of the respondents had an annual income between 25 and 50 thousand. 57% of them had an annual income between 50 thousand and 1 lakh. 14% of the respondents had an annual income between 1 and 1.5 lakh and only 5% had it more than 1.5 lakh.

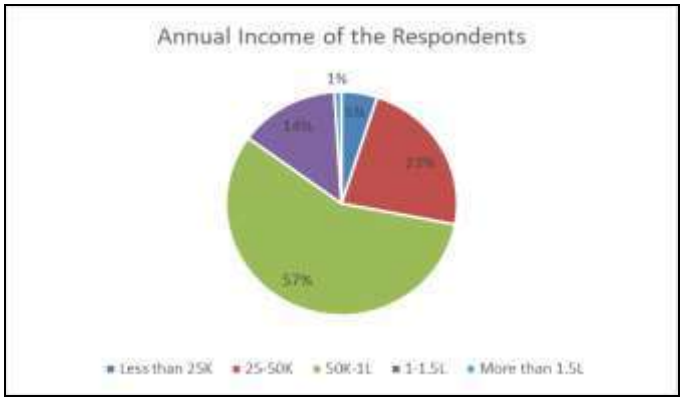

Figure 6: Annual income of the respondents from farming in Maregaon Block

Savings from farming

Figure 7 shows that approximately 15% of the respondents had less than 20 thousand as savings from farming. 52% of them had savings between 20 and 50 thousand and 28% had it between 50 thousand and 1 lakh. No data could be obtained from 1% of the respondents.

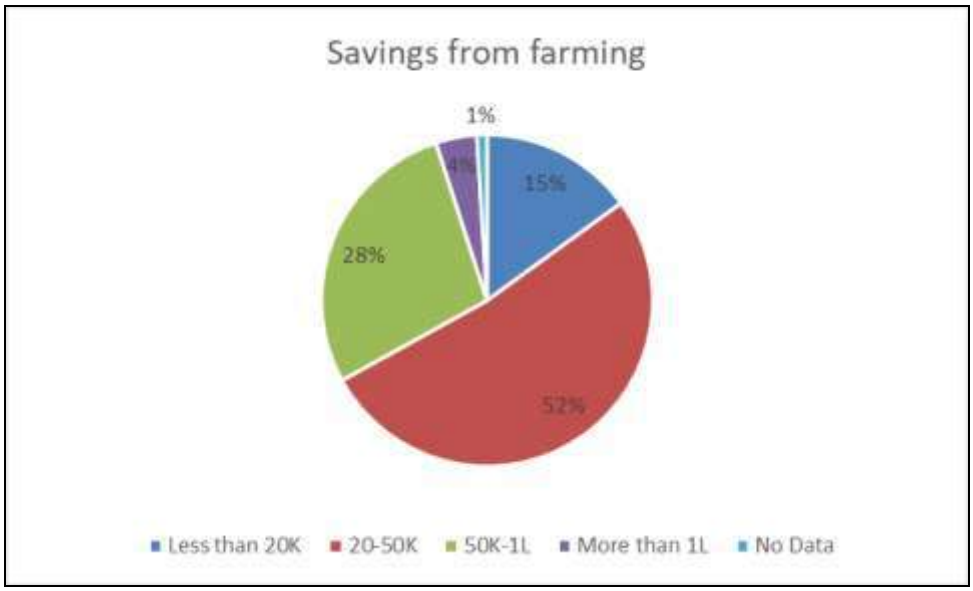

Figure 7: Annual savings from farming in Maregaon Block

Non-farming activities

Apart from farming activities, the farmers are also involved in non-farming activities to increase their income. 12% of the farmers have agriculture labour work, 10% are working as labourers and around 1% are running general stores. Around 4% are doing other jobs. None of the respondents are involved in government jobs and petty shops.

Annual Income of the respondents from activities other than farming

Table 2 shows that **t**he average annual income of respondents from working as labourer is Rs 22,820/- and for those working in private jobs it is Rs 28,600/-

Average income from activities other than farming	
Laborers	Rs 22.82 thousand
Private jobs	Rs 28.6 thousand

Table 2: Annual Income of the respondents from activities other than farming

Average distance of markets

Table 3 shows that the average distance of the local market is 13.46 km and the average distance to the *mandi* is 17.39 km from the villages.

Average distance of markets	
Local market	13.46 km
Mandi	17.39 km

Table 3*: Average distance of markets in Maregaon Block*

Landholding size of the respondents

Figure 8 shows that in the rural areas, agriculture is the mainstay of the economy, with hardly any non-farm occupations available. 6% of the farmers had 0-2 acres of land. 28% of the farmers had 2.1-4 acres of land. 39% of the farmers had 4.1-6 acres of land and 8% of the respondents had 8.1-10 acres of land. 11% of the respondents had 6.1-8 acres and only 8% of the farmers had more than 10 acres of land.

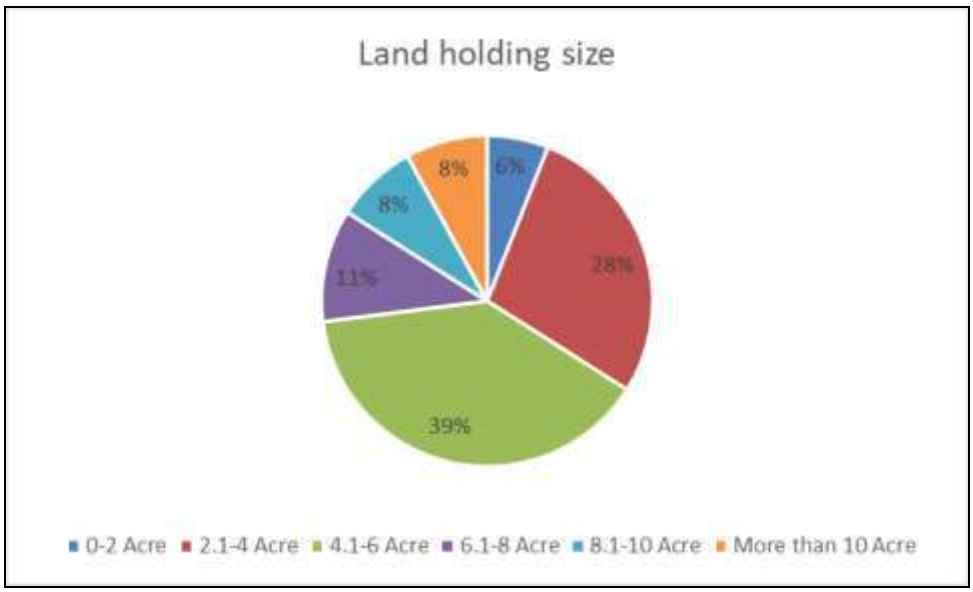

Fig 8: Landholding size of farmers in Maregaon Block

Problems in seeking a bank loan

Most of the respondents cited unfriendly behaviour of banking staff, time taken for documentation and other processes and the distance of bank from their villages as the main reasons for not being able to secure a bank loan.

Training received

None of the respondents had received any training on farming.

Problems faced in farming and expectations from the government

Most of the respondents said that there aren't enough resources for irrigation in the area. Further, they said they wanted the government to take steps to provide advanced technological assistance and financial aid. They also highlighted the

need for good quality seeds and reiterated that the *mandi* should be as close to the village as possible.

Soil health card/soil testing report

23% of the farmers were aware about soil testing and only 9% of them had a soil health card. 9% of the farmers had received any advice on crops to be grown and nutrients required in their field. Proper awareness and trainings were required to be given to the farmers regarding soil testing.

Irrigated land of the respondents

Around 209 acres of the land in the area is irrigated land.

Types of irrigation facilities being used

Figure 9 shows that approximately 45% of the respondents use borewell or minor irrigation techniques. 52% use other techniques, 2% use canal water for irrigation and 1% use other irrigation sources.

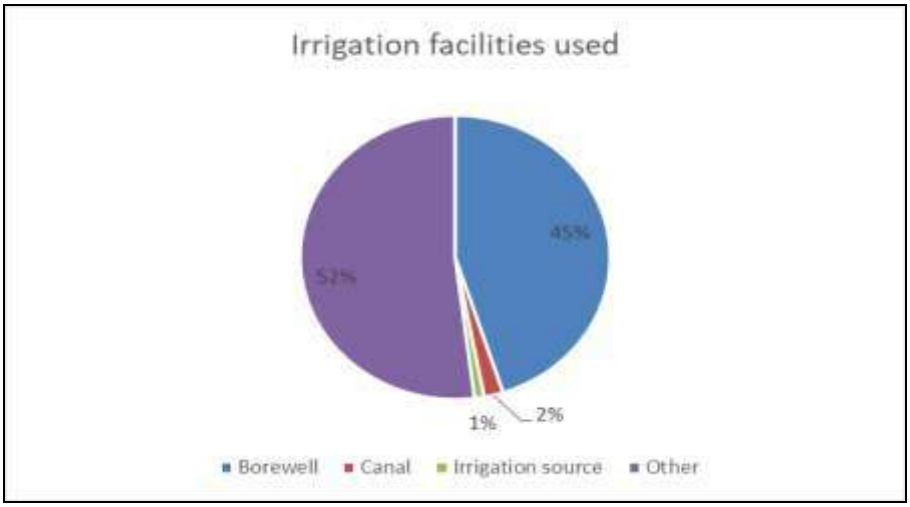

Figure 9: Irrigation Facilities in Maregaon Block

Crop-related information

Cropping pattern

Kharif crops 2020

As reflected in **Table 4**, the major *kharif* crop grown in the surveyed area is cotton. Cotton was grown in an area of almost 499 acres. The total production amounted to 3144 quintals; out of which 283 quintals were sold in the market. Cotton is being sold

at ₹900 kg/quintal. Other crops grown in the *kharif* season are Bengal gram, red gram, maize and soyabean. They were grown in an area of 180.5 acres. The total production was 801.55 quintals. 782.5 quintals were sold in the market at an average rate of ₹4628.58 per quintal.

CROP ROTATION (*KHARIF*)							
	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)	
	Cotton	499	3144	1556	3036	4915	
	Bengal Gram, Red Gram, Maize, Soyabean	180.5	801.55	1096	782.5	4628.58	

Table 4: Crop rotation of kharif crops in Maregaon Block in 2020

Kharif Crop 2018 - Cotton

Total area under cultivation

Figure 10 shows that almost 55% of the respondents in the Maregaon Block had between 4 and 6 acre of land under cultivation. 35% had between 1 and 3 acres of land under cultivation. 5% had between 7 to 9 acres and more than 10 acres.

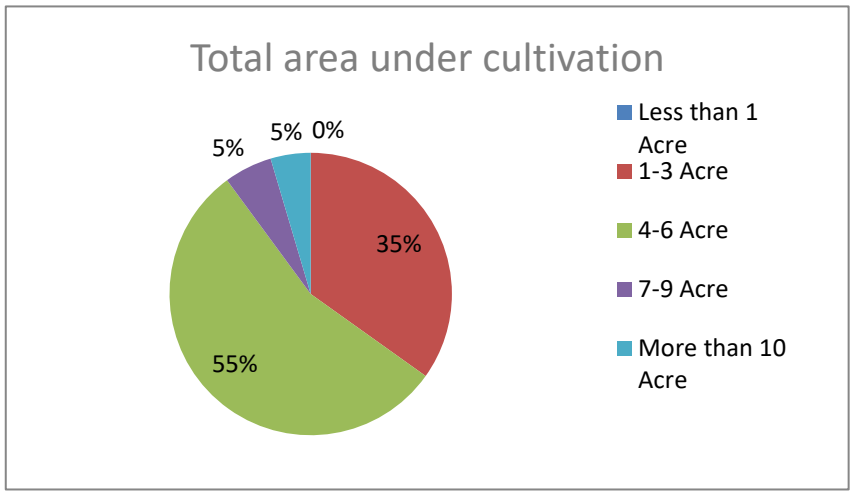

Figure 10: Total area under cultivation in 2018 in Maregaon

Production of Cotton

Figure 11 shows that almost 42% of the respondents pegged their production of cotton, between 15 and 10 tons. 29% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 4% of the respondents

produced between 45 and 60 and more than 75 tons of cotton. 1% of the respondents had a production of cotton between 60 and 75 tons.

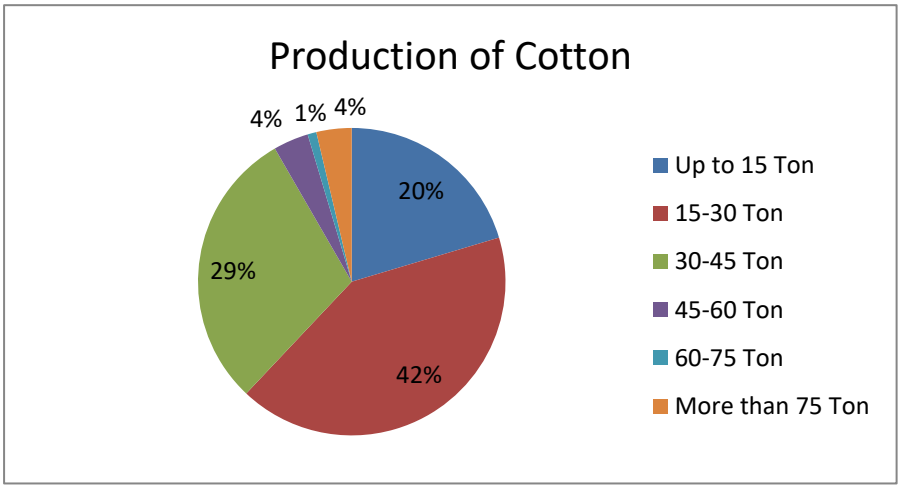

Figure 11 : Production of Cotton in 2018 in Maregaon

Per Quintal Selling price (SP) of Cotton

Figure 12 shows that almost 46% respondents sold cotton with SP between Rs 5,000 and 6,000. 33% sold it for SP between Rs 4,000 and 5,000, 20% for SP between Rs 3,000 and 4,000 and only 1% sold it for a SP between Rs 6K-7K.

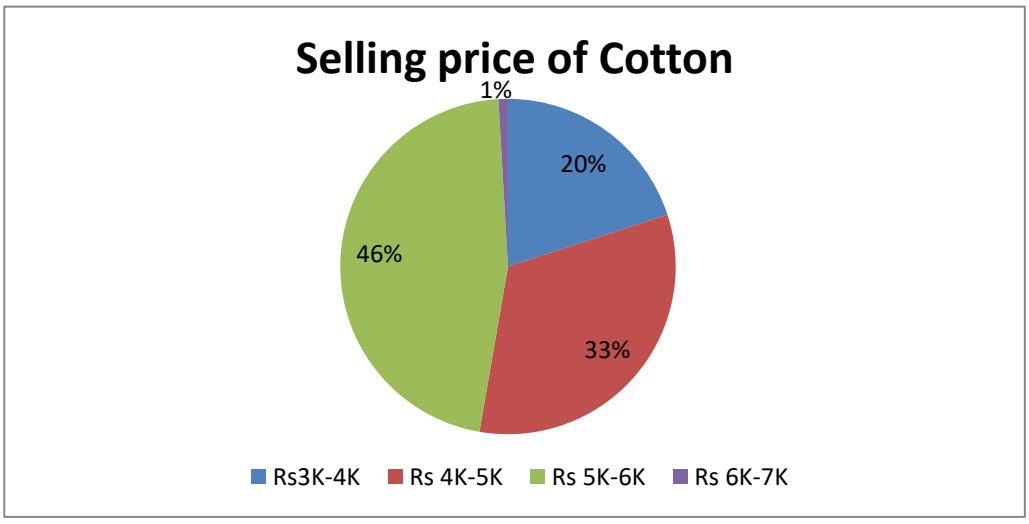

Figure 12 *: Selling price of Cotton in 2018 in Maregaon*

Kharif Crop 2019 – Cotton

Total area under cultivation

Figure 13 shows that almost 55% of the respondents in the Maregaon Block had between 4 and 6 acres of land under cultivation. 35% had between 1 and 3 acres of land under cultivation. 5% had between 7 and 9 acres and more than 10 acres.

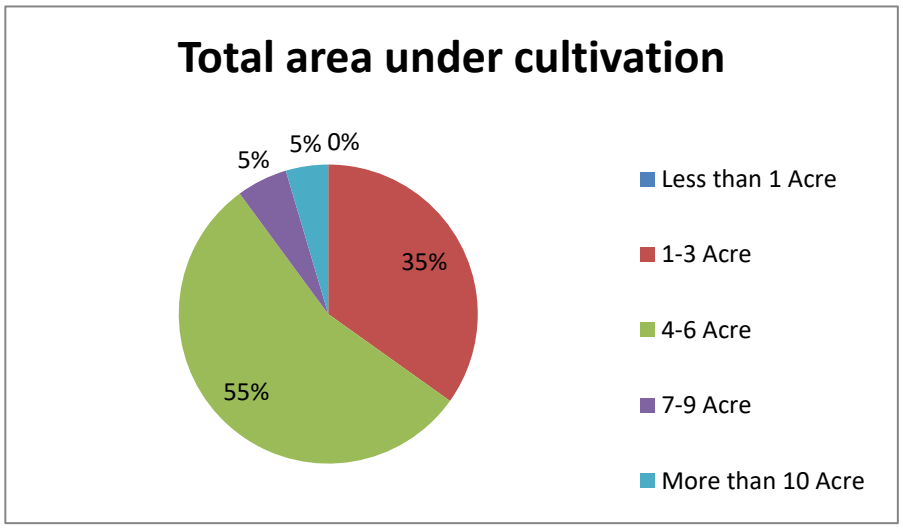

Figure 133: Total area under cultivation in 2019 in Maregaon

Production of Cotton

Figure 14 shows that almost 40% of the respondents pegged their production of cotton, between 15 and 10 tons. 31% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 3% of the respondents produced between 45 and 60 and 4% more than 75 tons of cotton. 2% of the respondents had a production of cotton between 60 and 75 tons.

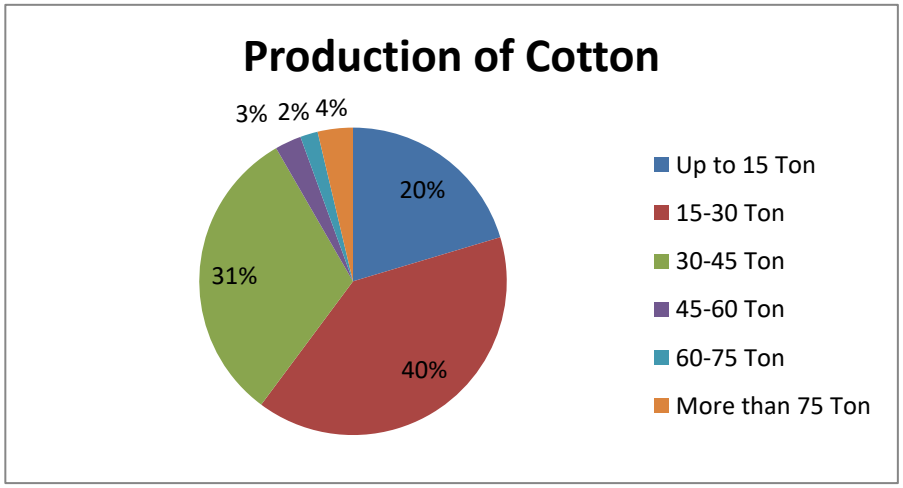

Figure 14: Production of Cotton in 2019 in Maregaon

Per Quintal Selling price (SP) of Cotton

Figure 15 shows that almost 45% respondents sold cotton between Rs 5,000 and 6,000. 31% sold it between Rs 4,000 and 5, 000, 22% sold it between Rs 3, 000 and 4, 000 and only 2% sold it between Rs 6, 000 and 7, 000.

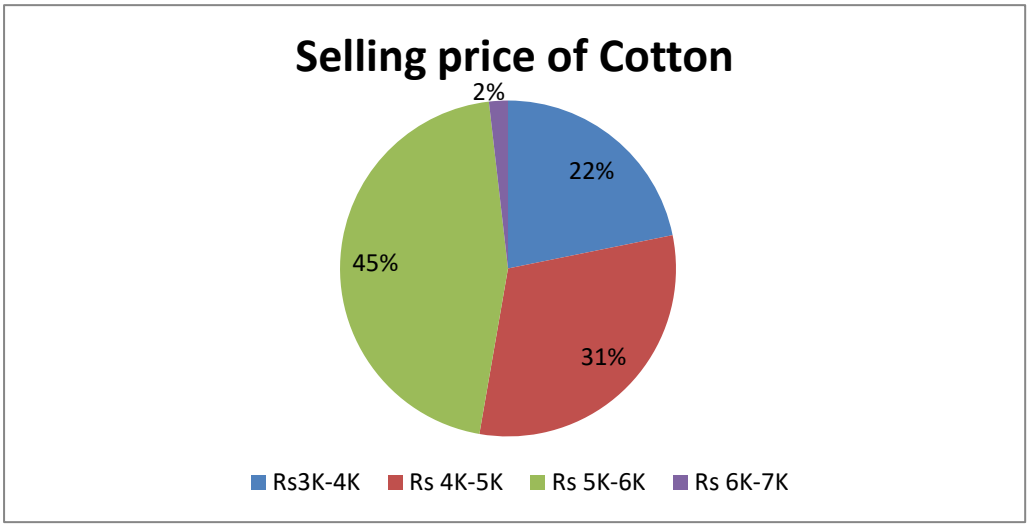

Figure 15: Selling price of Cotton in 2019 in Malegaon

Kharif Crop 2020 – Cotton

Total area under cultivation

Figure 16 shows that almost 57% of the respondents in the Maregaon Block had between 4 and 6 acres of land under cultivation. 31% had between 1 and 3 acres of land under cultivation. 7% had between 7 to 9 acres and 5% had more than 10 acres.

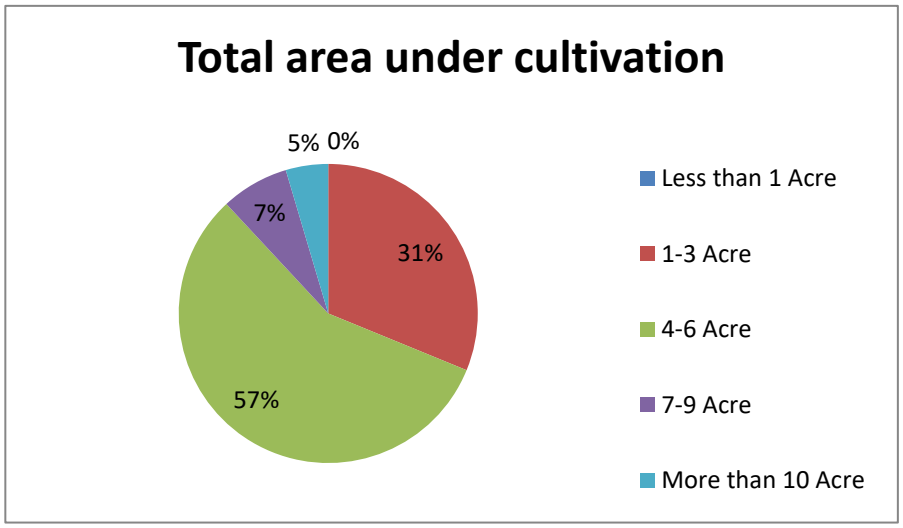

Figure16: Total area under cultivation in 2020 in Maregaon

Production of Cotton

Figure 17 shows that almost 38% of the respondents pegged their production of cotton, between 15 and 30 tons. 30% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 4% of the respondents produced between 45 and 60, between 60 and 75 tons and more than 75 tons of cotton.

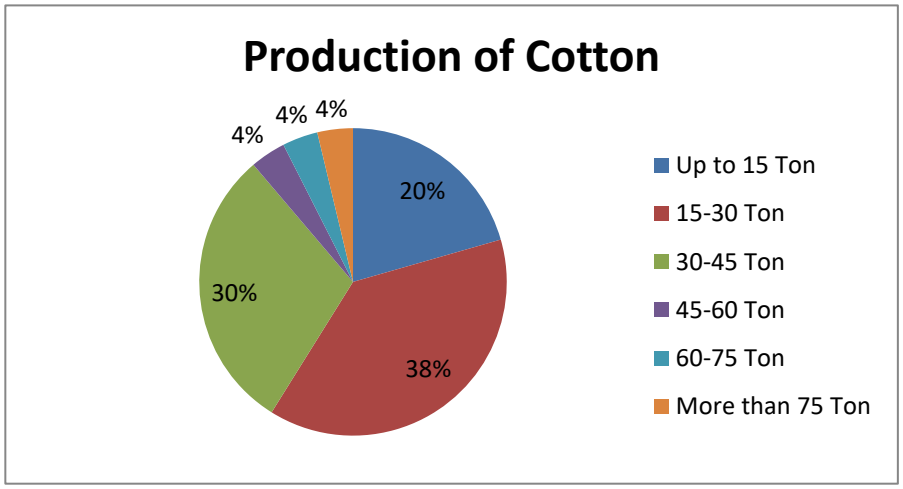

Figure 17: Production of Cotton in 2020 in Maregaon

Per Quintal Selling price (SP) of Cotton

Figure 18 shows that almost 43% respondents sold cotton between Rs 5, 000 and 6, 000. 33% sold it between Rs 4, 000 and 5, 000, 20% sold it between Rs 3,000 and 4,000 and only 4% sold it between Rs 6, 000-7, 000.

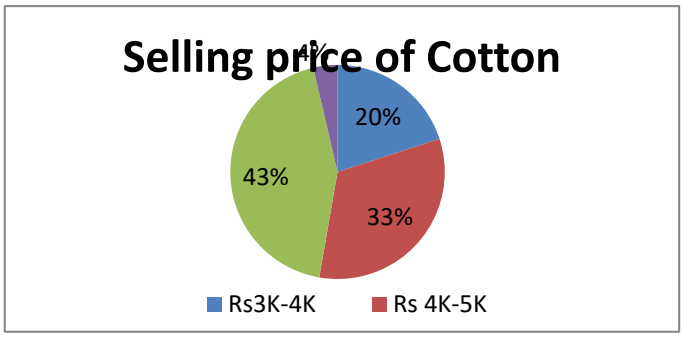

Figure 18: Selling price of Cotton in 2020 in Maregaon

Kharif Crop 2018- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 19 shows that almost 87% of the respondents in the Maregaon Block had between 1 and 3 acres of land under cultivation. 12% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

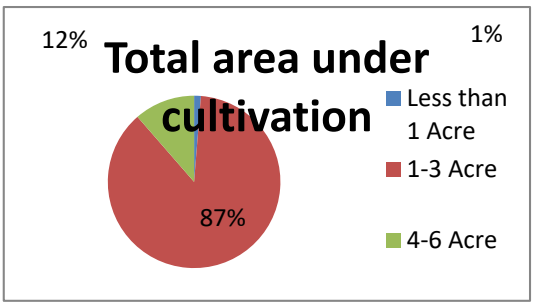

Figure 19: Total area under cultivation in 2018 in Maregaon

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 20 shows that almost 36% of the respondents pegged their production between 5 and 10 tons. 14% produced between 10 and 15 tons. 12% of the respondents produced up to 5 tons. 6% of the respondents produced between 20 and 25 tons and, 4% between 15 and 20 tons and 1% more than 75 tons.

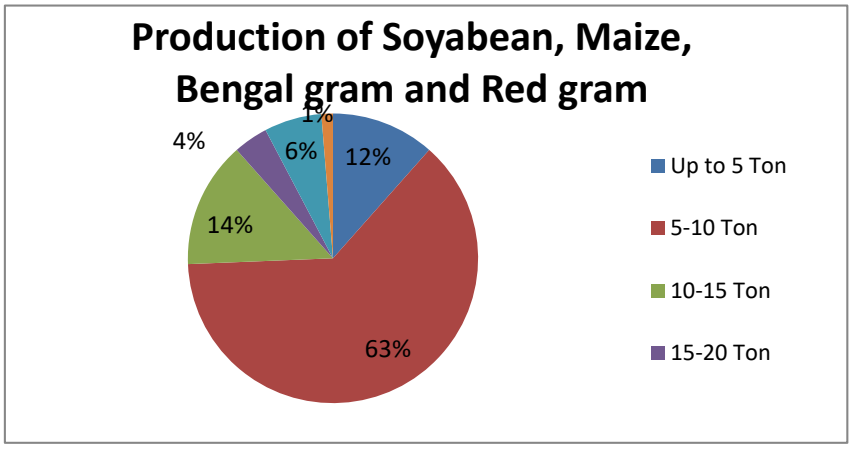

Figure 20: Production of Soyabean, Maize, Bengal gram and Red gram in 2018 in Maregaon

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 21 shows that almost 86% respondents sold their crop between Rs 4, 000 and 5,000. 6% sold it between Rs 5,000 and 6,000, 3% sold it between Rs 3,000 and 4,000 and less than 3, 000, respectively. Only 2% sold it between Rs 6, 000 and 7,000.

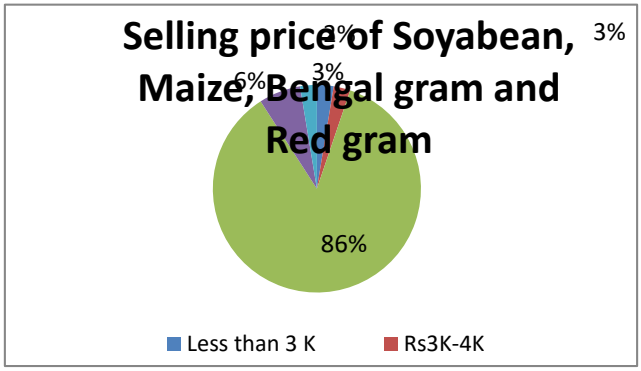

Figure 2114 : Selling price of Soyabean, Maize, Bengal gram and Red gram in 2018 in Maregaon

Kharif Crop 2019- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 22 shows that almost 82% of the respondents in the Maregaon Block had between 1 and 3 acres of land under cultivation. 17% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

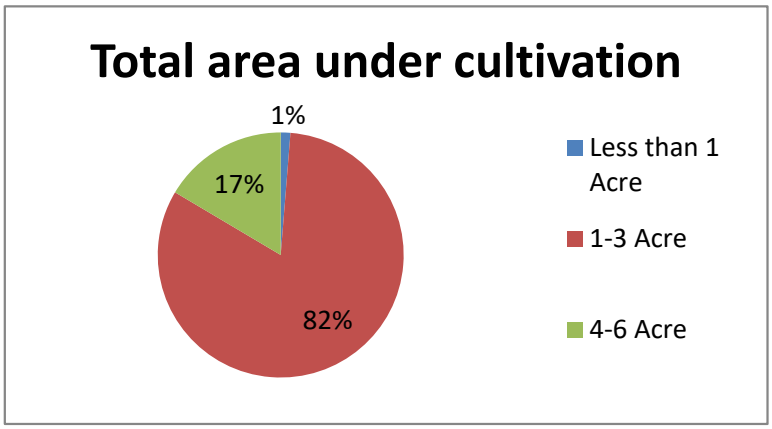

Figure 22: Total area under cultivation in 2019 in Maregaon

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 23 shows that almost 60% of the respondents pegged their production between 5 and 10 tons. 17% produced between 10 and 15 tons. 14% of the respondents produced up to 5 tons. 5% of the respondents produced between 20 and 25 tons and, 3% between 15 and 20 tons and 1% more than 75 tons.

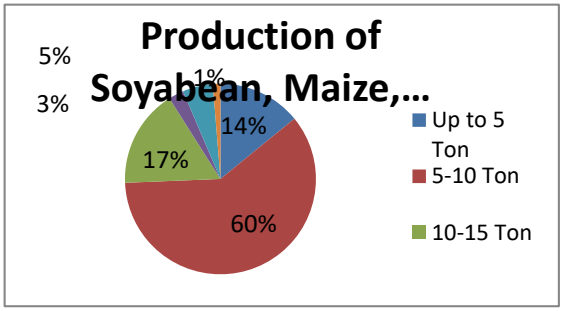

Figure 15: Production of Soyabean, Maize, Bengal gram and Red gram in 2019 in Maregaon

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 24 shows that almost 81% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5,000 and 6,000, 7% sold it between Rs 3,000 and 4,000 and 3% sold it for less than 3,000. Only 4% sold it between Rs 6, 000 and 7, 000.

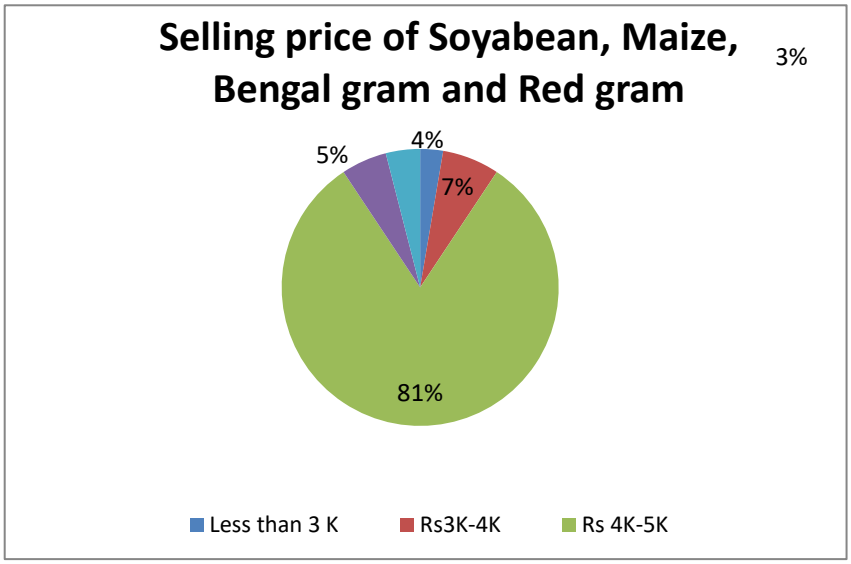

Figure 24: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2019 in Maregaon

Kharif Crop 2020- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 25 shows that almost 83% of the respondents in the Maregaon Block had between 1 and 3 acres of land under cultivation. 15% had between 4 and 6 acres of land under cultivation. 2% had less than 1 acre of land under cultivation.

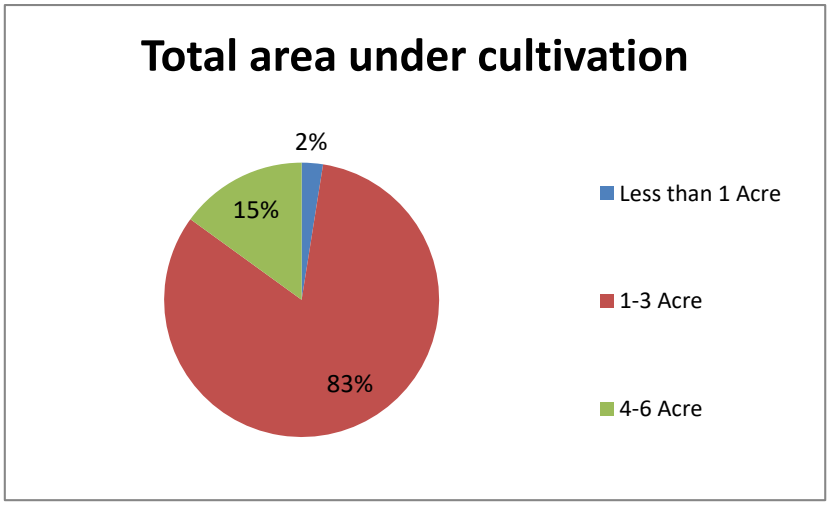

Figure 25: Total area under cultivation in 2020 in Maregaon

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 26 shows that almost 62% of the respondents pegged their production between 5 and 10 tons. 8% produced between 10 and 15 tons of cotton. 13% of the respondents produced up to 5 tons. 6% of the respondents produced between 20 and 25 tons and, 8% between 15 and 20 tons. 3% produced more than 75 tons.

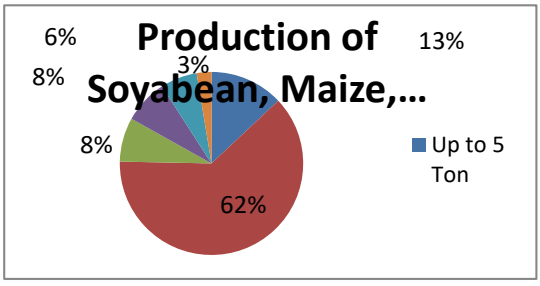

Figure 16: Production of Soyabean, Maize, Bengal gram and Red gram in 2020 in Maregaon

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 27 shows that almost 79% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, and 6,000, 8% sold it between Rs 3,000 and 4,000 and 3% sold it for less than 3, 000. Only 5% sold it between Rs 6,000 and 7, 000.

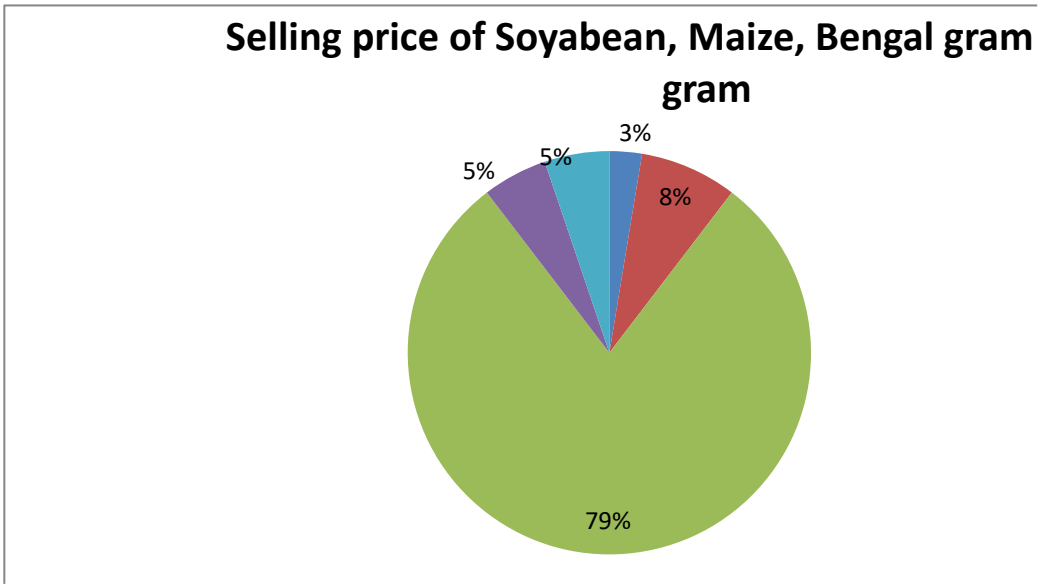

Figure 27: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2020 in Maregaon

Rabi Crops in 2020

Main crops grown during the *rabi* season are cotton, wheat and red gram. Red gram was grown in an area of 95 acres. Even though production was 239.5 quintals, only 163.5 quintals was sold in the market with an average selling price of 5615.25. Other part of the produce was kept for home consumption. Cotton was grown in an area of approximately 119 acres. The total production was 1358.5 quintals, and the entire quantity was sold at an average selling price of Rs 5340.71 per quintal. Wheat was grown by a very few farmers in 4 acres of land with total productivity as 8 tons and almost the entire quantity was sold with an average price per quintal as Rs 5800.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
	Cotton	119	1358.5	1842	1358.5	5340.71
2	Red Gram	95	239.5	9216	163.5	5615.25

Table 5: Crops grown during the Rabi season in Maregaon in 2020

Rabi Crops 2018

Red gram, cotton and wheat were grown in the *rabi* season in 2018 in Maregaon.

Total area under cultivation

Figure 28 shows that almost 86% of the respondents had area between 1 and 5 acres. 9% had between 5 and 10 acres and 5% had between 10 and 15 acres of land under cultivation.

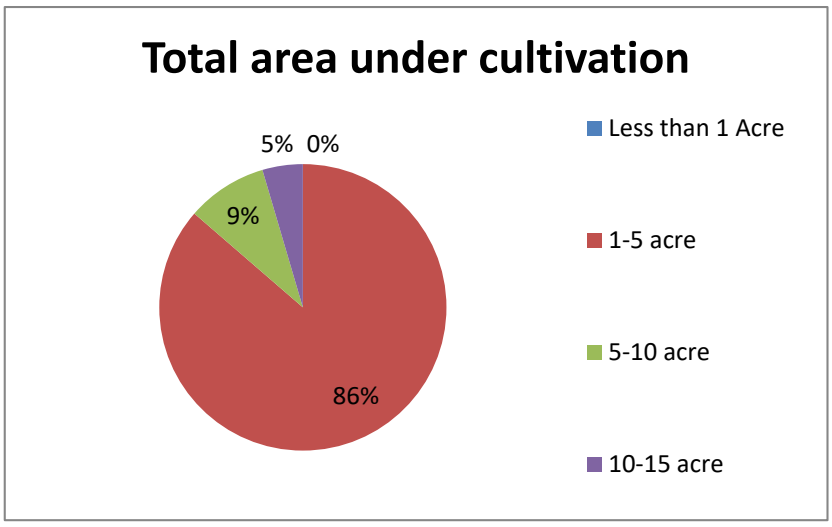

Figure 28*: Total area under cultivation in the Rabi season in Maregaon in 2018*

Production of Red Gram, Cotton and Wheat

Figure 29 shows that almost 55% of the respondents produced up to 5 tons. 21% produced more than 25 tons and 8% produced between 15.1-20 tons. 5% each, produced between 10.1-15 tons and 5.1-10 tons and 6% produced between 20.1-25 tons.

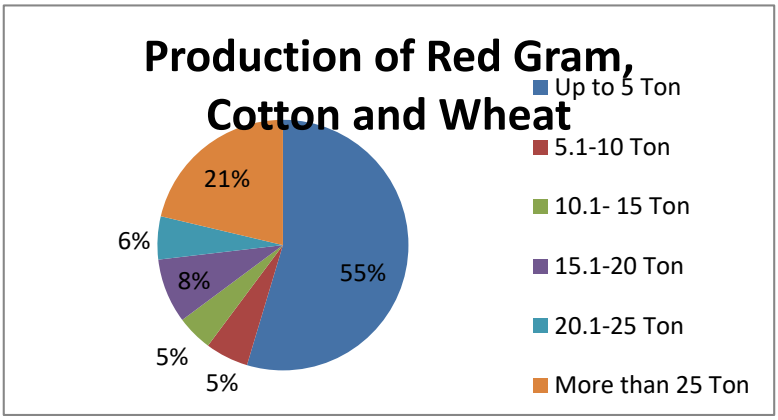

Figure 29: Production of Red Gram, Cotton and Wheat in the Rabi season in Maregaon in 2018

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 30 shows that almost 99% of the respondents sold it at a price between Rs 5000 – Rs 6000. 1% sold it for SP of up to Rs 4000.

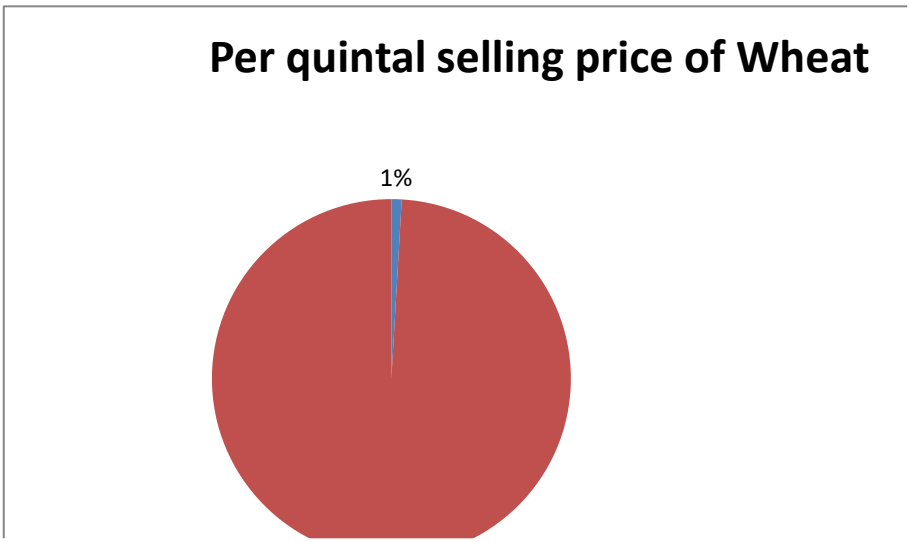

Figure 30*: Per quintal selling price of Wheat in the Rabi season in Maregaon in 2018*

Rabi Crop 2019

Red Gram, Cotton and Wheat

Total area under cultivation

Figure 31 shows that almost 84% of the respondents had an area between 1 and 5 acres. 12% had between 5 and 10 acres and 4% had between 10 and 15 acres.

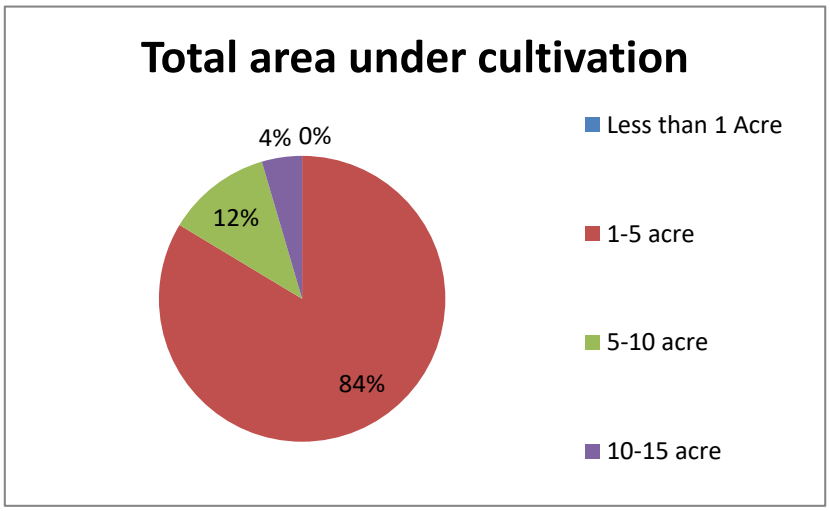

Figure 31: Total area under cultivation in the Rabi season in Maregaon in 2019

Production of Red Gram, Cotton and Wheat

Figure 32 shows that almost 51% of the respondents produced up to 5 tons of crops. 21% produced more than 25 tons and 7% produced between 15.1 and 20 tons of crops, 10.1 and 15 tons, 5.1 and 10 tons and 20.1 and 25 tons each.

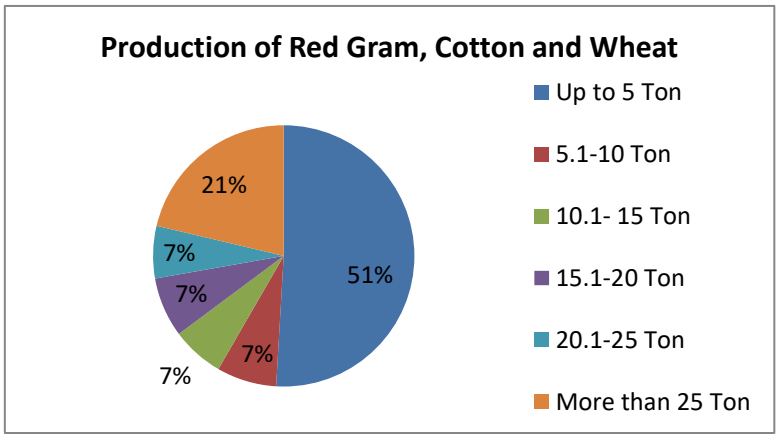

Figure 32: Production of Red Gram, Cotton and Wheat in the Rabi season in Maregaon in 2019

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 33 shows that almost 98% of the respondents sold it at a price between Rs 5000 and Rs 6000. 2% sold it at a price up to Rs 4000.

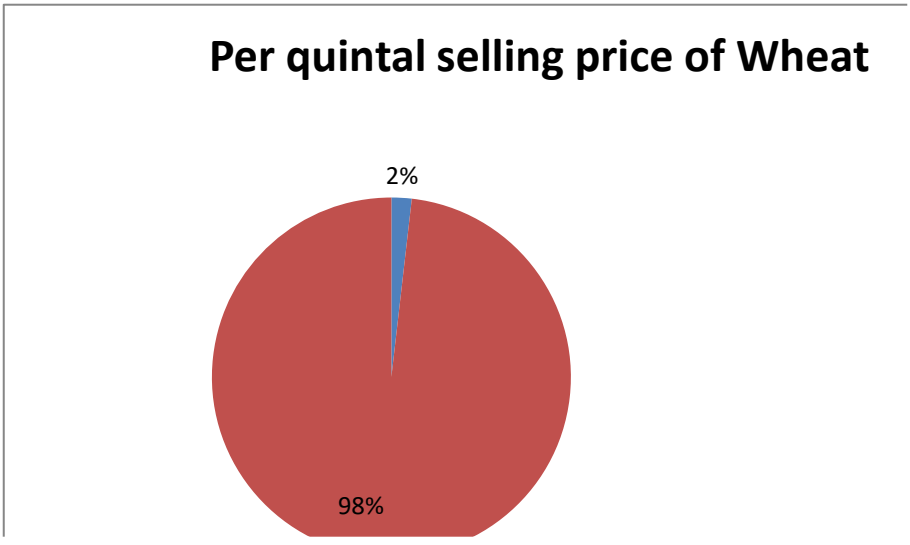

Figure 33: Per quintal selling price of Wheat in the Rabi season in Maregaon in 2019

Rabi Crop 2020

Red gram, cotton and wheat were grown in Maregaon in the *rabi* season in 2019.

Total area under cultivation

Figure 34 shows that almost 82% of the respondents had an area between 1and 5 acres. 10% had between 5 and 10 acres and 8% had between 10 and 15 acres.

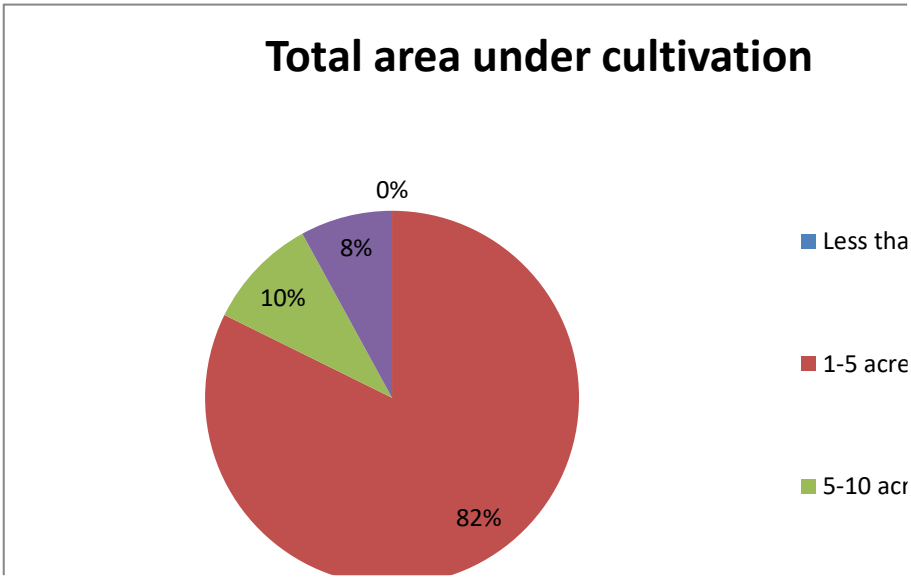

Figure 17: Total area under cultivation in the Rabi season in Maregaon in 2020

Production of Red Gram, Cotton and Wheat

Figure 35 shows that almost 46% of the respondents produced up to 5 tons of crops. 24% produced more than 25 tons and 7% produced between 15.1 and 20 tons and 20.1 and 25 tons each. 8% produced between10.1 and 15 tons and 5.1 and 10 tons each.

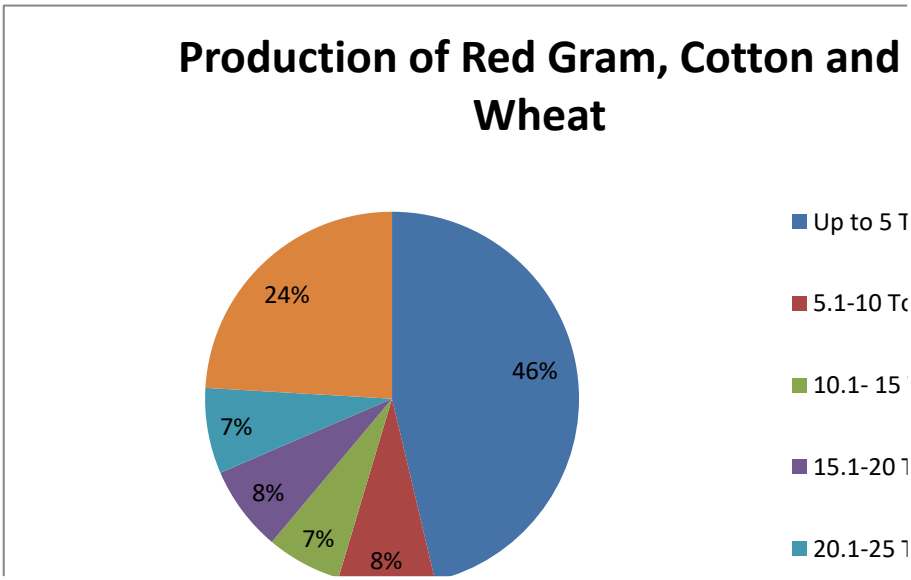

Figure 34: Production of Red Gram, Cotton and Wheat in the Rabi season in Maregaon in 2020

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 35 shows that almost 99% of the respondents sold their produce at a price between Rs 5000 and Rs 6000. 1% sold it at a price up to Rs 4000.

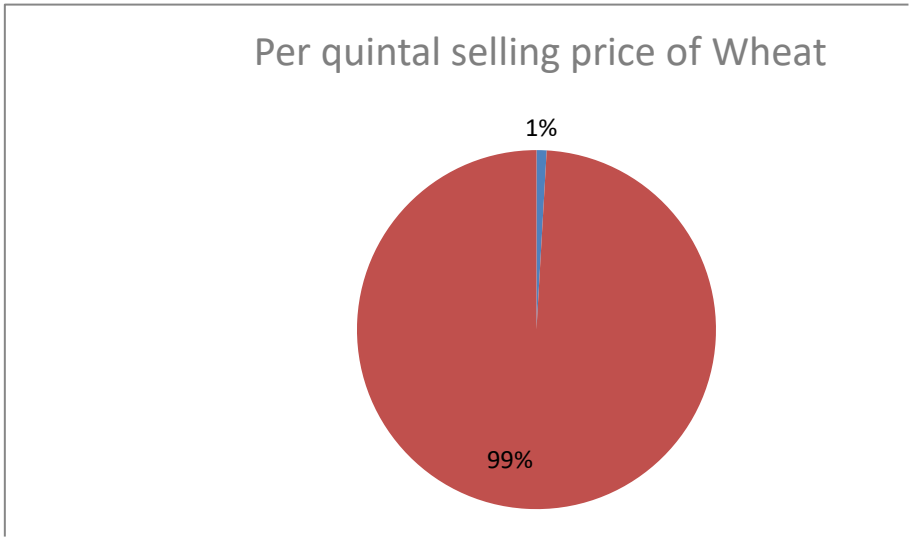

Figure 35: Per quintal selling price of Wheat in the Rabi season in Maregaon in 2020

Farming Ecosystem

Agricultural labour employed by farmers

75% of the farmers involved their family members in the agricultural activities on their farms and 25% utilized agricultural labor. Wages of agricultural labor are Rs 100 per day for both male and female laborers.

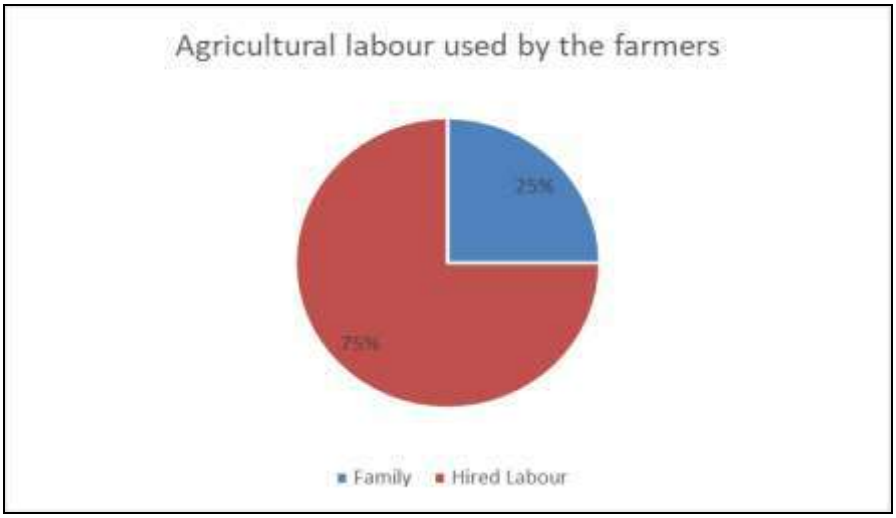

Figure 36: Agricultural labour employed by the farmers

Source of purchasing seeds

There are various sources from where farmers can purchase seeds. But 95% farmers in the surveyed area bought seeds only from the salespersons of private companies.

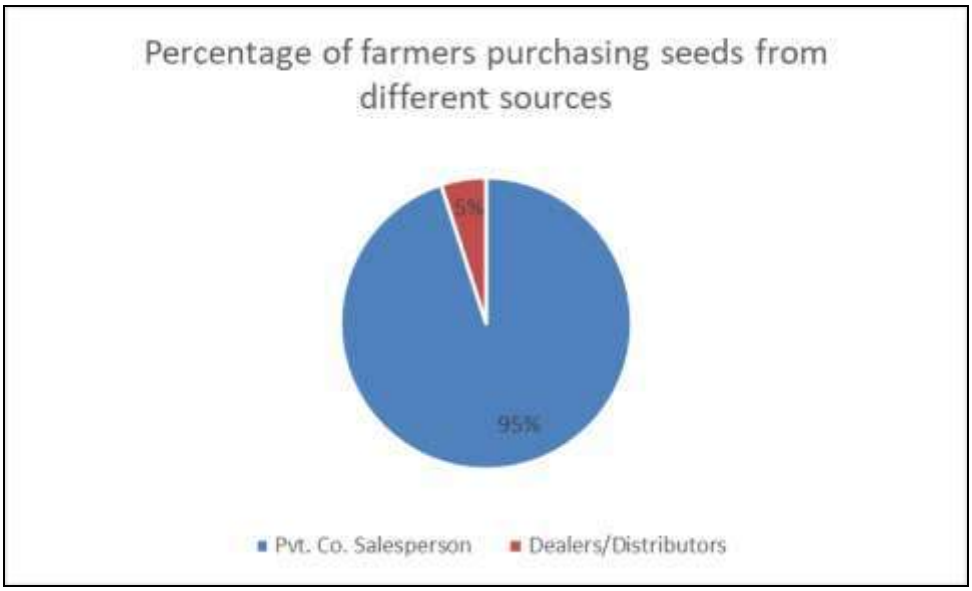

Figure 37: Percentage of farmers purchasing seeds from different sources

Fertilizer dose used in different crops

Table 6 displays the average fertilizer dose applied by farmers in different crops in kg/acre. Nitrogen was applied in the form of urea. Phosphate and potassium were applied in the form of DAP and MOP, respectively. Vermicompost is also applied by the farmers. The fertilizer dose applied by the farmers is very low compared to the recommended dose.

Average fertilizer used in different crops (kg/acre)								
	FYM	Urea	DAP	MOP	Zinc	Micro nutrient	Vermicompost	Others
1. Soybean	1299.1	346.06	226.04	107	0	0	0	0
2. Wheat	593.1	369	237.26	110	0	0	0	0
3. Cotton	1565.1	326	220.19	103.46	0	0	0	0
4. Red gram	1098	325	208.48	101.59	0	0	0	0

Table 6: Fertilizer dose applied in different crops by the farmers

Expenses incurred in pesticide spray

Table 7 shows the cost incurred in the spraying of pesticides by the farmers in the area. The average cost is very low because most of the farmers did not spray pesticides in their fields.

Expenses on pesticides per acre	
Crops	Cost incurred in spraying Pesticides (in Rs)
1. Soyabean	194
2. Wheat	161
3. Cotton	175
4. Red gram	160
5. Tomato, Spinach, Brinjal, Small Millet, Bengal Gram	90

Table 7: Expenses incurred in spraying pesticides

Source of buying inputs

Figure 39 shows that 47% of the farmers purchased inputs from salespersons of private companies. 43% of the farmers purchased them from distributors/dealers, and only 9% of the farmers purchased inputs from retailers.

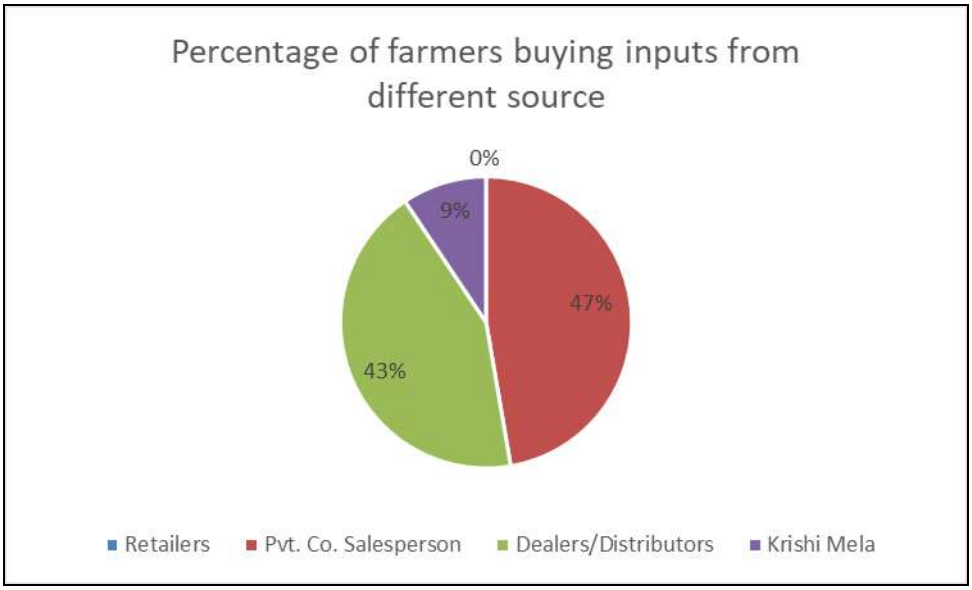

Figure 39: Percentage of farmers buying inputs from a different source

Constraints faced by farmers during the production process

Table 8 shows that farmers face various constraints during the production process. Farmers live in the rural area and often do not have access to various inputs and

technology**.** The main constraint faced by farmers in this area is the high incidence of pest attack and disease spread in crops. The second constraint faced by the farmers was the lack of better-quality seeds and planting materials. Seeds are one of the main inputs in crop cultivation and access to good varieties of seeds is of utmost necessity. The third constraint faced by the farmer is poor access to the necessary technology. Technology might be in the form of new seed varieties, fertilizers, pesticides, machinery. Other constraints faced by the farmers are lack of irrigation facility, Spurious inputs (pesticides), Lack of knowledge and agricultural laborers, and Lack of accessibility, among others.

Main constraints	Avg score	Rank
High pest and disease incidence	63	1
Lack of better-quality varieties seeds & planting materials	56	2
Poor access to the necessary technology	51	3
Seed Treatment and Lack of irrigation facility	34	4
Spurious inputs (pesticides), Lack of knowledge and agricultural labourers and Lack of accessibility, others.	28	5

Table 7: Constraints faced by farmers during production process

Extension advisories for getting advice regarding crop cultivation

Figure 40 shows the various agencies that farmers contact for their problems related to farm practices and crop diseases. 69% of the farmers of the surveyed area contact their dealers/distributors for getting advice. 23% of the farmers contact the State Agriculture Department for getting advice on farm practices. 4% of the farmers contact a helpline number for their problems. Usually, KVKs and universities are located far from villages, so farmers are often reluctant to go to these places. A negligible number of farmers contacted NGOs, KVKs, peer farmers for their farm related issues.

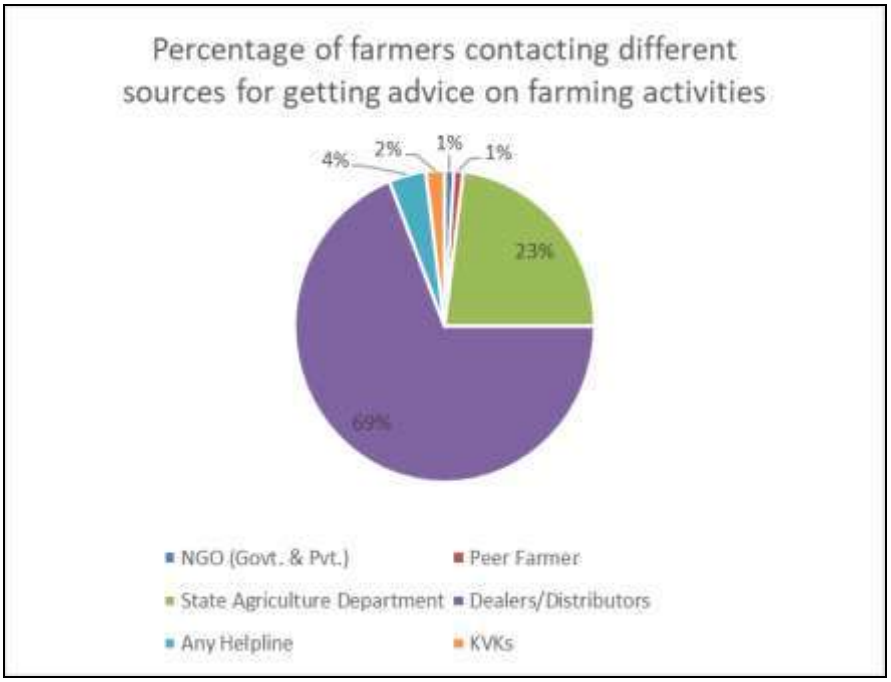

Figure 40: Percentage of farmers contacting different sources for getting advice on farming activities

Percentage of farmers who adopted the advice for farming activities

Figure 41 shows that almost 89% of the farmers adopt the advice given to them by the different agencies. Only 11% do not adopt the guidelines of the advice provided by various agencies.

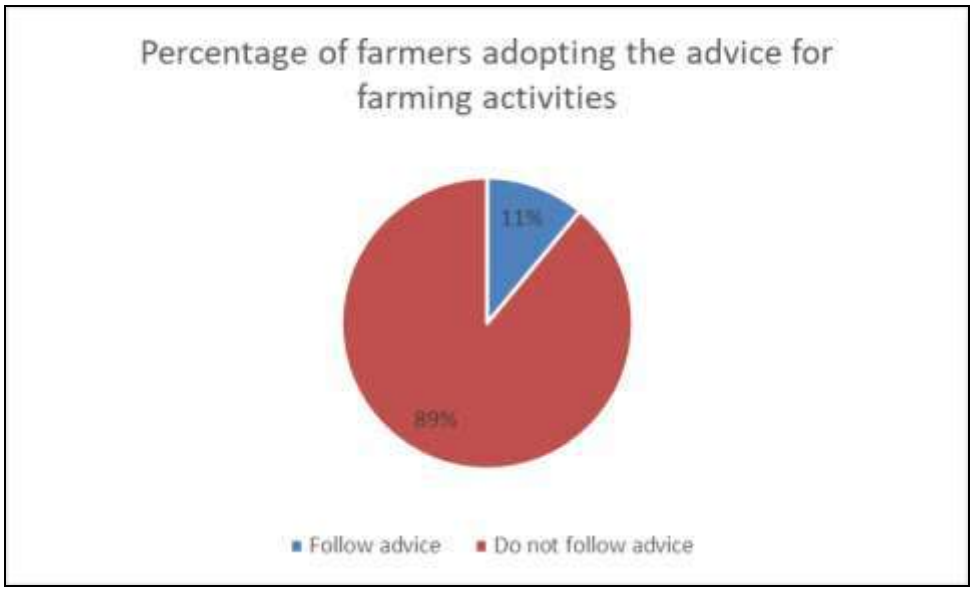

Figure 41: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 42 shows that the various benefits that the farmers get from extension advisories include, increase in yield, lesser input usage, increase in income/profit and decrease in the cost of cultivation. 16% of the farmers got the benefit of an increase in yield and 3% of the farmers saw an increase in income/profit. 59% of the farmers saw a decrease in cases of disease/pest infestation and 34% of them saw a decrease in input usage as well. 59% of the farmers saw a decrease in the overall cost of cultivation after adopting the measures suggested by the extension advisories.

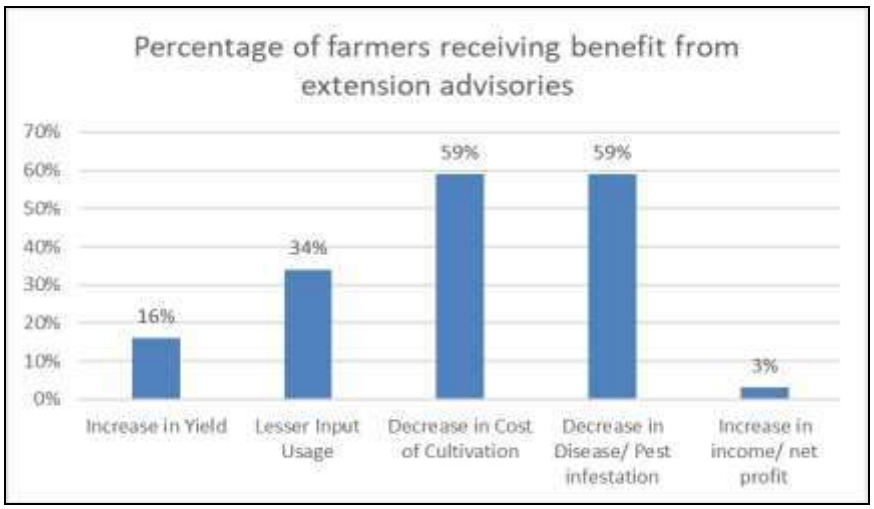

Figure 42: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 43 shows that only 3% of the farmers were unaware of the government schemes being extended. The other 97% of the farmers were aware about the schemes.

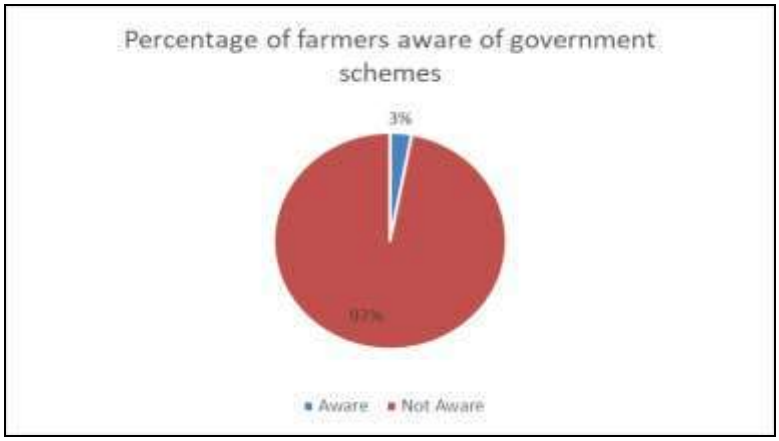

Figure 43: Percentage of farmers who were aware about government schemes

Accessibility to credit

Figure 44 shows that only 10% of the farmers have taken credit from banks for crop cultivation. There were various constraints that the farmers faced while taking credit. These include documentation, distance from village, and higher rate of interest, amongst others.

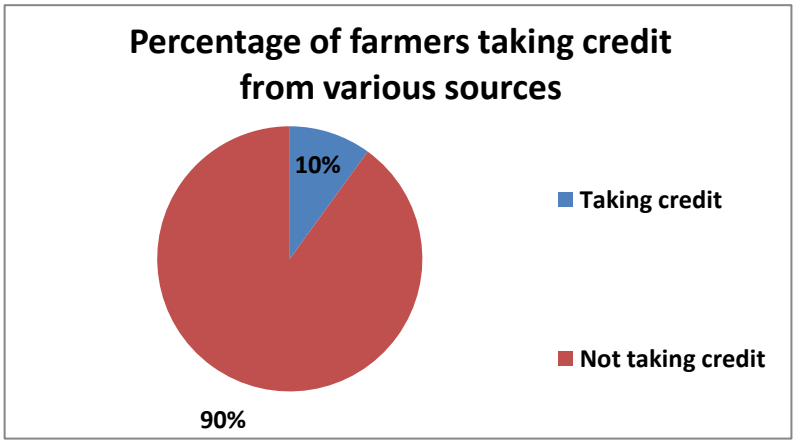

Figure 44: Percentage of farmers taking credit from various sources4

Farmer Groups

Awareness of benefits of FPOs

Figure 45 indicates that 24% of the farmers were aware of the benefits of Farmer Producer Organisations. 73% were not aware and 3% could not respond to the question.

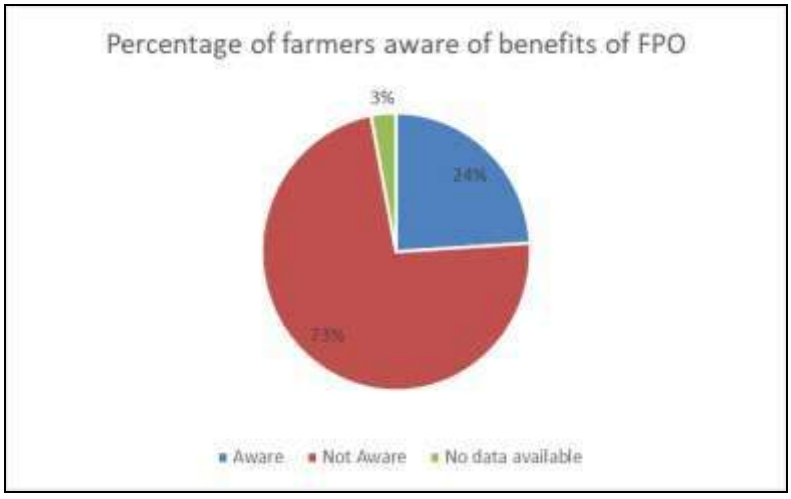

Figure 45: Percentage of farmers aware of the benefits of FPOs

Membership to farmer's associations/ cooperatives

Figure 46 shows that only 1% of the farmers had a membership to some of Farmer's associations/ cooperatives. Other 1% could not respond the rest were not members to any farmer's association/cooperatives.

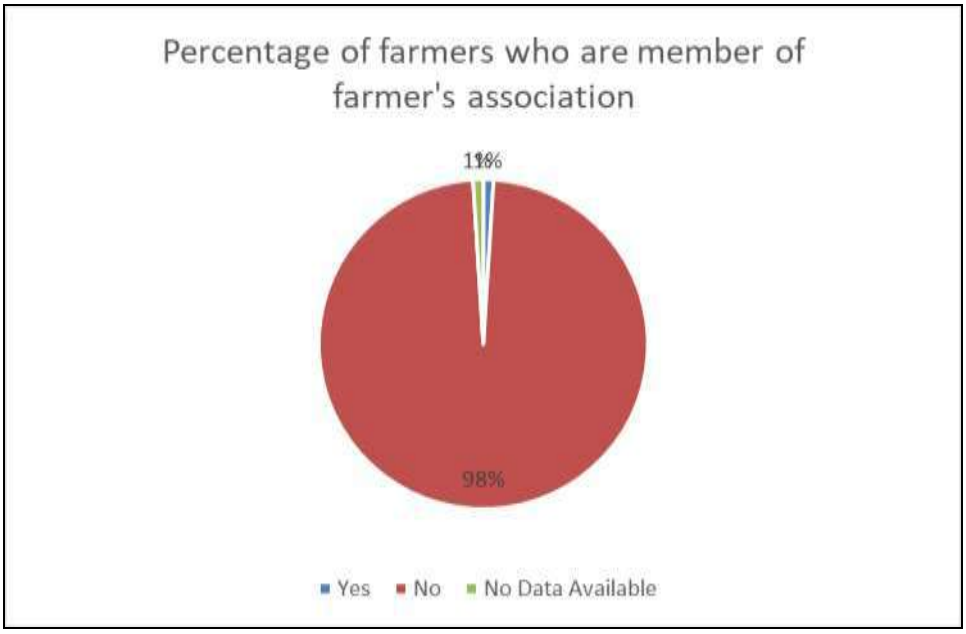

Figure 46: Percentage of farmers who are members of Farmer's Associations

Willingness of farmers to form groups on basis of crops

Figure 47 is indicative of the fact that 98% farmers are not willing to form groups based on crops.

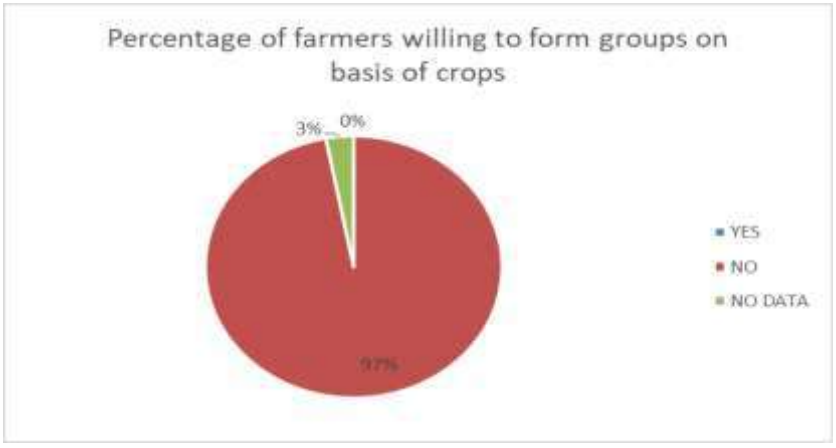

Figure 47: Percentage of farmers willing to form groups on basis of crops

Capacity Building of Farmers

Training on packaging practices, post-harvest management, marketing

None of the farmers have received any training on package of practices, post-harvest management, marketing, etc.

Problems faced by farmers during post-harvest packaging

Figure 48 shows that farmers faced many issues in post-harvest packaging. 63% of them said that packing facility was not available on time. 4% of them, however, did not face any problems. 12% had problems with higher wages. 5% faced shortage of skilled labor and 16% faced non-availability of packaging material.

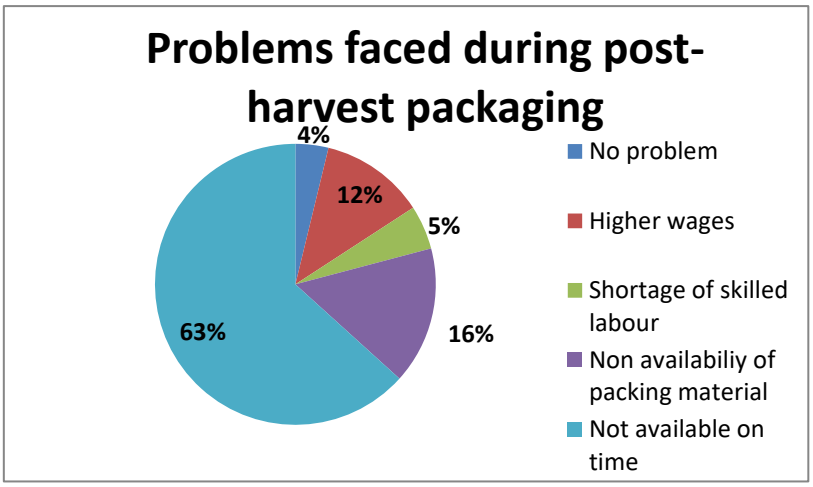

Figure 48: Problems faced during post-harvest packaging

Problems faced by farmers during post-harvest transportation

Figure 49 shows that farmers faced many issues in post-harvest transportation. 8% of them however did not face any problems. 64% of the farmers had a problem with vehicles not being available at the time they needed them, while 61% faced the issue of having to pay higher transportation charges. 24% reported non-availability of transport, 14% said there is a lack of all-weather roads and 4% were given misleading information.

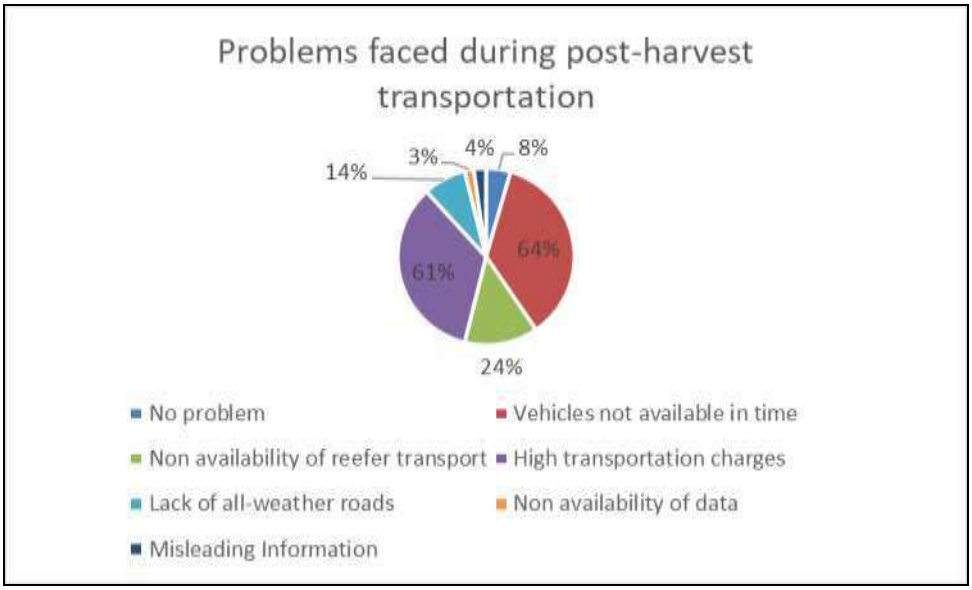

Figure 49 Problems faced by farmers during post-harvest transportation

Problems faced by farmers due to malpractices post-harvest

Figure 50 shows that farmers faced issues because of the existing malpractices post-harvest. Many of them faced more than one problem. 45% were quoted lower prices than the prevailing market rates, other 45% of farmers were deducted under charges. 26% of them experienced a multiplicity of charges, 12% of farmers, however, did not face any problems. 22% were quoted lower prices and 13% received part-payment.

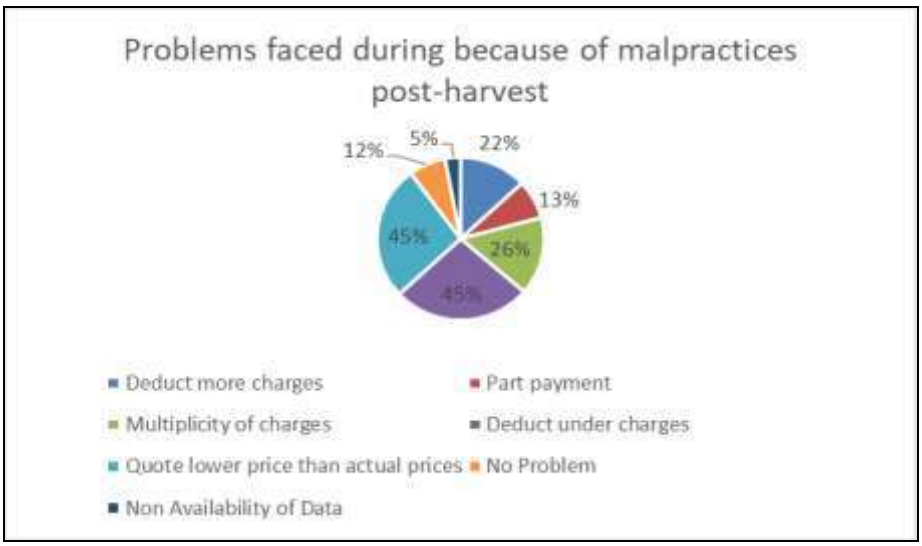

Figure 50: Problems faced by farmers due to post-harvest malpractices

Storage post-harvest

100% of farmers had their own storage areas and stored the crops there only post-harvest, due to little or no availability of godowns in the area. The ones which are available are prohibitive because of the distances involved.

Problems for getting a good selling price post-harvest

Farmers in the area do not get a good selling price for their crops because of the unavailability of storage space. Lower price offered by local traders/less price realization, unavailability of market are some of the other reasons for not getting a good selling price.

Karanja

Karanja

Block Profile

Karanja is a *tehsil*/Block (CD) in the Washim District of Maharashtra. Total area of Karanja is 824 sq km including 809.95 sq km of rural area and 13.55 sq km urban area. Karanja has a population of 2, 13,824 people. Karanja was famous for Gonghadi in past time. It is situated on National Highway number 6. Near about 60 *gram panchayat* and 102 villages come under the *taluka*. Waghoda is the smallest village while Karanja is the biggest village and the second largest village is Pardi. Most of the people in the *taluka* are Hindus. Tribal people such as the Gonds are also live here in large numbers. In the year 2015, Karanja became a *Nagar Panchayat*.

Socioeconomic status of respondents of Karanja Block

Age of the respondents

Figure 51 shows that about 36% of the farmers of the Karanja Block were in the age group between 31 and 45 years. 42% of them were between the age group of 46 and 60 years and 18% of them were between 61 and 75 years. Only 4% of the farmers were between the age group of 15 and 30 years.

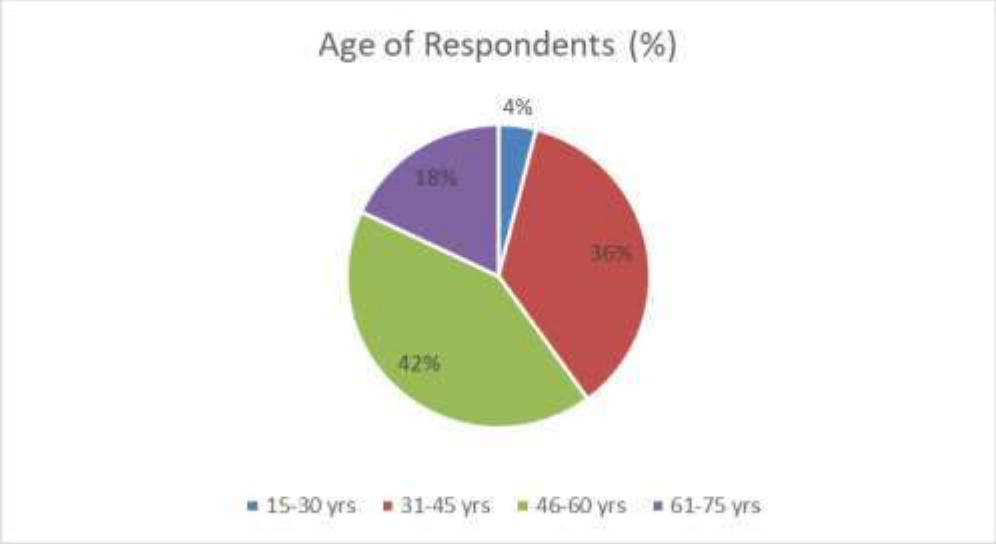

Figure 50: Age of the respondents of Karanja Block

Category of the respondents

Figure 52 shows that 31% of the respondents of the Karanja Block were SC/ST. 69% of them were OBC and none of them belonged to the General Category.

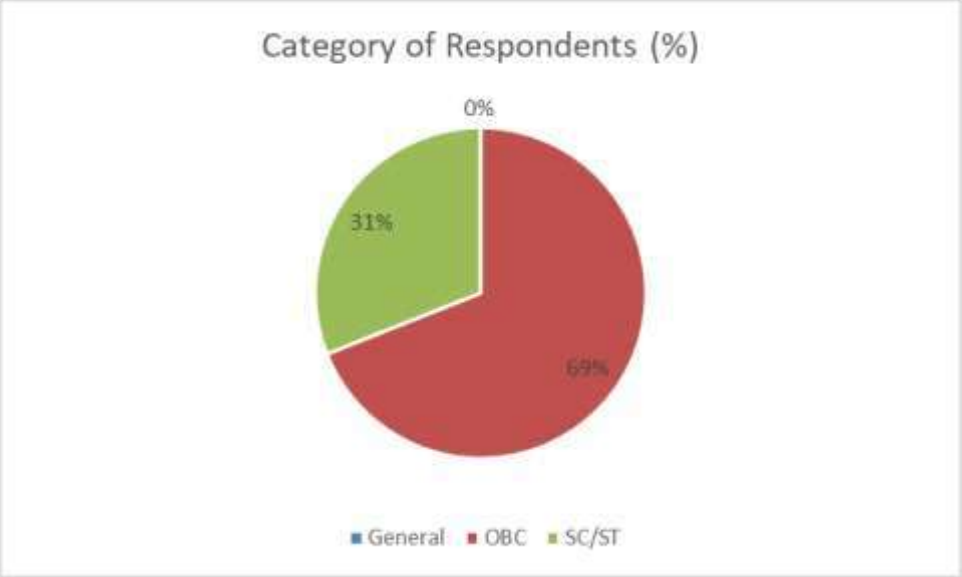

Figure 52: Category of the respondents of Karanja Block

Gender of respondents

According to **Figure 53**, there were 4% female respondents. 96% of the respondents were male.

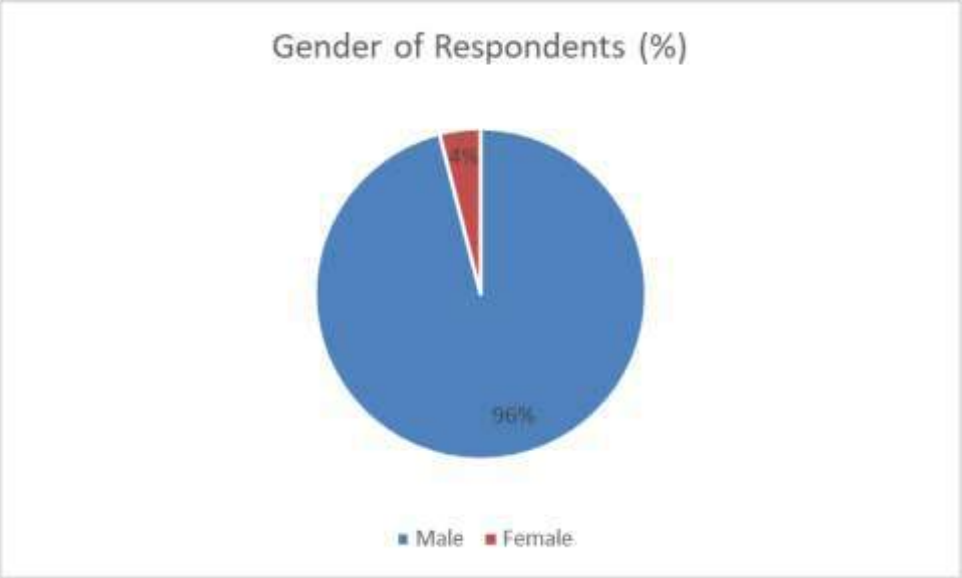

Figure 53: Gender of the respondents of Karanja Block

Educational qualification of respondents

Figure 68 shows that 38% of the respondents of the Karanja Block were educated up to the primary level. A total of 9% were illiterate and 27% were educated up to Class 10. 22% were educated up to the Sr. Secondary level. Only 4% were literate.

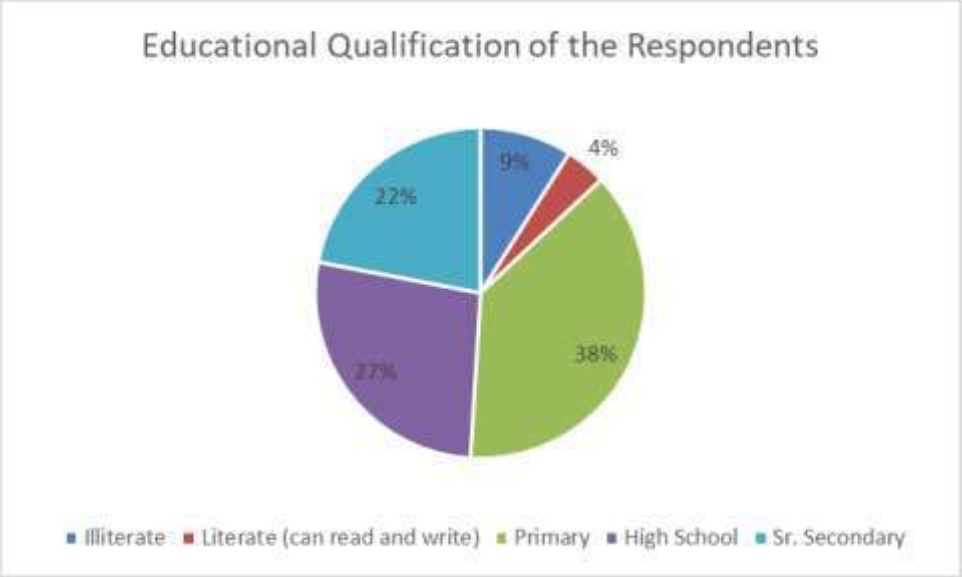

Figure 54: Educational qualifications of the respondents of Karanja Block

Number of family members

Table 9 shows that the average number of adult members per family of the Block is 4. The average number of children per family is 3 and school-going children are 2. The average number of dependent members in a family is less than 1. So, it can be inferred that on average, one person in the household is an earning member.

Family members	Average number
Adult	3
Children	2
School-going children	2
Dependent members	3

Table 8: Average number of members in a family in Karanja Block

Involvement of women in agriculture

100 per cent of the families have women involved in agriculture.

Activities performed by women

Figure 69 shows that women of the Karanja Block are involved in various agricultural activities such as sowing, weeding, harvesting, sorting, and grading. Most of the women perform harvesting of crops. 96% of the women of the surveyed area perform sowing. 82% of the women perform weeding activities. 5% of the women are involved in the spraying of pesticides. 78% of the females carry out sorting and grading. 42% do some kind of processing. 82% of women are involved in the harvesting of crops. Only 2% of women are involved in the decision-making of any kind. Women in only 2% of the families are interested in engaging themselves in alternative agriculture-based income-generation activities. Women usually perform household activities or farming activities**.**

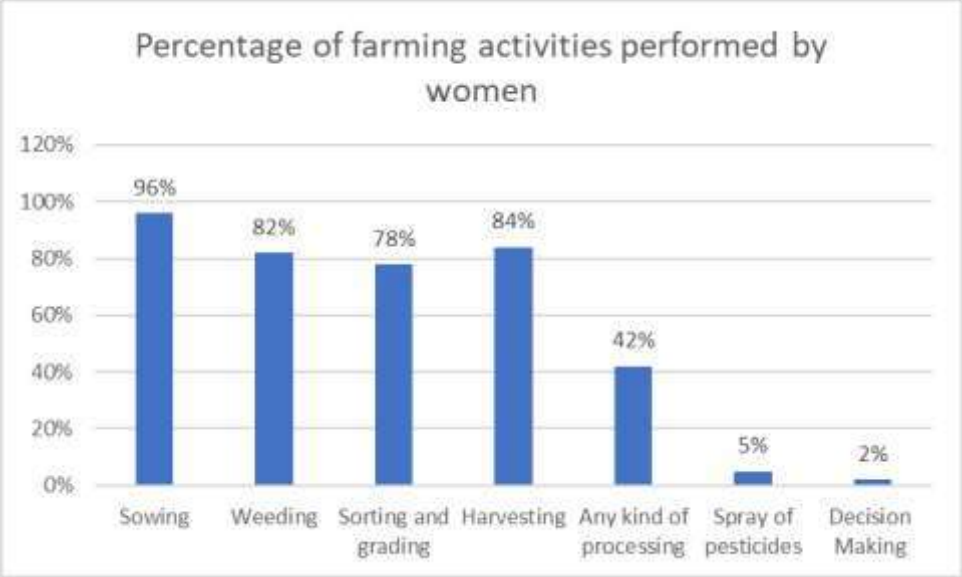

Figure 55: Percentage of farming activities performed by women Karanja Block

Annual income of the respondents from farming

Figure 76 shows that only 11% of the respondents had an annual income of less than 25 thousand, 24% of the respondents had an annual income between 25 and 50 thousand. 25% of them had an annual income between 50 thousand and 1 lakh. Just 24% of the respondents had an annual income between 1 and 1.5 lakhs. 16% of them had an annual income of more than 1.5 lakh.

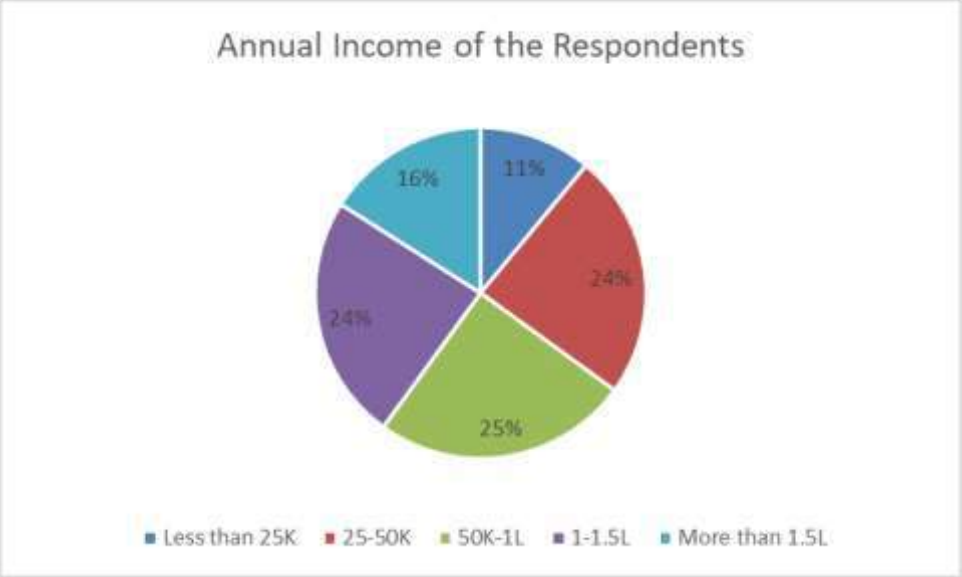

Figure 56: Annual income of the respondents from farming in Karanja Block

Savings from farming

Figure 57 shows that approximately 33% of the respondents had a savings between Rs 20 thousand and fifty thousand. 31% saved less than 20 thousand and 22% of them had savings between 50,000 and 1 lakh. 14% saved more than 1 lakh.

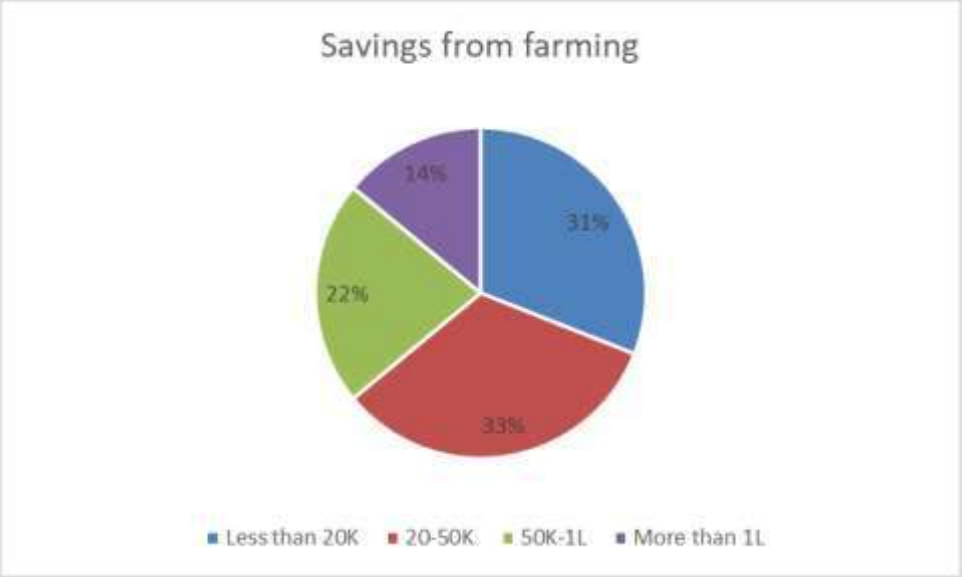

Figure 57: Annual savings from farming in Karanja Block

Non-farming activities

Apart from farming activities, the farmers are also involved in non-farming activities to increase their income. 10% of the farmers have private jobs. Other 6% are working as labourers and none of the respondents are involved in government job and petty shops.

Annual Income of the respondents from activities other than farming

Table 10 shows that **t**he average annual income of respondents from working as laborer is Rs 53,000 and for those working in private jobs it is Rs 59,000.

Average income from activities other than farming	
Laborers	Rs 53,000
Private jobs	Rs 59,000

Table 9: Annual Income of the respondents from activities other than farming

Average distance of markets

Table 11 shows that the average distance of the local market is 11.6 km and the average distance to the *mandi* is 25.8 km from the villages.

Average distance of markets	
Local market	11.6 km
Mandi	25.8 km

Table 10: Average distance of markets in Karanja Back

Landholding size of the respondents

Figure 58 shows that in the rural areas, agriculture is the mainstay of the economy, with hardly any non-farm occupations available. 16% of the farmers had 0-2 acres of land. 35% of the farmers had 2.1-4 acres of land. 22% of the farmers had 4.1-6 acres of land. 5% of the farmers had 6.1-8 acres of land and 11% of the respondents had 8.1-10 acres of land and only 11% of the farmers had more than 10 acres of land.

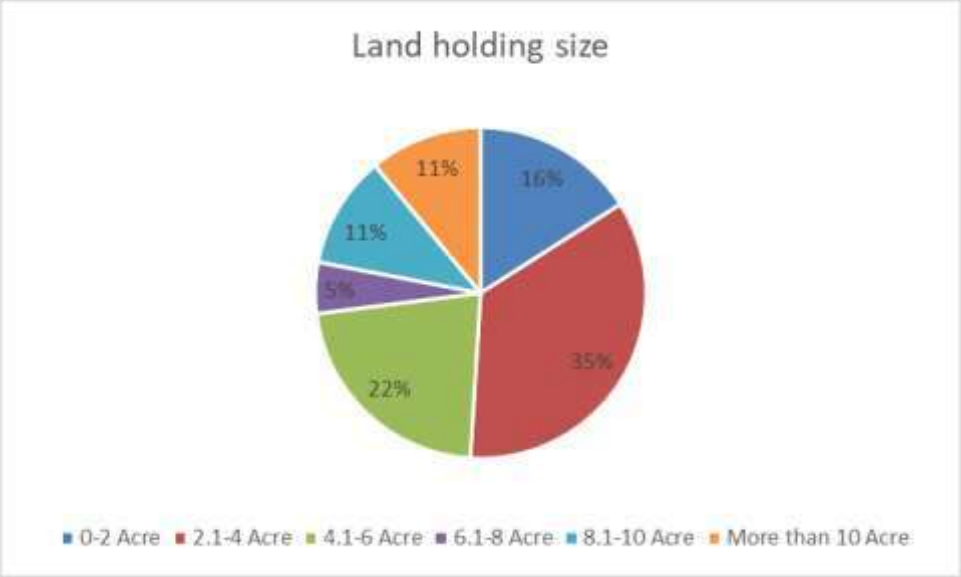

Figure 58: Landholding size of farmers in Karanja Block

Problems in seeking a bank loan

Most of the respondents cited unfriendly behaviour of banking staff, time taken for documentation and other processes and the distance of bank from their villages as the main reasons for not being able to secure a bank loan.

Training received

None of the respondents had received any training on farming.

Problems faced in farming and expectations from the government

Most of the respondents said that there aren't enough resources for irrigation in the area. Further, they said they wanted the government to take steps to provide advanced technological assistance and financial aid. They also highlighted the need for good quality seeds and reiterated that the *mandi* should be as close to the village as possible.

Soil health card/soil testing report

None of the farmers were aware about soil testing and none of them had soil health card. None of the farmers received any advice on crops to be grown and nutrients required in their field. Proper awareness and trainings were required to be given to the farmers regarding soil testing.

Irrigated land of the respondents

Around 100 acres of the land in the area is irrigated land.

Types of irrigation facilities being used

Figure 59 shows that approximately 67% of the respondents use borewell and 11% minor irrigation techniques. 25% use other techniques and 4% use canal water for irrigation and 5% of the respondents use life irrigation.

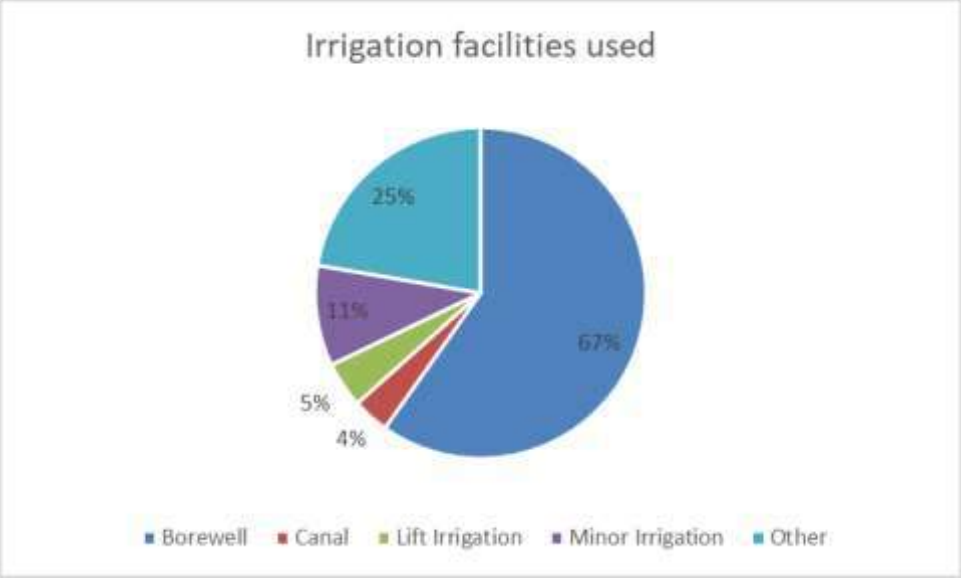

Figure 59: Irrigation Facilities in Karanja Block

Crop-related information

Cropping pattern

Kharif crops 2020

As reflected in **Table 4**, the major *kharif* crop grown in the surveyed area is cotton. It is grown in an area of almost 145 acres. The total production amounted to 268 quintals, out of which 283 quintals were sold in the market. Cotton is being sold at Rs 5,178/quintal. Other crops grown in the *kharif* season are Bengal gram, red gram, maize and soyabean. They were grown in an area of 180 acres. The total production was 802 quintals. 782 quintals were sold in the market at an average rate of Rs 4,629 per quintal.

S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Cotton	145	379	715	434.9	5177.9
2	Red Gram, Maize	35	94.5	667	-	-

Table 11: Crop rotation of kharif crops in Karanja Block in 2020

Kharif Crop 2018 - Cotton

Total area under cultivation

Figure 60 shows that almost 55% of the respondents in the Karanja Block had between 4 and 6 acres of land under cultivation. 35% had between 1 and 3 acres of land under cultivation. 5% had between 7 to 9 acres and more than 10 acres under cultivation each.

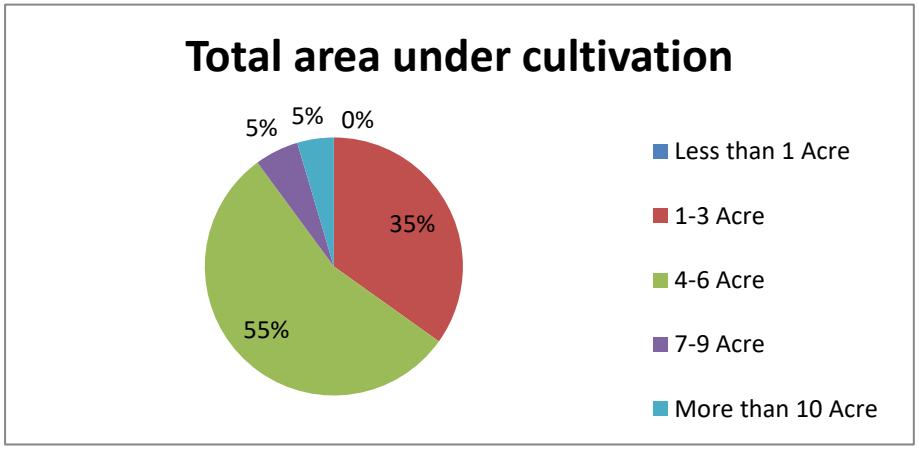

Figure 60: Total area under cultivation in 2018 in Karanja

Production of Cotton

Figure 61 shows that almost 42% of the respondents pegged their production of cotton, between 15 and 10 tons. 29% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 4% of the respondents produced between 45 and 60 and more than 75 tons of cotton. 1% of the respondents had a production of cotton between 60 and 75 tons.

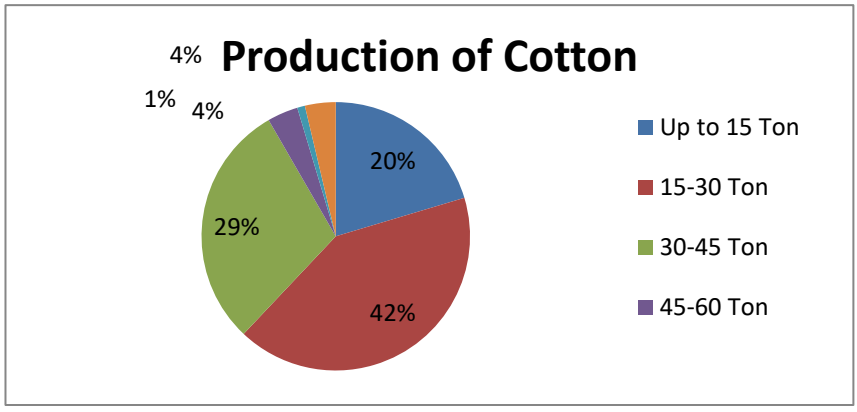

Figure 61: Production of Cotton in 2018 in Karanja

Per Quintal Selling price (SP) of Cotton

Figure 62 shows that almost 46% respondents sold cotton between Rs 5, 000 and 6, 000. 33% sold it between Rs 4, 000 and 5, 000. 20% sold it between Rs 3, 000 and 4, 000 and only 1% sold it between Rs 6, 000 and 7, 000.

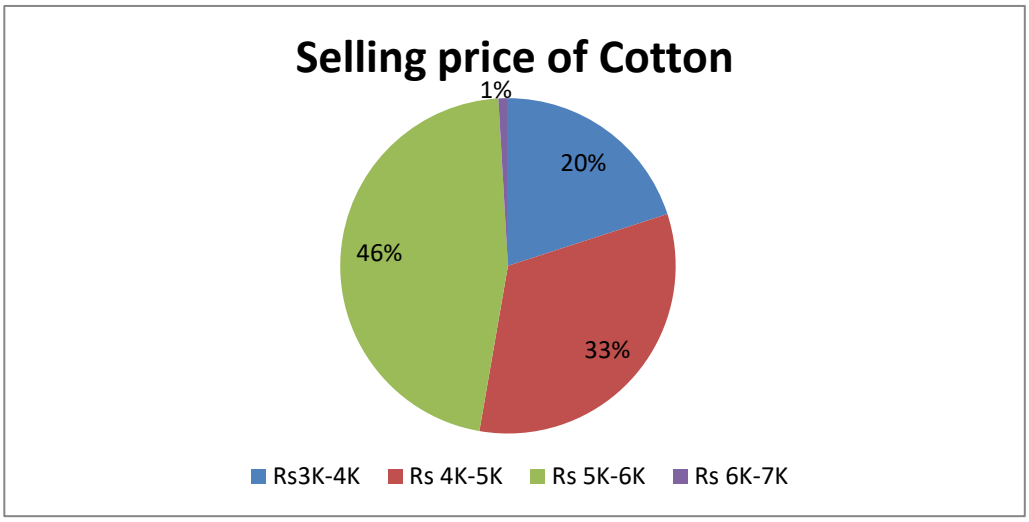

Figure 62: Selling price of Cotton in 2018 in Karanja

Kharif Crop 2019 – Cotton

Total area under cultivation

Figure 63 shows that almost 55% of the respondents in the Karanja Block had between 4 and 6 acres of land under cultivation. 35% had between 1 and 3 acres of land under cultivation. 5% had between 7 to 9 acres and more than 10 acres, each.

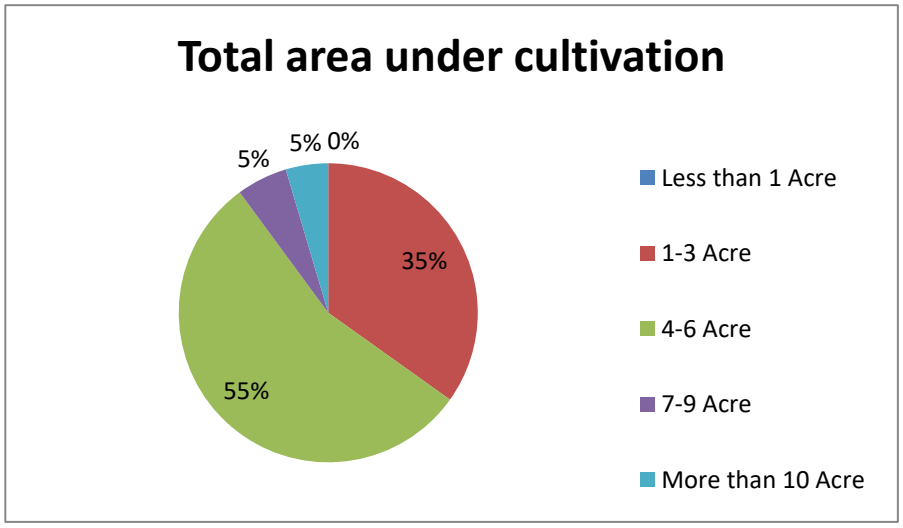

Figure 63: Total area under cultivation in 2019 in Karanja

Production of Cotton

Figure 64 shows that almost 40% of the respondents pegged their production of cotton, between 15 and 10 tons. 31% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 3% of the respondents produced between 45 and 60 and 4% more than 75 tons of cotton. 2% of the respondents had a production of cotton between 60 and 75 tons.

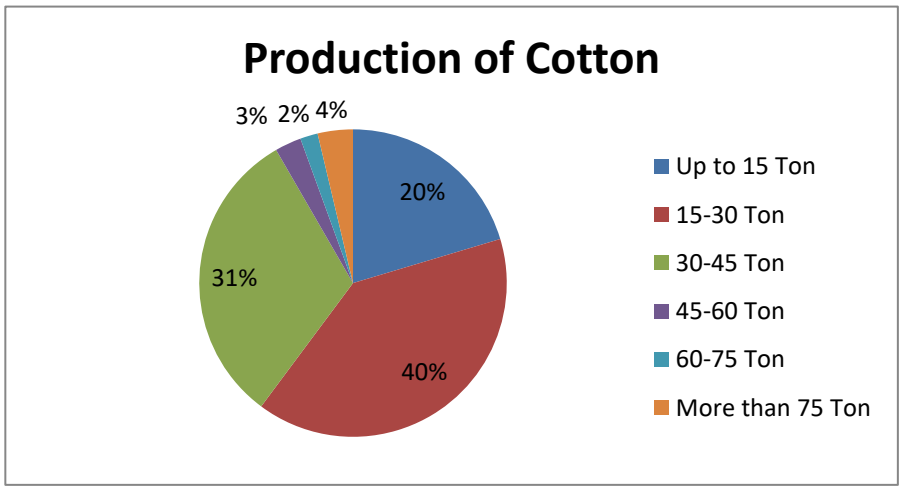

Figure 64: Production of Cotton in 2019 in Karanja

Per Quintal Selling price (SP) of Cotton

Figure 65 shows that almost 45% respondents sold cotton between Rs 5, 000 and 6, 000. 31% sold it between Rs 4, 000 and 5, 000. 22% sold it between Rs 3, 000 and 4, 000 and only 2% sold it between Rs 6, 000 and 7, 000, each.

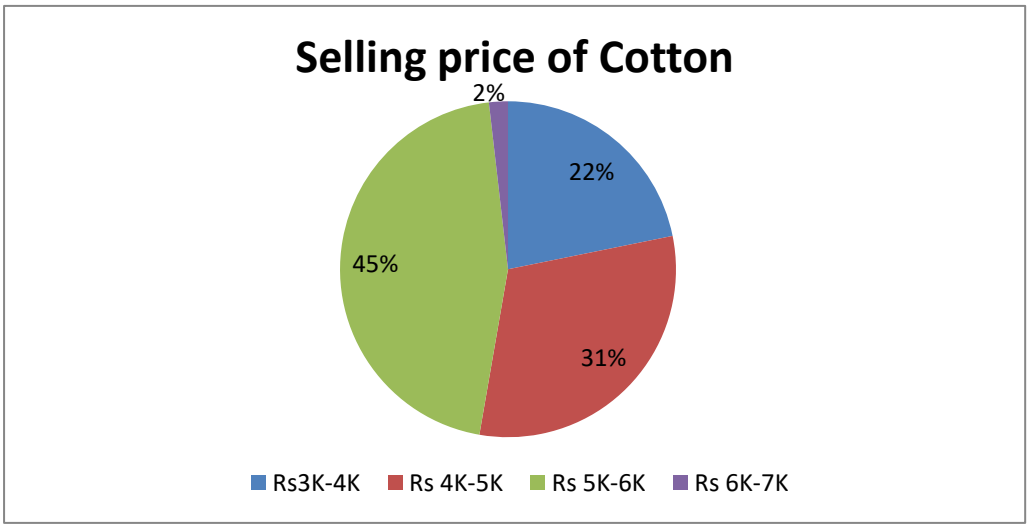

Figure 65*: Selling price of Cotton in 2019 in Karanja*

Kharif Crop 2020 – Cotton

Total area under cultivation

Figure 66 shows that almost 57% of the respondents in the Karanja Block had between 4 and 6 acres of land under cultivation. 31% had between 1 and 3 acres of land under cultivation. 7% had between 7 and 9 acres and 5% had more than 10 acres.

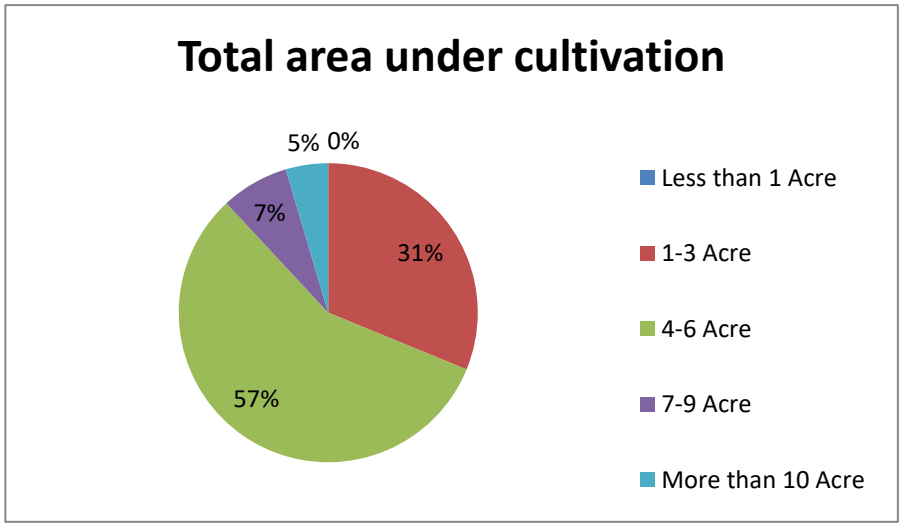

Figure 66: Total area under cultivation in 2020 in Karanja

Production of Cotton

Figure 67 shows that almost 38% of the respondents pegged their production of cotton between 15 and 30 tons. 30% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 4% of the respondents produced between 45 and 60, between 60 and 75 tons and more than 75 tons of cotton.

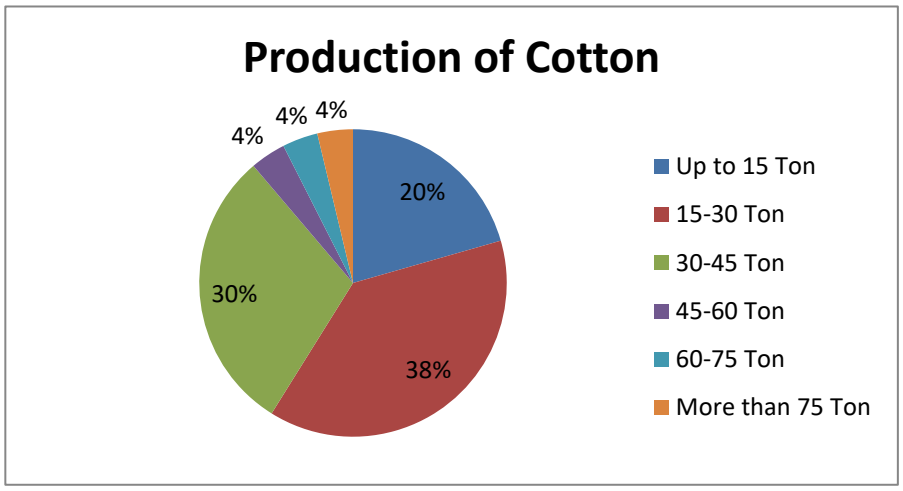

Figure 67*: Production of Cotton in 2020 in Karanja*

Per Quintal Selling price (SP) of Cotton

Figure 68 shows that almost 43% respondents sold cotton between Rs 5, 000 and 6, 000. 33% of them sold it between Rs 4, 000 and 5, 000. 20% sold it between Rs 3, 000 and 4, 000 and only 4% sold it between Rs 6, 000 and 7, 000.

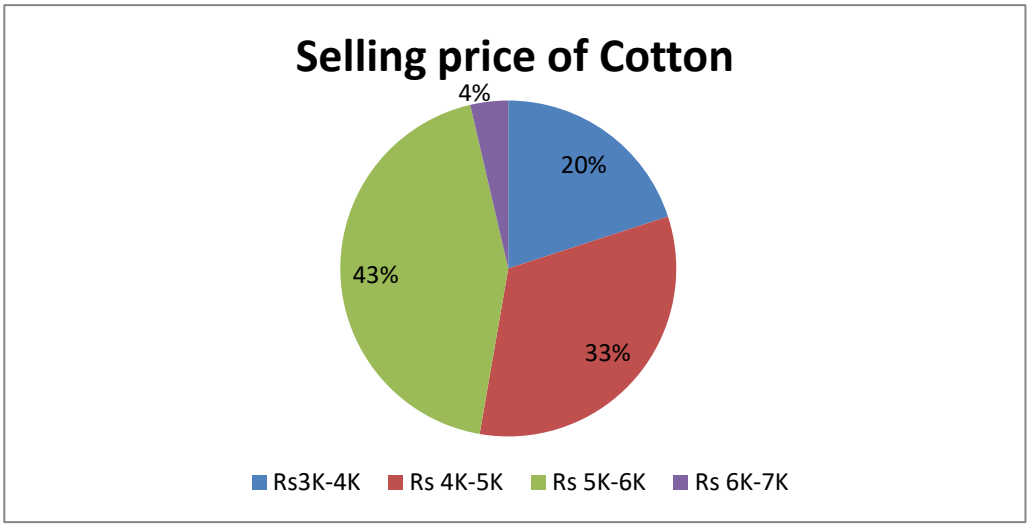

Figure 68: Selling price of Cotton in 2020 in Karanja

Kharif Crop 2018- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 69 shows that almost 87% of the respondents in the Karanja Block had between 1 and 3 acres of land under cultivation. 12% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

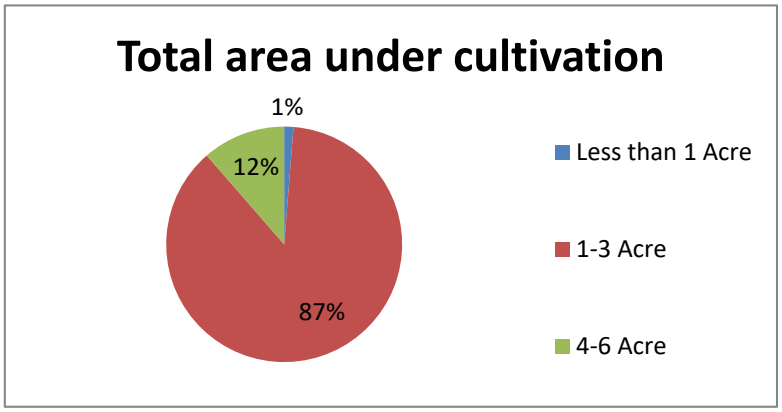

Figure 70: Total area under cultivation in 2018 in Karanja

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 72 shows that almost 36% of the respondents pegged their production between 5 and 10 tons. 14% produced between 10 and 15 tons. 12% of the respondents produced up to 5 tons. 6% of the respondents produced between 20 and 25 tons and, 4% between 15 and 20 tons and 1% more than 75 tons.

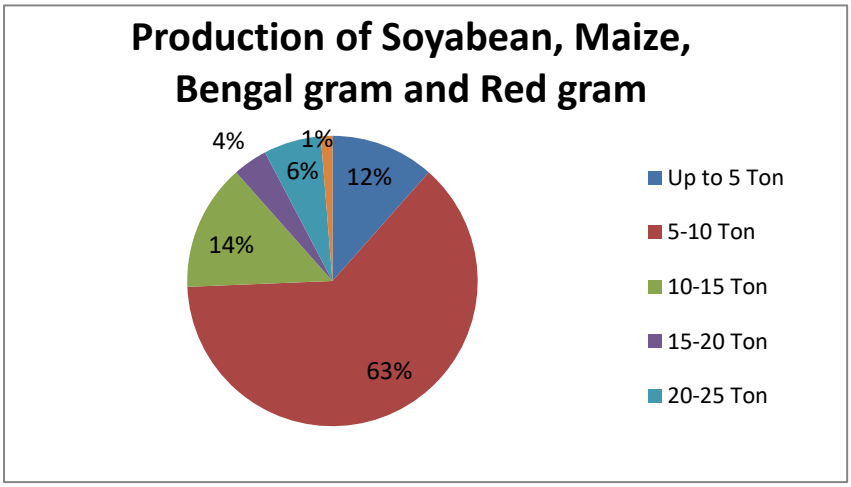

Figure 71: Production of Soyabean, Maize, Bengal gram and Red gram in 2018 in Karanja

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 72 shows that almost 86% respondents sold their crop between Rs 4, 000 and 5, 000. 6% sold it between Rs 5, 000 and 6, 000. 3% sold it between Rs 3, 000 and 4, 000 and less than 3, 000, each. Only 2% sold it between Rs 6, 000 and 7, 000.

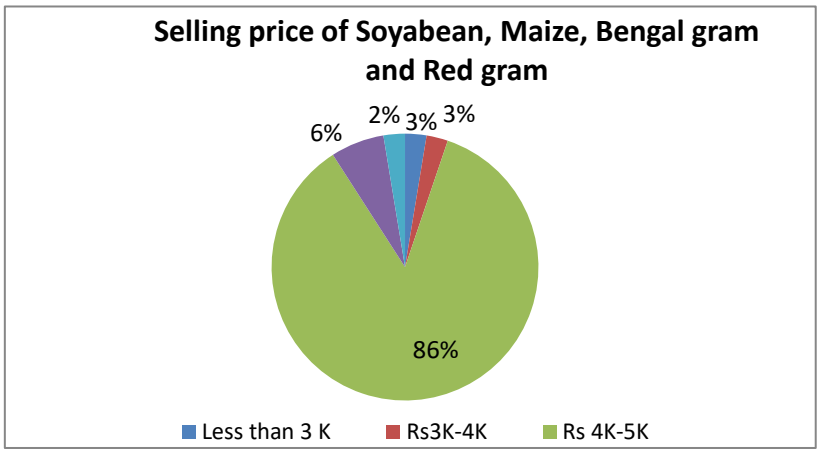

Figure 72*: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2018 in Karanja*

Kharif Crop 2019- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 73 shows that almost 82% of the respondents in the Karanja Block had between 1 and 3 acres of land under cultivation. 17% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

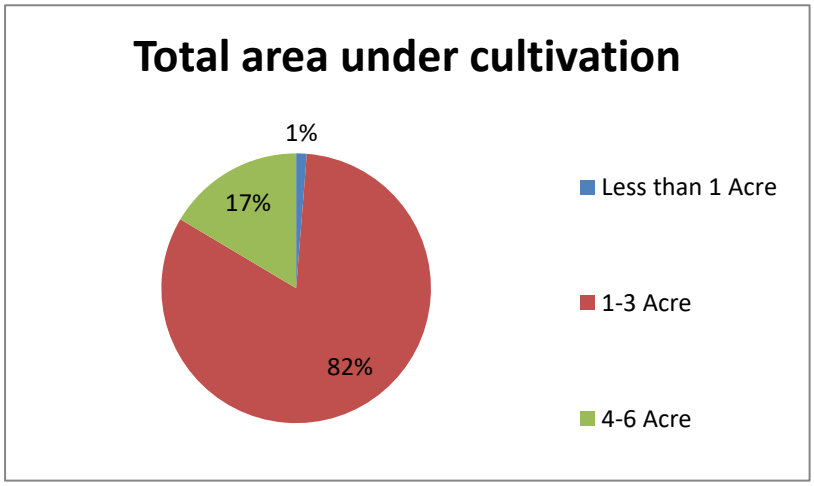

Figure 73: Total area under cultivation in 2019 in Karanja

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 74 shows that almost 60% of the respondents pegged their production between 5 and 10 tons. 17% produced between 10 and 15 tons. 14% of the respondents produced up to 5 tons. 5% of the respondents produced between 20 and 25 tons and, 3% between 15 and 20 tons and 1% more than 75 tons.

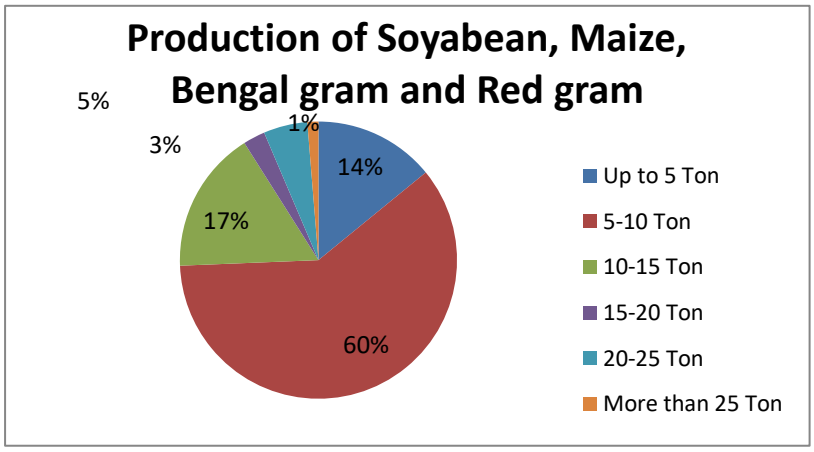

Figure 74: Production of Soyabean, Maize, Bengal gram and Red gram in 2019 in Karanja

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 75 shows that almost 81% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, 000 and 6, 000. 7% sold it between Rs 3, 000 and 4, 000 and 3% sold it for less than 3, 000. Only 4% sold it between Rs 6, 000 and 7, 000.

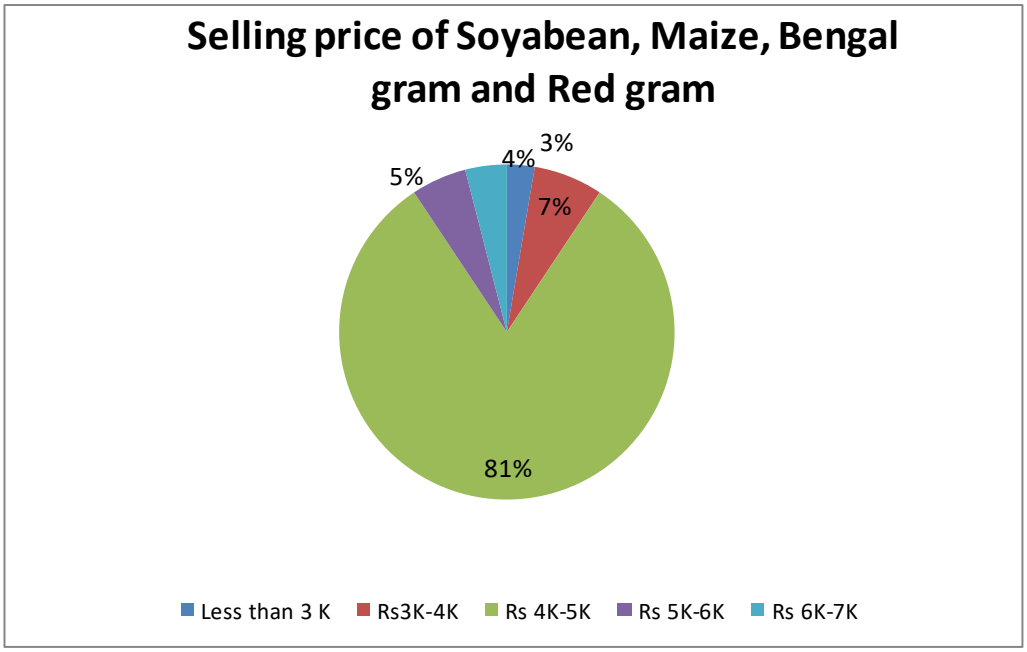

Figure 75: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2019 in Karanja

Kharif Crop 2020- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 76 shows that almost 83% of the respondents in the Karanja Block had between 1 and 3 acres of land under cultivation. 15% had between 4 and 6 acres of land under cultivation. 2% had less than 1 acre of land under cultivation.

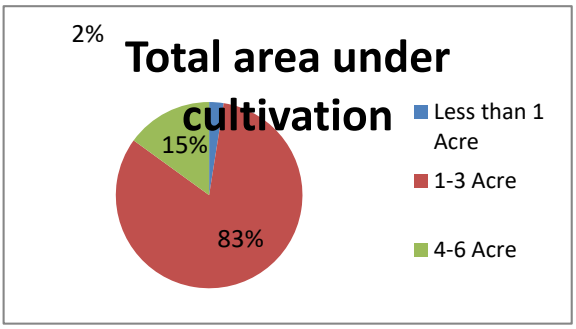

Figure 76: Total area under cultivation in 2020 in Karanja

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 77 shows that almost 62% of the respondents pegged their production between 5 and 10 tons. 8% produced between 10 and 15 tons of cotton. 13% of the respondents produced up to 5 tons. 6% of the respondents produced between 20 and 25 tons and, 8% between 15 and 20 tons. 3% produced more than 75 tons.

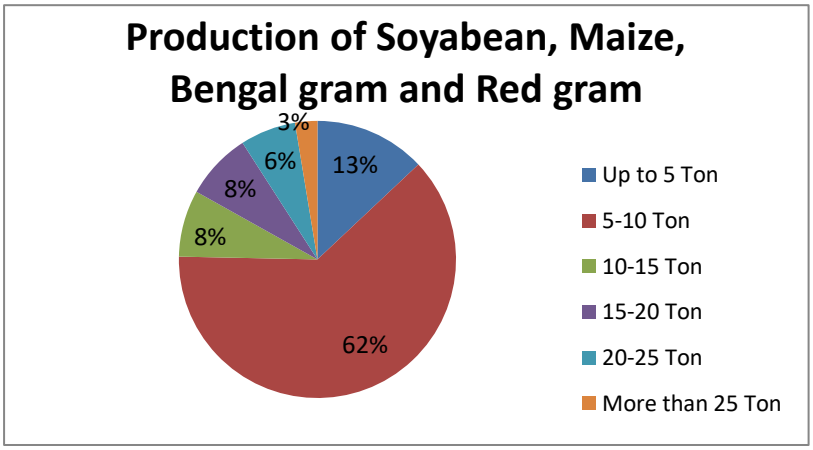

Figure 77: Production of Soyabean, Maize, Bengal gram and Red gram in 2020 in Karanja

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 78 shows that almost 79% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, 000 and 6, 000. 8% sold it between Rs 3, 000 and 4, 000. 3% sold it for less than 3, 000. Only 5% sold it between Rs 6, 000 and 7, 000.

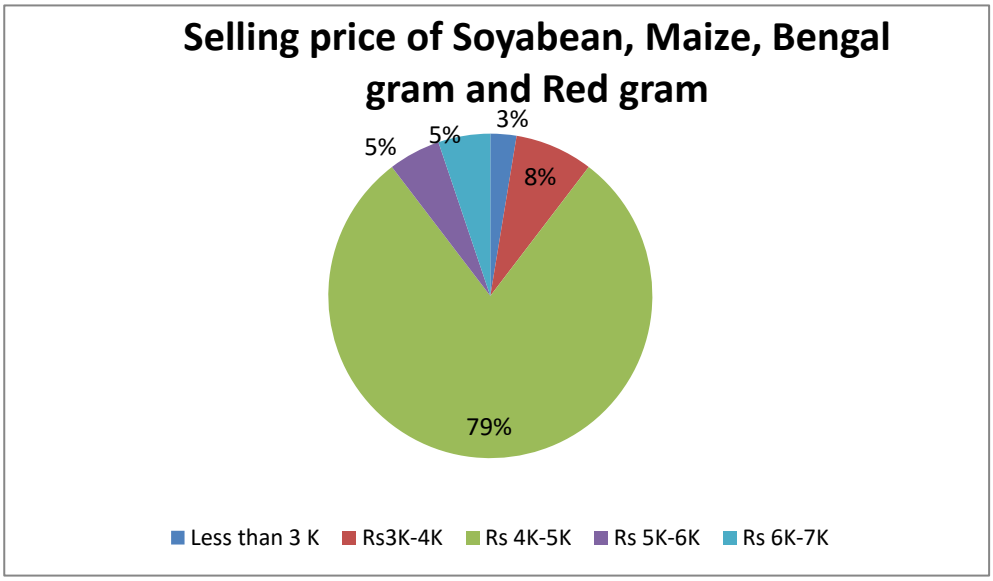

Figure 78: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2020 in Karanja

Rabi Crops 2020

Main crop grown during the *rabi* season are cotton, wheat and red gram. Red gram was grown in an area of 95 acres. Even though production was 239 quintals, only 163 quintals was sold in the market with an average selling price of Rs 5, 615. The produce that was not sold was kept for home consumption. Cotton was grown in an area of approximately 119 acres. The total production was 1, 358 quintals, and the entire quantity was sold at an average selling price of Rs 5,340 per quintal. Wheat was grown by a very few farmers in 4 acres of land with total productivity as 8 tons and almost the entire quantity was sold at an average price per quintal as Rs 5, 800.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Cotton	119	1358.5	1842	1358.5	5340.71
2	Red Gram	95	239.5	9216	163.5	5615.25

Table 13: Crops grown during the Rabi season in Karanja in 2020

Rabi Crop 2018 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 79 shows that almost 86% of the respondents had area between 1 and 5 acres. 9% had between 5 and 10 acres and 5% had between 10 and 15 acres of land under cultivation.

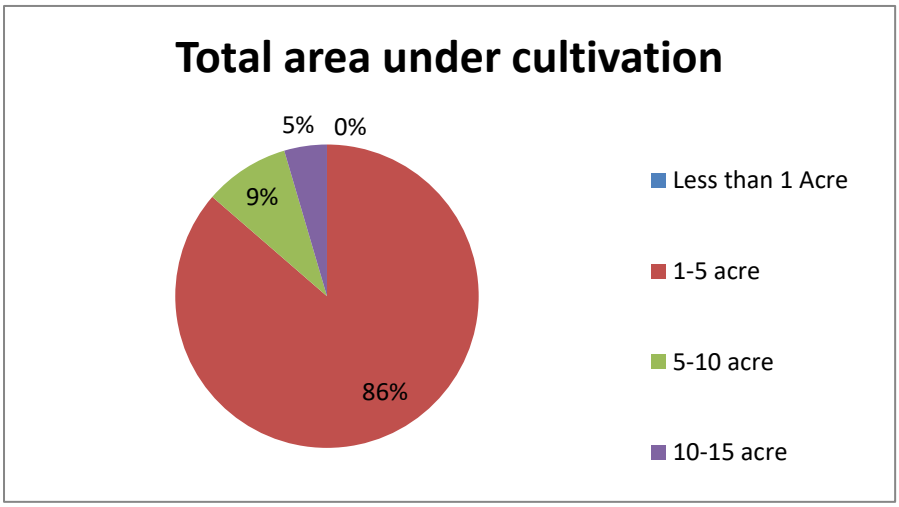

Figure 79: Total area under cultivation in the Rabi season in Karanja in 2018

Production of Red Gram, Cotton and Wheat

Figure 80 shows that almost 55% of the respondents produced up to 5 tons. 21% produced more than 25 tons and 8% produced between 15.1-20 tons. 5% each, produced between 10.1 and 15 tons and 5.1 and 10 tons. 6% produced between 20.1 and 25 tons.

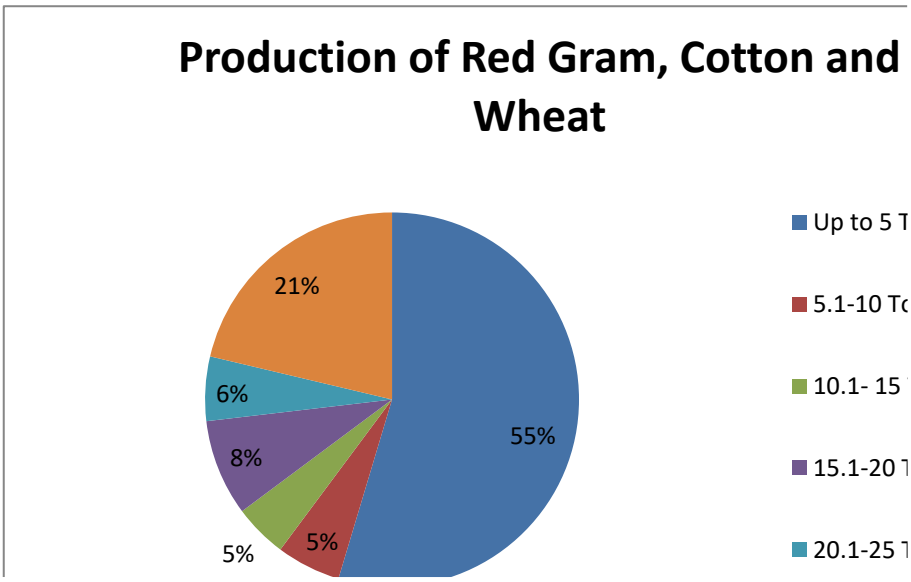

Figure 80: Production of Red Gram, Cotton and Wheat in the Rabi season in Karanja in 2018

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 81 shows that almost 99% of the respondents sold it at a price between Rs 5000 and Rs 6000. 1% sold it up to Rs 4000.

Figure 81: Per quintal selling price of Wheat in the Rabi season in Karanja in 2018

Rabi Crop 2019 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 82 shows that almost 84% of the respondents had an area between 1 and 5 acres. 12% had between 5 and 10 acres and 4% had between 10 and 15 acres.

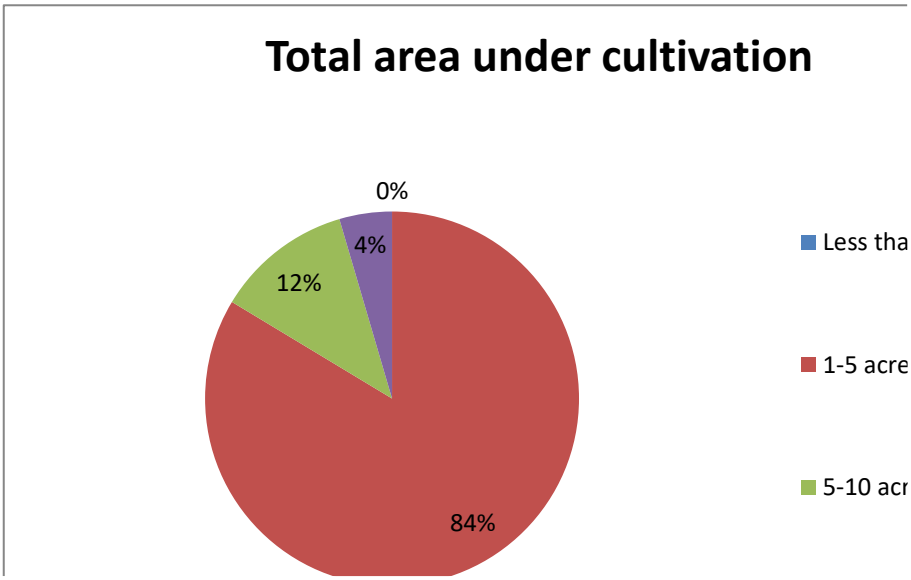

Figure 82: Total area under cultivation in the Rabi season in Karanja in 2019

Production of Red Gram, Cotton and Wheat

Figure 83 shows that almost 51% of the respondents produced up to 5 tons. 21% produced more than 25 tons and 7% produced between 15.1 and 20 tons, 10.1 and 15 tons, 5.1 and 10 tons and 20.1 and 25 tons, each.

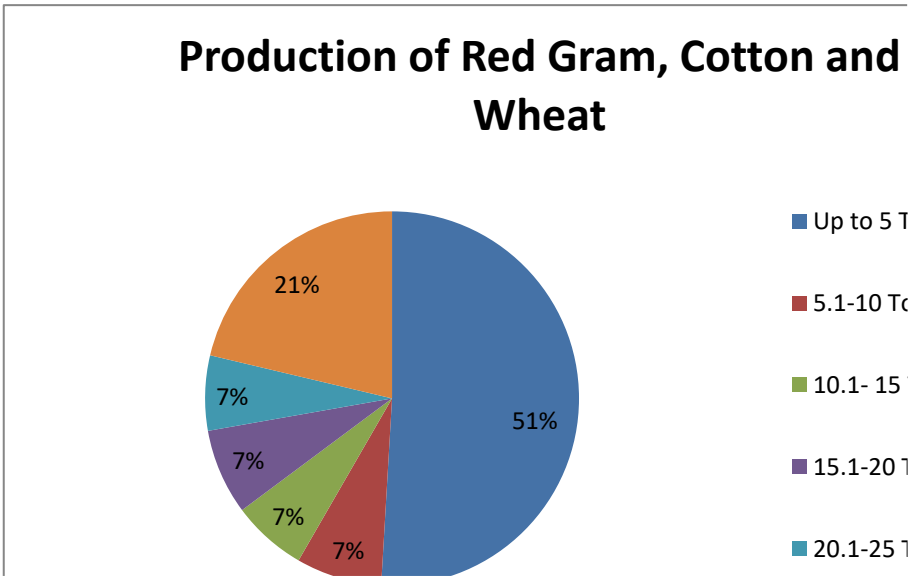

Figure 83: Production of Red Gram, Cotton and Wheat in the Rabi season in Karanja in 2019

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 84 shows that almost 98% of the respondents sold their produce at a price between Rs 5000 and Rs 6000. 2% sold it up to Rs 4000.

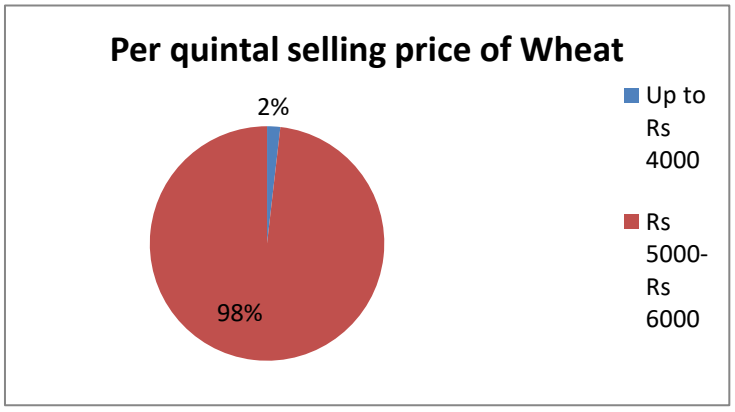

Figure 84: Per quintal selling price of Wheat in the Rabi season in Karanja in 2019

Rabi Crop 2020 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 85 shows that almost 82% of the respondents had area between 1 and 5 acres. 10% had between 5 and 10 acres and 8% had between 10 and 15 acres.

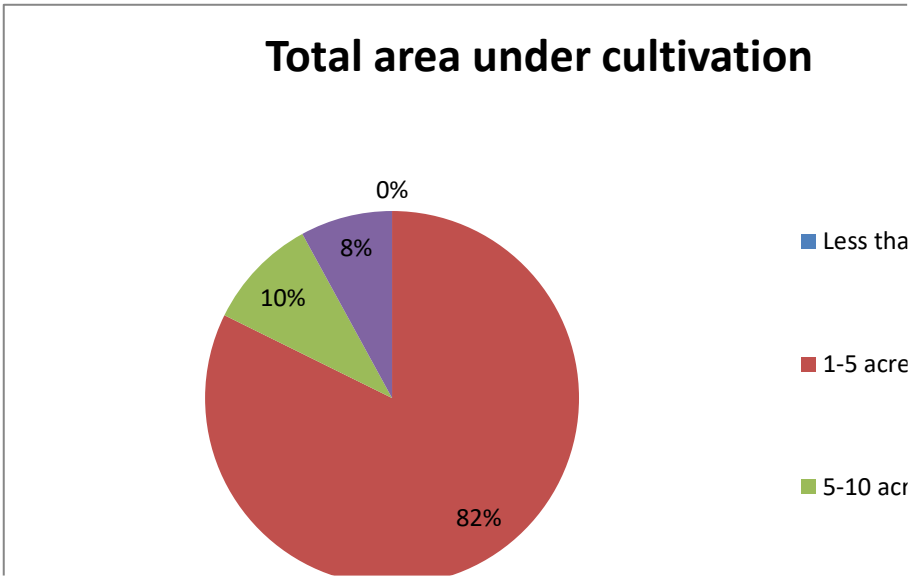

Figure 85: Total area under cultivation in the Rabi season in Karanja in 2020

Production of Red Gram, Cotton and Wheat

Figure 86 shows that almost 46% of the respondents produced up to 5 tons. 24% produced more than 25 tons and 7% produced between 15.1 and 20 tons and 20.1 and 25 tons, each. 8% produced between10.1 and 15 tons and 5.1 and 10 tons, each.

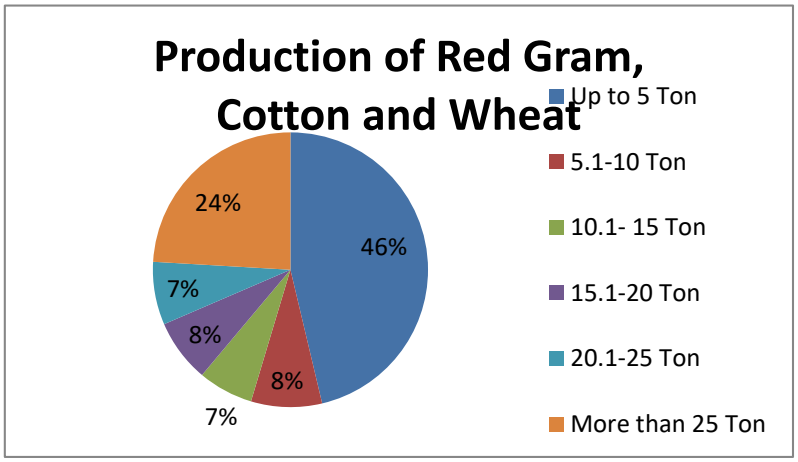

Figure 86: Production of Red Gram, Cotton and Wheat in the Rabi season in Karanja in 2020

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 87 shows that almost 99% of the respondents sold their produce at a price between Rs 5000 and Rs 6000. 1% sold it up to Rs 4000.

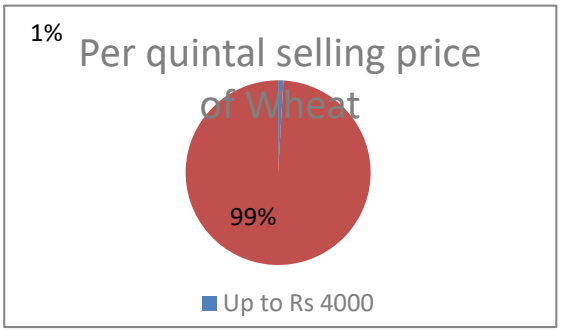

Figure 87: Per quintal selling price of Wheat in the Rabi season in Karanja in 2020

Farming Ecosystem

Agricultural labour used by the farmers

Figure 88 shows 67% of the respondents hired labour and 33% of them managed to carry out all the farming activities with the help of family members.

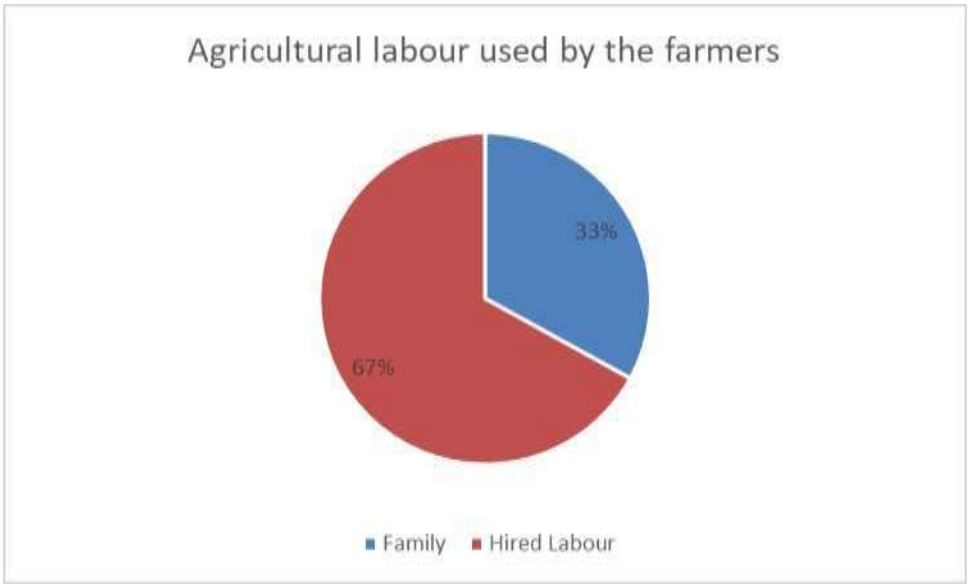

Figure 88: Agricultural labour used by the farmers.

Source of purchasing seeds

Figure 89 represents 51% of the respondents purchase seeds from retailers. 33% of them purchase them from salespersons of private companies. 9% of them purchased from dealers and only 4% of the respondents used self-saved seeds and seeds from fellow farmers, each.

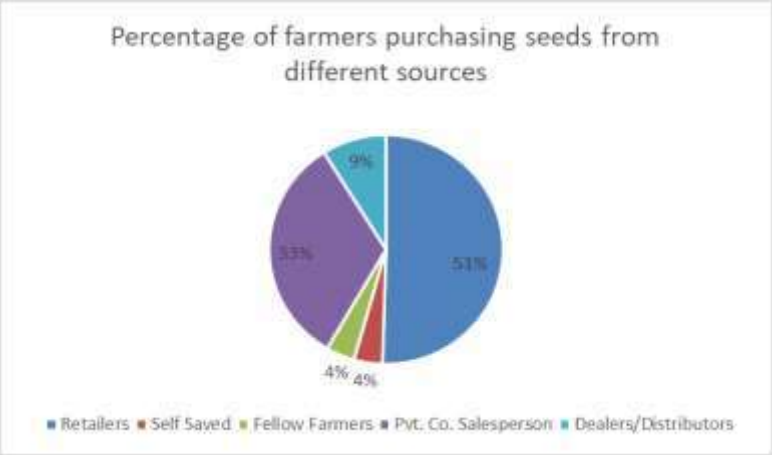

Figure 89: Percentage of farmers purchasing seeds from different sources

Fertilizer dose used in different crops

Table 14 shows the average fertilizer dose used in different crops (kg/acre). In the cotton crop FYM used was 1379 kg/acre, Urea 250 kg/acre of urea was used in the farms and 244 kg/acre DAP was used. In Red gram crop, 1421 kg/acre of FYM was used. 254 kg/acre urea was used and 242 kg/acre of DAP was used.

Average fertilizer used in different crops (kg/acre)								
	FYM	Urea	DAP	MOP	Zinc	Micronutrient	Vermicompost	Others
1. Cotton	1379	250	244	0	0	0	0	0
2. Red gram	1421	254	242	0	0	0	0	0
3. Soybean	1459.135	259.1731	259.2857	0	0	0	0	0
4. Wheat	1106	144.6364	123.5641	0	0	0	0	0
5. Bean, Brinjal, Bengal gram, Peas, Millets	2255.556	820	858.8889	0	0	0	0	0

Table 14: Fertilizer dose applied in different crops by the farmers

Expenses incurred in pesticide spray

Table 15 shows that pesticides worth Rs 6,007 were sprayed on cotton. On red gram, pesticides worth Rs 6,331 were sprayed, while Rs 5,249 were spent on pesticides sprayed on soyabean. Rs 5,260 were spent on pesticides sprayed on wheat.

Expenses on pesticides per acre	
Crops	Cost incurred in spray (in Rs)
1. Cotton	Rs 6,007
2. Red gram	Rs 6,331
3. Soyabean	Rs 5,249
4. Wheat	Rs 5,260

Table 15: Expenses incurred in pesticide spray

Source of purchasing inputs

Figure 90 represents the source of purchasing inputs. 47% of the respondents purchase inputs from retailers. 40% of the respondents purchase them from salespersons of private companies. 13% of the respondents purchase the inputs they use from dealers.

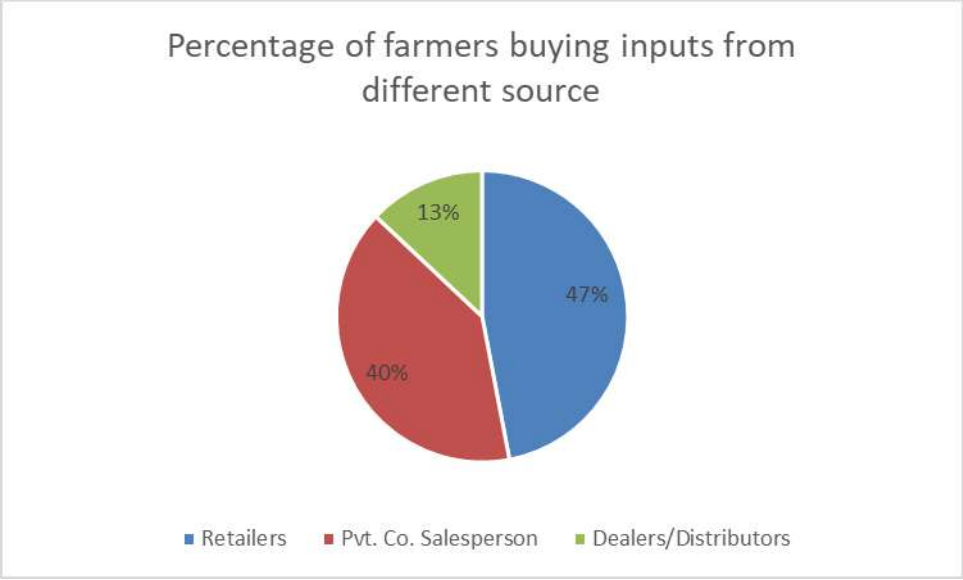

Figure 90: Percentage of farmers buying inputs from a different source

Constraints faced by farmers during the production process

Table 16 shows the constraints faced by farmers during the production process as per their severity. The most troublesome constraint was high incidence of pest and disease and then poor access to the necessary technology, later lack better-quality

varieties and followed by seed treatment and the last of their concerns was the lack of irrigation facility.

Main constraints	Avg score	Rank
High pest and disease incidence	38	1
Poor access to the necessary technology	30	2
Lack of better-quality varieties seeds & planting materials/non-availability of laborers/Lack of knowledge	24	3
Seed Treatment/ Spurious inputs (pesticides)/Poor availability of fertilizers	18	4
Lack of irrigation facility	10	5

Table 16: Constraints faced by farmers during the production process

Extension advisories for seeking advice regarding crop cultivation

Figure 91 shows that 44% of the respondents are seeking advice from NGOs and 27% from peer farmers. 14% of the respondents are seeking advice from the State Agriculture Department and 9% from dealers. Only 2% of the respondents are seeking advice from KVKs and helplines.

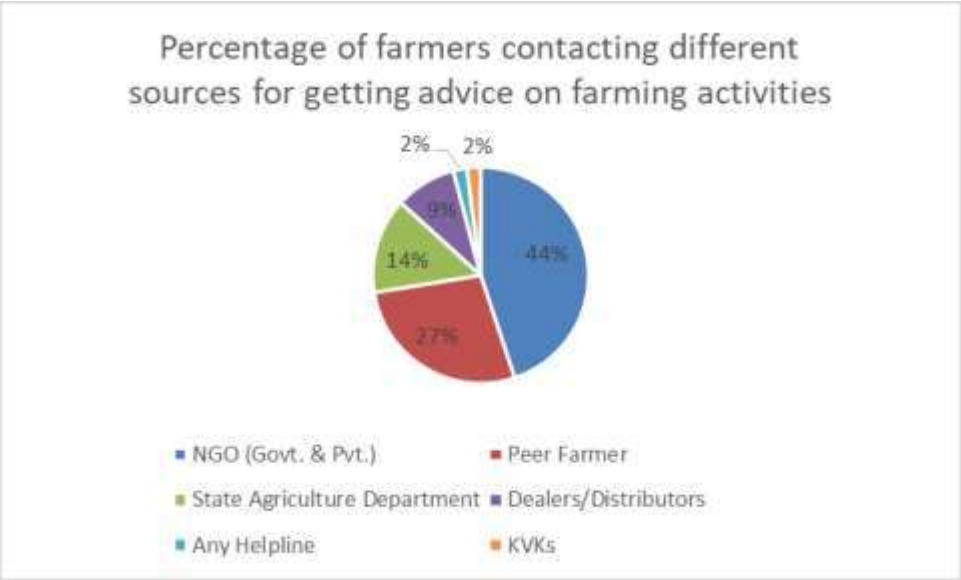

Figure 91: Percentage of farmers contacting different sources for getting advice on farming activities

Figure 92 represents the percentage of farmers adopting the advice for farming activities. 71% of the respondents follow the advice and the remaining 29% do not follow the advice given to them.

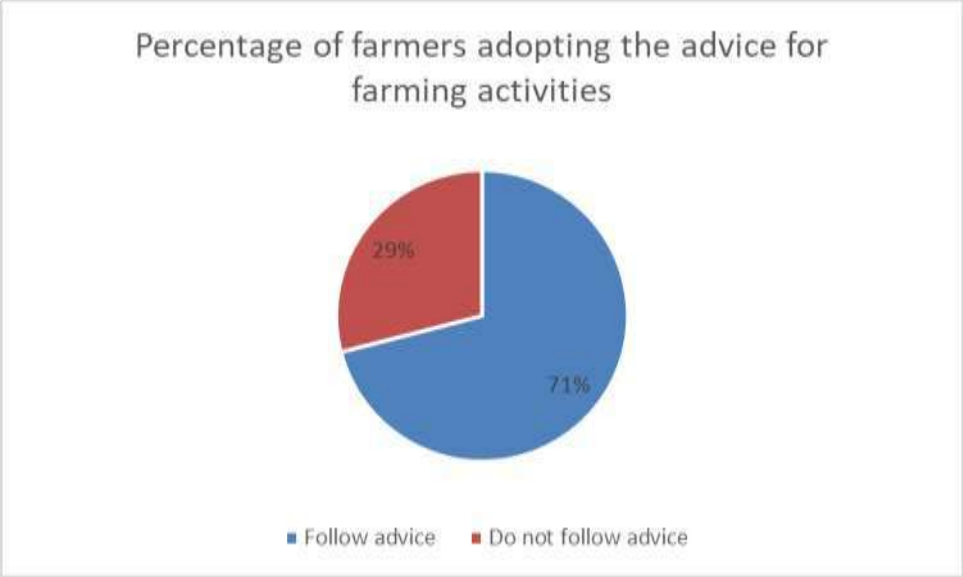

Figure 92: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 93 shows the percentage of farmers receiving benefits from extension advisories. 53% of them benefit from the advice about lesser input usage and 42% benefit as they experience a decrease in the cost of cultivation. 38% benefit as they observe an increase in yield. 24% observe a decrease in pests and 4% observe increase in income/net profit.

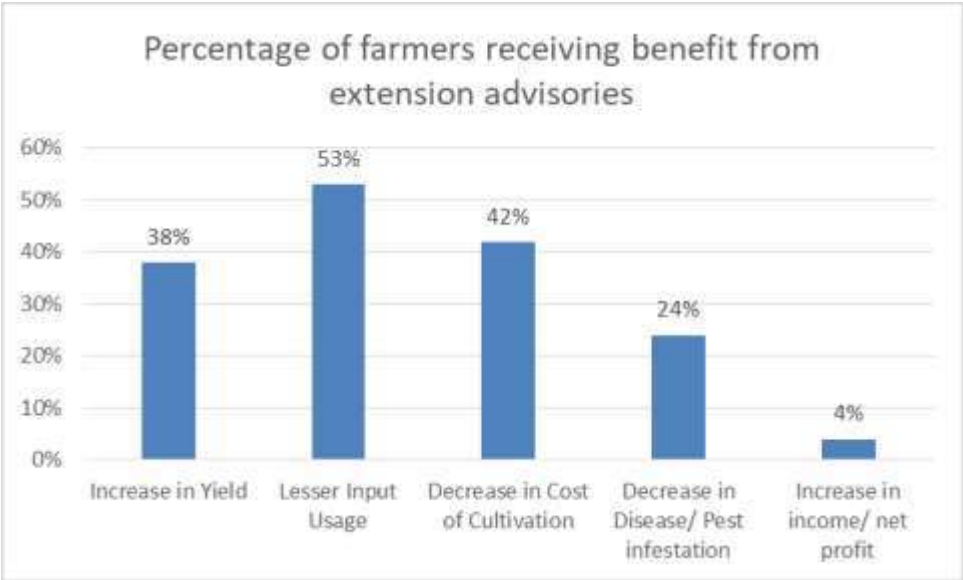

Figure 93: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 94 shows that 73% of the respondents were aware of the government schemes and 27% of the respondents were not aware about them.

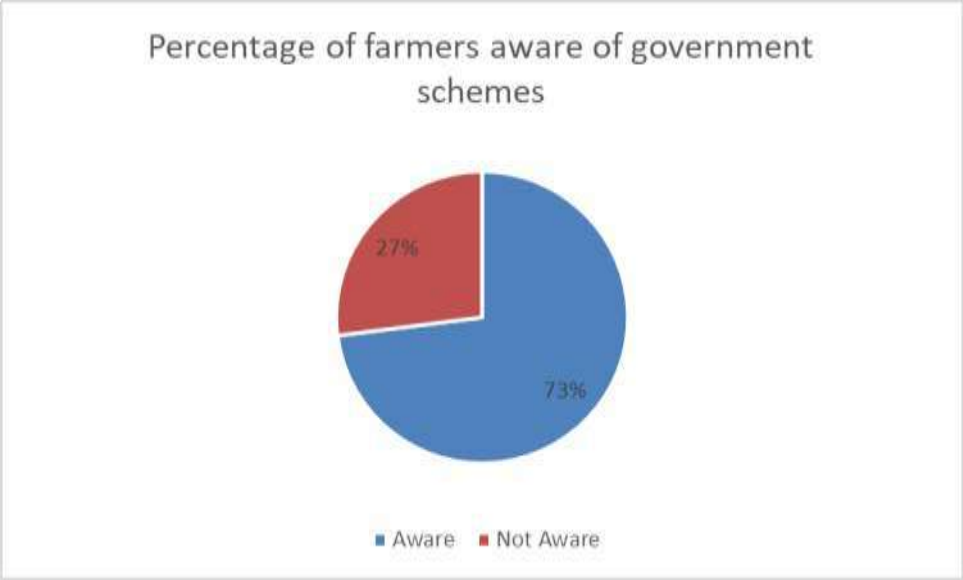

Figure 94: Percentage of farmers aware of government schemes

Accessibility to credit

Figure 95 shows that only 40% of the farmers have taken credit from banks for crop cultivation. There were various constraints faced by the farmers while taking credit. These include excessive documentation, distance from village and high rate of interest, amongst others.

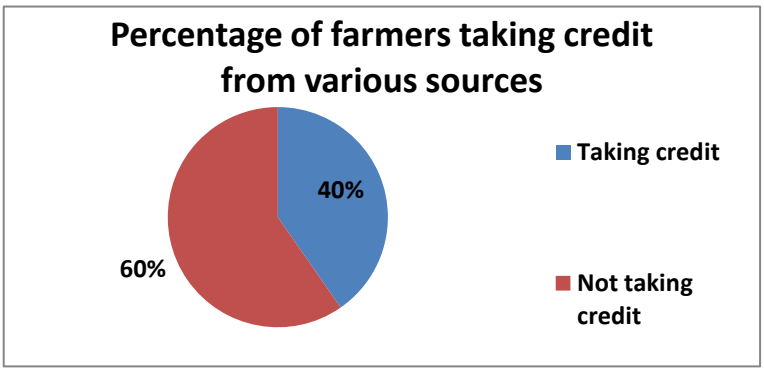

Figure 95: Percentage of farmers taking credit from various sources

Awareness of benefits of FPOs

Figure 96 represents the 42% of the respondent's data is unavailable, 34% of the respondents are aware of the benefits of FPO and only 24% of the respondents are not aware about the benefits that a FPO comes with.

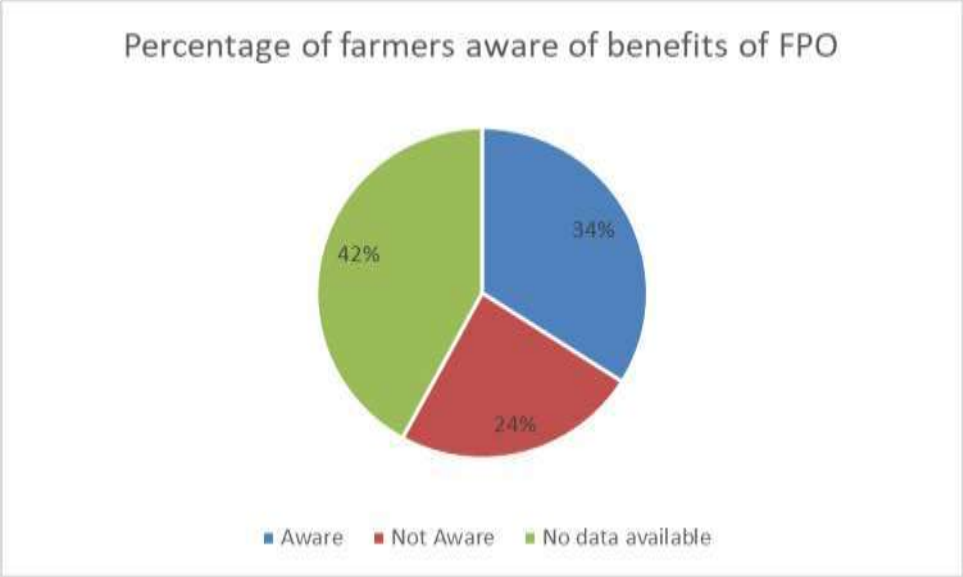

Figure 96: Percentage of farmers aware of benefits of FPO

Member of farmer's association/cooperative

Figure 97 shows that 56% of the respondents are not members of farmer associations. Data of 42% of the respondents is unavailable and only 2% of the respondents are members of farmer's associations.

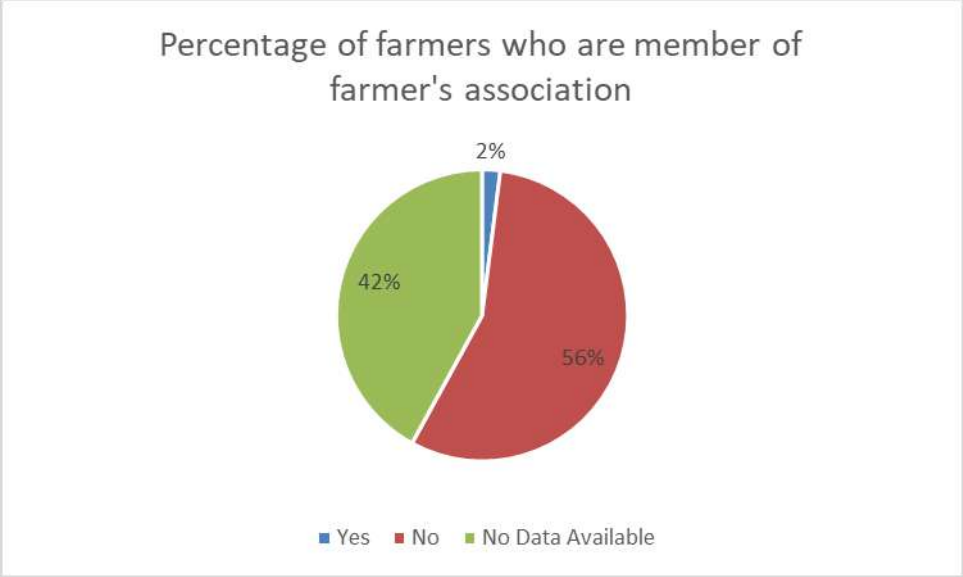

Figure 97: Percentage of farmers who are a member of farmer's association

Willingness of farmers to form groups

Figure 98 represents the willingness of farmers to form groups. 42% of the respondents' data is unavailable. 31% of the respondents are not willing to form the group and 27% of the respondents are willing to form the groups.

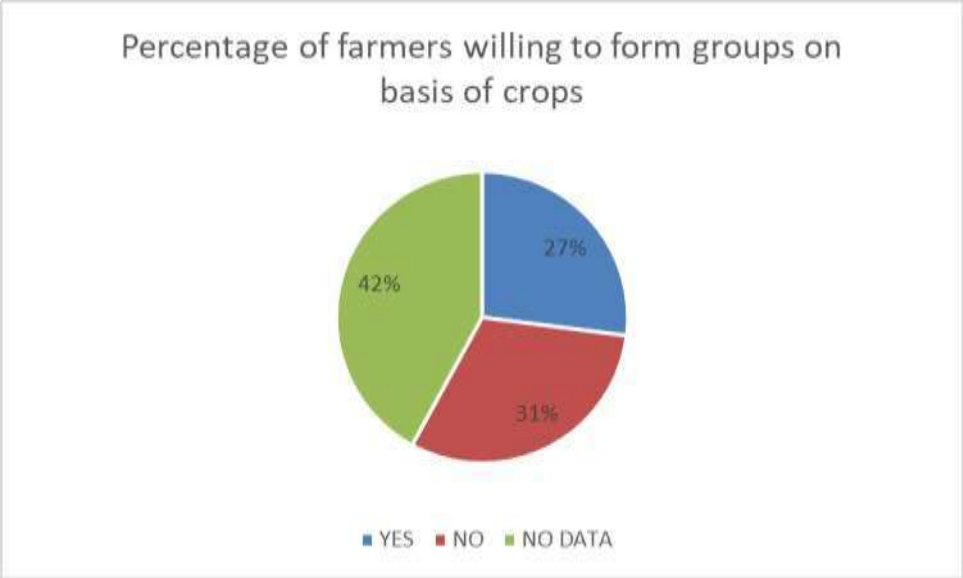

Figure 98: Willingness of farmers to form groups

Capacity Building of Farmers

Training on packaging practices, post-harvest management, marketing

None of the farmers have received any training on packaging practices, post-harvest management, marketing, etc.

Problems faced by farmers during post-harvest packaging

Figure 99 shows that farmers faced many issues in post-harvest packaging. 60% of them said that the packaging facility was not available on time. 5% of them, however, did not face any problems. 12% had problems with paying higher wages. 5% faced shortage of skilled labor and 18% faced non-availability of packaging material.

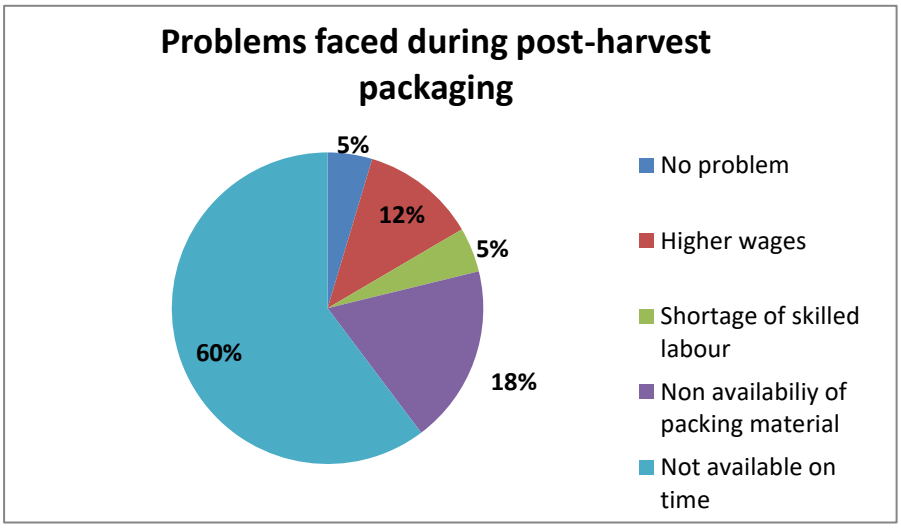

Figure 99: Problems faced during post-harvest packaging

Problems faced during post-harvest transportation

Figure 100 shows that 40% of the respondent's data is unavailable; 24% are having no problems. 22% of them have an issue with paying high transportation charges, 9% of them have issues with the unavailability of vehicles when needed. Another 9% complain of the lack of all-weather roads. 5% of them have a problem of being given misleading information and the remaining 4% of them face issues with non-availability of transport.

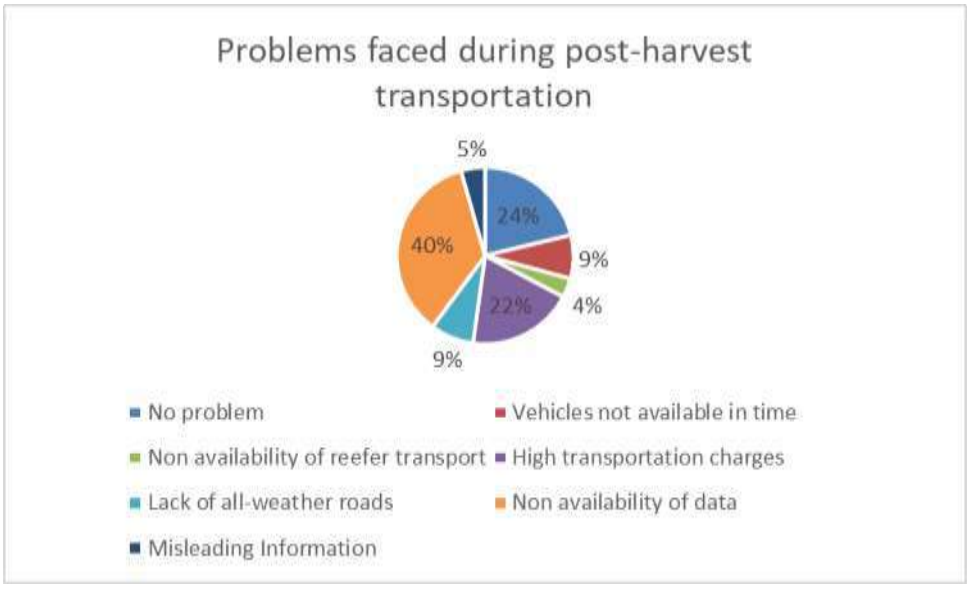

Figure 100: Problems faced during post-harvest transportation

Problems faced because of malpractices post-harvest

Figure 101 shows that 42% of the respondent's data is not available, 16% have a multiplicity of charges. 14% of the respondents have no problems.13% of them quote a lower price than actual prices. 9% deduct under charges. 7% have to deduct more charges and accept part-payment.

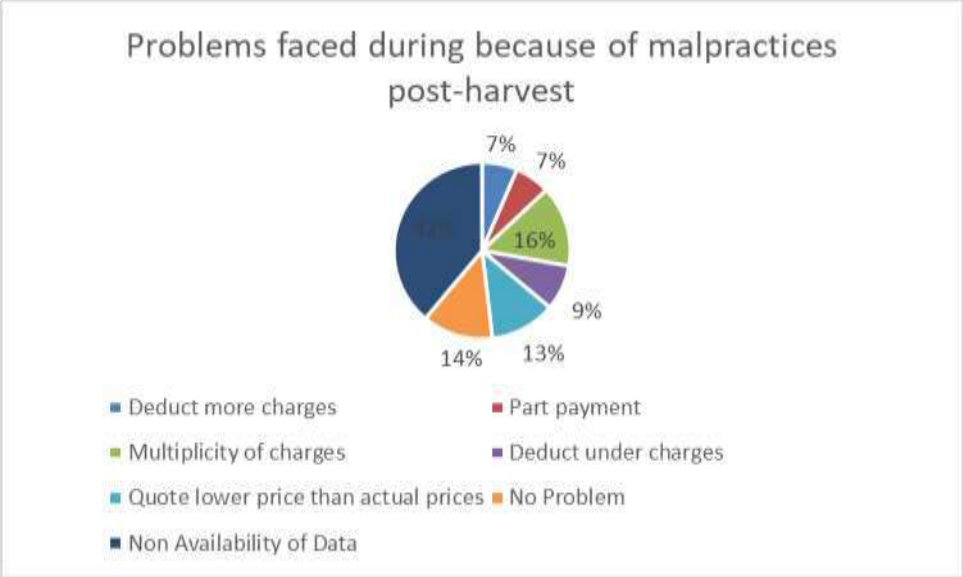

Figure 101: Problems faced during because of malpractices post-harvest

Storage post-harvest

84% of farmers had their own storage areas and stored the crops there only post-harvest, due to little or no availability of godowns in the area. Only 16% utilized the facilities provided by owners of private storage spaces.

Problems for getting a good selling price post-harvest

Farmers in the area do not get a good selling price for their crops because of the unavailability of storage space. Lower price offered by local traders/less price realization, unavailability of market are some of the other reasons for not getting a good selling price.

ZARI

ZARI

Block Profile

Zari village is in the Zari Jamani *tehsil* of the Yavatmal District in Maharashtra. It is situated 40 kms away from the sub-district headquarter Zari-Jamani and 105 kms away from the District Headquarter Yavatmal. The total geographical area of the village is 625 hectares. Zari has a total population of 1,535 people. There are about 309 houses in Zari village. Pandharkaoda is the nearest town to Zari which is approximately 35 kms away.

Socioeconomic status of respondents of Zari block

Age of the respondents

Figure 102 shows that 52% of the farmers of the Zari Block were between the age group of 31 and 45 years. 18% of them were between 46 and 60 years. Only 30% of the farmers were between the age group of 15 and 30 years.

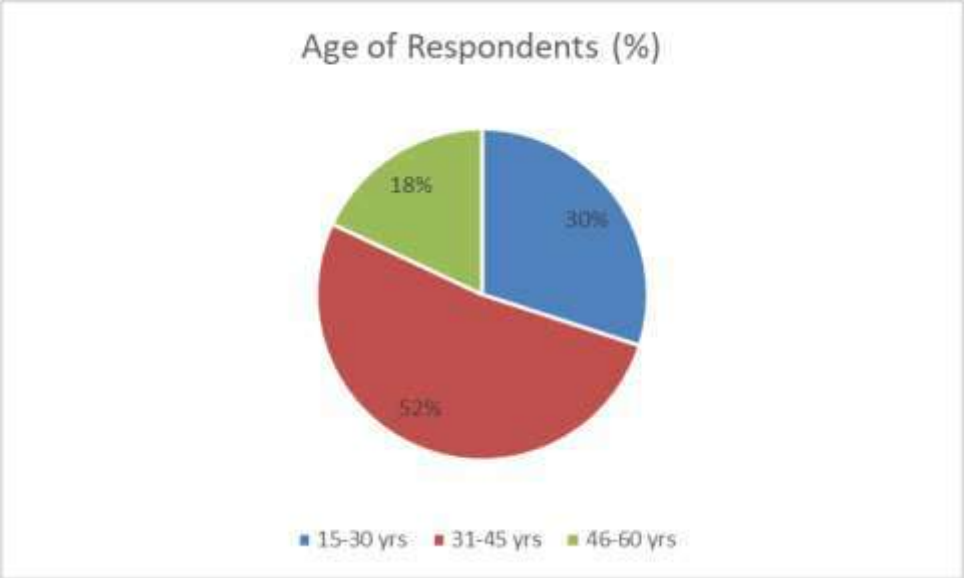

Figure 102: Age of the respondents of Zari Block

Category of the respondents

Figure 103 shows that 78% of the respondents of the Zari Block belonged to the SC/ST Category. 22% of them were from the OBC Category and none of them belonged to the General Category.

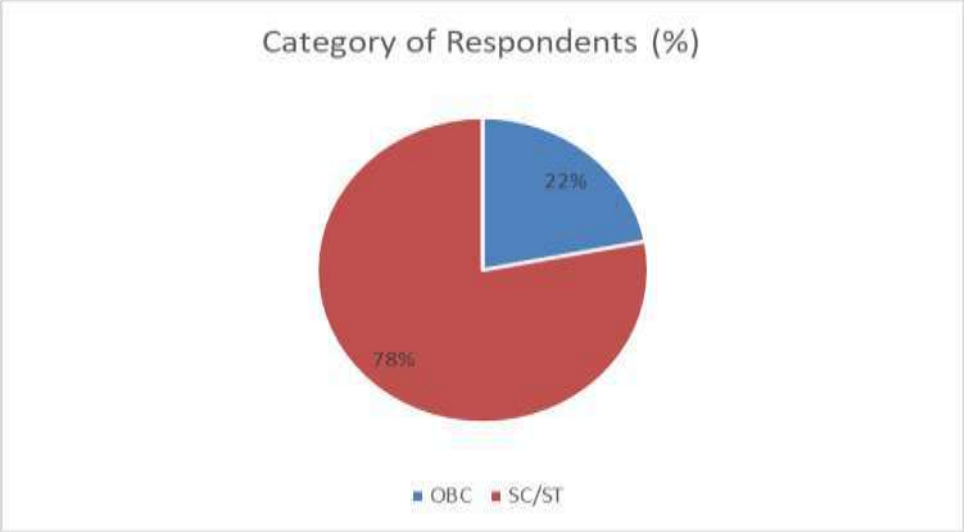

Figure 103: Category of the respondents of Zari Block

Gender of respondents

According to **Figure 104**, there were 2% female respondents and 98% of the respondents were male.

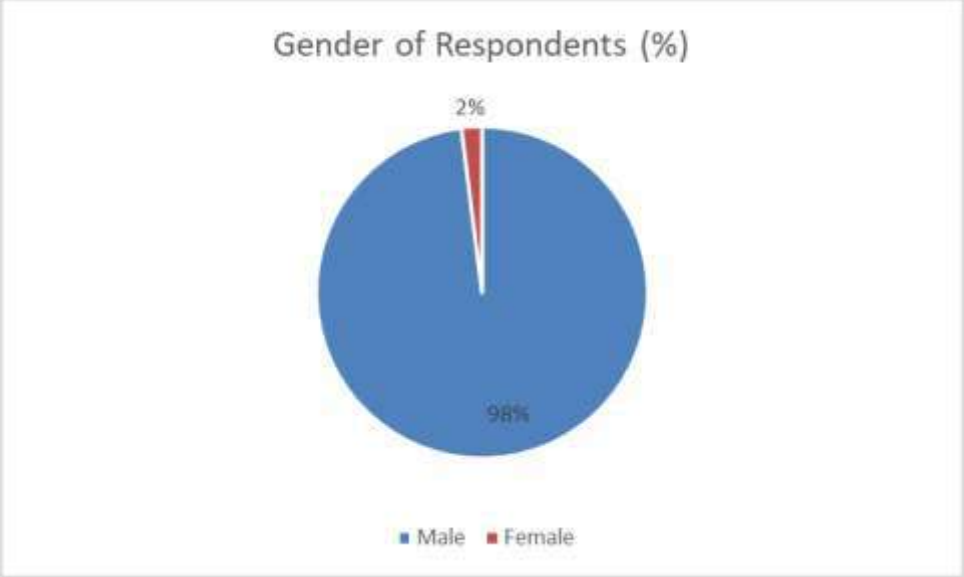

Figure 104: Gender of the respondents of Zari Block

Educational qualification of respondents

Figure 105 shows that 42% of the respondents of the Zari Block were educated upto the Primary level. 26% of the respondents had studied up to Sr. Secondary School and 24% were educated up to High School. 6% were graduates and only 2% were just literate.

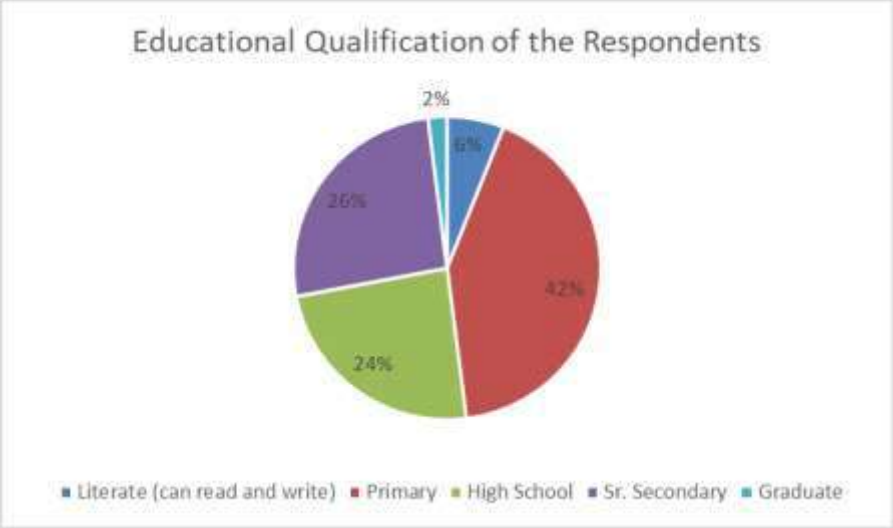

Figure 105: Educational qualifications of the respondents of Zari Block

Number of family members

Table 17 shows that the average number of adult members per family in the Zari Block is 4. The average number of children per family is 2 and school-going children are 1. The average number of dependent members in a family is 2. So, it can be inferred that on an average, two persons in the household are earning members.

Average number of family members	Average number
Adult	4
Children	2
School going children	1
Dependent members	2

Table 17: Average number of members in a family in Zari Block

Involvement of women in agriculture

100 per cent of the families have women involved in agriculture.

Activities performed by women

Figure 106 shows that women of the Zari Block are involved in various agricultural activities such as sowing, weeding, harvesting, sorting and grading, any kind of processing, and the spraying of pesticides. Most of the women perform harvesting of crops. 100% of the women of the surveyed area perform sowing, weeding harvesting. 96% of the women perform sowing activities. 94% of the women are involved in weeding. 90% of women performed the harvesting activities.66% of the females carry out sorting and grading. 18% do some kind of processing. 48% of women are involved in spraying of pesticides.

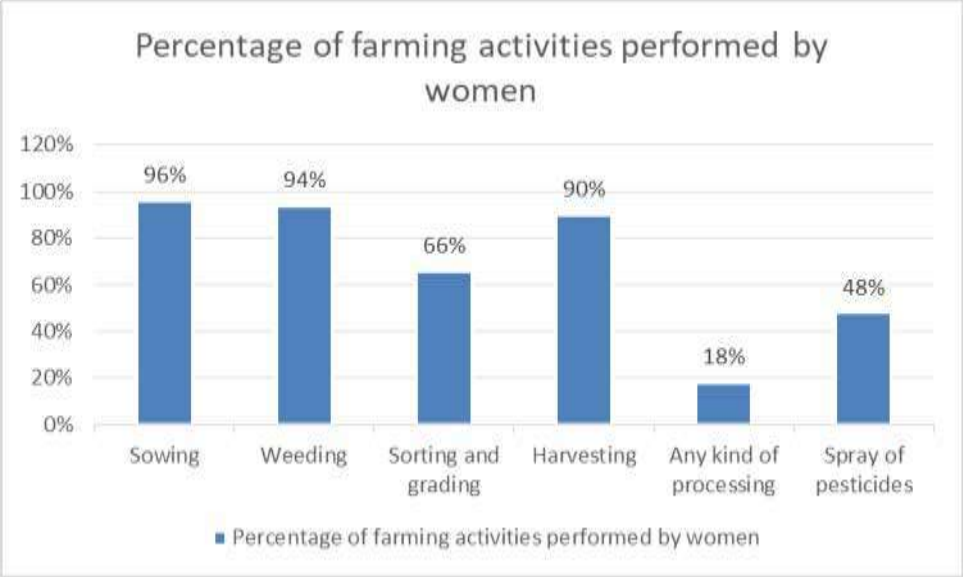

Figure 106: Percentage of farming activities performed by women in Zari Block

Annual income of the respondents

Figure 107 shows that around 44% of the respondents had an annual income between 50 thousand and 1 lakh. 28% of the respondents had an annual income between 1 lakh and 1.5 lakh. 18% of them had an annual income between 25 thousand and 50 thousand. 8% of the respondents had an annual income above 1.5 lakhs. 2% of the respondents had an annual income of less than 25 thousand

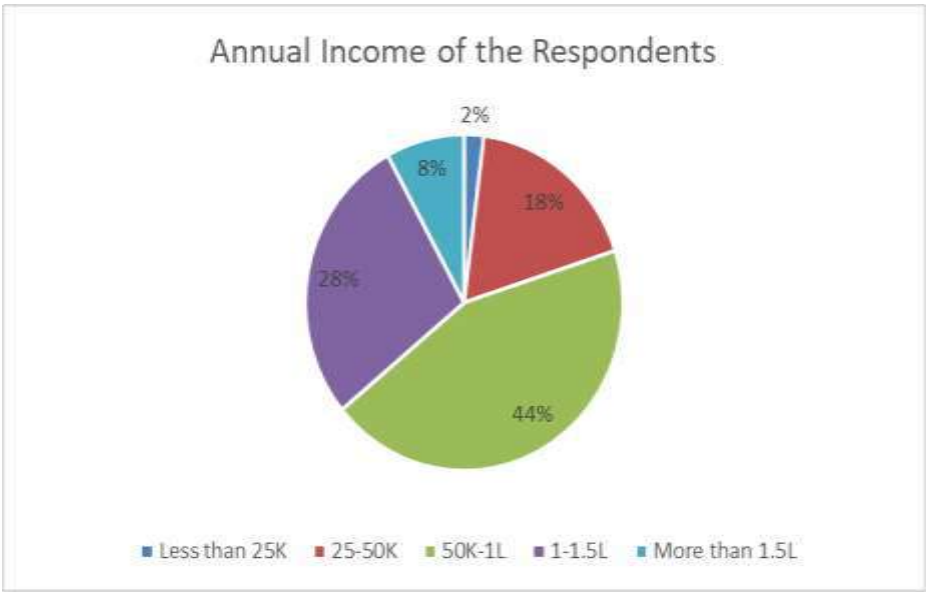

Figure 107: Annual income of the respondents in Zari Block

Savings from farming

Figure 108 shows that approximately 44% of the respondents had savings between 50 thousand and 1 lakh savings from farming. 42% of them had savings between 20 and 50 thousand. 14 % of the respondents had savings of more than 1 lakh.

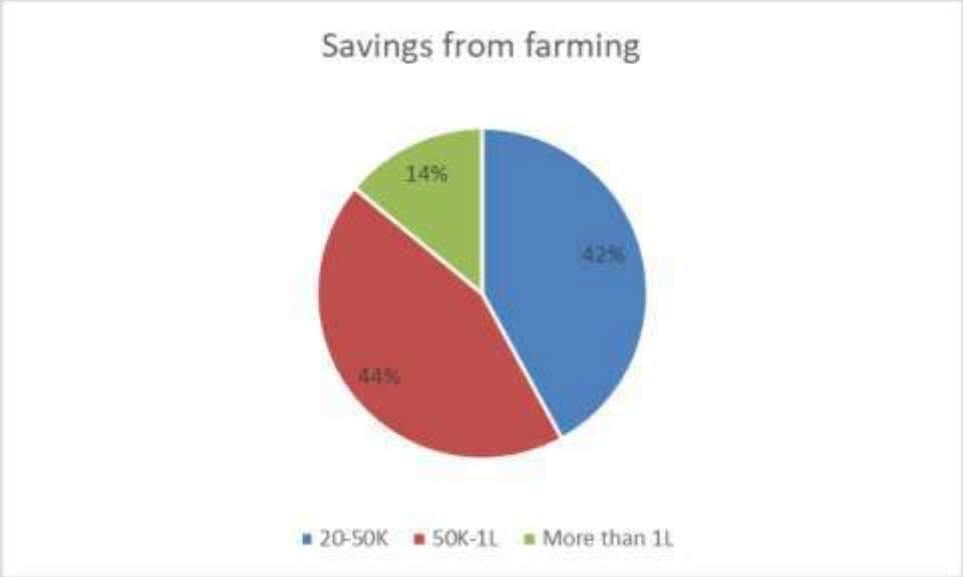

Figure 1: Annual savings from farming in Zari Block

Non-farming activities

Apart from farming activities, the farmers are also involved in non-farming activities to increase their income. 10% of the farmers have general stores. 38% are working as laborers, 6% are working as electricians and none of the respondents are involved in a government job and petty shops.

Annual Income of the respondents from activities other than farming

Table 2 shows that **t**he average annual income of respondents from working as laborers is approximately Rs 23,000/- and for those working in private jobs it is Rs 30,000/-.

Average income from activities other than farming	
Laborers	Rs 23, 000
Private jobs	Rs 30,000

Table 18: Annual Income of the respondents from activities other than farming

Average distance of markets

Table 18 shows that the average distance of the local market is 12.1 km and the average distance to the *mandi* is 34.4 km from the village.

Average distance of markets	
Local market	12.1 km
Mandi	34.4 km

Table 19: Average distance of markets in Zari Block

Landholding size of the respondents

Figure 109 shows that in the rural areas, agriculture is the mainstay of the economy, with hardly any non-farm occupations available. 30% of the farmers had between 4.1 and 6 acres of land. 26% of the farmers had between 2.1 and 4 acres of land. 26% of the farmers had more than 10 acres of land and 12% of the respondents had between 6.1 and 8 acres of land. 4% of the respondents had between 8.1 and 10 acres and only 2% of the farmers had up to 2 acres.

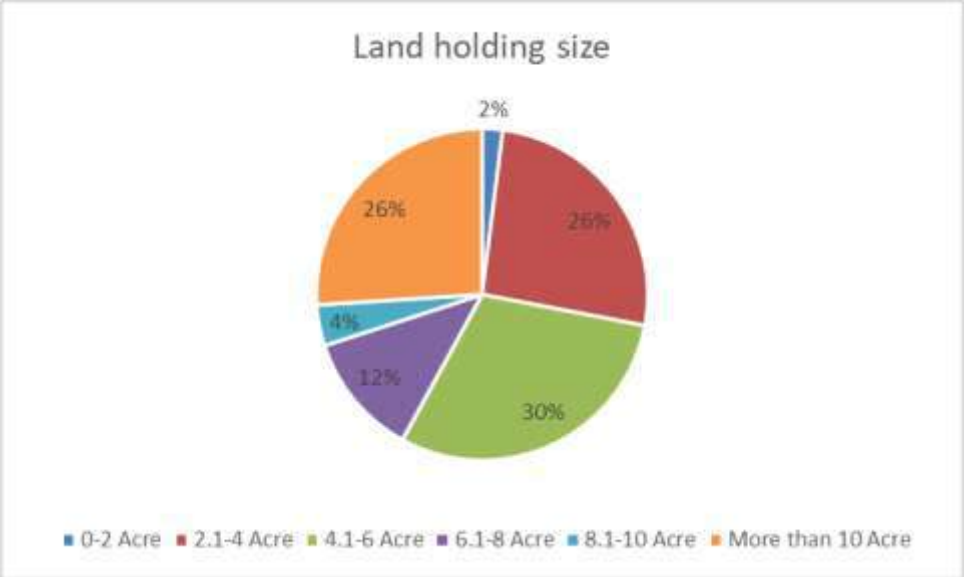

Figure 109: Landholding size of farmers in Zari Block

Problems in seeking a bank loan

Most of the respondents cited the unfriendly behavior of banking staff, time taken for documentation and other processes, and the distance of banks from their villages as the main reasons for not being able to secure a bank loan.

Training received

None of the respondents had received any training on farming.

Problems faced in farming and expectations from the government

Most of the respondents said that there aren't enough resources for irrigation in the area. Further, they said they wanted the government to take steps to provide advanced technological assistance and financial aid. They also highlighted the need for good quality seeds and reiterated that the *mandi* should be as close to the village as possible.

Soil health card/soil testing report

65% of the farmers were aware about soil testing and only 4% of them had soil health card. 7% of the farmers received any advice on crops to be grown and nutrients required in their field. Proper awareness and trainings were required to be given to the farmers regarding soil testing.

Irrigated land of the respondents

Around 110 acres of the land in the area is irrigated land.

Types of irrigation facilities being used

Figure 110 shows that approximately 92% of the respondents use borewell irrigation technique. 22% of the respondents use canal water to irrigate their farms. 14% of the respondents use minor irrigation to water their fields. 8% use lift irrigation and the remaining 8% use other techniques for irrigation.

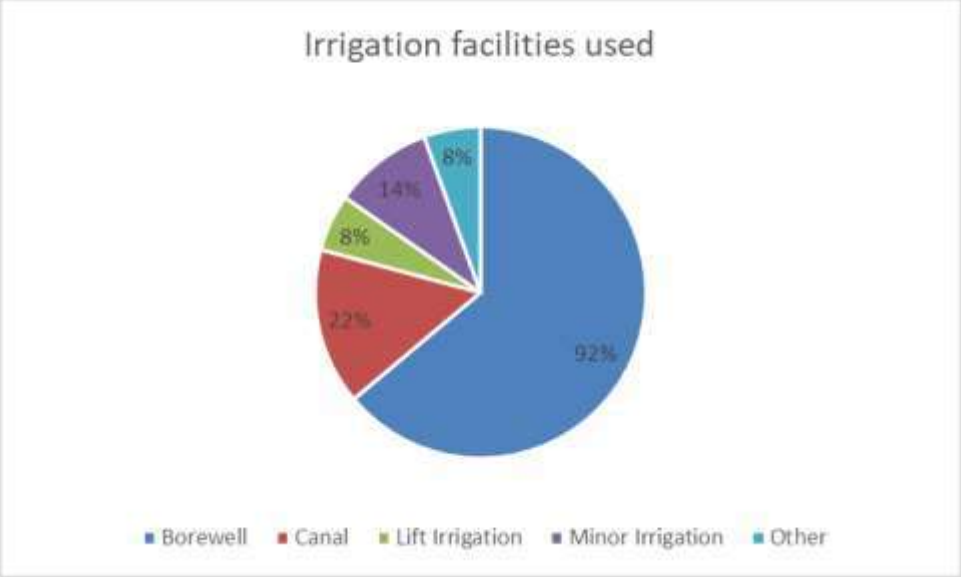

Figure 110: Irrigation facilities in Zari Block

Crop-related information

Cropping pattern

Kharif crops 2020

As reflected in **Table 20**, the major *kharif* crop grown in the surveyed area is cotton. Cotton was grown in an area of almost 150 acres. The total production amounted to 1504 quintals and all of it was sold in the market. Cotton is being sold at Rs 4, 921 kg/quintal. Other crops grown in the *kharif* season are Bengal gram, red gram, maize and soyabean. They were grown in an area of 99 acres. The total production was 402 quintals. 364 quintals were sold in the market at an average rate of Rs 4,600 per quintal.

CROP ROTATION (*KHARIF*)							
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)	
1	Cotton	150	1504	756	1200	4921	
2	Bengal Gram, Red Gram, Maize, Soyabean	99	402	1011	364	4600	

Table 20: Crop rotation of kharif crops in Zari Block in 2020

Kharif Crop 2018 – Cotton

Total area under cultivation

Figure 111 shows that almost 53% of the respondents in the Zari Block had between 4 and 6 acre of land under cultivation. 32% had between 1 and 3 acres of land under cultivation. 8% had between 7 and 9 acres and 7% had more than 10 acres.

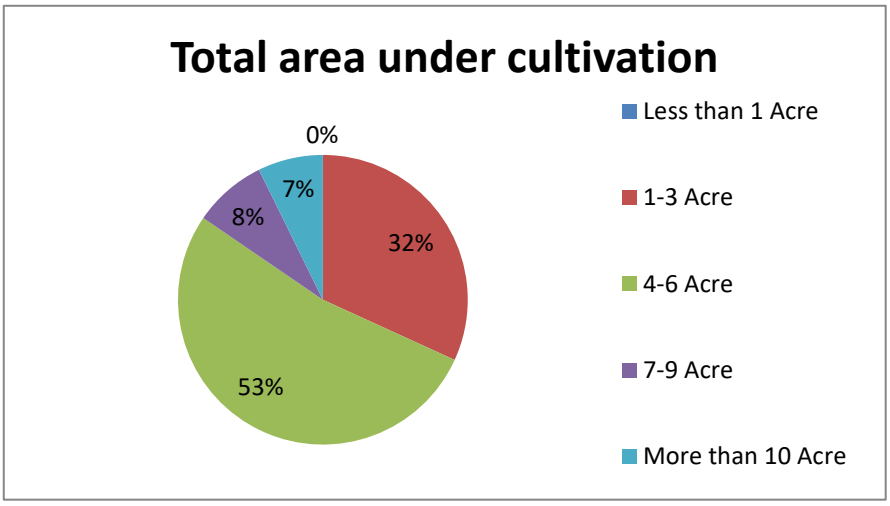

Figure 111: Total area under cultivation in 2018 in Zari

Production of Cotton

Figure 112 shows that almost 42% of the respondents pegged their production of cotton, between 15 and 10 tons. 26% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 7% of the respondents produced between 45 and 60 tons and 3% produced more than 75 tons of cotton. 2% of the respondents had a production of cotton between 60 and 75 tons.

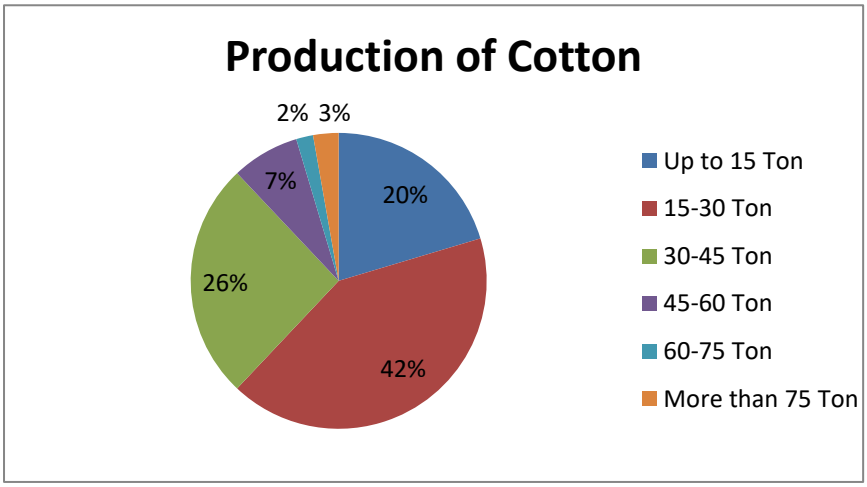

Figure 112: Production of Cotton in 2018 in Zari

Per Quintal Selling price (SP) of Cotton

Figure 113 shows that almost 43% respondents sold cotton between Rs 5, 000K-6, 000. 35% sold it between Rs 4, 000 and 5, 000. 18% sold it between Rs 3, 000 and 4, 000 and only 4% sold it between Rs 6, 000 and 7, 000.

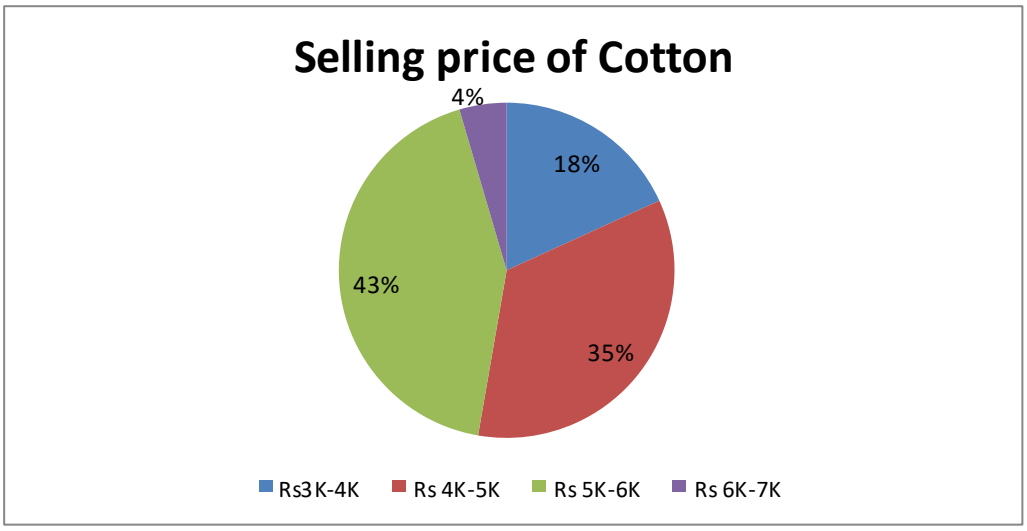

Figure 113: Selling price of Cotton in 2018 in Zari

Kharif Crop 2019 – Cotton

Total area under cultivation

Figure 114 shows that almost 53% of the respondents in the Zari Block had between 4 and 6 acres of land under cultivation. 35% had between 1 and 3 acres of land under cultivation. 7% had between 7 to 9 acres and 5% had more than 10 acres of land under cultivation.

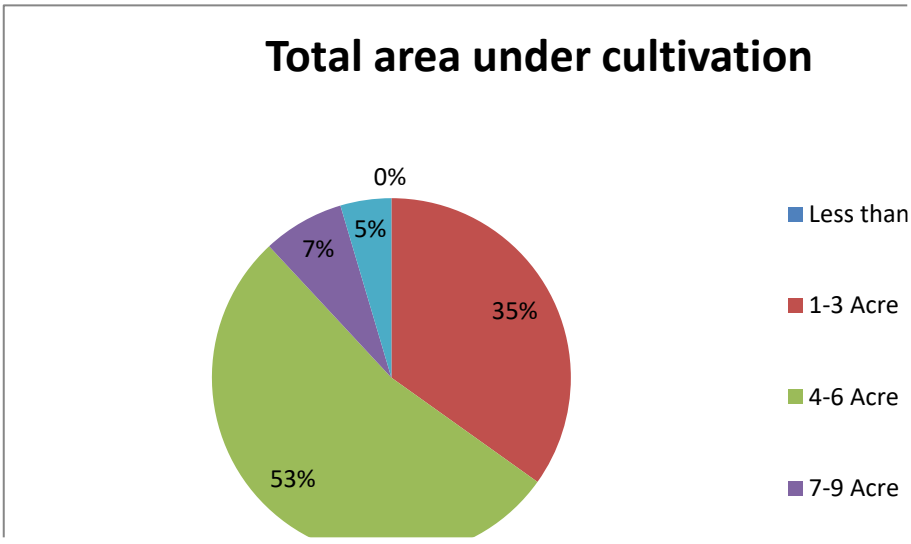

Figure 114: Total area under cultivation in 2019 in Zari

Production of Cotton

Figure 115 shows that almost 38% of the respondents pegged their production of cotton, between 15 and 10 tons. 36% produced between 30 and 45 tons of cotton. 17% of the respondents produced up to 15 tons of cotton. 3% of the respondents

produced between 45 and 60 and 4% more than 75 tons of cotton. 2% of the respondents had a production of cotton between 60 and 75 tons.

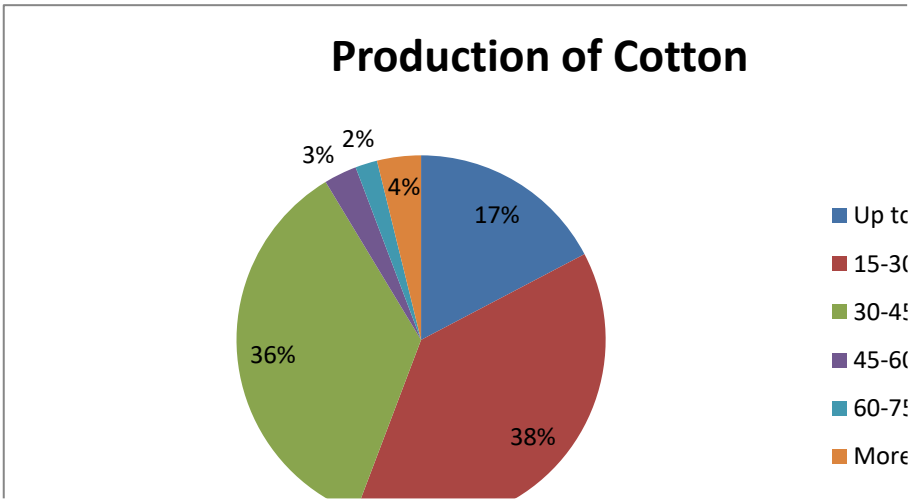

Figure 115: Production of Cotton in 2019 in Zari

Per Quintal Selling price (SP) of Cotton

Figure 116 shows that almost 41% respondents sold cotton between Rs 5, 000 and 6, 000. 33% sold it between Rs 4, 000 and 5, 000. 20% sold it between Rs 3, 000 and 4, 000. Only 6% sold it between Rs 6, 000 and 7, 000.

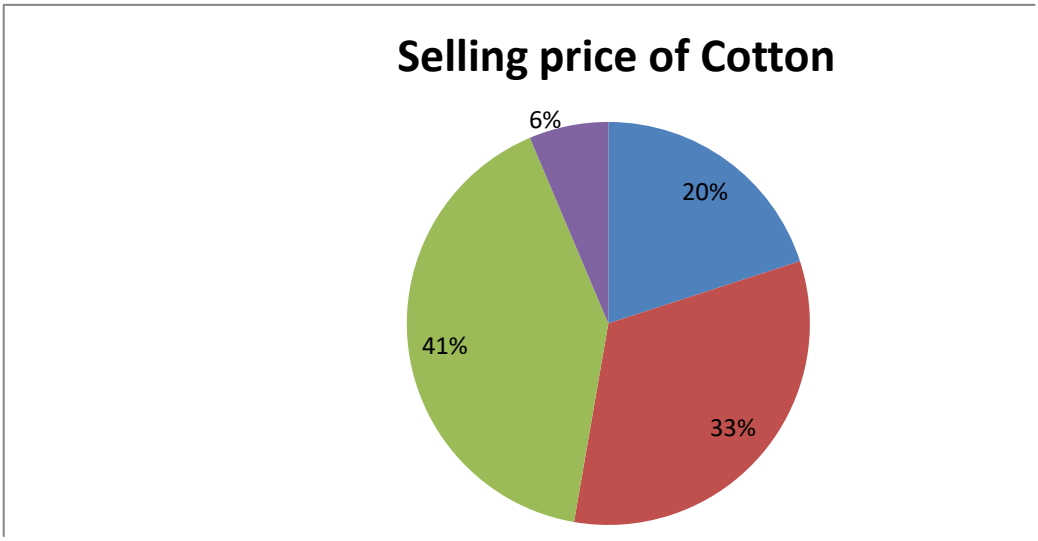

Figure 116: Selling price of Cotton in 2019 in Zari

Kharif Crop 2020 – Cotton

Total area under cultivation

Figure 117 shows that almost 57% of the respondents in the Zari Block had between 4 and 6 acres of land under cultivation. 29% had between 1 and 3 acres

of land under cultivation. 9% had between 7 to 9 acres and 5% had more than 10 acres of land under cultivation.

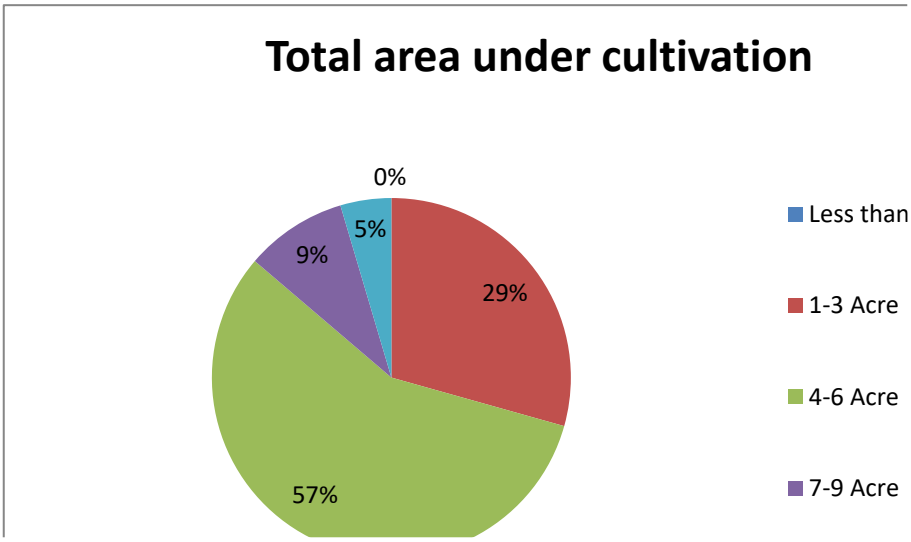

Figure 117: Total area under cultivation in 2020 in Zari

Production of Cotton

Figure 118 shows that almost 38% of the respondents pegged their production of cotton, between 15 and 30 tons. 30% produced between 30 and 45 tons of cotton. 20% of the respondents produced up to 15 tons of cotton. 4% of the respondents produced between 45 and 60, between 60 and 75 tons and more than 75 tons of cotton.

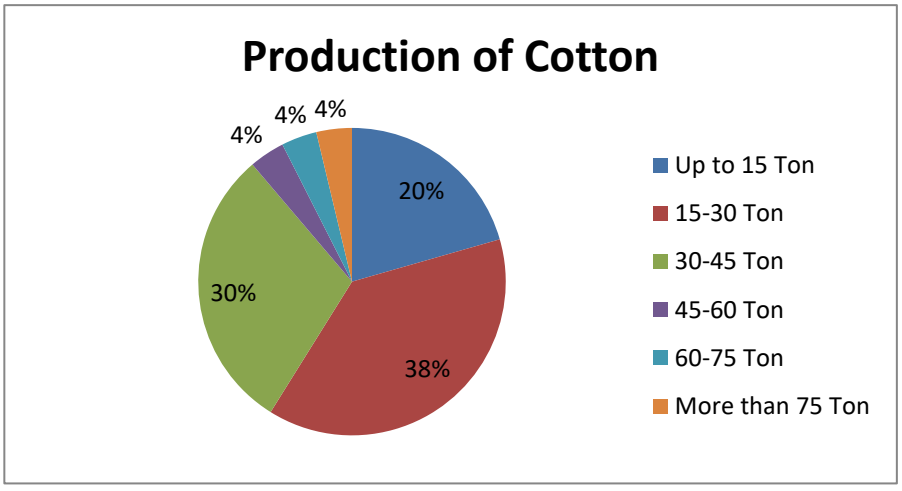

Figure 118: Production of Cotton in 2020 in Zari

Per Quintal Selling price (SP) of Cotton

Figure 119 shows that almost 43% respondents sold cotton between Rs 5,000 and 6, 000. 33% sold it between Rs 4, 000 and 5, 000. 20% sold it between Rs 3, 000 and 4, 000. Only 4% sold it between Rs 6, 000 and 7,000.

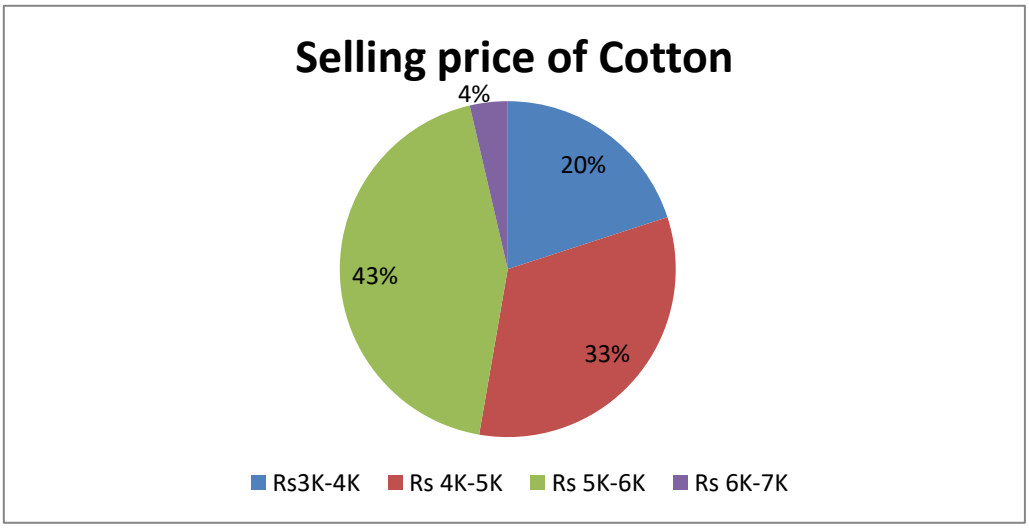

Figure 119: Selling price of Cotton in 2020 in Zari

Kharif Crop 2018- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 120 shows that almost 85% of the respondents in the Zari Block had between 1 and 3 acres of land under cultivation. 14% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

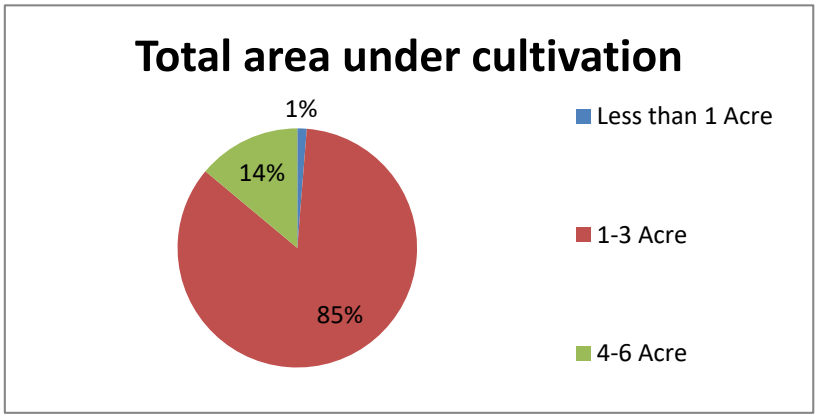

Figure 120: Total area under cultivation in 2018 in Zari

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 121 shows that almost 60% of the respondents pegged their production between 5 and 10 tons. 17% produced between 10 and 15 tons. 11% of the

respondents produced up to 5 tons. 8% of the respondents produced between 20 and 25 tons and, 3% between 15 and 20 tons and 1% more than 75 tons.

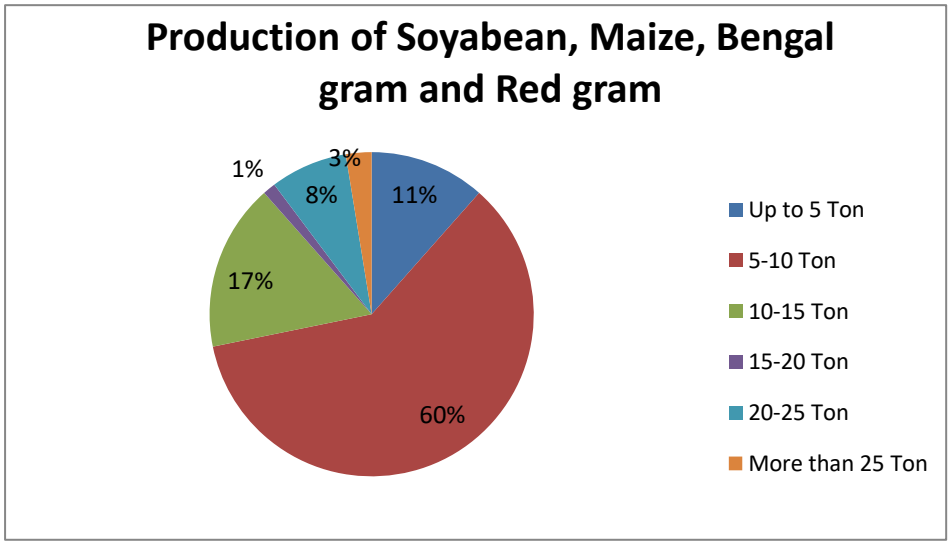

Figure 121: Production of Soyabean, Maize, Bengal gram and Red gram in 2018 in Zari

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 122 shows that almost 83% respondents sold their crop between Rs 4, 000 and 5, 000. 9% sold it between Rs 5, 000 and 6, 000. 3% sold it between Rs 3, 000 and 4, 000. Only 1% sold it for less than 3, 000. Only 4% sold it between Rs 6, 000 and 7, 000.

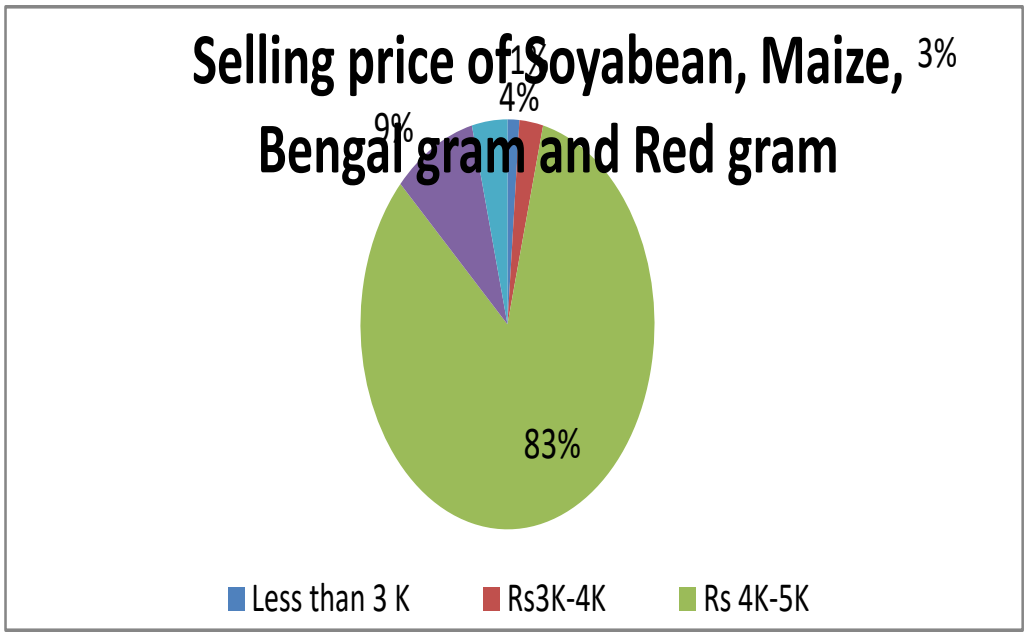

Figure 122: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2018 in Zari

Kharif Crop 2019- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 123 shows that almost 82% of the respondents in the Zari Block had between 1 and 3 acre of land under cultivation. 17% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

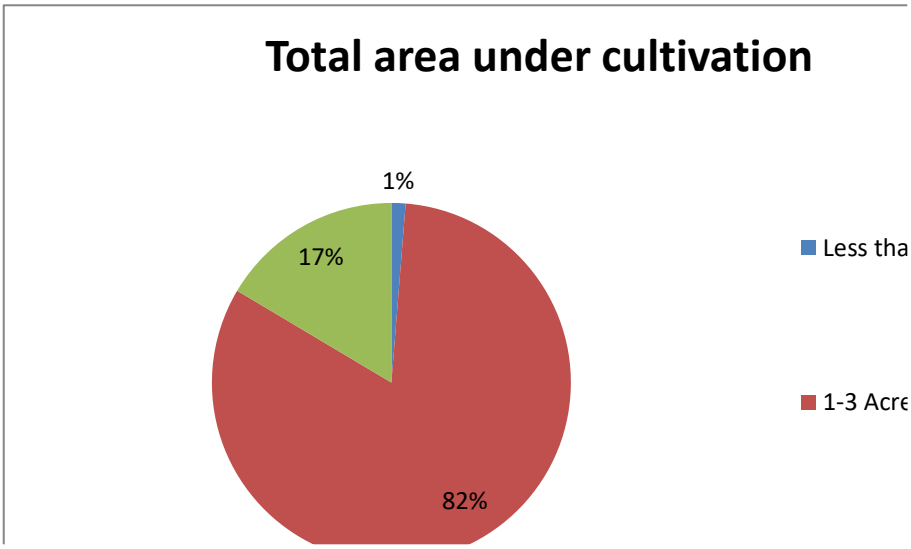

Figure 123: Total area under cultivation in 2019 in Zari

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 124 shows that almost 61% of the respondents pegged their production between 5 and 10 tons. 13% produced between 10 and 15 tons. 13% of the respondents produced up to 5 tons. 6% of the respondents produced between 20 and 25 tons and, 4% between 15 and 20 tons and 3% more than 75 tons.

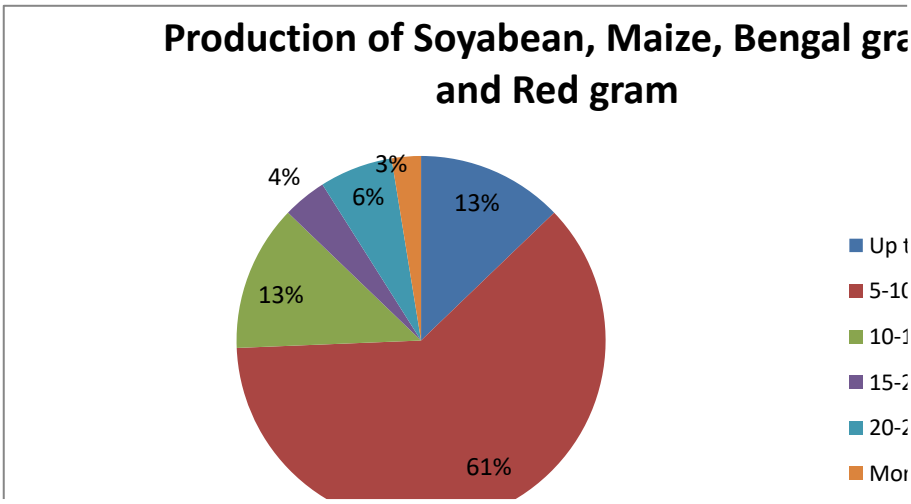

Figure 124: Production of Soyabean, Maize, Bengal gram and Red gram in 2019 in Zari

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 125 shows that almost 81% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, 000 and 6, 000. 7% sold it between Rs 3, 000 and 4, 000. 3% sold it for less than 3K. Only 4% sold it between Rs 6, 000 and 7,000.

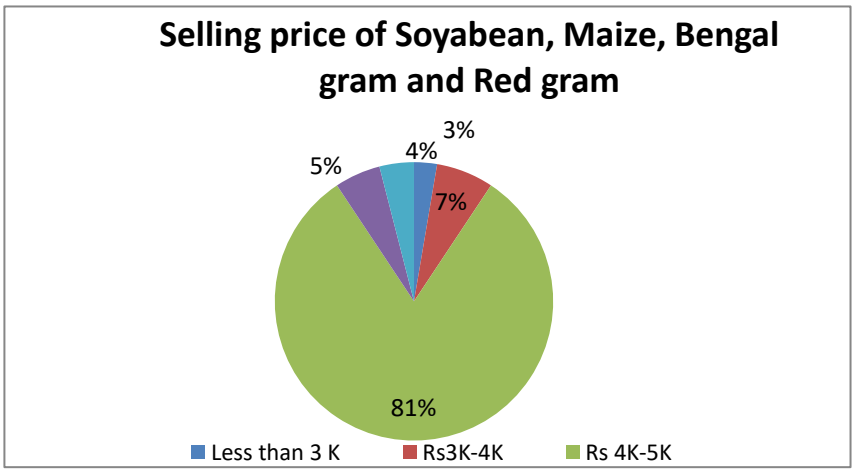

Figure 125: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2019 in Zari

Kharif Crop 2020- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 126 shows that almost 80% of the respondents in the Zari Block had between 1 and 3 acres of land under cultivation. 15% had between 4 and 6 acres of land under cultivation. 5% had less than 1 acre of land under cultivation.

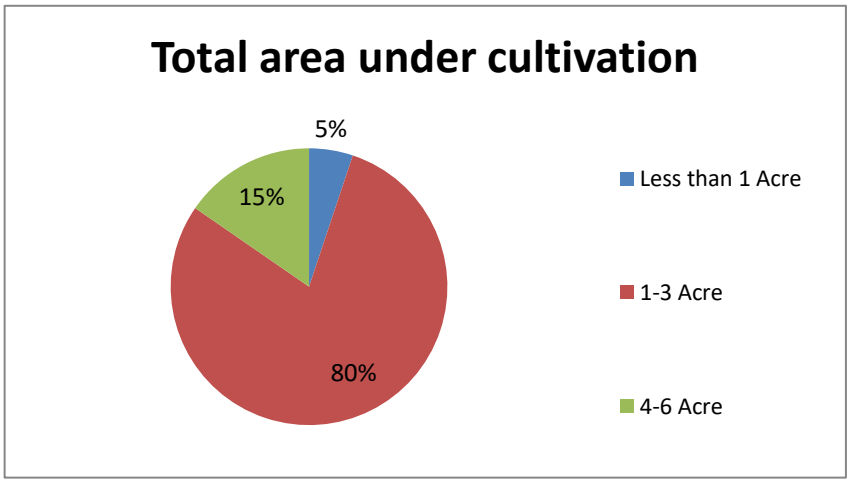

Figure 126: Total area under cultivation in 2020 in Zari

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 128 shows that almost 65% of the respondents pegged their production between 5 and 10 tons. 5% produced between 10 and 15 tons of cotton. 11% of the respondents produced up to 5 tons. 4% of the respondents produced between 20 and 25 tons and, 10% between 15 and 20 tons. 5% produced more than 75 tons.

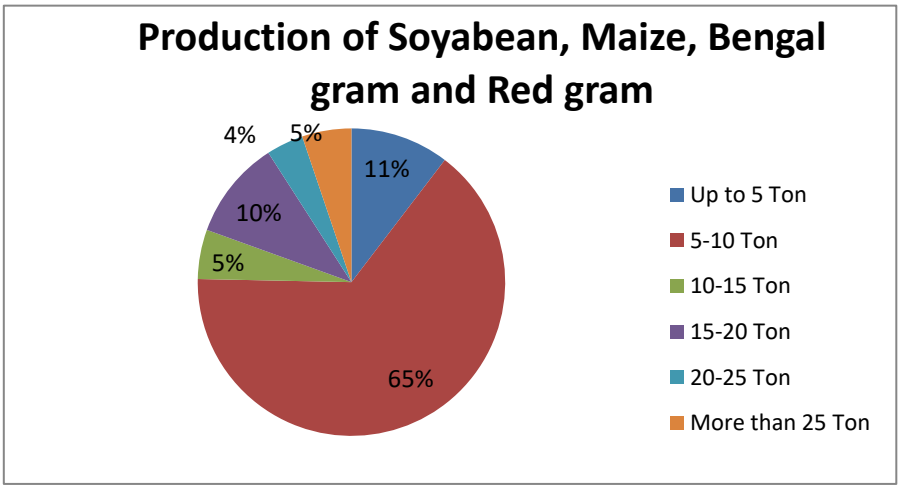

Figure 128: Production of Soyabean, Maize, Bengal gram and Red gram in 2020 in Zari

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 13 shows that almost 82% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, 000 and 6, 000. 8% sold it between Rs 3, 000

and 4, 000. 3% sold it for less than 3,000. Only 5% sold it between Rs 6, 000 and 7,000.

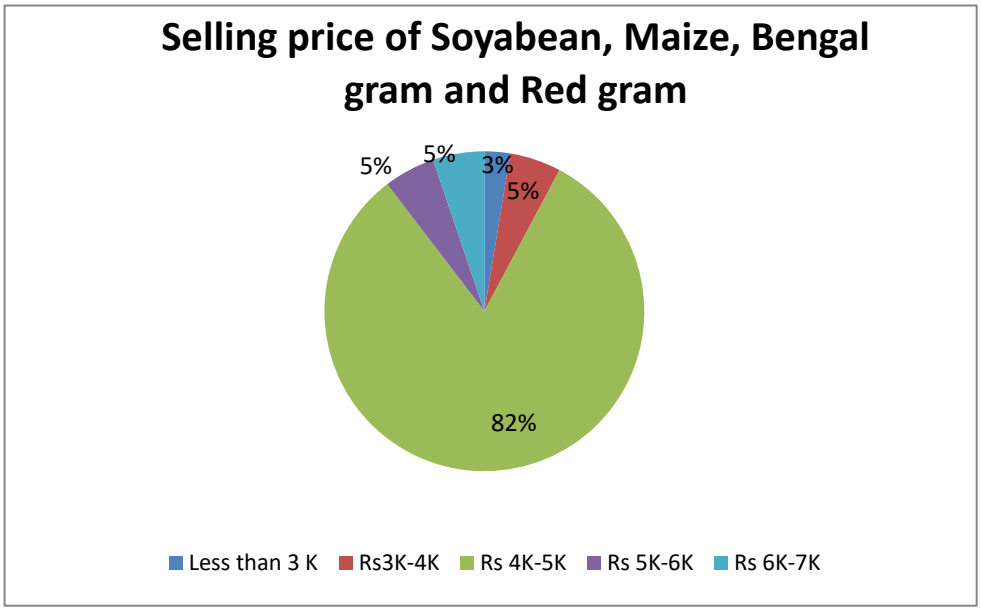

Figure 127: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2020 in Zari

Rabi Crops 2020

Main crops grown during the *rabi* season are cotton, wheat and red gram. Red gram was grown in an area of 96 acres. Even though production was 241 quintals, only 164 quintals was sold in the market at an average selling price of Rs 5,615 per quintal. The remaining produce was kept for home consumption. Cotton was grown in an area of approximately 118 acres. The total production was 1354 quintals, and the entire quantity was sold at an average selling price of Rs 5, 341 per quintal. Wheat was grown by very few farmers in 5 acres of land with total productivity of 7 tons and almost the entire quantity was sold at an average per quintal price of Rs 5, 800.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Cotton	118	1354	1811	1354	5341
2	Red Gram	96	241	9217	164	5615

Table 21: Crops grown during the Rabi season in Zari in 2020

Rabi Crop 2018 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 128 shows that almost 82% of the respondents had area between 1 and 5 acres. 11% had between 5 and 10 acres and 7% had between 10-15 acres of land under cultivation.

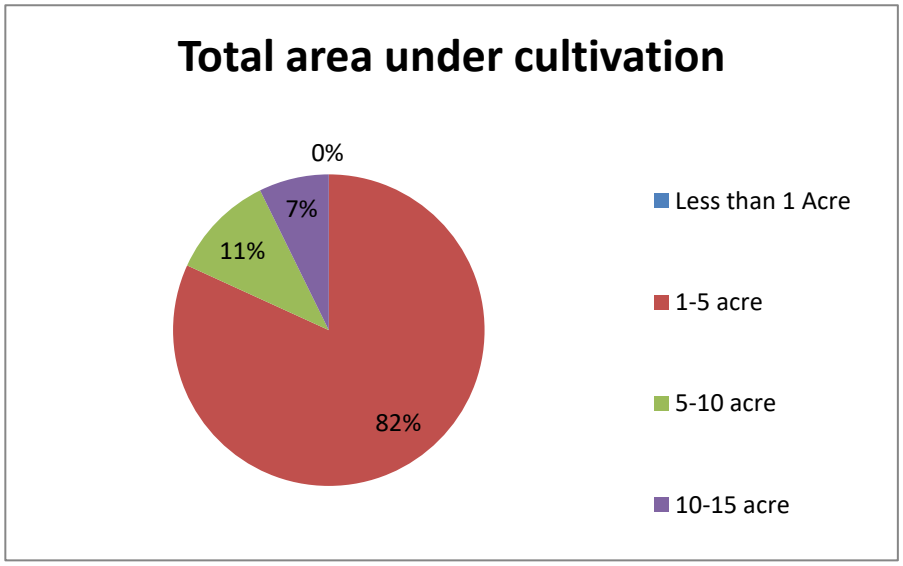

Figure 128: Total area under cultivation in the Rabi season in Zari in 2018

Production of Red Gram, Cotton and Wheat

Figure 129 shows that almost 55% of the respondents produced up to 5 tons. 21% produced more than 25 tons and 8% produced between 15.1 and 20 tons. 5% each, produced between 10.1 and 15 tons and 5.1 and 10 tons. 6% produced between 20.1and 25 tons of crops.

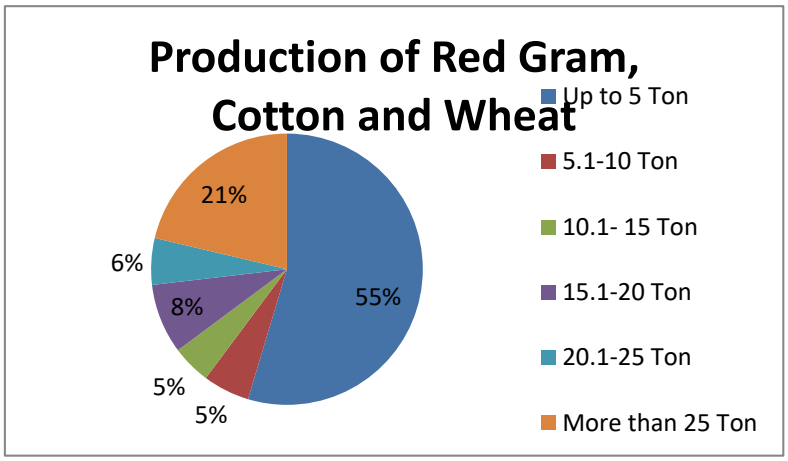

Figure 129: Production of Red Gram, Cotton and Wheat in the Rabi season in Zari in 2018

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 130 shows that almost 99% of the respondents sold their produce at a price between Rs 5000 and 6000. 1% sold it up to Rs 4000/quintal.

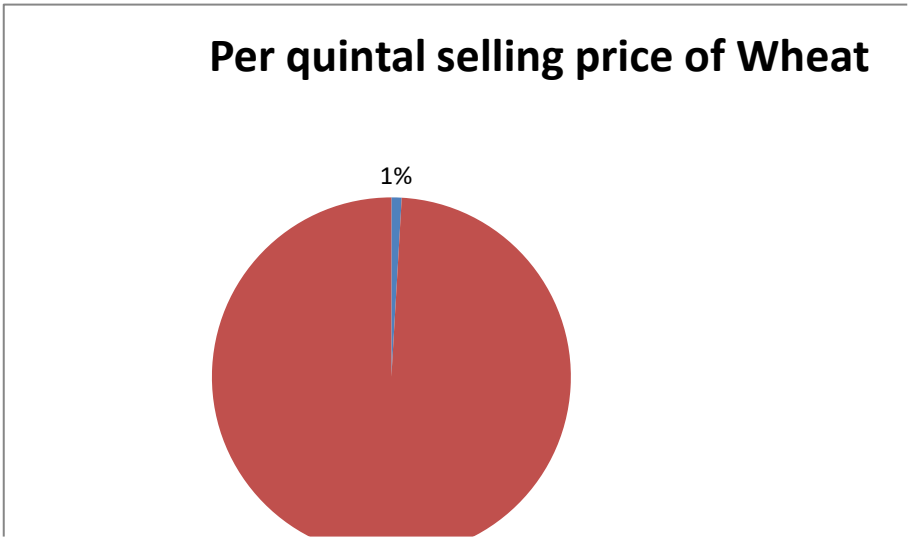

Figure 130: Per quintal selling price of Wheat in the Rabi season in Zari in 2018

Rabi Crop 2019 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 131 shows that almost 83% of the respondents had an area between 1 and 5 acres. 13% had between 5 and 10 acres and 4% had between 10 and 15 acres of land under cultivation.

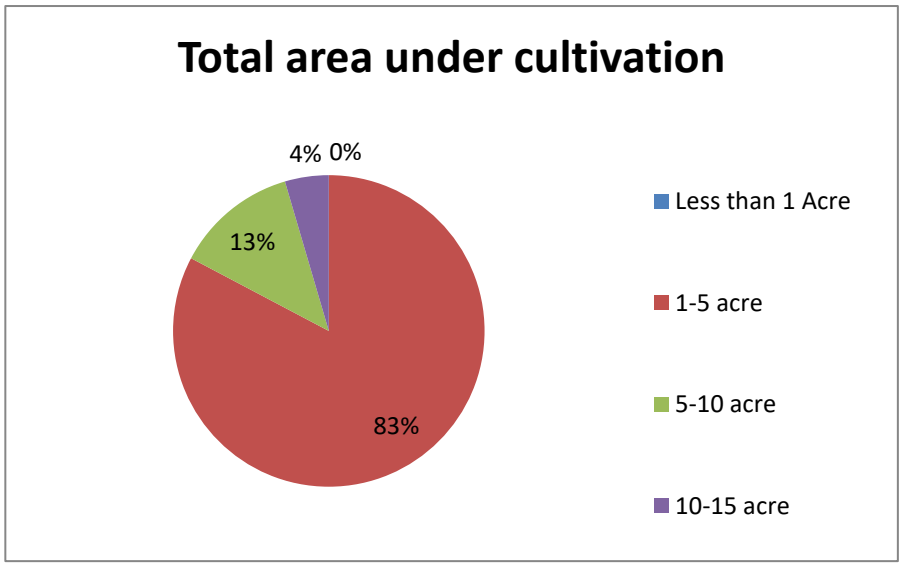

Figure 131: Total area under cultivation in the Rabi season in Zari in 2019

Production of Red Gram, Cotton and Wheat

Figure 132 shows that almost 47% of the respondents produced up to 5 tons. 23% produced more than 25 tons and 7% produced between 10.1 and 15 tons, 5.1 and 10 tons and 20.1 and 25 tons of crops each. 9% produced between 15.1 and 20 tons.

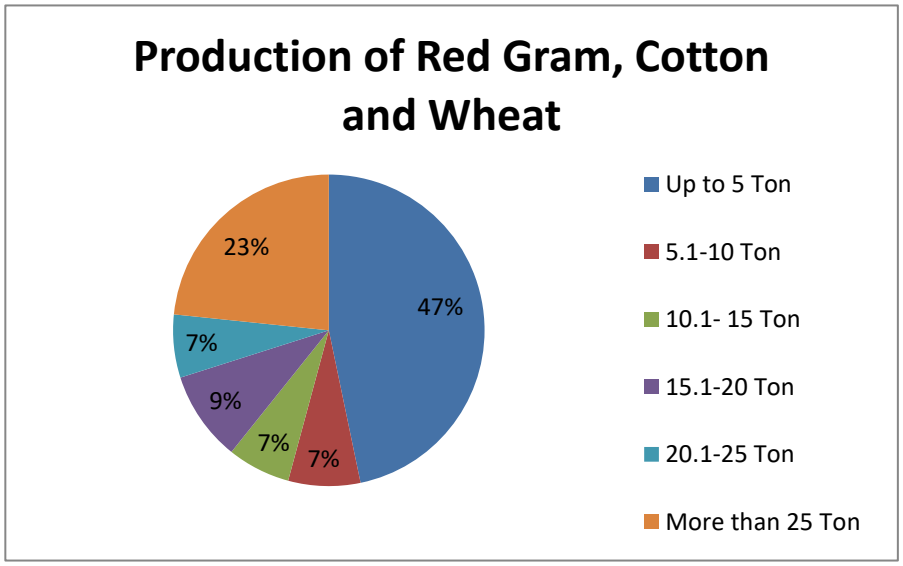

Figure 132: Production of Red Gram, Cotton and Wheat in the Rabi season in Zari in 2019

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 133 shows that almost 98% of the respondents sold their produce between Rs 5000 and Rs 6000. 2% sold it up to Rs 4000 per quintal.

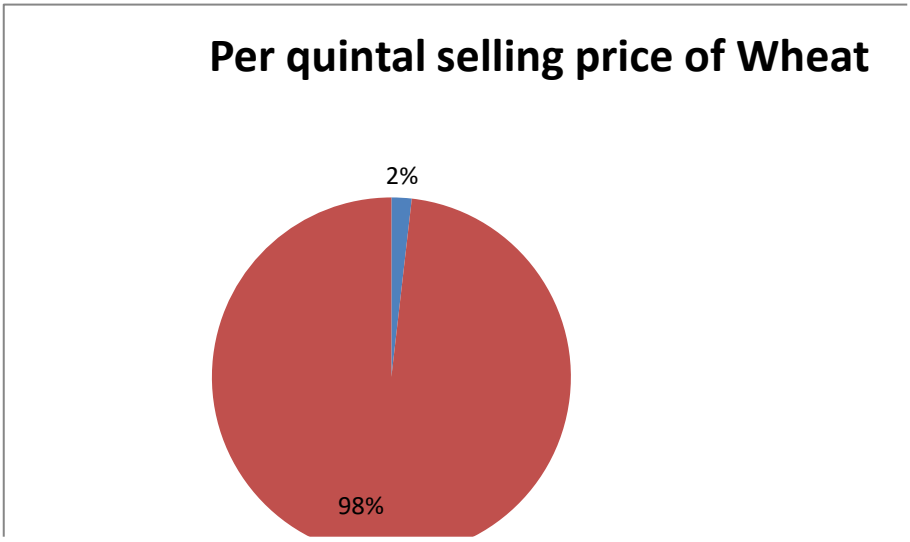

Figure 133: Per quintal selling price of Wheat in the Rabi season in Zari in 2019

Rabi Crop 2020 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 134 shows that almost 82% of the respondents had an area between 1 and 5 acres under cultivation. 10% of them had between 5 and 10 acres and 8% had between 10 and 15 acres of land under cultivation.

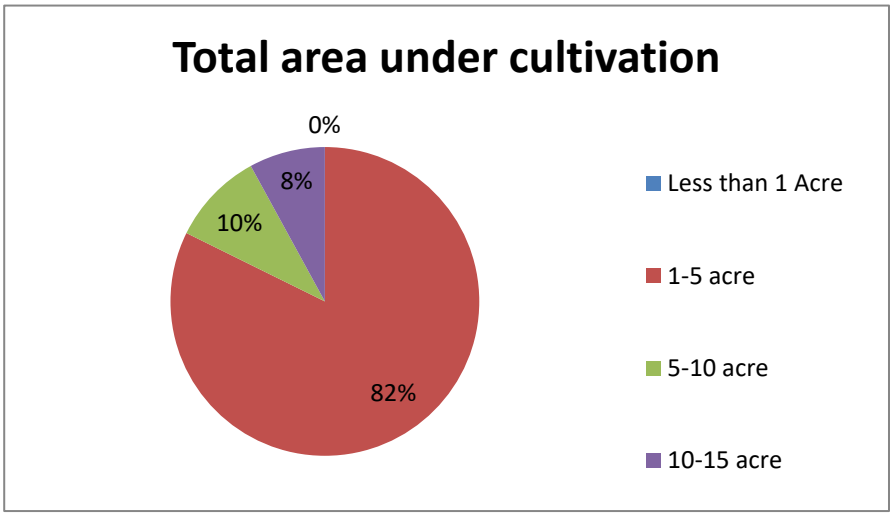

Figure 134: Total area under cultivation in the Rabi season in Zari in 2020

Production of Red Gram, Cotton and Wheat

Figure 135 shows that almost 46% of the respondents produced up to 5 tons. 24% produced more than 25 tons and 7% produced between 15.1 and 20 tons and 20.1 and 25 tons, each. 8% produced between 10.1 and 15 tons and 5.1and 10 tons, each.

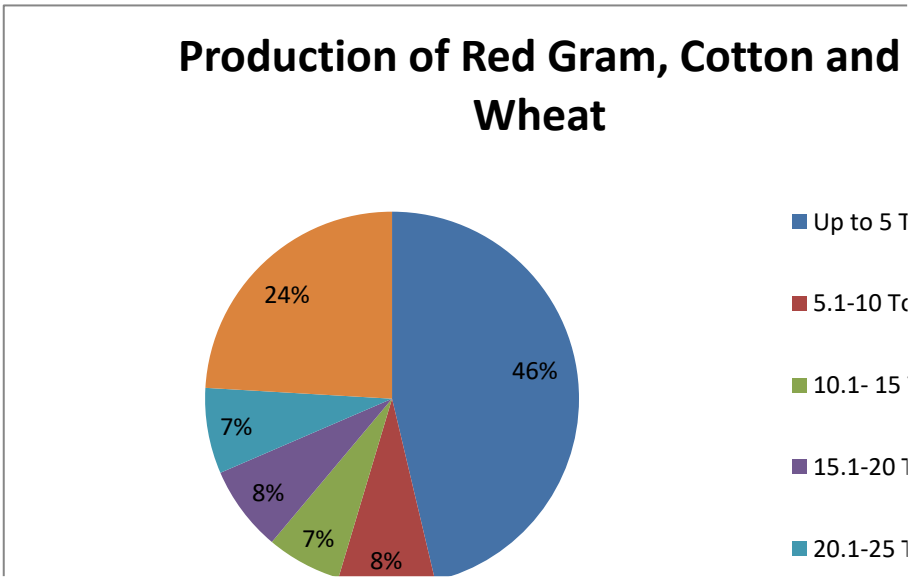

Figure 135: Production of Red Gram, Cotton and Wheat in the Rabi season in Zari in 2020

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 134 shows that almost 98% of the respondents sold their produce between Rs 5000 and Rs 6000. 2% sold it up to Rs 4000 per quintal.

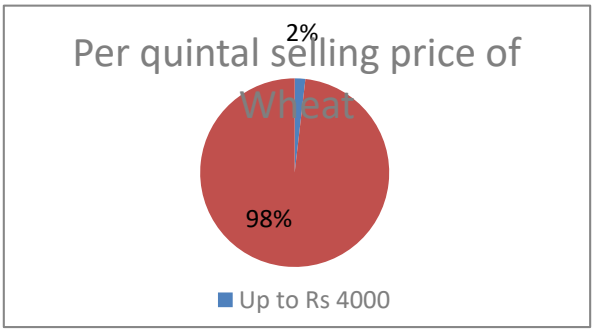

Figure 35: Per quintal selling price of Wheat in the Rabi season in Zari in 2020

Farming Ecosystem

Agricultural labour used by the farmers

As shown in **Figure 136,** 68% of the respondents hired labour for farming activities and 32% of the respondents managed the activities of their farm with the help of family members.

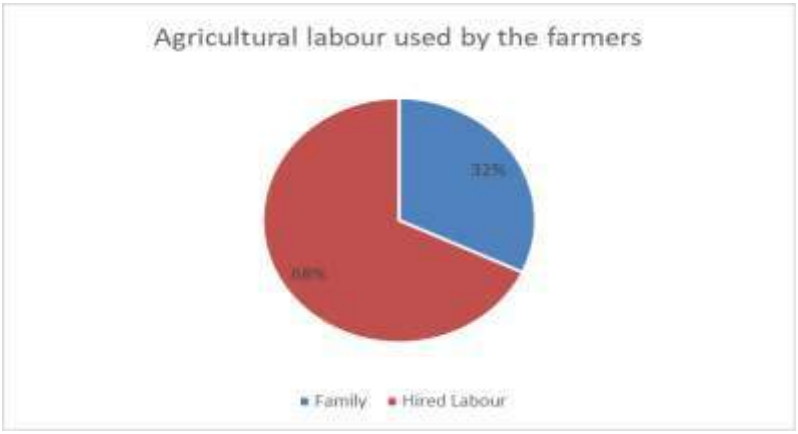

Figure 136: Agricultural labor used by the farmers in Zari Block.

Source of purchasing seeds

Figure 137 shows that approximately 72% of the respondents purchase seeds from salespersons of private companies. 16% purchase from dealers and 8% purchase seeds from retailers. 2% purchase seeds from government

agencies and the other 2% from fellow farmers.

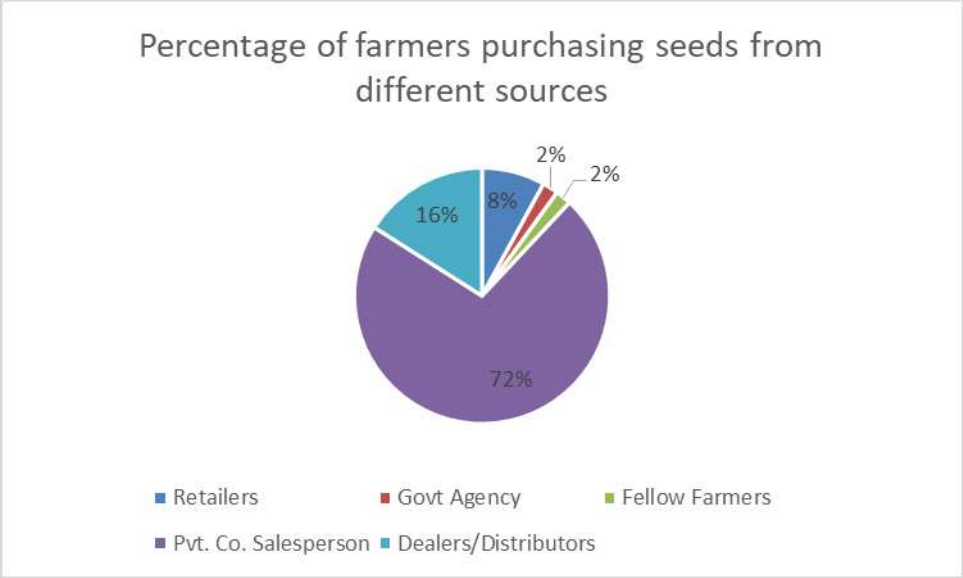

Figure 137: Source of purchasing seeds from Zari Block

Fertilizer dose used in different crops

Table 22 shows the fertilizer dose applied in different crops by the farmers. 2,250 kg/acre of FYM was used in cotton crop while only 1, 340 kg/acre was used in red gram. 1, 329 of FYM used in wheat crop and 1, 304 kg/acre of FYM was used in soyabean crop. 1,009 kg/acre of FYM used in Bengal gram. Wheat was fed 93 kg/acre of urea, while soyabean was given 113 kg/acres. 165 kg of urea was given to cotton and only 114 kg to red gram, while Bengal gram was sprayed with 112 kg/acre of urea. The quantity of DAP sprayed on cotton was the highest at 135 kg/acre. Soyabean was given 104 kg/acre while red gram was sprayed with 102 kg/acre of DAP. Wheat was sprayed with the least DAP of 94 kg/acre. Bengal gram was sprayed with 98 kg/acre of DAP. The maximum quantity of MOP was fed to Bengal gram i.e. 123 kg/acre while cotton was fed 90 kg/acre of the same. Approximately similar quantity of MOP was given to soyabean, wheat and red gram.

Average fertilizer used in different crops (kg/acre)								
	FYM	Urea	DAP	MOP	Zinc	Micronutrient	Vermicompost	Others
1. Soybean	1304	113	104	62	0	0	0	0
2. Wheat	1329	93	94	64	0	0	0	0
3. Cotton	2250	165	135	90	0	0	0	0
4. Red gram	1340	114	102	60	0	0	0	0
5. Bengal gram	1009	112	98	123	0	0	0	0

Table 22 Fertilizer dose applied in different crops by the farmers

Expenses incurred in pesticide spray

Table 23 shows that the maximum expenditure of pesticides was incurred on soyabean, i.e. Rs 195/acre; cotton came second in line at Rs 170/acre, followed by red gram at Rs 165/acre. Rs 151/acre was spent on pesticides when growing wheat while the least expenditure on pesticide was on Bengal gram, i.e. Rs 99/acre.

Expenses on pesticides per acre	
Crops	Cost incurred in spray (in Rs)
1. Soybean	195
2. Wheat	151
3. Cotton	170
4. Red gram	165
5. Bengal gram	99

Table 23: Expenses incurred in spraying pesticides

Source of purchasing inputs

Figure 138 shows that 68% of the respondents purchased inputs from salespersons of private companies. 16% of them purchased them from *Krishi melas* and 12% bought them from dealers and only 4% purchased inputs from retailers.

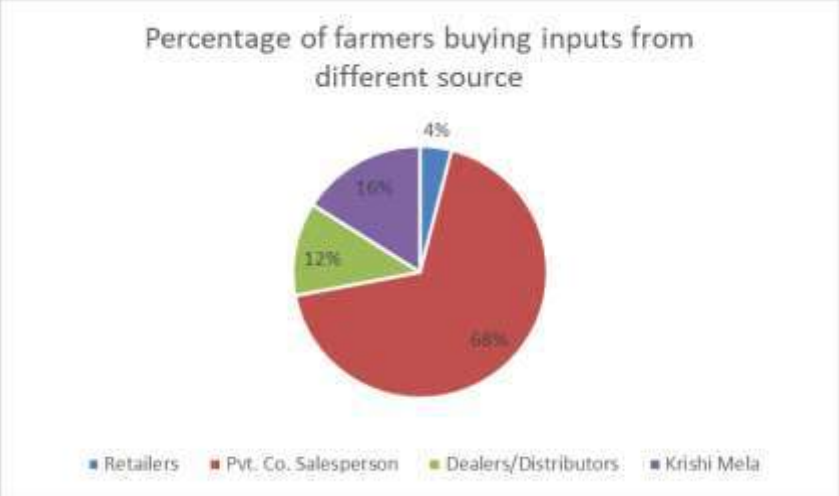

Figure 138: Percentage of farmers buying inputs from different sources

Constraints faced by farmers during production process

Table 24 shows that farmers face various constraints during the production process. Farmers live in rural area and often do not have access to various inputs and technology. The main constraints faced by the farmers were high pest and disease incidences. The second constraint faced by the farmers was lack of better-quality seeds and planting materials. Seeds are one of the main inputs in crop cultivation and access to good varieties of seeds is of utmost importance. The third constraint

faced by the farmers is poor access to necessary technology. Technology might be in the form of new seed varieties, fertilisers, pesticides, machineries. Other constraints faced by the farmers include lack of irrigation facilities, lack of knowledge about maturity indices, lack of access to credits and non-availability of agricultural laborers.

Main constraints	Avg score	Rank
High pest and disease incidence	68.36	1
Lack of better-quality varieties seeds & planting materials	66.25	2
Poor access to necessary technology	58.22	3
Seed Treatment and Lack of irrigation facility	53.77	4
Spurious inputs (pesticides), Lack of knowledge and agricultural labourers and Lack of accessibility, others.	51.25	5

Table 24: Constraints faced by farmers during production process

Extension advisories for getting advice regarding crop cultivation

Figure 139 shows approximately 72% of the respondents seek advice from State Agriculture Department. 16% of respondents seek advice from dealers while 6% of the respondents seek advice from NGOs. 2% contact the KVKs for advice and only 2% each, seek advice from peer farmers and from some helpline.

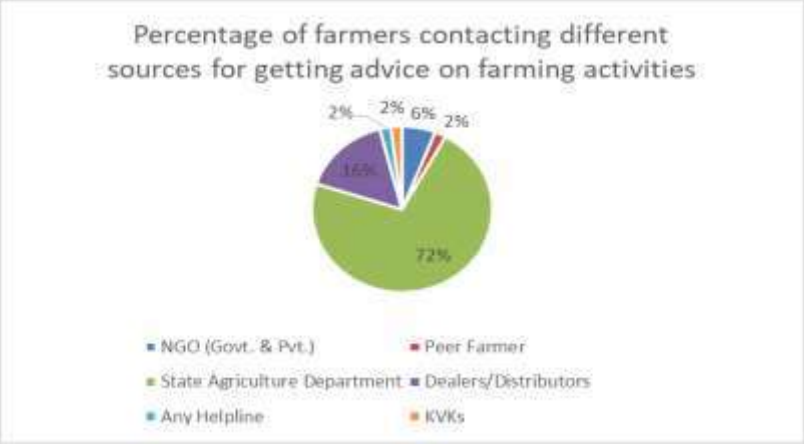

Figure 139: Percentage of farmers contacting different sources for getting advice on farming activities

Figure 140 represents the percentage of farmers adopting the advice for farming activities. Only 18% respondents, who seek advice from various sources, follow it; whereas 82% of the respondents do not follow the advice that they receive from various sources.

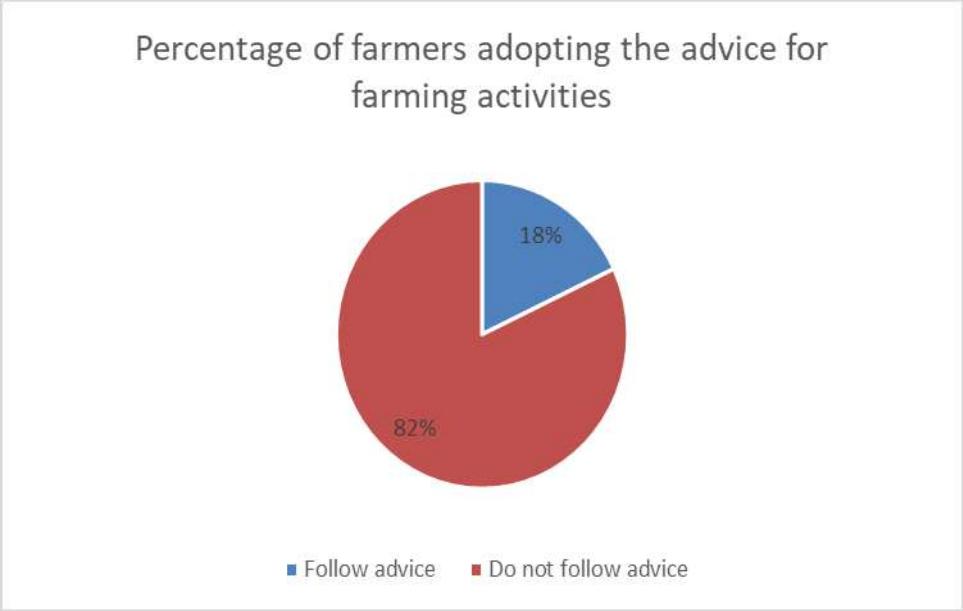

Figure 140: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 141 shows that 56% of the respondents receive benefit from extension advisories by way of needing lesser input usage. 46% benefit from a decrease in cost of cultivation. 34% of the respondents benefit as they observe a decrease in disease and pest infestation. 18% of the respondents observe an increase in yield and 4% reported an increase in income as well.

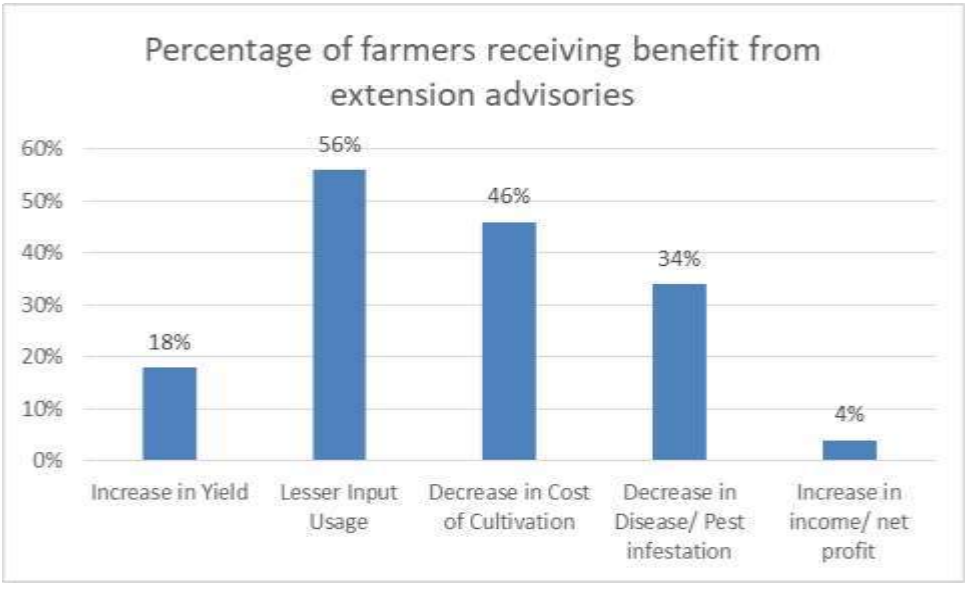

Figure 141: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 142 shows that 92% of the respondents are not aware of government schemes and 8% are aware of schemes extended by the government.

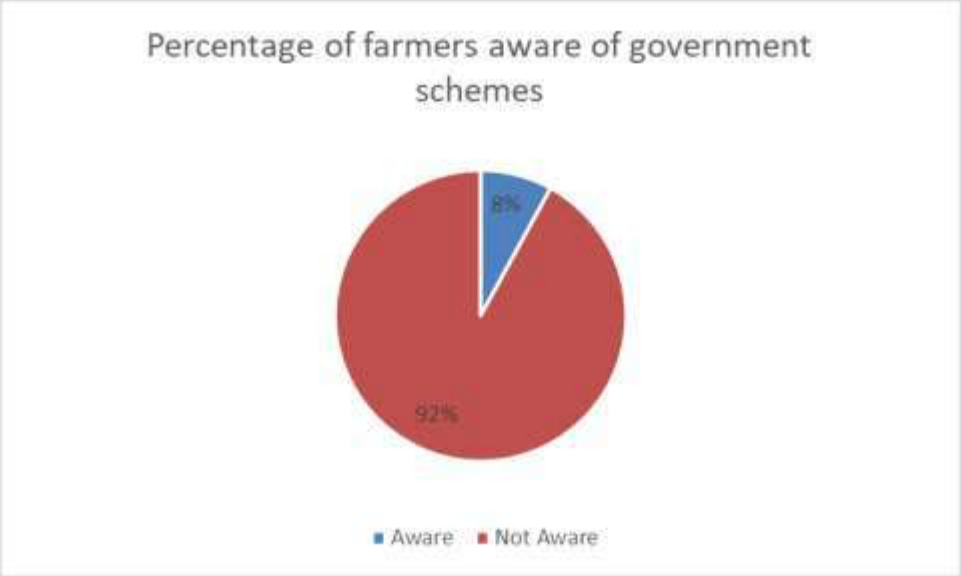

Figure 142: Percentage of farmers aware of government schemes

Farmer Groups

Awareness of benefits of FPOs

Figure 143 shows that 76% of the respondents are aware of the benefits of being part of an FPO. 16% of the respondents are not aware of benefits of FPO. 8% of the respondents could not give any response.

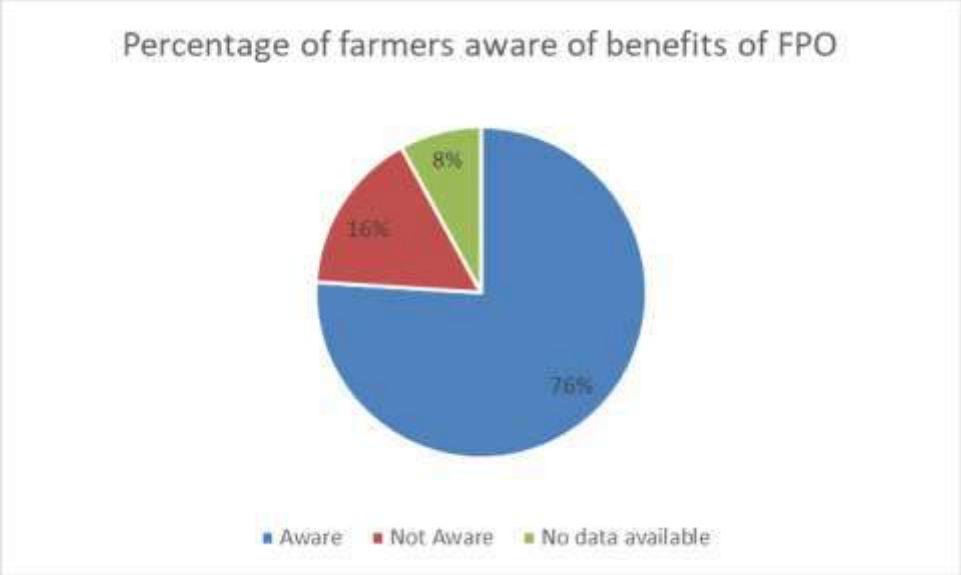

Figure 143: Percentage of farmers aware of benefits of FPO.

Member of farmer's association/cooperative

Figure 144 shows that approximately 92% of the respondents are not members of any farmers' associations and 8% are members of one or more farmers' association.

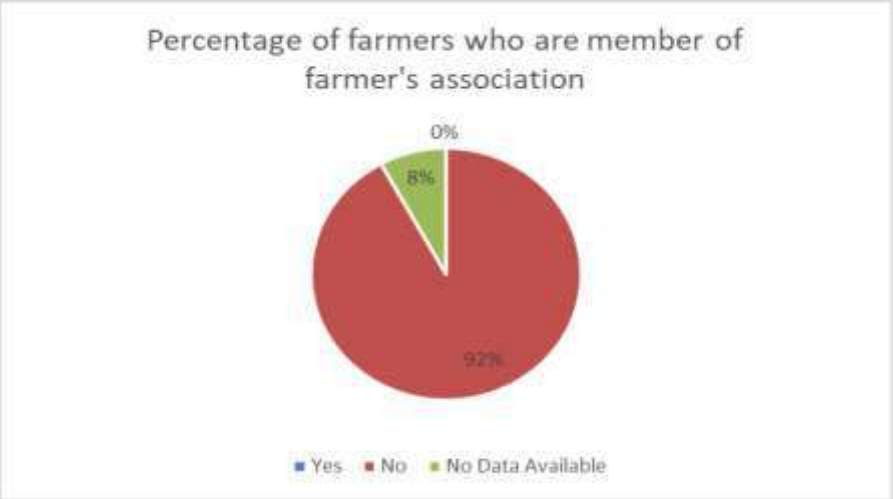

Figure 144: Percentage of farmers who are member of farmer's association.

Willingness of farmers to form groups

Figure 145 shows that 88% of the respondents were not willing to form groups on the basis of crops. Only 4% of the respondents are ready to form the groups on crop basis.

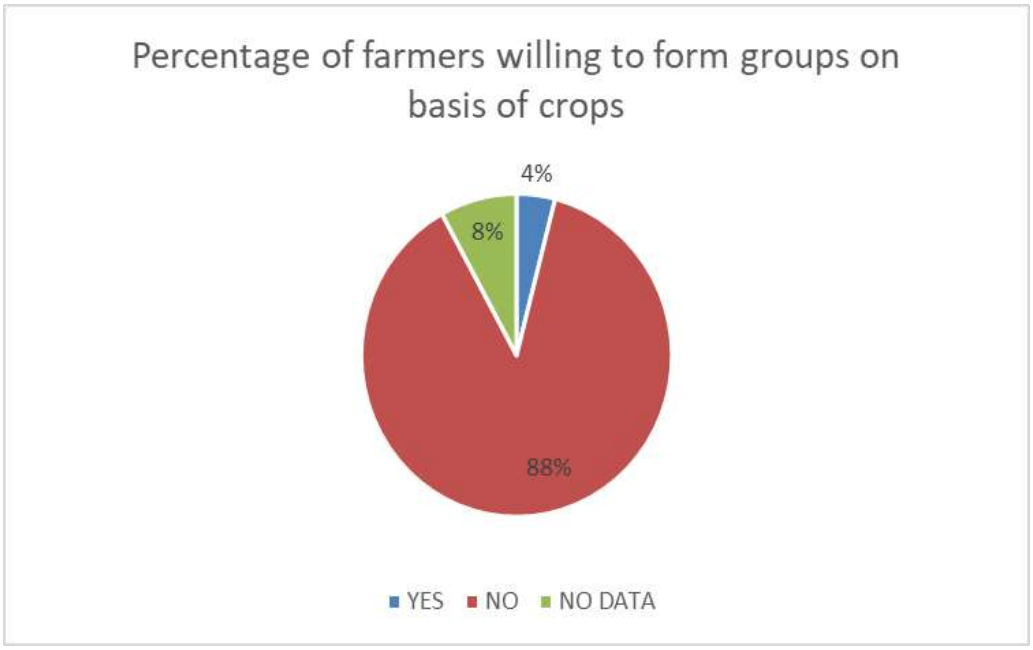

Figure 145: Percentage of farmers willing to form groups on the basis of crops

Capacity Building of Farmers

Training on packaging practices, post-harvest management, marketing

None of the farmers have received any training on package of practices, post-harvest management, marketing, etc.

Problems faced by farmers during post-harvest packaging

Figure 146 shows that farmers faced many issues in post-harvest packaging. 56% of them said that packing facility was not available on time. 5% of them, however, did not face any problems. 11% had problems with higher wages. 7% faced shortage of skilled labor and 21% faced the problem of non-availability of packaging material.

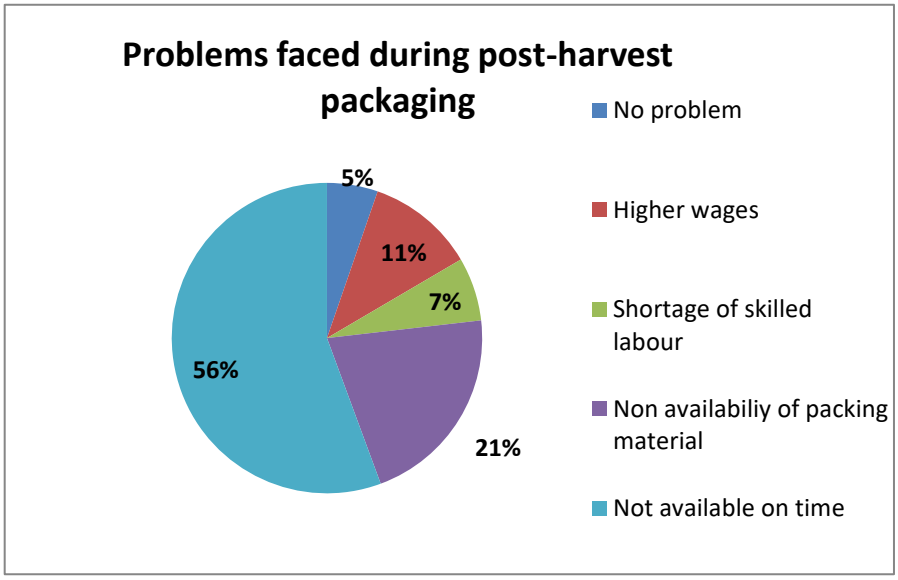

Figure 146: Problems faced during post-harvest packaging

Problems faced during post-harvest transportation

Figure 147 shows that 48% of the respondents faced high transportation charges problems. 32% of the respondents are facing the problem of non-availability of transport. 22% of respondents did not report any problem. 8% are facing the problem of the lack of all-weather roads. 2% faced the problem of being given misleading information.

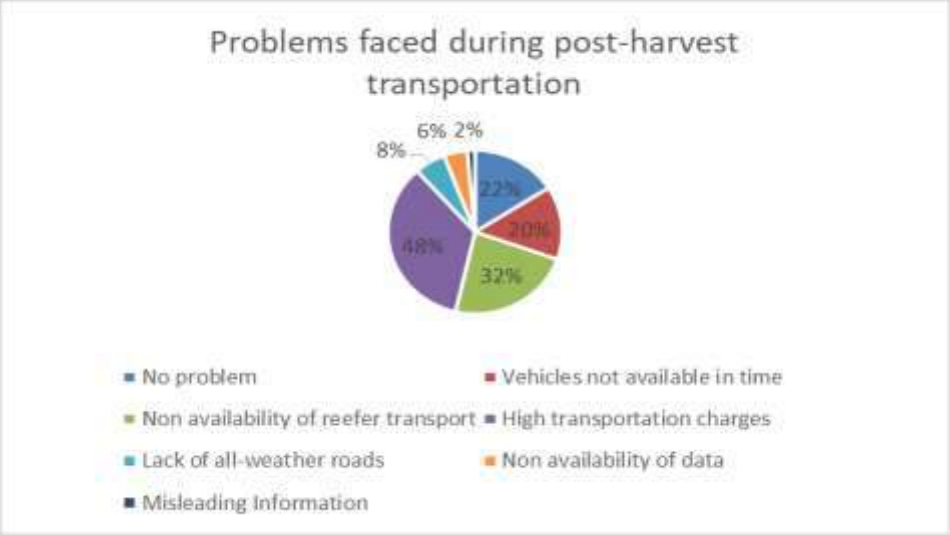

Figure 147: Problems faced by farmers during post-harvest transportation

Problems faced because of malpractices post-harvest

Figure 148 shows that 30% of the respondents are facing the problem of multiplicity of charges. 24% of the respondents are facing a problem of receiving part-payment and the other 24% are being quoted lower prices for their crops as compared to the market price. 16% of respondents reported that they did not have any problems. 16% of the respondents are facing a problem of deduction of under charges.

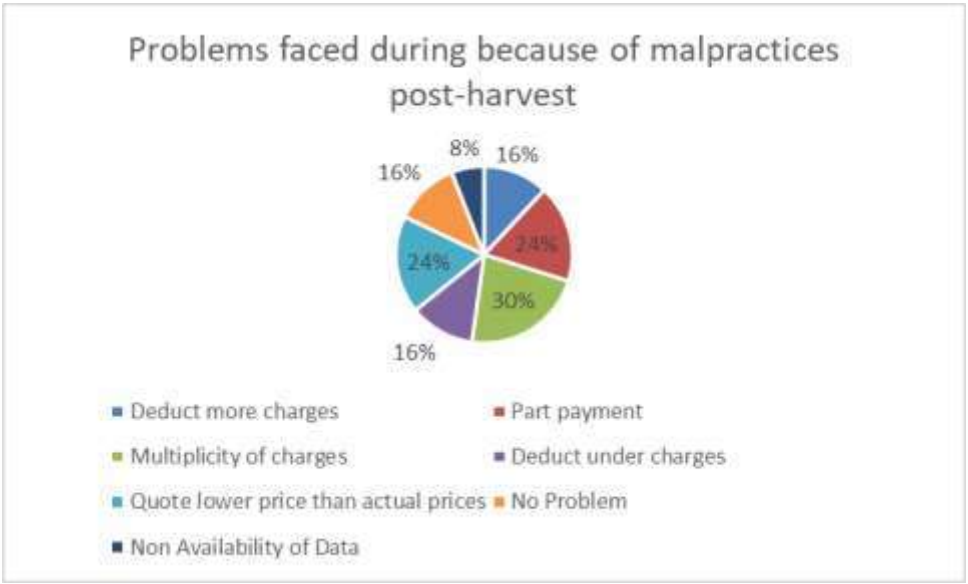

Figure 148: Problems faced because of malpractices post-harvest in Zari Block

Storage post-harvest

99% of farmers had their own storage areas and stored the crops there only post-harvest, due to little or no availability of godowns in the area. Only 1% utilized the facilities of private storage spaces.

Problems for getting a good selling price post-harvest

Farmers in the area do not get a good selling price for their crops because of the unavailability of storage space. Lower price offered by local traders/less price realization, unavailability of market are some of the other reasons for not getting a good selling price.

Wardha

Wardha

Block Profile

Wardha is a Block positioned in the Wardha District of Maharashtra. Placed in the urban part of Maharashtra, it is one of the 8 blocks of Wardha District. Wardha Block has 155 villages and there are total 59, 889 families in this Block. As per Census 2011, Wardha's population is 2, 51,032. Out of this, 1, 28,676 are males whereas the female count is 1, 22,356. This block has 24,489 children in the age bracket of 0-6 years. Out of this 12,870 are boys and 11,619 are girls. The literacy rate in the Wardha Block is 79% so, 2, 00,726 out of the total 2, 51,032 people are educated.

Socioeconomic status of respondents of Wardha block

Age of the respondents

Figure 149 shows that 44% of the farmers of Wardha Block were between the age group of 31 and 45 years. 44% of them were between the age group of 46 and 60 years and 12% of them were between 61 and 75 years of age.

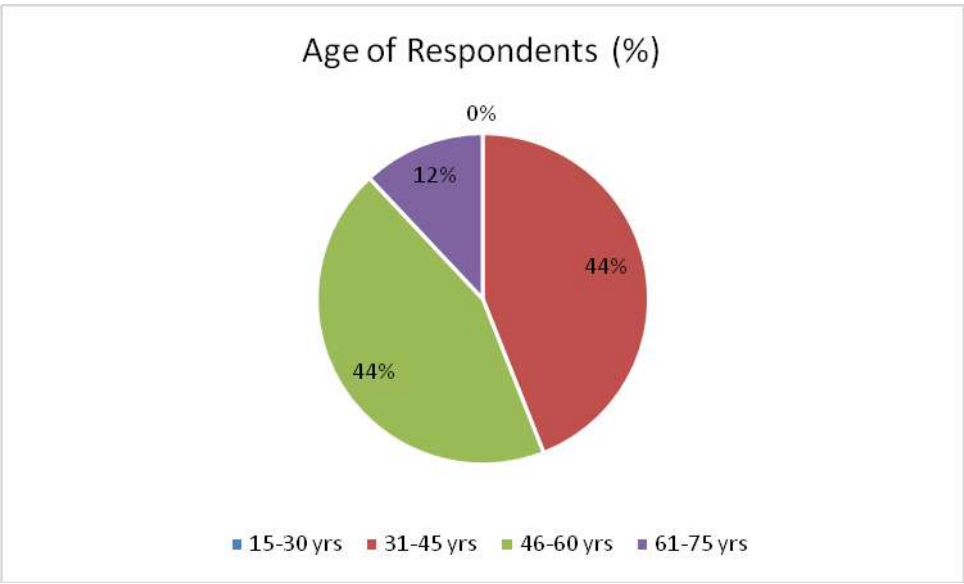

Figure 149: Age of the respondents of Wardha Block

Category of the respondents

Figure 150 shows that 28% of the respondents of the Wardha Block belonged to the SC/ST Category. 66% of them belonged to OBC and 6% belonged to the General Category.

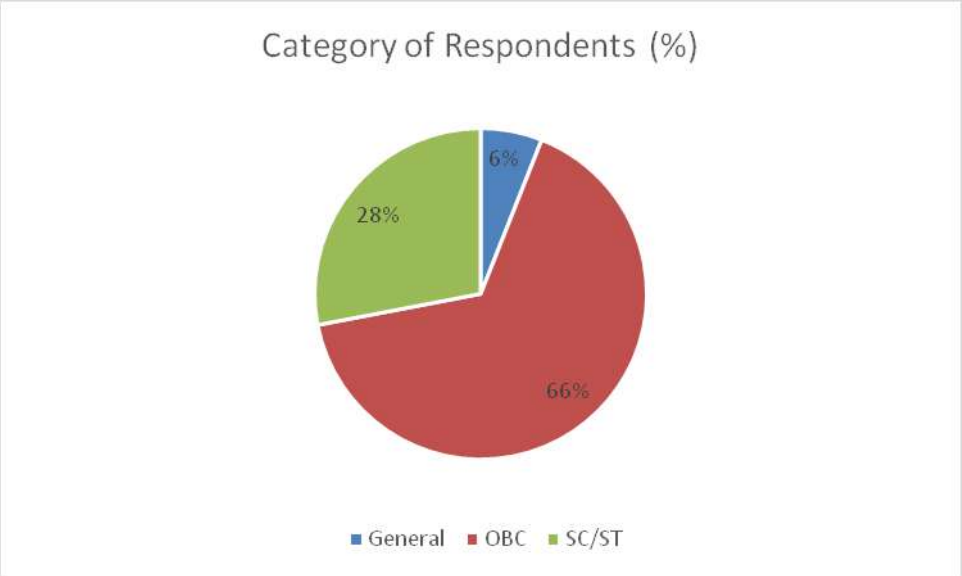

Figure 150: Category of the respondents of Block

Gender of respondents

According to **Figure 151**, there were 6% female respondents while 94% of the respondents were male.

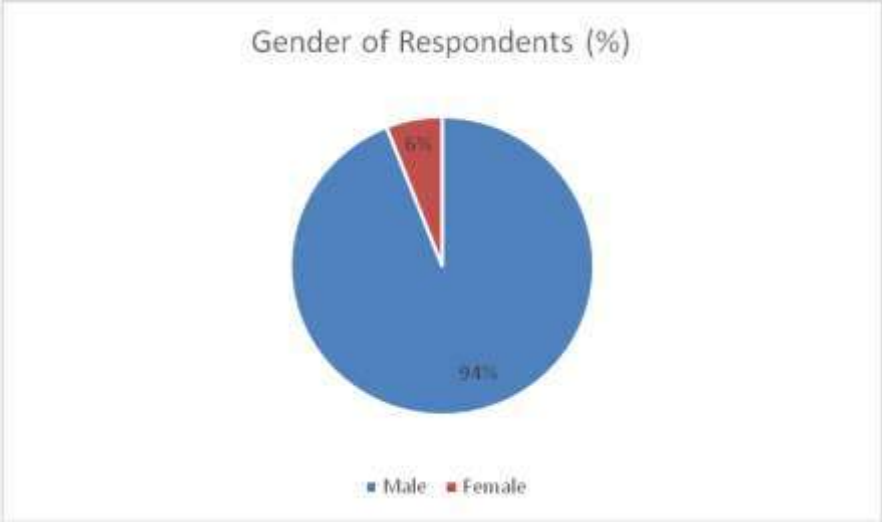

Figure 151: Gender of the respondents of Wardha Block

Educational qualification of respondents

Figure 152 shows that 28% of the respondents of the Wardha Block were educated up to Primary School. A total of 10% were illiterate and 32% and 24% were educated up to High school and Sr. Secondary School respectively. Only 6% were graduates and above.

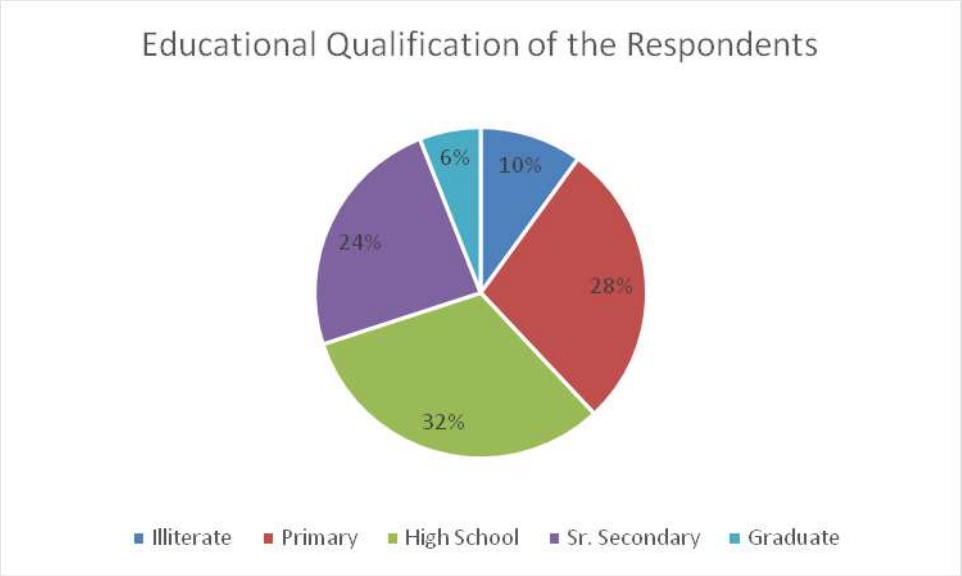

Figure 152: Educational qualifications of the respondents of Wardha Block

Number of family members

Table 26 shows that the average number of adult members per family of the Wardha Block is 3. The average number of children per family is 2 and school-going children are 2. The average number of dependent members in a family is 3. So, it can be inferred that on average, one person in the household is an earning member.

Average number of family members	Average number
Adult	3
Children	2
School going children	2
Dependent members	3

Table 12: Average number of members in a family in Wardha Block

Involvement of women in agriculture

82 per cent of the families have women involved in agriculture.

Agricultural aactivities performed by women

Figure 153 shows that women of the Wardha Block are involved in various agricultural activities such as sowing, weeding, harvesting, sorting, and grading. Most of the women perform harvesting of crops. 80% of the women of the surveyed area perform harvesting. 84% of the women perform weeding activities. 8% of the women are involved in the spraying of pesticides. 82% of the females carry out sorting and grading. 50% do some kind of processing. 90% of women are involved only in the sowing of crops. Women usually perform household activities or farming activities.

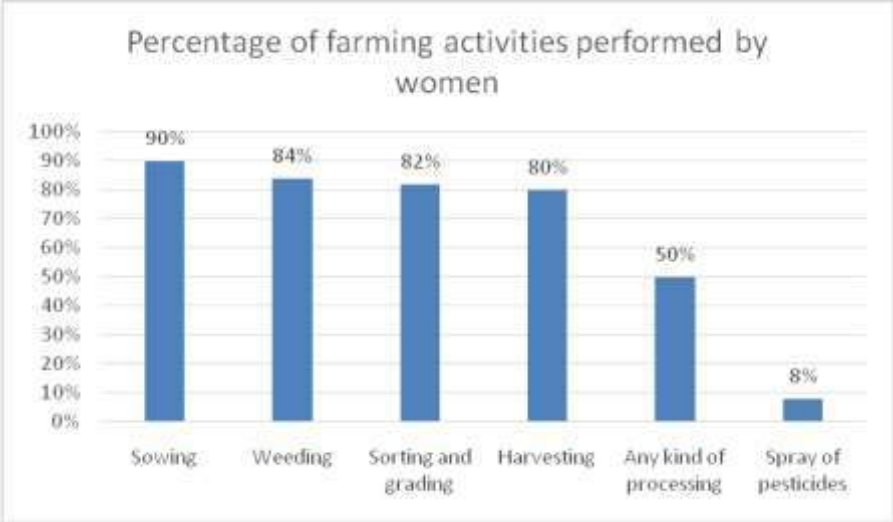

Figure 153: Percentage of farming activities performed by women in Wardha Block

An annual income of the respondents from farming

Figure 154 shows that around 22% of the respondents had an annual income of less than 25 thousand, 24% of the respondents had an annual income between 25 and 50 thousand. Only 34% of them had an annual income between 50 thousand and 1 lakh. Just 4% of the respondents had an annual income between 1 and 1.5 lakh.

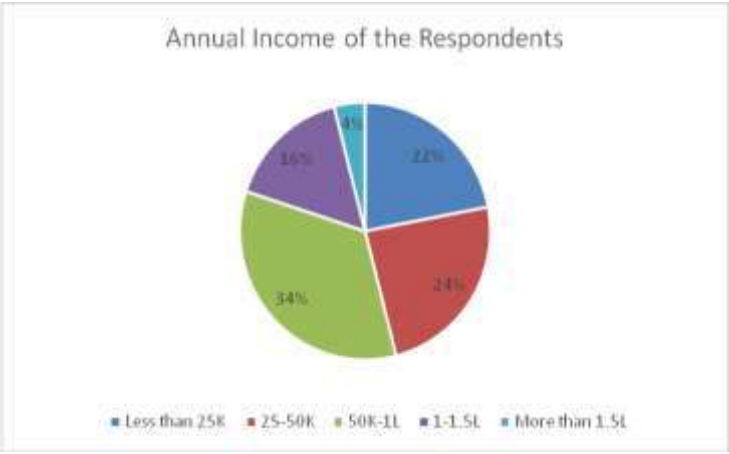

Figure 154: Annual income of the respondents from farming in Wardha Block

Savings from farming

Figure 155 shows that approximately 32% of the respondents had less than 20 thousand as savings from farming. 50% of them had savings between 20 and 50 thousand.12% of them had saved between 50 thousand to 1 lakh and 6% of them had a saving of more than 1 lakh.

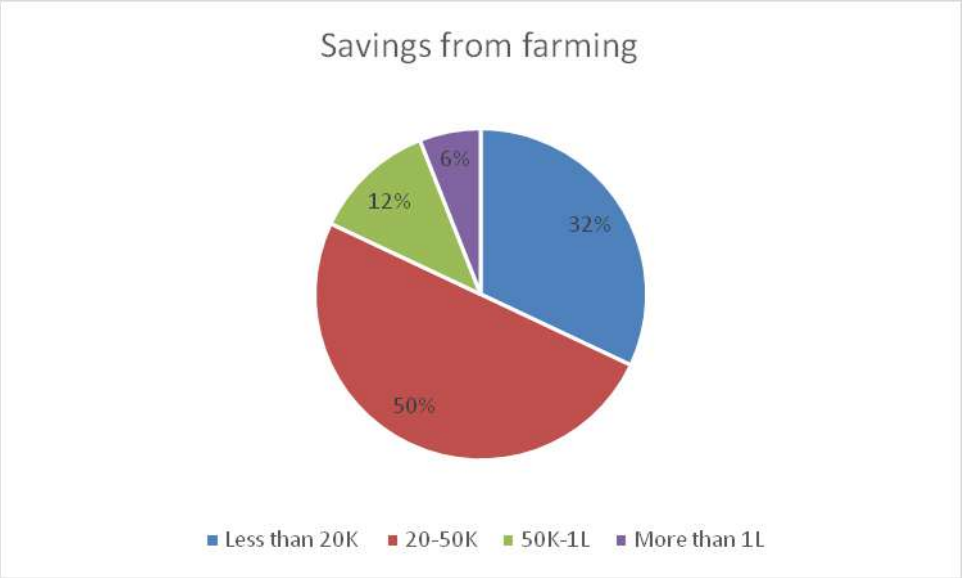

Figure 155: Annual savings from farming in Wardha Block

Non-farming activities

Apart from farming activities, the farmers are also involved in non-farming activities to increase their income. 4% of the farmers have private jobs or small businesses. One farmer is working as a labourer and none of the respondents are involved in government jobs.

Annual Income of the respondents from activities other than farming

Table 27 shows that **t**he average annual income of respondents from working as laborer is Rs 30,000/- and for those working in private jobs it is Rs 47,000/-.

Average income from activities other than farming	
Labourer	Rs 30, 000
Private jobs	Rs 47,000

Table 25: Annual Income of the respondents from activities other than farming

The average distance of markets

Table 28 shows that the average distance of the local market is 8.9 km and the average distance to the *mandi* is 19.5 km from the villages.

The average distance of markets	
Local market	8.9Km
Mandi	19.5Km

Table 26: Average distance of markets in Wardha Block

Landholding size of the respondents

Figure 156 shows that in the rural areas, agriculture is the mainstay of the economy, with hardly any non-farm occupations available. 8% of the farmers had up to 2 acres of land. 64% of the farmers had between 2.1 and 4 acres of land. 18% of the farmers had between 4.1 and 6 acres of land and 2% of the respondents had between 8.1 and 10 acres of land. 8% of the respondents had between 6.1 and 8 acres. Only 8% of the farmers had more than 10 acres of land.

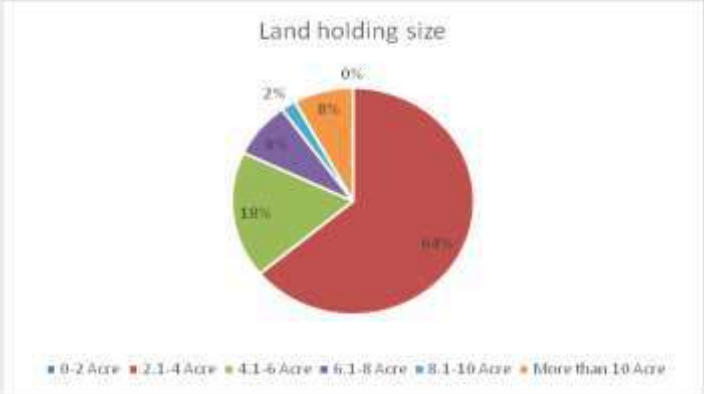

Figure 156: Landholding size of farmers in Wardha Block

Types of irrigation facilities being used

Figure 157 shows that approximately 44% of the respondents use bore wells. 4% use irrigation source and 6% use lift irrigation and 13% use other techniques and 14% use canal water for irrigation. 12% of the respondents use some minor irrigation system.

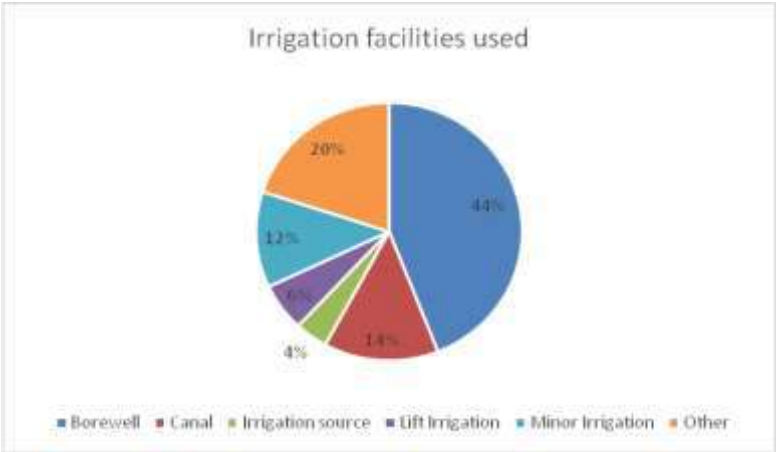

Figure 157: Irrigation Facilities in Wardha Block

Crop-related information

Cropping pattern

Kharif crops (2020)

As reflected in **Table 4**, the major *kharif* crop grown in the surveyed area is cotton. Cotton was grown in an area of almost 144 acres. The total production amounted to 1340 quintals and the entire quantity was sold in the market. Cotton is being sold at Rs 4,900 kg/quintal. Other crops grown in the *kharif* season are Bengal gram, red gram, maize and soyabean. They were grown in an area of 95 acres. The total production was 415 quintals. 350 quintals were sold in the market at an average rate of Rs 4,452 per quintal.

CROP ROTATION (*KHARIF*)							
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)	
1	Cotton	144	1340	712	1340	4900	
2	Bengal Gram, Red Gram, Maize, Soyabean	95	415	995	350	4452	

Table 27: Crop rotation of Kharif crops in Wardha Block in 2020

Kharif Crop 2018 – Cotton

Total area under cultivation

Figure 158 shows that almost 55% of the respondents in the Wardha Block had between 4 and 6 acres of land under cultivation. 30% had between 1 and 3 acres of land under cultivation. 8% had between 7 to 9 acres and 7% had more than 10 acres of land under cultivation.

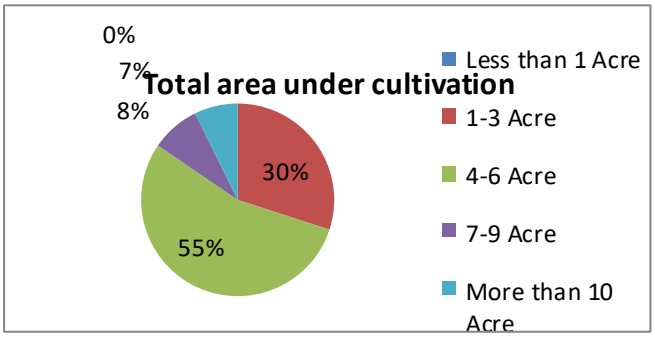

Figure 158: Total area under cultivation in 2018 in Wardha

Production of Cotton

Figure 159 shows that almost 43% of the respondents pegged their production of cotton between 15 and 10 tons. 27% produced between 30 and 45 tons of cotton. 18% of the respondents produced up to 15 tons of cotton. 5% of the respondents produced between 45 and 60 tons and 3% produced more than 75 tons of cotton. 4% of the respondents had a production of cotton between 60 and 75 tons.

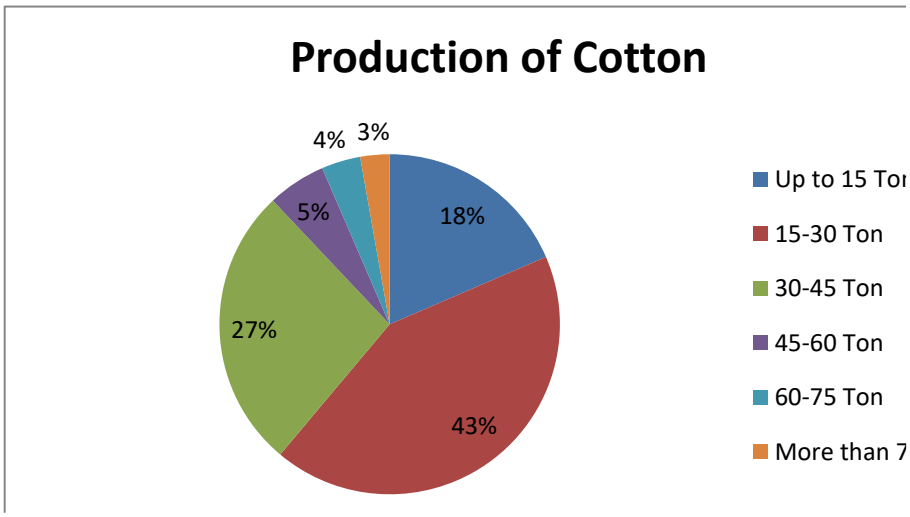

Figure 159: Production of Cotton in 2018 in Wardha

Per Quintal Selling price (SP) of Cotton

Figure 160 shows that almost 43% of the respondents sold cotton between Rs 5, 000 and 6, 000. 35% sold it between Rs 4,000 and 5, 000. 18% of the respondents sold it Rs 3, 000 and 4, 000 and only 4% of them sold it between Rs 6, 000 and 7, 000 per quintal.

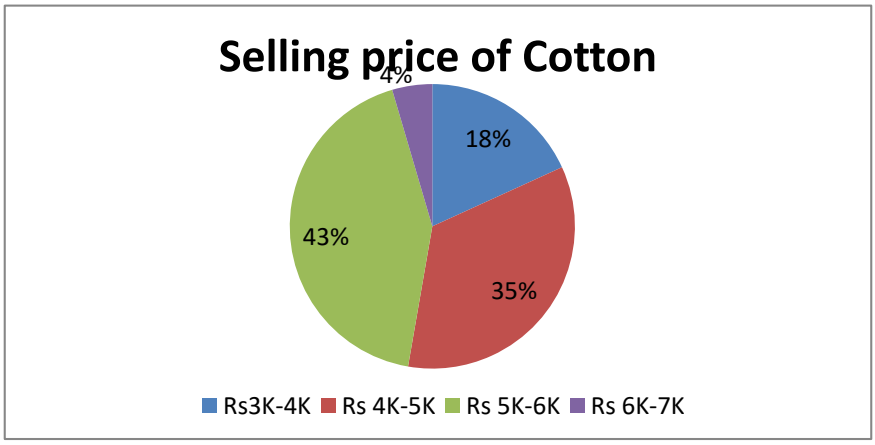

Figure 160: Selling price of Cotton in 2018 in Wardha

Kharif Crop 2019 – Cotton

Total area under cultivation

Figure 161 shows that almost 53% of the respondents in the Wardha Block had between 4 and 6 acres of land under cultivation. 35% had between 1 and 3 acres of land under cultivation. 7% had between 7 and 9 acres and 5% had more than 10 acres of land under cultivation.

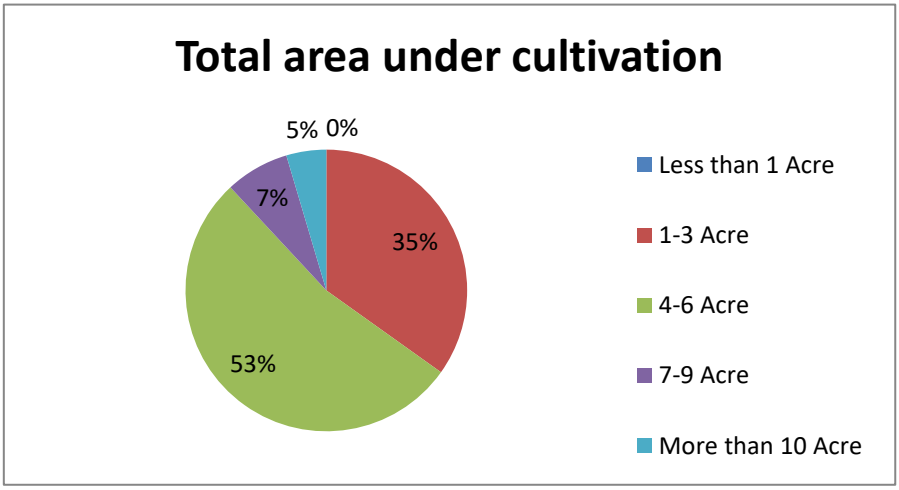

Figure 161: Total area under cultivation in 2019 in Wardha

Production of Cotton

Figure 162 shows that almost 43% of the respondents pegged their production of cotton, between 15 and 10 tons. 31% produced between 30 and 45 tons of cotton. 17% of the respondents produced up to 15 tons of cotton. 3% of the respondents produced between 45 and 60 and 4% more than 75 tons of cotton. 2% of the respondents had a production of cotton between 60 and 75 tons.

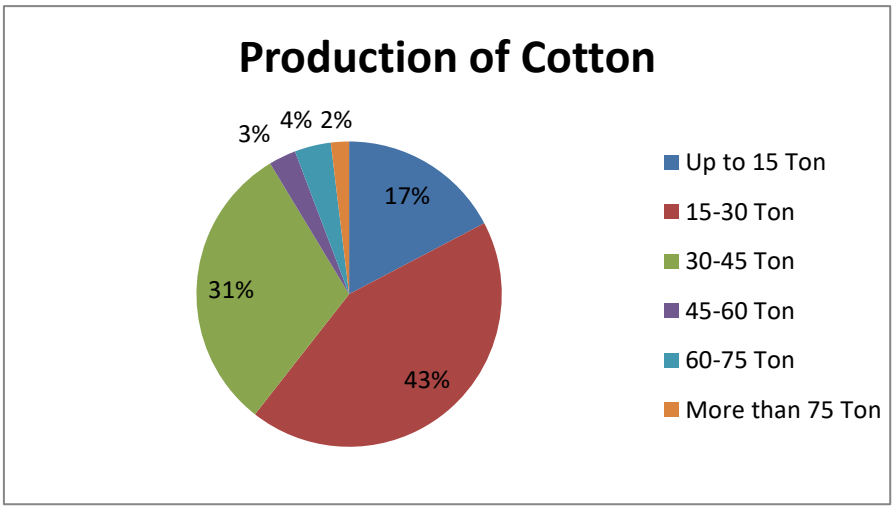

Figure 162: Production of Cotton in 2019 in Zari

Per Quintal Selling price (SP) of Cotton

Figure 162 shows that almost 41% respondents sold cotton between Rs 5, 000 and 6, 000. 33% sold it between Rs 4, 000 and 5, 000. 20% of the respondents sold cotton between Rs 3, 000 and 4, 000. Only 6% of the respondents sold it between Rs 6, 000 and 7, 000.

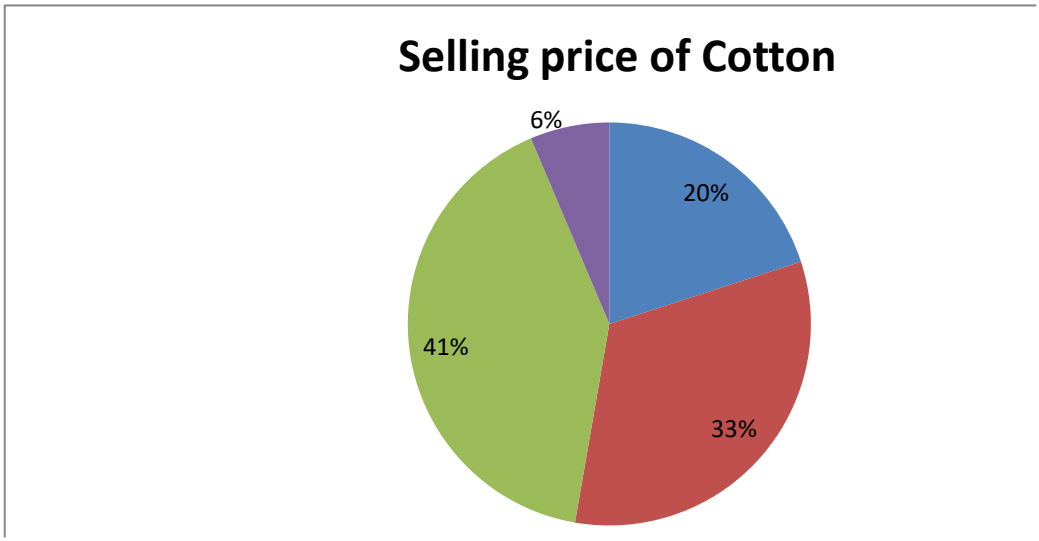

Figure 163: Selling price of Cotton in 2019 in Wardha

Kharif Crop 2020 – Cotton

Total area under cultivation

Figure 164 shows that almost 59% of the respondents in the Wardha Block had between 4 and 6 acres of land under cultivation. 28% had between 1 and 3 acres of land under cultivation. 7% had between 7 to 9 acres and 6% had more than 10 acres of land under cultivation.

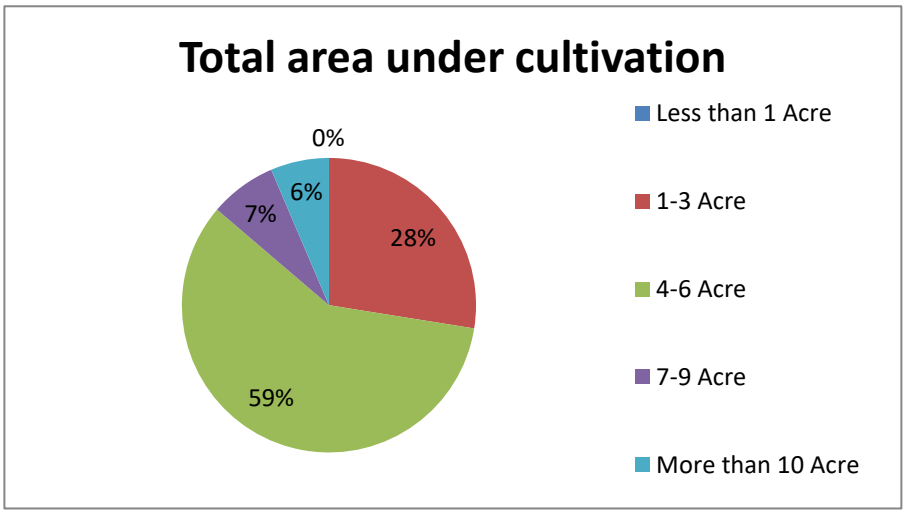

Figure 164: Total area under cultivation in 2020 in Wardha

Production of Cotton

Figure 165 shows that almost 40% of the respondents pegged their production of cotton, between 15 and 30 tons. 28% produced between 30 and 45 tons of cotton. 18% of the respondents produced up to 15 tons of cotton. 6% of the respondents produced between 45 and 60 and more than 75 tons of cotton. 2% grew between 60 and 75 tons.

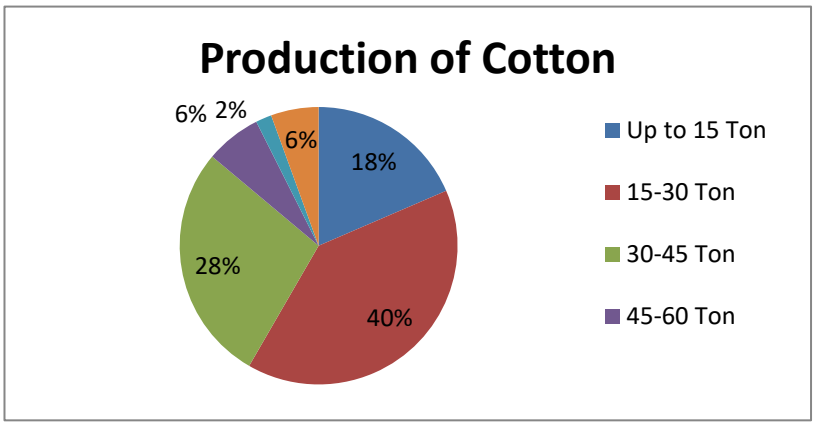

Figure 165: Production of Cotton in 2020 in Wardha

Per Quintal Selling price (SP) of Cotton

Figure 166 shows that almost 43% respondents sold cotton between Rs 5, 000 and 6, 000. 33% sold it between Rs 4, 000 and 5, 000. 20% sold cotton between Rs 3, 000 and 4, 000. Only 4% sold it between Rs 6, 000 and 7, 000.

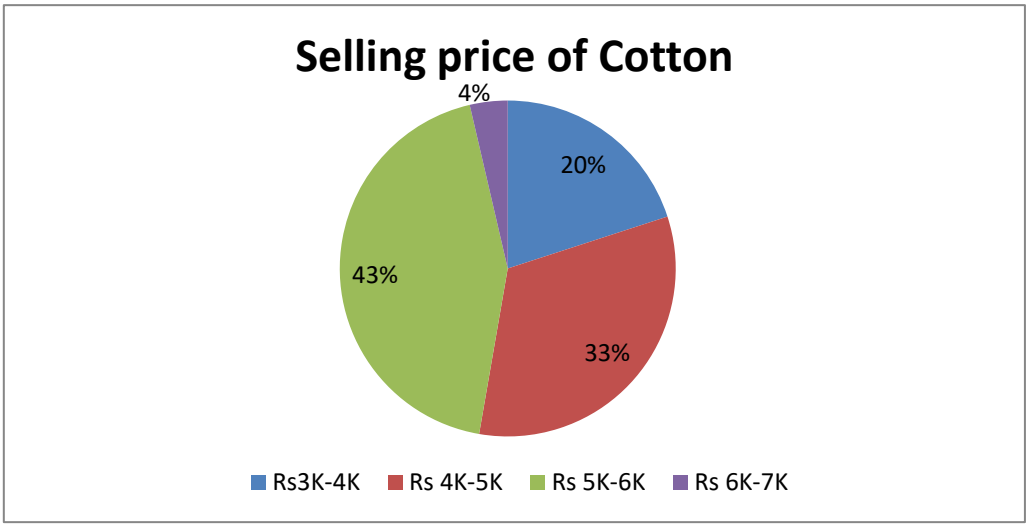

Figure 166: Selling price of Cotton in 2020 in Wardha

Kharif Crop 2018- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 167 shows that almost 85% of the respondents in the Wardha Block had between 1 and 3 acres of land under cultivation. 14% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

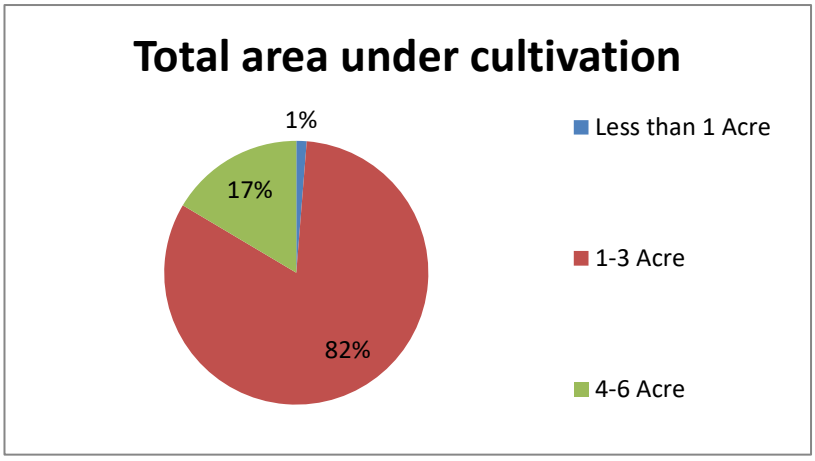

Figure 167: Total area under cultivation in 2018 in Wardha

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 168 shows that almost 60% of the respondents pegged their production between 5 and 10 tons. 17% produced between 10 and 15 tons. 11% of the respondents produced up to 5 tons. 8% of the respondents produced between 20 and 25 tons and, 3% between 15 and 20 tons and 1% more than 75 tons.

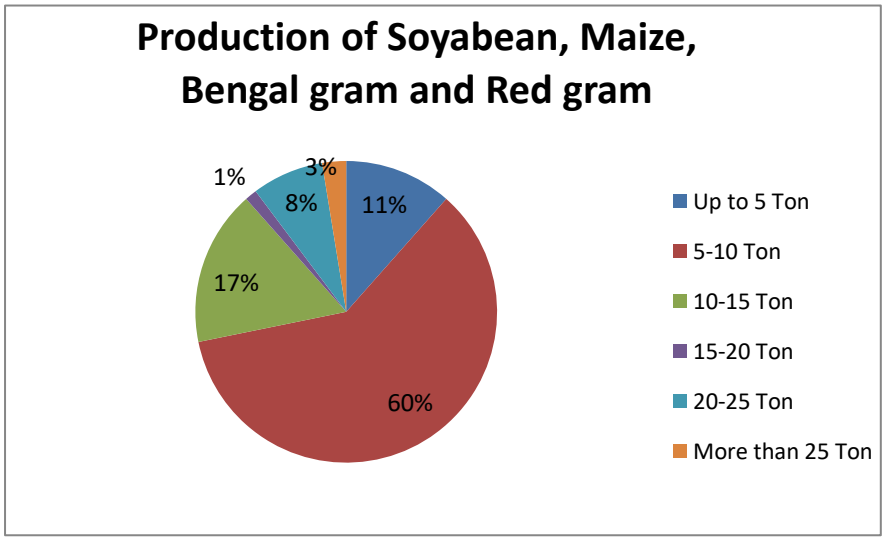

Figure 168: Production of Soyabean, Maize, Bengal gram and Red gram in 2018 in Wardha

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 169 shows that almost 81% respondents sold their crop between Rs 4, 000 and 5, 000. 9% sold it between Rs 5, 000 and 6, 000. 5% of the respondents sold their crops between Rs 3, 000 and 4, 000. Only 1% sold their produce for less than Rs 3, 000. Only 4% sold their produce between Rs 6, 000 and 7, 000.

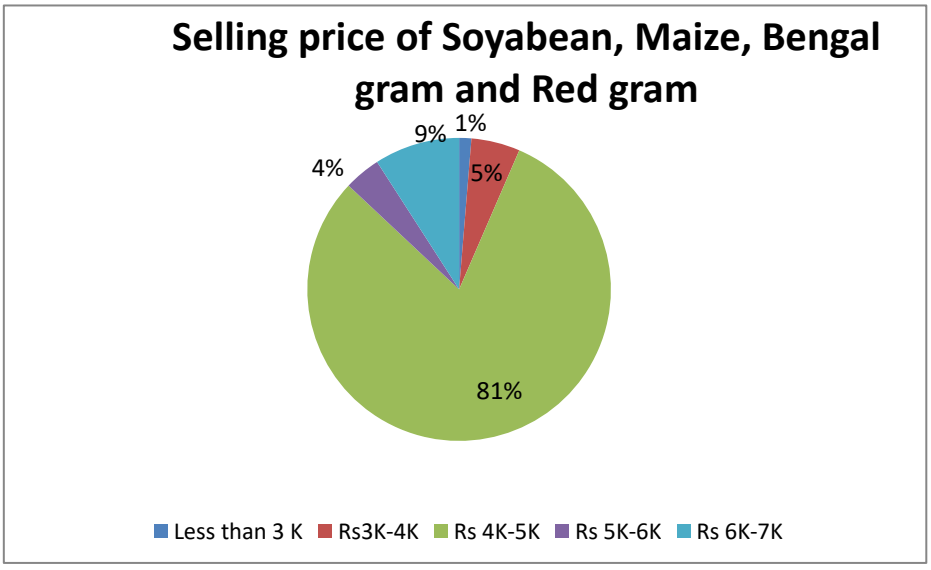

Figure 169: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2018 in Wardha

Kharif Crop 2019- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 170 shows that almost 82% of the respondents in the Wardha Block had between 1 and 3 acres of land under cultivation. 17% had between 4 and 6 acres of land under cultivation. 1% had less than 1 acre of land under cultivation.

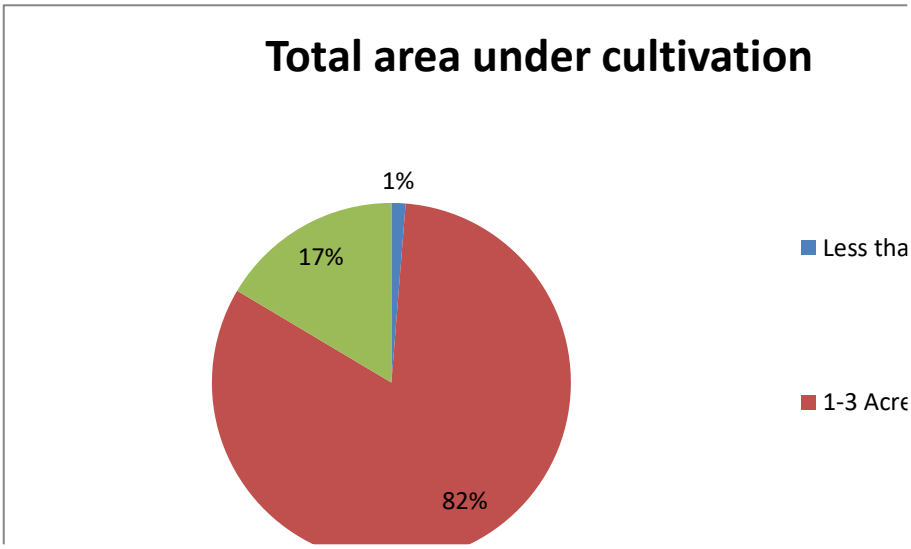

Figure 170: Total area under cultivation in 2019 in Wardha

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 171 shows that almost 61% of the respondents pegged their production between 5 and 10 tons. 13% produced between 10 and 15 tons. 13% of the respondents produced up to 5 tons. 6% of the respondents produced between 20 and 25 tons and, 4% between 15 and 20 tons and 3% more than 75 tons.

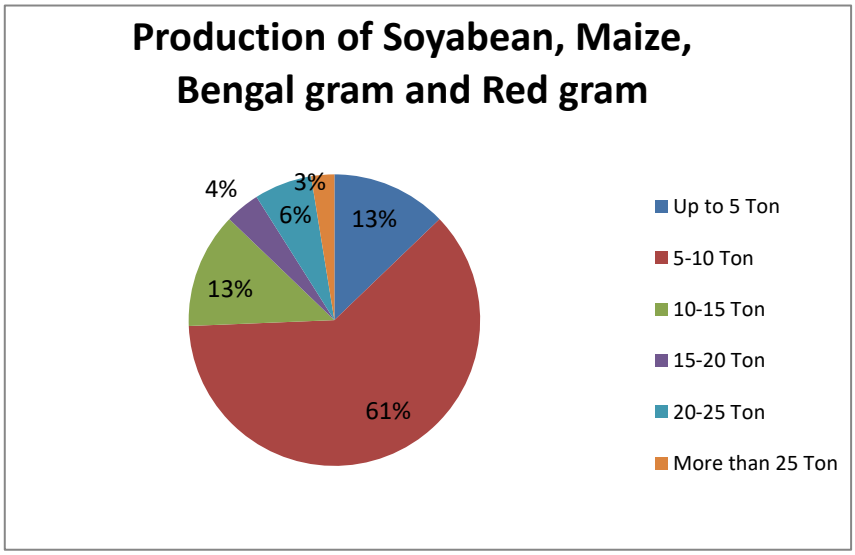

Figure 171: Production of Soyabean, Maize, Bengal gram and Red gram in 2019 in Wardha

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 172 shows that almost 75% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, 000 and 6, 000. 13% of the respondents sold their produce between Rs 3, 000 and 4, 000. 3% of the respondents sold it for less than 3, 000. Only 4% of the respondents sold their produce between Rs 6, 000 and 7, 000.

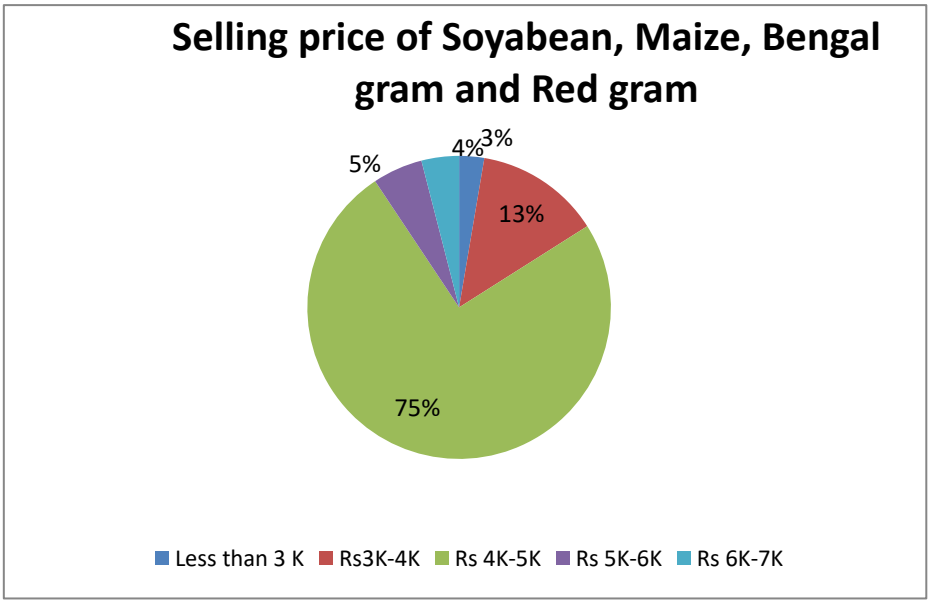

Figure 172: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2019 in Wardha

Kharif Crop 2020- Other than Cotton

Crops grown in the area other than cotton are soyabean, maize, Bengal gram and red gram.

Total area under cultivation

Figure 173 shows that almost 77% of the respondents in the Wardha Block had between 1 and 3 acre of land under cultivation. 18% had between 4 and 6 acres of land under cultivation. 5% had less than 1 acre of land under cultivation.

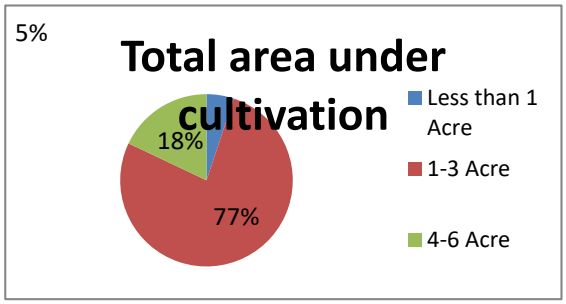

Figure 173: Total area under cultivation in 2020 in Wardha

Production of Soyabean, Maize, Bengal gram and Red gram

Figure 174 shows that almost 65% of the respondents pegged their production between 5 and 10 tons. 5% produced between 10 and 15 tons of cotton. 11% of the respondents produced up to 5 tons. 4% of the respondents produced between 20 and 25 tons and, 10% between 15 and 20 tons. 5% produced more than 75 tons.

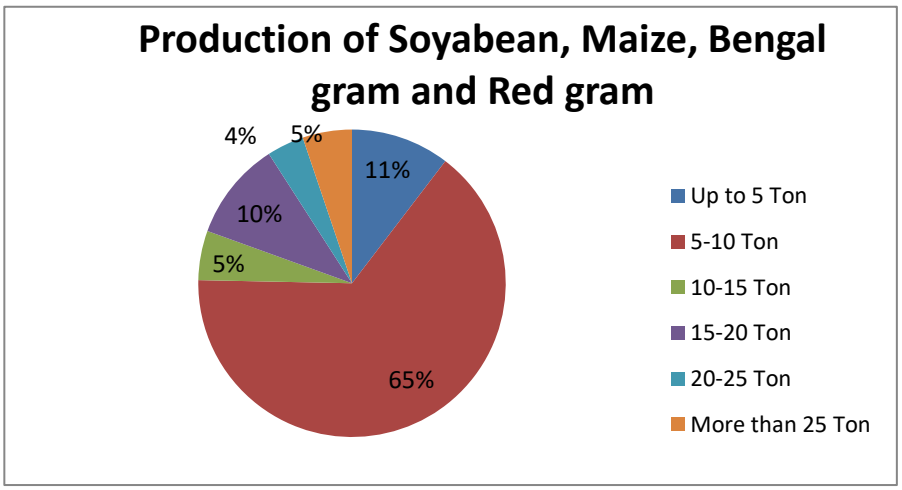

Figure 174: Production of Soyabean, Maize, Bengal gram and Red gram in 2020 in Wardha

Per Quintal Selling price (SP) of Soyabean, Maize, Bengal gram and Red gram

Figure 175 shows that almost 84% respondents sold their crop between Rs 4, 000 and 5, 000. 5% sold it between Rs 5, 000 and 6, 000. 3% sold it between Rs 3, 000 and 4, 000. 3% sold their produce for less than 3, 000. Only 5% of the respondents sold it between Rs 6, 000 and 7, 000 per quintal.

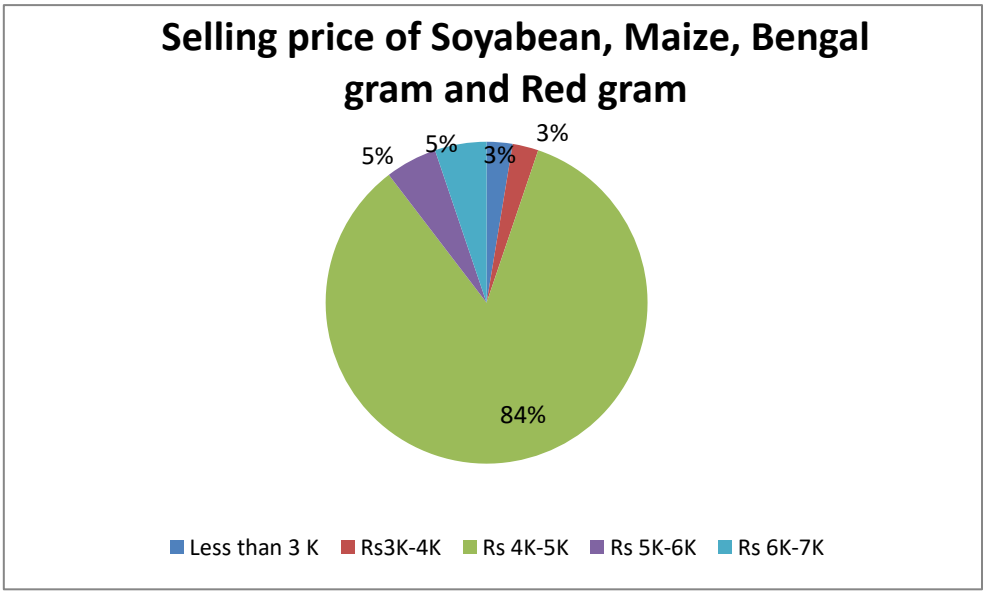

Figure 175: Selling price of Soyabean, Maize, Bengal gram and Red gram in 2020 in Wardha

Rabi Crops 2020

Main crop grown during the *rabi* season are cotton, wheat and red gram. Red gram was grown in an area of 99 acres. Even though production was 241 quintals, only 164 quintals was sold in the market with an average selling price of Rs 5, 640. A part of the produce was kept for home consumption. Cotton was grown in an area of approximately 110 acres. The total production was 1400 quintals, and the entire quantity was sold at an average selling price of Rs 5, 232 per quintal. Wheat was grown by very few farmers in 5 acres of land with total productivity of 7 tons and almost the entire quantity was sold at an average price per quintal of Rs 5, 800.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Cotton	110	1400	1850	1400	5231
2	Red Gram	99	231	57705	164	5640.25

Table 28: Crops grown during the Rabi season in Wardha in 2020

Rabi Crop 2018 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 176 shows that almost 82% of the respondents had an area between 1 and 5 acres under cultivation. 11% had between 5 and 10 acres and 7% had between 10 and 15 acres of land under cultivation.

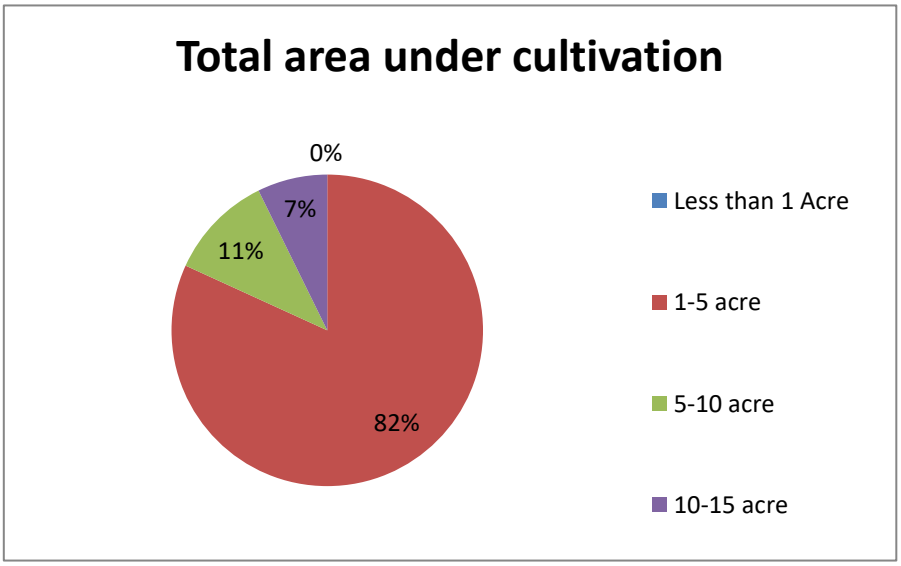

Figure 176: Total area under cultivation in the Rabi season in Wardha in 2018

Production of Red Gram, Cotton and Wheat

Figure 177 shows that almost 55% of the respondents produced up to 5 tons. 21% produced more than 25 tons and 8% produced between 15.1 and 20 tons. 5% each, produced between 10.1 and 15 tons and 5.1 and 10 tons and 6% produced between 20.1 and 25 tons of crops.

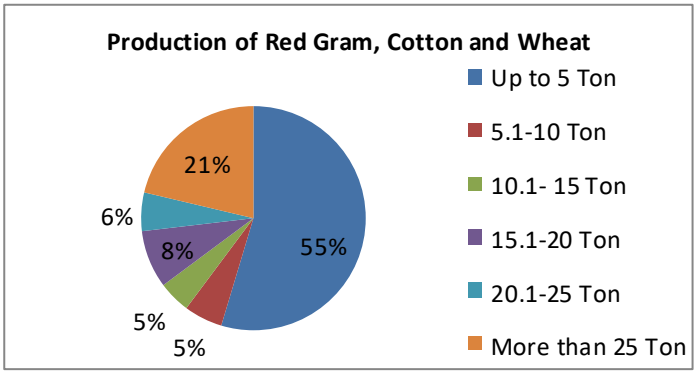

Figure 177: Production of Red Gram, Cotton and Wheat in the Rabi season in Wardha in 2018

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 178 shows that almost 99% of the respondents sold their produce between Rs 5000 and Rs 6000. 1% sold it up to Rs 4000.

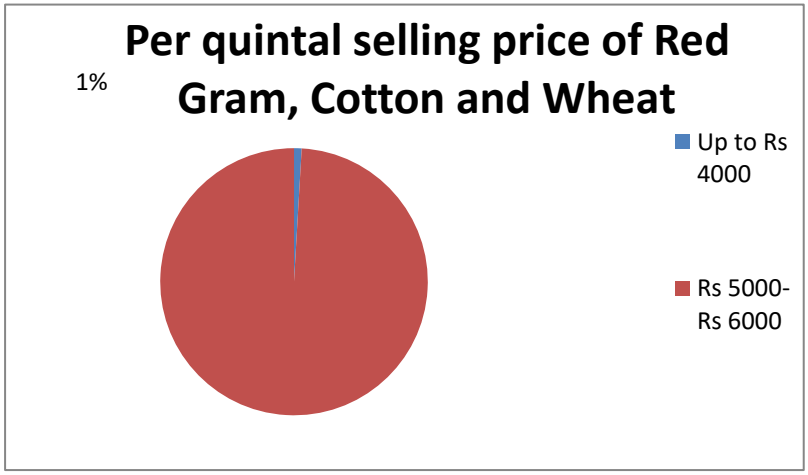

Figure 178: Per quintal selling price of Red Gram, Cotton and Wheat in the Rabi season in Wardha in 2018.

Rabi Crop 2019 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 179 shows that almost 81% of the respondents had area between 1 and 5 acres. 14% had between 5 and 10 acres and 4% had between 10 and 15 acres.

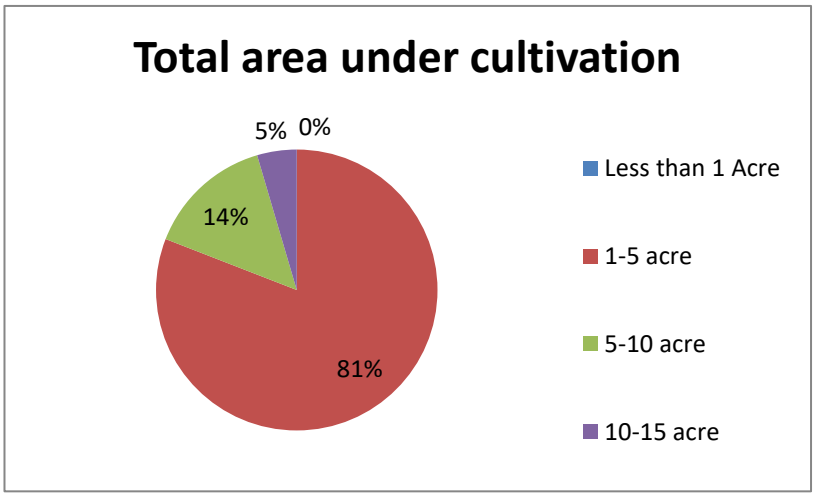

Figure 179: Total area under cultivation in the Rabi season in Wardha in 2019

Production of Red Gram, Cotton and Wheat

Figure 180 shows that almost 49% of the respondents produced up to 5 tons. 24% produced more than 25 tons and 7% each, produced between 10.1 and 15 tons, 5.1 and 10 tons and 20.1 and 25 tons. 6% produced between 15.1 and 20 tons of crops.

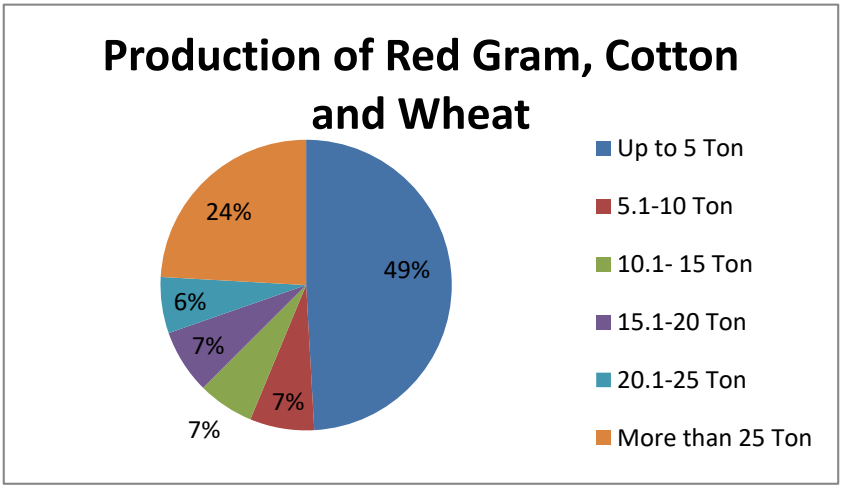

Figure 180: Production of Red Gram, Cotton and Wheat in the Rabi season in Wardha in 2019

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 181 shows that almost 98% of the respondents sold it at a price between Rs 5000 and Rs 6000. 2% sold it up to Rs 4000/quintal.

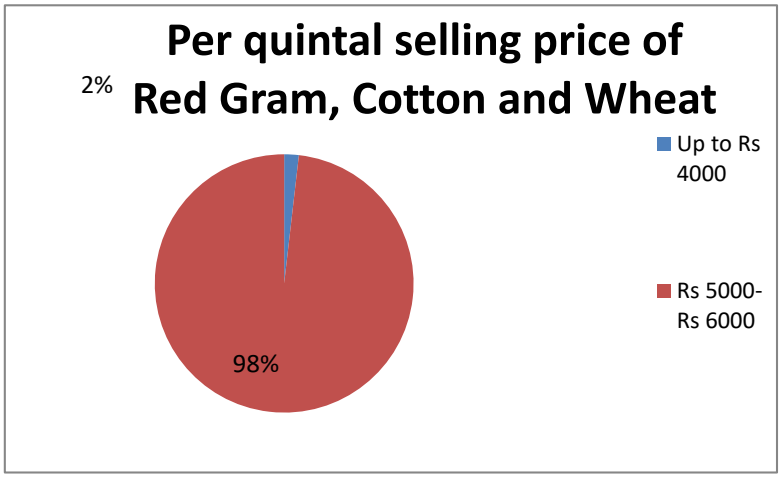

Figure 181: Per quintal selling price of Red Gram, Cotton and Wheat in the Rabi season in Wardha in 2019

Rabi Crop 2020 – Red Gram, Cotton and Wheat

Total area under cultivation

Figure 182 shows that almost 80% of the respondents had an area between 1 and 5 acres under cultivation. 12% had between 5 and 10 acres and 8% had between 10 and 15 acres of land under cultivation.

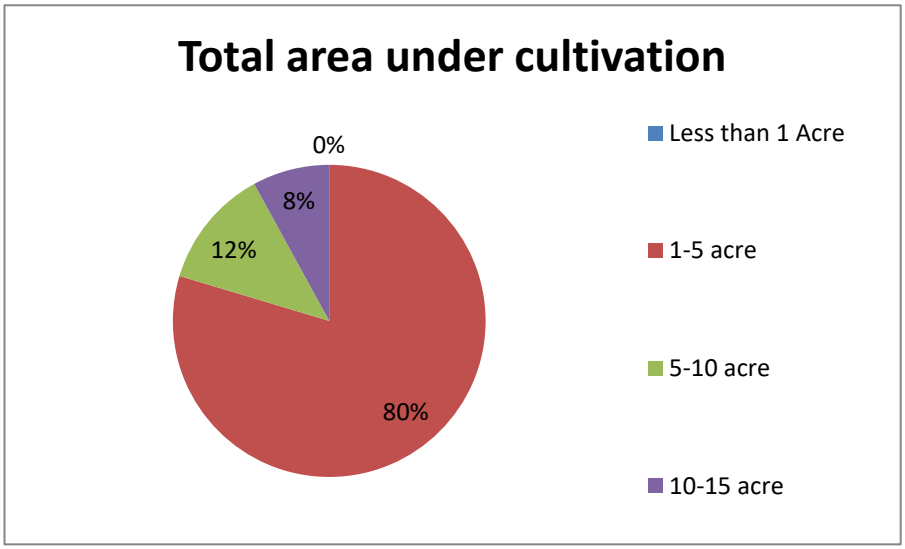

Figure 182: Total area under cultivation in the Rabi season in Wardha in 2020

Production of Red Gram, Cotton and Wheat

Figure 183 shows that almost 46% of the respondents produced up to 5 tons. 24% produced more than 25 tons and 7% produced between 15.1 and 20 tons and 20.1 and 25 tons. 8% each, produced between 10.1 and 15 tons and 5.1 and 10 tons of crops.

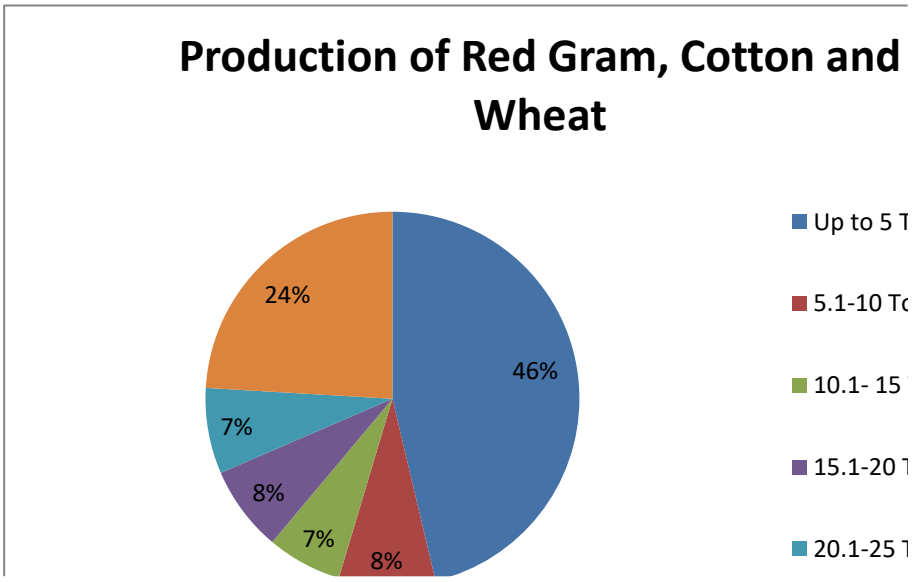

Figure 183: Production of Red Gram, Cotton and Wheat in the Rabi season in Wardha in 2020

Per quintal selling price of Red Gram, Cotton and Wheat

Figure 184 shows that almost 98% of the respondents sold it at a price between Rs 5000 and Rs 6000. 2% sold it up to Rs 4000.

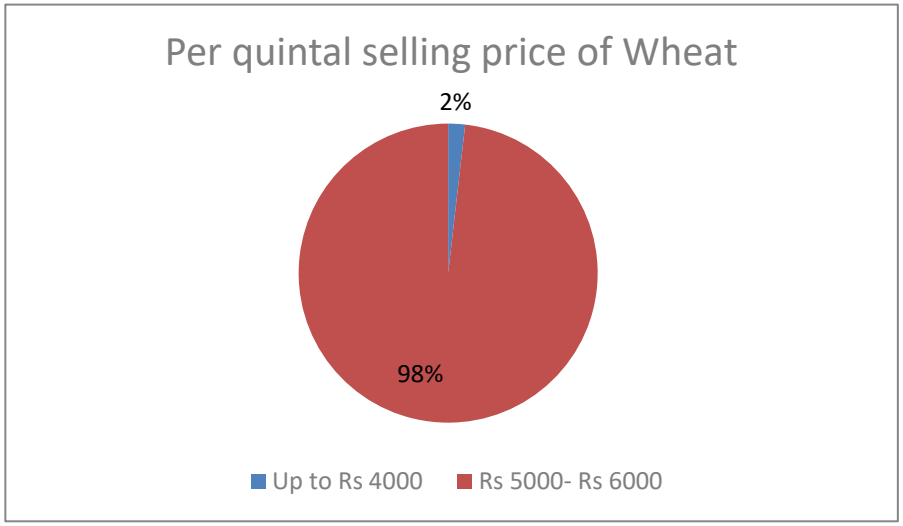

Figure 184: Per quintal selling price of Wheat in the Rabi season in Wardha in 2020

Agricultural labour used by the farmers

Figure 185 shows that 70% of the respondents used hired labour and 30% did not hire any labour.

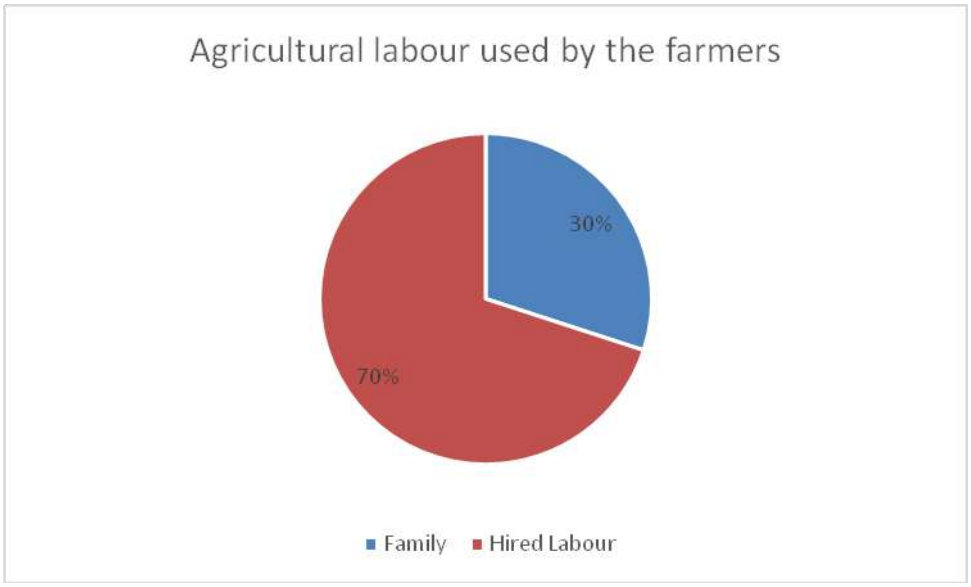

Figure 185: Agricultural labour used by the farmers

Source of purchasing seeds

Figure 186 shows that 58% of the respondents purchase seeds from retailers. 2% of them use self-saved seeds and 6% of them purchase seeds from fellow farmers. 24% of the farmers purchase seeds from salespersons of private companies and 10% from dealers.

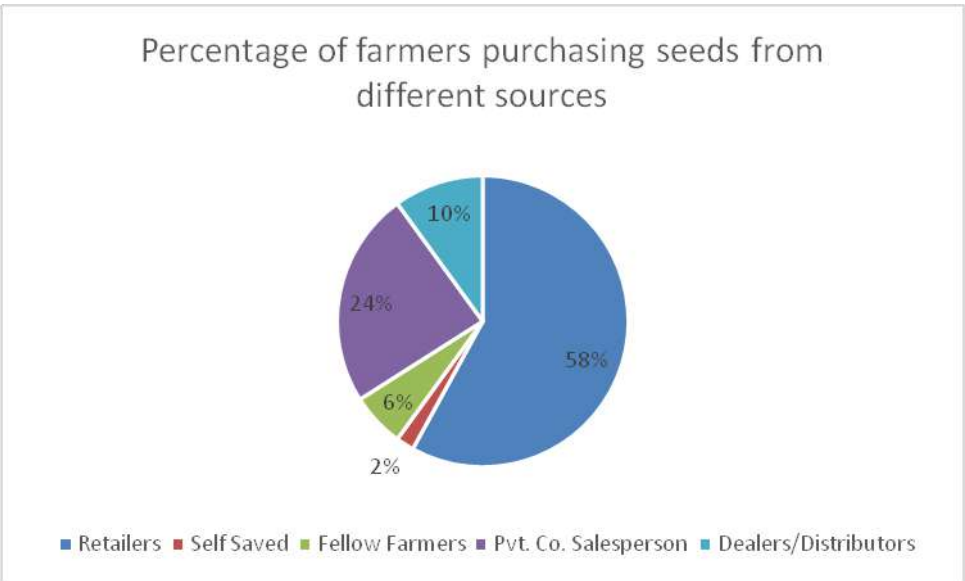

Figure 186: Percentage of farmers purchasing seeds from different sources

Source of purchasing inputs

Figure 187 shows that 74% of the farmers purchased inputs from retailers. 18% of them purchased them from salespersons of private companies. 6% of farmers purchased inputs from dealers. Only 2% of them purchased inputs from *krishi melas.*

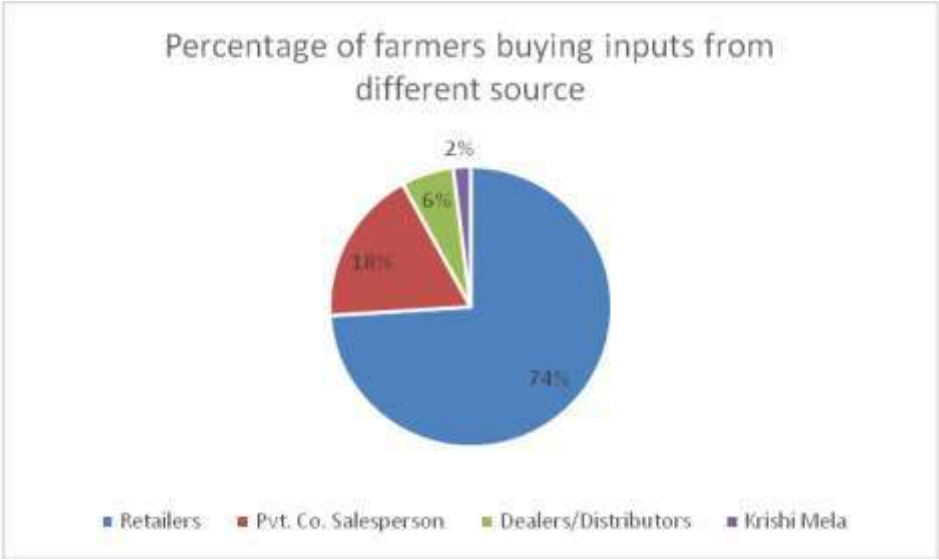

Figure 18: Percentage of farmers buying inputs from a different source

Constraints faced by farmers during the production process

Table 29 shows that farmers face various constraints during the production process. Farmers live in rural area and often do not have access to various inputs and technology. The main constraint faced by the farmers was poor access to necessary technology. Technology might be in the form of new seed varieties, fertilisers, pesticides, machineries. The second constraint faced by the farmers was poor/ timely availability of fertilizers/seed treatment. Seeds are one of the main inputs in crop cultivation and access to good varieties of seeds is of utmost importance. The third constraint faced by the farmers is high pest and disease incidences. Other constraints faced by the farmers include lack of irrigation facilities, lack of knowledge about maturity indices, lack of access to credits, non-availability of agricultural laborers and high pest and disease incidences.

Main constraints	Avg. score	Rank
Poor access to the necessary technology	50%	1
Poor/ Timely availability of fertilizers/Seed Treatment	24%	2
High pest and disease incidence/Spurious inputs (pesticides)	16%	3
Lack of irrigation facility/Lack of better-quality varieties seeds& planting aterials/Others	8%	4

Table 29: Constraints faced by farmers during the production process

Extension advisories for getting advice regarding crop cultivation

Figure 188 shows the various agencies that farmers contact for their problems related to farm practices and crop diseases. 24% of the farmers of the surveyed area contact their peer farmers for getting advice. 10% of the farmers contact dealers/distributors for getting advice on farm practices. 2% of the farmers contact a helpline number for their problems. 46% get in touch with NGOs and 14% contact the State Agricultural Dept. seeking solutions to their problems. Usually, KVKs and universities are located far from villages, so farmers are often reluctant to go to these places. A negligible number of farmers contacted State Agricultural Department and dealer/distributors.

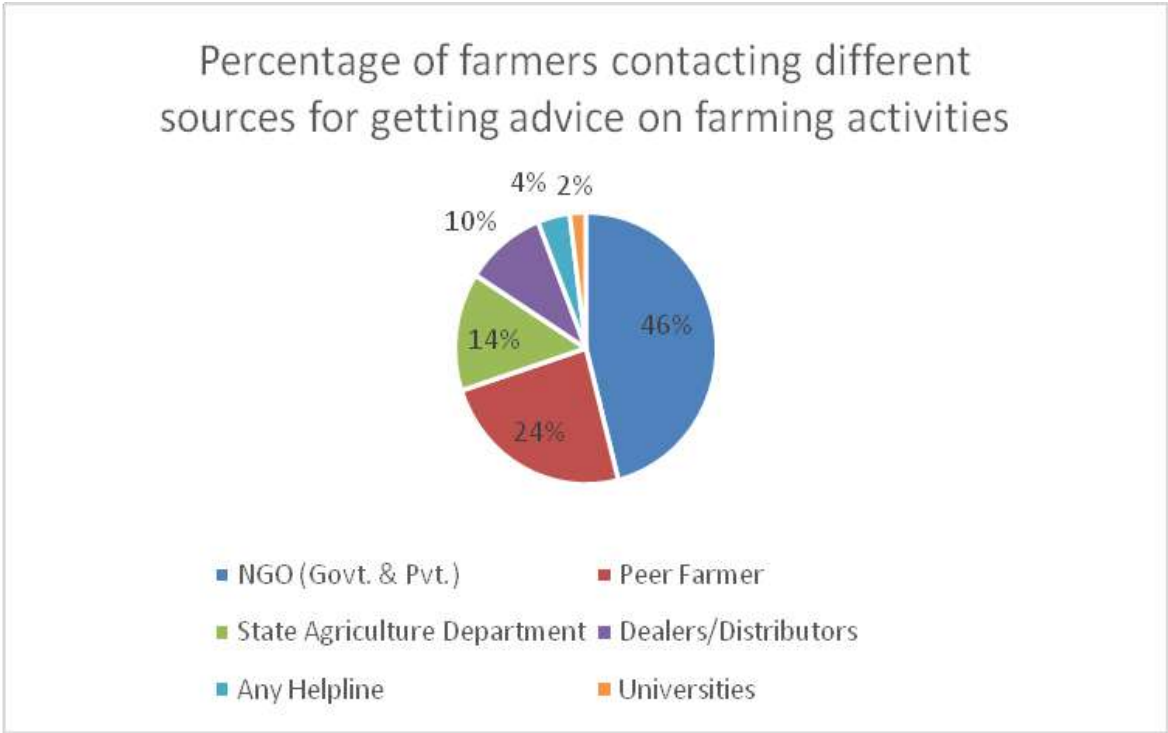

Figure 188: Percentage of farmers contacting different sources for getting advice on farming activities

Percentage of farmers who adopted the advice for farming activities

Figure 189 shows that almost 54% of the farmers adopt the advice given to them by the different agencies. Only 46% do not adopt the guidelines of the advice provided by various agencies.

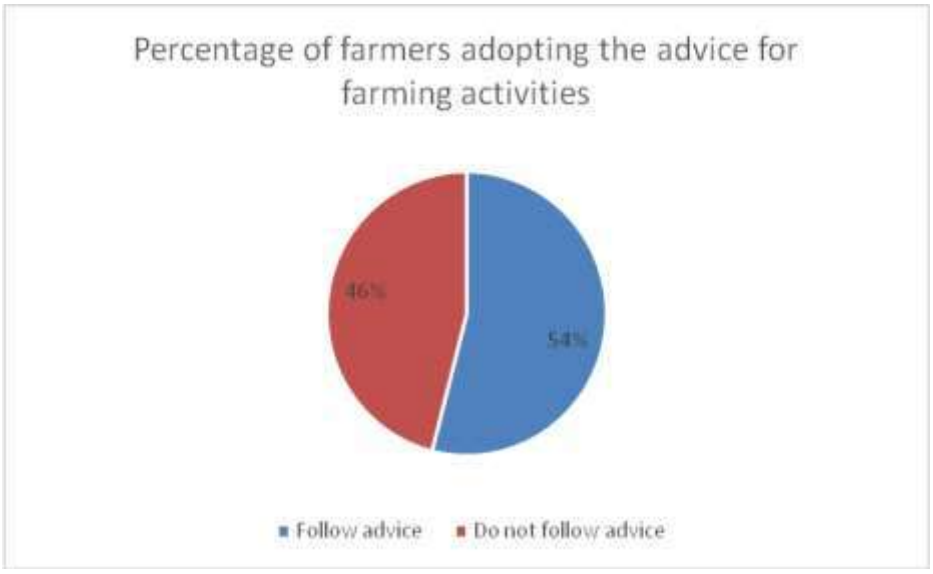

Figure 189: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 190 shows that the various benefits that the farmers get from extension advisories include, increase in yield, lesser input usage, increase in income/profit and decrease in cost of cultivation. 50% of the farmers got the benefit of an increase in yield and 10% of the farmers saw an increase in income/profit. 52% of the farmers saw a decrease in cases of disease/pest infestation and 65% of them saw a decrease in input usage as well. 55% of the farmers saw a decrease in the overall cost of cultivation after adopting the measures suggested by the extension advisories.

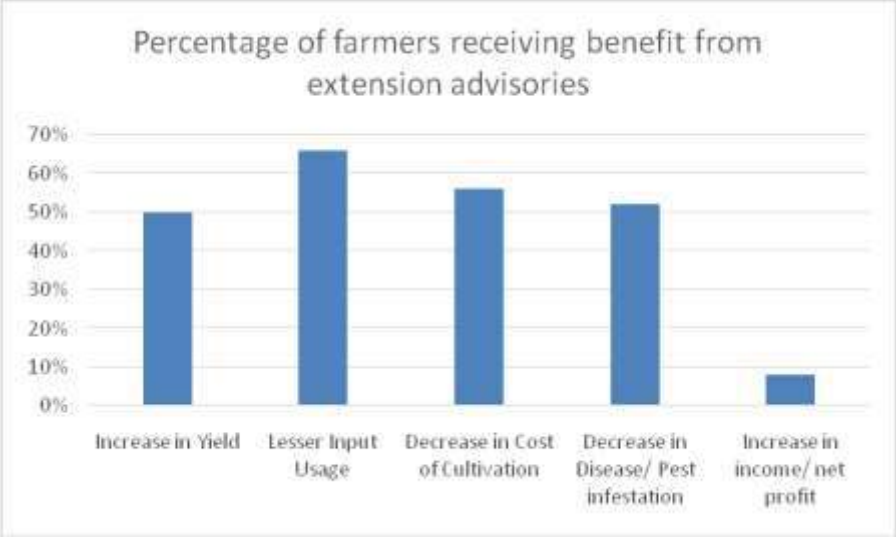

Figure 190: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 191 shows that 44% of the farmers were unaware of the government schemes being extended. The other 56% of the farmers were aware of the schemes.

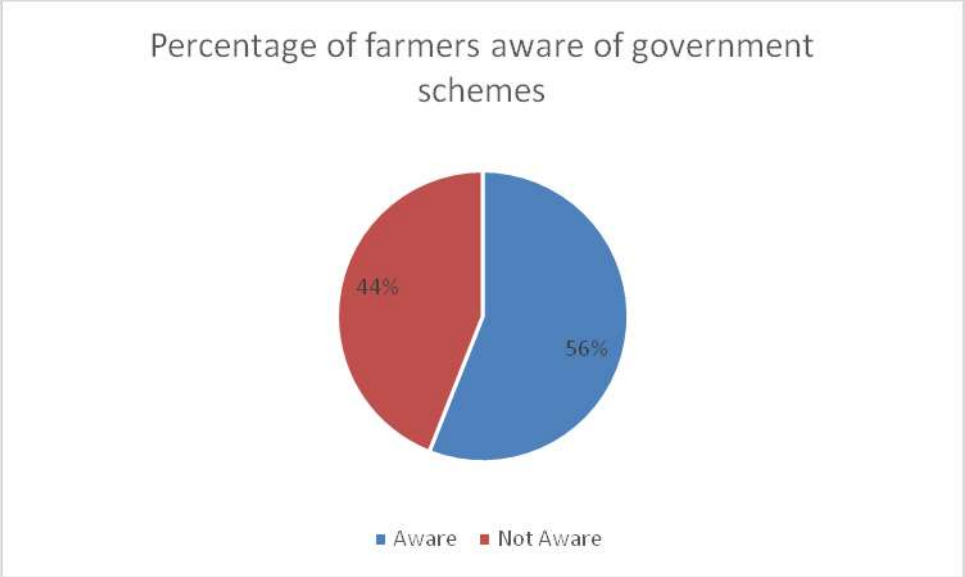

Figure 191: Percentage of farmers aware of government schemes

Accessibility to credit

Figure 192 shows that only 30% of the farmers have taken credit from banks for crop cultivation. There were various constraints that the farmers faced while taking credit. These include excessive documentation, distance from village, and high rate of interest, amongst others.

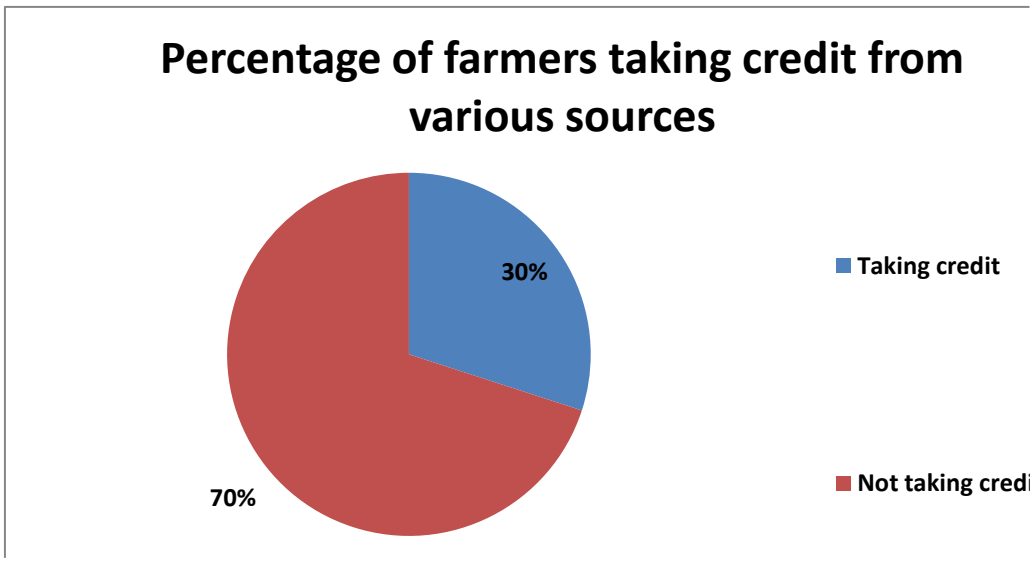

Figure 192: Percentage of farmers taking credit from various sources

Farmer Groups

Awareness of benefits of FPOs

Figure 193 shows the 10% of respondents are aware of the benefits of forming an FPO. 58% are not aware of the benefits of FPO. 32% of the respondents could not give any clear response.

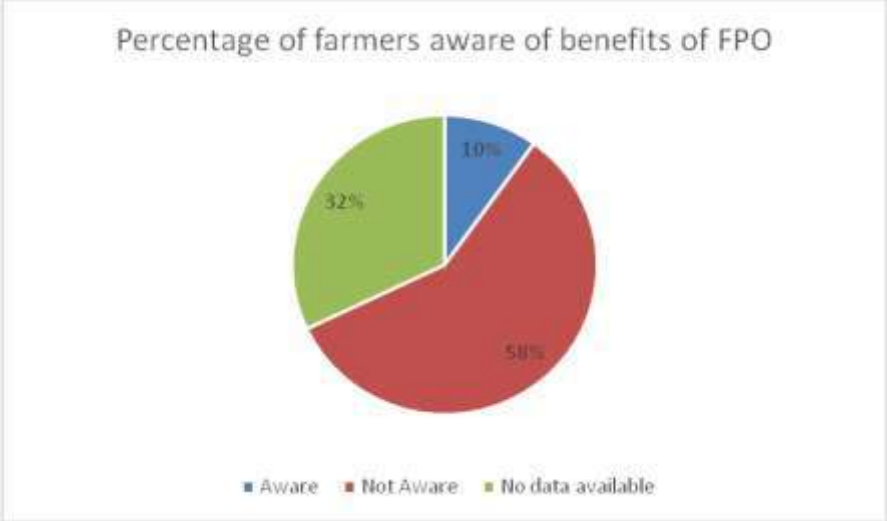

Figure 193: Percentage of farmers aware of benefits of FPO

Membership of farmers' association/cooperative

Figure 194 shows approximately 68% of the respondents are not members of any farmers' association. 32% of the respondents are members of some farmers' association.

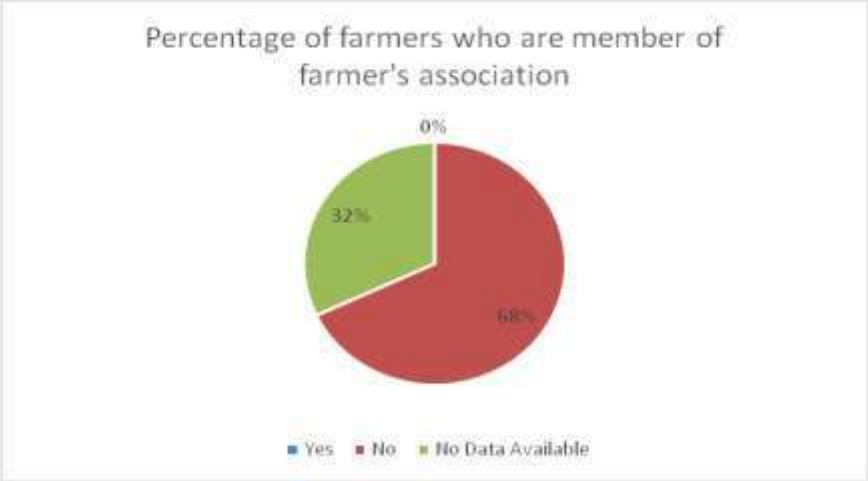

Figure 194: Percentage of farmers who are members of farmer's association

Willingness of farmers to form groups on basis of crops

100% farmers are willing to form groups on the basis of crops.

Capacity Building of FarmerS

Training on packaging practices, post-harvest management, marketing

None of the farmers have received any training on package of practices, post-harvest management, marketing, etc.

Problems faced by farmers during post-harvest packaging

Figure 195 shows that farmers did face issues in the post-harvest packaging. 16% of them however did not face any problems. 42% of the farmers had a problem with higher wages while 36% faced a shortage of skilled labor and32% faced non-availability of packaging material.

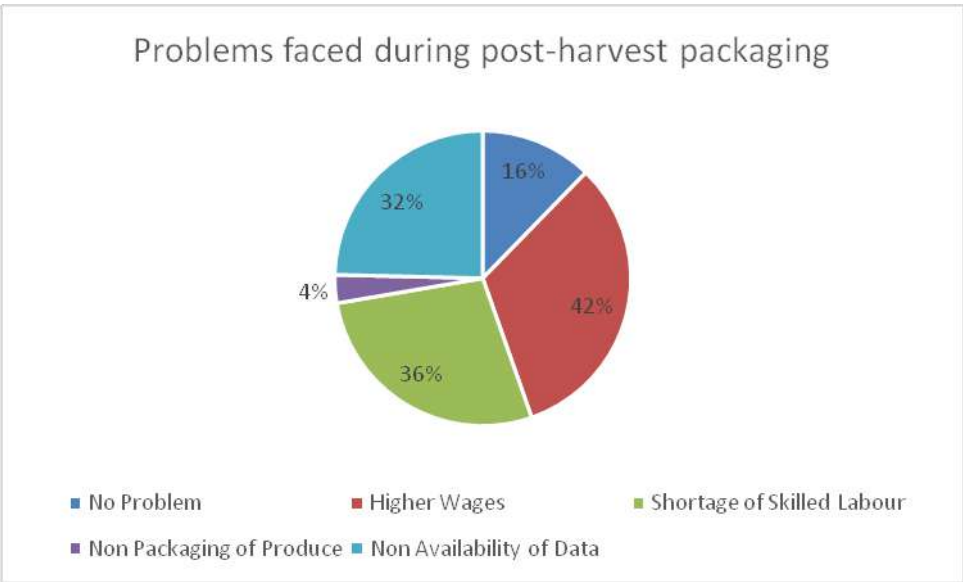

Figure 195: Problems faced by farmers during post-harvest packaging

Problems faced by farmers during post-harvest transportation

Figure 196 shows that farmers faced many issues in post-harvest transportation. 30% of the farmers faced non-availability of vehicles. 26% of them had to pay high transportation charges. 28% of the farmers witnessed problems due to a lack of all-weather roads. 8% of the farmers received misleading information. 28% did not face any issues.

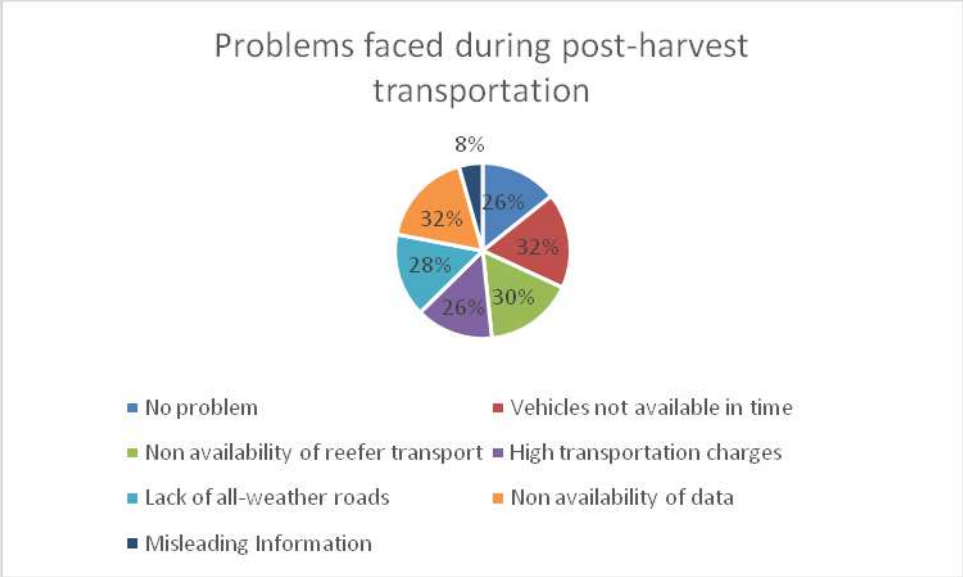

Figure 196: Problems faced by farmers during post-harvest transportation

Problems faced by farmers due to malpractices post-harvest

Figure 197 shows that farmers faced issues because of the existing malpractices post-harvest. Many of them faced more than one problem. 28% had to be content with part-payment of their sale proceeds. 32% of them experienced a multiplicity of charges, 22% were quoted lower prices than the prevailing market rates. Only a minuscule 2% of farmers, however, did not face any problems.

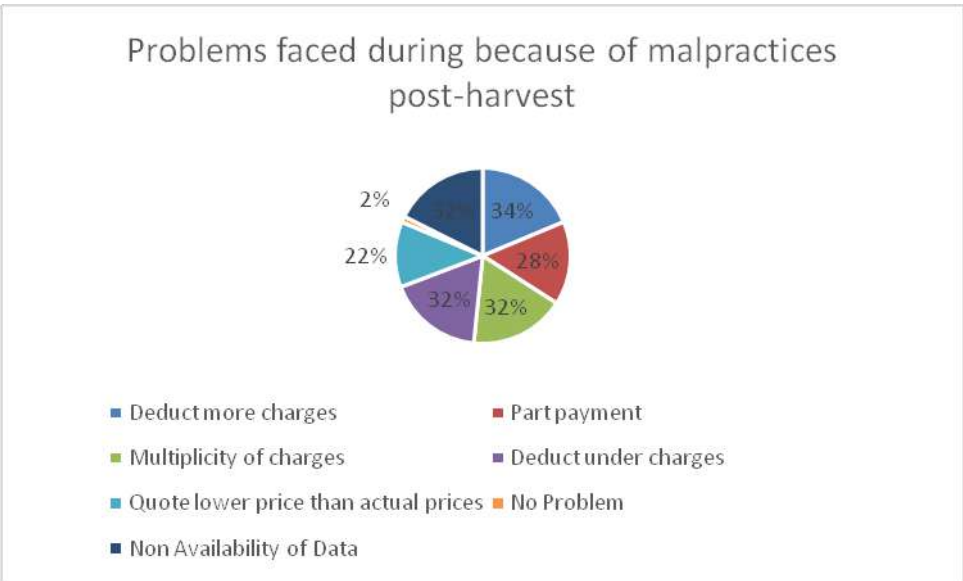

Figure 197: Problems faced by farmers due to post-harvest malpractices

Risk Aspects

India is an agrarian country and farmers are its lifeline. In this section, we shall go over the several risks that ail a farmers' life in the surveyed areas of Uttar Pradesh. The agricultural risks that a farmer is faced with are caused by a variety of factors such as:

Risk of Nature's vagaries and changing climate

The impact of climate change or global warming is a much talked about issue at the global level. The way it impacts the farmer at the local level is of much consequence too. The arrival of monsoon creates a make-or-break situation based on its timeliness or delay. Especially in majorly rainfed areas of Maharashtra, where the alternative sources of irrigation are unreliable, the climate playing truant becomes a matter of life and death for the farmer. A shower of rain or two during peak harvest season also causes more damage to the crops and thereby the farmer than one can fathom. Such dependence on the climate's mercy makes the farmer extremely vulnerable to the unpredictability of Mother Nature. The presence of reliable weather forecasting technology will go a long way in changing this scenario.

Risk of inconsistent yields

Several factors contribute to yielding a bumper crop season or otherwise. The quality of seeds sown by the farmer, the fertility of the soil in his farm, the appropriate selection and dosage of fertilizers and pesticides, the timely availability of water and the sound judgement of maturity indices of the crop grown are also factors that can make or mar the produce in a farmer's field.

Risk of unstable markets

Market prices are impacted by more than a simple inverse proportion between demand and supply. It is impacted by several other factors and manipulations. However, when a crop is harvested and the farmers flock to sell it in the market, the price range that the middlemen/grain merchants offer to them are far from remunerative. In fact, despite the price is often 10-15 per cent lower than the basic Minimum Support Price (MSP), which the government is obliged to pay. This is a result of inadequate procurement operations in UP.

The price at which the merchants sell the same produce at much higher rates but none of this benefit is passed on to the farmer. The risk of uncertain market prices looms large on the farmers in Maharashtra too.

Risk of animal attack and damage they cause

The farmers in Maharashtra are weary of attacks and damage that wild animals caused in their farms as well as in the vicinity of their houses. They have recurrent attacks by animals including wild boars, pigs, monkeys and nilgai. These animals create havoc in their fields causing much damage to the crops and immense monetary loss to the farmers. The reason for these frequent visits by animals is the proximity of these farms to the forest area. The farmers have been unable to find a solution to this menace despite their best efforts.

All out efforts need to be directed at alleviating the farmers out of their dismal state of poverty which is resultant of the poor penetration and development of various risk management tools in the country.

Challenges & Constraints

Indian agriculture is plagued by several problems; some of them are natural and some others are manmade. Agriculture in Maharashtra too, is in the grip of numerous constraints to growth.

There have been few concerted and integrated efforts to boost agricultural growth. This is the reason that despite the state's geographical advantage in terms of soil, water and climate, the agricultural performance has been far from satisfactory. Tremendous potential exists in the agricultural sector provided the existing constraints are mitigated.

The following are the constraints and challenges that need to be worked upon:

Lack of awareness about agricultural advancements

The timely unavailability of High Yielding Variety (HYV) seeds at competitive prices is a major bane for the farmers of Maharashtra. The lack of reliable seeds can lead to the failure of an entire season's crops. That amounts to giving rise to a serious crisis of cash, crops and sustainability. Such a situation is every farmer's nightmare come true. Despite the fact that several factors are responsible for a bumper crop, good quality seeds are a crucial one. Either these are found to be in short supply, or available at exorbitant prices. The quality and quantity of output (crops), in such a case is interdependent on the quality of the input (seeds). Due cognizance of this must be taken to improve the situation. The technological interventions that are taking the agri-world by storm must also percolate to these farmers so that they may reap the maximum benefit from such discoveries and interventions.

Lack of know-how regarding specific crops

Several path-breaking discoveries are resulting from the scores of agri-research being conducted the world-over. The findings of these could actually make a world of difference in the lives of farmers who toil hard to make ends meet. In fact, increased awareness about the several agricultural interventions could make farming not just a sustainable, but also an immensely profitable venture. Awareness about the nutrient-combination needed for a specific type of crop to flourish will result in applying only what is needed and in the needful quantity. This will bring down the production cost and save the soil from over-application of unnecessary fertilizers and insecticides/pesticides etc. Efforts in imparting such know-how to the farmers based on the crops they are growing or soil their farms have will go a long way in improving the price-realization for the farmers.

Low realization of prices for produce

Even though the government has a mechanism in place to safeguard the interests of the farmer by way of a guaranteed Minimum Support Price; the lack of enforcement of the same mitigates the entire purpose of this system. The system of *lampus* too does not guarantee any benefits for the small farmer, in particular. The exploitation of farmers to receive the benefits that are meant for them is a common phenomenon in this area. A mechanism to eliminate the loopholes in the system needs to be devised and put into place to alleviate the realization woes of the farmer.

Gap in know-how and awareness due to lack of training opportunities

When the farmers were spoken to, they strongly felt the need for and lack of technical know-how and awareness about various agri-interventions and innovations. In fact, simple tools like correct inferences from the Soil Health Cards that some of the farmers had, too were not drawn and the information acquired therein was not put to use by the farmers. They lacked judgement regarding the optimal use of fertilizers and pesticides. The farmers were vocal about the need for training, specifically about cotton as a crop. The issue that more is less with regard to fertilizers and pesticides was also a result of lack of proper knowledge which can well be acquired through training.

Lack of physical infrastructure such as warehouses and cold storages

Even when all else has gone right, in the absence of good infrastructure, a farmer is likely to lose it all. In case a farmer observes low, market realization and decides to hold on to his produce and wait for better prices, he is strapped for space at home. There are no storage facilities by way of warehouses where a farmer may be able to park his produce till rates get better. The absence of cold storages also hampers the farmers' chances of getting better prices for vegetables etc.

Lack of easy availability of transportation

Even when a farmer chooses to take his produce to the nearest market/*mandi*, there is no guarantee that transportation will be available to him. Sometimes an opportunity for better pricing is missed because of unavailability of transport. This is a challenge that is difficult to predict and prepare against. The cost at which transport is available is also very high and eats away from the farmers' potential profit.

Lack of access to financial services

The farmer is stuck in a cycle of ploughing back his meagre profits into agriculture, season after season. However, money is needed by the farmer for meeting the requirements of his family as also for subsistence. That need sometimes makes it imperative to borrow money from financial institutions. Worse still is the preference of borrowing from the local moneylender at much higher rates of interest. One of the reasons the farmers quote, for doing so, is the ease of borrowing and minimal paperwork.

Lack of all-weather roads

The importance of good road connectivity and density especially in the rural areas can't be overemphasized. Roads, especially in the rural areas, turns out to be an important driver of agricultural growth in Maharashtra. In the absence of these, farmers are unable to carry their produce to the markets to sell in the *mandis* or to the consumers directly. The distance of these *mandis* is often between 30-50 kms. A poor rural road network impedes access of farmers to inputs and restricts marketing of outputs. A well-connected rural road network, on the other hand, eliminates the scope for middlemen to a great extent and fetches the farmers much better prices for their produce.

Unavailability of water and electricity for timely irrigation

The availability of water in this region is mostly dependent on rainfall and the need for water is met by way of canals and lift irrigation. In addition to these sources, tube wells are also available to irrigate the farms. Erratic supply of electricity leaves the farmers high and dry without any reliable source of water to irrigate their farms leading to a drought-like situation at times when their crops need water.

All these factors undermine the viability of the agriculture sector and endanger the farmer's livelihood and incomes. Substantial governmental and financial sector interventions are required not only to guarantee food and nutritional security to the farming community but also to ensure savings and investments in this highly under-funded sector.

Marketing Aspects

Marketing of the farmer's produce is singularly the most important aspect in the agriculture. Several interdependent factors impact the price-realization of crops. These factors include, input costs, transportation costs, price sensitivity and seasonality of markets, alternate market structure, present and future demand of product, besides others. This section gives an insight into the aspects of marketing and what needs to be done to improve them.

Channels of Marketing:

Most of the farmers take their produce to the nearest *mandi* as soon as they have harvested it. They reserve what they will need for their home consumption and take the remaining for selling it. More often than not they are faced with issues as have been discussed in detail in the previous sections. However, they do have the liberty to put away their produce in the hope of better realisation. This however, puts on them the added burden of keeping abreast with the daily fluctuation in the crop prices. This is possible only for tech savvy farmers who can keep track of the prices in the local market. The uncertainty of being able to arrange for transport on the day when the market price is favourable to the crops they have harvested and are holding is a matter of concern.

Establishing fresh crop chains on the model of successful chains such as Safal will prove to be of immense benefit to the vegetable growing farmers. They will have a fixed and fair price destination to market their produce.

The next step can be creating market linkages to these newly established fresh crop chains thus giving the farmers the advantage of a large consumer base within the vicinity of such stores.

Adequate infrastructure (roads, electricity, transportation services, warehouses and godowns, etc.) must be created and put in place to enable farmers to get their produce to the *mandis*. Additionally, receiving prices that are 10-20 per cent lower than MSP dissuades farmers from selling their produce at the *mandi*, thus lowering arrivals and also depressing farmers' incomes.

Scope for Interventions

The large number of challenges being faced by the farmers in the Yavatmal and Wardha Districts of Maharashtra has led to an equally large number of opportunities by way of interventions and convergence. These will help to eliminate the gaps identified as well as aid in developing a value chain in the block.

- Training of Farmers: The upcoming FPO can pre-plan trainings in all aspects of farming right from selection of seeds to appropriate dosage of fertilizers and pesticides needed for specific crops grown in the area. These decisions must be taken on the basis of the reflections in the Soil Health Card. The FPO can also focus on transforming the farmer from being a crop-producer to being a businessman. This is possible by orienting the farmers to look at market linkages in a different light.

- Custom Hiring Centers and input shops: Supply of quality preproduction and production inputs, planting materials, machinery, and technology may be made available through common service centers.

- Credit linkage: The FPO can be the change-bringing agency by facilitating access to Govt. Schemes: It can also be a potent tool for helping farmers to availing credit support from various central and state government schemes.

- Introducing seeds of high yield variety: The interventions can also be planned around making seeds of high crop production easily available at reasonable prices. This will boost yields and help to better the lot of farmers.

- Value addition and processing: Setting up of common Farmer Service Centers along with facilities of primary processing, packaging & logistics. In addition, secondary processing units may also be planned to be established.

- Market linkage and market information: The FPO can create strong and reliable marketing environment linkages with corporate buyers, processors and exporters.

- Intensive Information Dissemination: Efforts to harness technological advances in climate science, remote sensing technologies and ICT with a view to develop early warning systems are needed. The effectiveness of instruments for pooling, sharing and transfer of risks,

enhancing the coping capabilities of the farmers and other mitigation measures will also go a long way in guarding the interest of farmers.

Scope for Convergence

Several programs and schemes being offered by the Central and State Governments in order to support and strengthen the agriculture sector and FPOs like equity grant, Credit Guarantee scheme, *Pradhan Mantri Kisan Sampada Yojana* (PMKSY), MIDH, Scheme for Fund for Regeneration for Traditional Industries (SFURTI), etc. Identify the suitable scheme and converge for better outcome leveraging the financial outlay.

NATIONAL AGRICULTURE INFRASTRUCTURE FUND

The DA&FW has formulated the Central Sector Scheme to mobilize a medium- long-term debt financing facility for investment in viable projects relating to postharvest management Infrastructure and community farming assets through incentives and financial support. Credit guarantee coverage will be available for eligible borrowers from this financing facility under the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme for loans up to ₹ 2 crore. The fee for this coverage will be paid by the Government. In case of FPOs the credit guarantee may be availed from the facility created under FPO promotion scheme of DA&FW.

All loans under this financing facility will have interest subvention of 3% per annum up to a limit of ₹ 2 crore. This subvention will be available for a maximum period of 7 years. In case of loans beyond ₹ 2 crore, then interest subvention will be limited up to ₹ 2 crore. The extent and percentage of funding to private entrepreneurs out of the total financing facility may be fixed by the National Monitoring Committee. The Scheme will be operational from 2020-21 to 2032-33, i.e., for a span of 10 years. Loan disbursement under the scheme will complete in six years.

The National Agriculture Infrastructure Fund stands to benefit the following entities:

Under the scheme Rs One Lakh Crore will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), Self Help Group (SHG), Farmers, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Start-ups, Aggregation Infrastructure Providers and Central/State agency or Local Body sponsored Public Private Partnership Project.

Objective:

The key objective of the Agriculture Infrastructure Fund (AIF) is to provide financial support for agriculture entrepreneurs in order to improve agriculture infrastructure in the country.

Eligibility Criteria:

The following is a list of eligible beneficiaries of this scheme:

- Agricultural Produce Market Committee
- Agri-Entrepreneur
- Central sponsored Public-Private Partnership Project
- Farmer
- Farmer Producers Organization
- Federation of Farmer Produce Organizations
- Joint Liability Groups
- Local Body sponsored Public-Private Partnership Project
- Marketing Cooperative Society
- Multipurpose Cooperative Society
- National Federations of Cooperatives
- Primary Agricultural Credit Society
- Self Help Group
- Federations of Self-Help Groups
- Start-Up
- State Agencies
- State Federations of Cooperatives
- State sponsored Public-Private Partnership Project

CREDIT GUARANTEE FUND SCHEME (CFG SCHEME)

The Credit Guarantee Fund Scheme is a Central Sector Scheme. As per this scheme a Credit Guarantee Fund has been set up. The primary objective of this fund is to provide a Credit Guarantee Cover to Eligible Lending Institutions (ELI's) which are providing collateral free loans to Farmer Producer Companies (FPCs).The CGF shall be operated by Small Farmer's AgriBusiness Consortium (SFAC) through lending institutions.

Objectives:

- The following are the objectives of the Credit Guarantee Fund:
- To provide protection to ELI's by extending credit guarantee and covering their lending risks up to Rs 100 lakhs.
- To enable FPC to get collateral free loan by providing credit guarantee to ELI's

Eligibility Criteria:

- The following is the eligibility criteria to avail the CGF:
- The FPC must be a duly registered one, under Part IXA of the Indian Companies Act, 1956.
- It must have raised equity from its members as laid down in its Articles of Association/Bye laws.
- The number of its individual shareholders shall not be lower than 500.
- Minimum 33% of its shareholders are small, marginal, and landless tenant farmers
- Maximum shareholding by any one member other than an Institutional member is not more than 5% of total equity of the FPC.
- It must have a duly elected/nominated Board with a minimum of five members, having adequate representation from farmers and minimum one, woman member.
- It must have a business plan and a budget for 18 months.

EQUITY GRANT SCHEME

The Equity Grant Scheme extends support to the equity base of Farmer Producer Companies (FPCs) by providing matching equity grants subject to maximum of Rs 15.00 lakh per FPC in two parts within a period of 3 years. The implementing agency of this scheme is Small Farmers Agri Business Consortium (SFAC). Equity Grant shall be a cash infusion equivalent to the amount of shareholder equity in the FPC subject to a cap of Rs 10 lakhs per FPC. It also aims to address nascent and emerging FPCs which have paid up capital not exceeding Rs 30.00 lakh.

Objectives:

The following are the primary objectives of the Equity Grant Scheme:

- Enhancing viability and sustainability of FPCs
- Enhancing creditworthiness of FPCs
- Enhancing the shareholding of members to increase their ownership and participation in their FPC

Eligibility Criteria:

- An FPC shall be eligible to apply for Equity Grant under the Scheme if it fulfils the following criteria:
- It is a duly registered FPC under Part IX A of the Indian Companies Act, 1956 and incorporated with the Registrar of Companies (RoC).
- It has raised equity from its members as laid down in its Articles of Association.
- The number of its individual shareholders is not lower than 50.
- It has paid up equity does not exceed Rs 30 lakhs.
- Minimum 33% of its shareholders are small marginal and landless tenant farmers as defined by the Agriculture Census carried out periodically by the Ministry of Agriculture, Government of India.
- Maximum shareholding by any one member is not more than 5% of total equity of the FPC.
- Maximum shareholding of an Institutional Member is not more than 10% of total equity of the FPC.
- It has a duly elected Board of Directors (BoD) with a minimum of five members, with adequate representation from member farmers and minimum one-woman member.
- It has a duly constituted Management Committee responsible for the business of the FPC.
- It has a business plan and budget for next 18 months that is based on a sustainable revenue model as may be determined by the implementing Agency.
- It has an account with a ‘Bank’.

- It has a Statement of Accounts duly audited by a Chartered Accountant (CA).

NABKISAN FINANCE LIMITED (NKFL)

NABKISAN Finance Limited (NKFL) (formerly 'Agri Development Finance (Tamil Nadu) Limited') was incorporated under the Companies Act, 1956 on 14.02.1997. NKFL is a subsidiary of National Bank for Agriculture and Rural Development (NABARD) with equity participation from NABARD, Govt. of Tamil Nadu, Indian Bank, Indian Overseas Bank, Tamilnad Mercantile Bank, Canara Bank, ICICI Bank, Federal Bank, Lakshmi Vilas Bank and a few Corporates / Individuals. The company is notified as a Non-Banking Finance Company (NBFC) by RBI.

Objective:

The main objective of the company is to provide credit for promotion, expansion and commercialization of enterprises in agriculture, allied and rural non-farm activities. NKFL is providing support for livelihood/income-generating activities by extending credit to *Panchayat* Level Federations, Trusts, Societies and Section 25 companies/ MFIs for on-lending to its member SHGs/ JLGs. As a corollary to this objective, NABKISAN has devised new financial products for Farmers' Producers' Organizations (FPOs) and has emerged as the biggest lender in the FPO ecosystem.

The Nabkisan Finance limited presently operates in 22 states, viz., Andhra Pradesh, Assam, Bihar, Chattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, and West Bengal.

Eligibility Criteria:

- Start-up POs
- FPOs existing for 1-2 years with at least one audited balance sheet for a financial year.
- The PO should fall under "A+', 'A' or 'B' Category of POs based on NABKISAN rating tool
- Matured FPOs
- FPOs which have been in existence for more than 2 years from date of incorporation & turnover more than Rs 25 lakhs in the preceding year or average of preceding three years.

- The PO should fall under “A+’, ‘A’ or ‘B’ Category of POs based on NABKISAN rating tool
- High Potential POs
- FPOs whose age is more than 2 years from date of incorporation, turnover in excess of Rs100 lakh in the preceding year or average of preceding three years, no accumulated losses and good credit history
- Loan against e-NWRs
- FPO incorporated at least six months prior to submission of application having one audited balance sheet and falling under A+, A or B grade of NABKISAN rating tool.

PM KISAN FPO YOJANA

The PM *Kisan* FPO *Yojana* came into existence back in 2019. This was implemented so that marginal farmers and small farmers directly get help from Central Government rather than from any moneylender. Eligible farmers have to form a group of 11 interested farmers to be able to bring all the utilities for their agriculture business fast. As soon as an FPO will be formed by 11 farmers it will come under the Companies Act. Any FPO which will be formed under this Scheme will act as a company and will get all the benefits that a company gets. The formed Farmer Producer Organization will get 15 lakh rupees to start their business. This group of 11 farmers will work as FPO/FPC for other small and marginal farmers and can act as an aggregator for its member and sell through e-trading as one/multiple lot depending upon requirement. The entire payment will be credited directly to the bank account of FPO/FPC, which it can distribute among its members.

Objective:

The main objective of this organization is to provide all possible help to the farmers because small farmers do not get government assistance in the same way as big farmers do.

Eligibility Criteria:

- The Pradhan Mantri Farmer Producer Committee Scheme is available to Small and Marginal Farmers with the following eligibility:
- Individual should be a farmer by profession.
- Must be an Indian citizen.
- It is important to have 300 farmers under FPO in ground.

- Only 100 farmers under FPO in hilly region.
- Mandatory to be a part of FPO group.
- Must have a cultivable land of his own.

PM KISAN SAMPDA YOJANA

A Central Sector Scheme - SAMPDA (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) was approved by the Cabinet Committee on Economic Affairs (CCEA) in 2016. It was renamed in 2017 as the *Pradhan Mantri Kisan Sampda Yojana* (PMKSY). The scheme was being implemented by the Ministry of Food Processing Industries (MoFPI). The PMKSY was expected to leverage an investment of Rs 31,400 crores for handling of 334 lakh MT agro-produce valued at Rs 1, 04,125 crores. It was slated to benefit 20 lakh farmers and generate 5, 30,500 direct/indirect employment in the country by the year 2019-20. The span for this scheme was intended to be for 4 years from 2016 to 2020. However, to complete the disbursement of the remaining funds, the MoFPI has sent a proposal seeking extension of this scheme.

A comprehensive package aimed at creating modern infrastructure with efficient supply chain management from farm gate to retail outlet, the PMKSY intends to provide a big boost to the growth of the food processing sector in the country. It is also meant to help in providing better returns to farmers and is a big step towards doubling of farmers' income, creating huge employment opportunities especially in the rural areas, reducing wastage of agricultural produce, increasing the processing level and enhancing the export of the processed foods.

The following have benefited from implementation of the PM Kisan SAMPDA Yojana:

Mega Food Parks, Integrated Cold Chain and Value Addition Infrastructure, Creation/Expansion of Food Processing/Preservation Capacities (Unit Scheme), Infrastructure for Agro-processing Clusters, Creation of Backward and Forward Linkages, Human Resources and Institutions.

Objectives:

- Creation of modern infrastructure for food processing mega food parks/clusters and individual units
- To create effective backward and forward linkages - linking farmers, processors and markets
- To create robust supply chain infrastructure for perishables

Eligibility Criteria:

The eligibility criteria vary in case of every category of beneficiary.

SAMUNNATI

Samunnati is an agri value chain solutions provider that enables growth in the value chain of the agricultural ecosystem. It is a Non-Banking Financial Company working with more than 500+ FPOs in 16 States across the country. It offers holistic, customised financial and non-financial solutions to agriculture and allied value chain players without taking any collaterals or mortgages. Samunnati works with various value chain players ranging from Farmer Producer Organizations at the supply side and Agri Enterprises such as traders, processors, exporters, processors, input supply chain players, etc. at the demand side of the value chain. It enables FPOs with aggregation, market linkages and offers advisory services to scale their business faster. The payment is directly debited to the account of the FPO and credited to the account of the suppliers or service provider.

NATIONALISED BANKS

Several banks are also contributing their bit to the PM's FPO Movement by extending several special schemes and loan provisions to FPOs related to agriculture and allied activities. These include- Bank of India, Union Bank of India, Bank of Baroda and Central Bank of India. The eligibility criteria are simple and the many FPOs/FPCs are benefitting from these schemes.

The details the various loan schemes by Nationalised banks are as given below:

Nationalised Bank Finance Schemes for FPOs: -

Union Bank of India	
Objectives	To meet the credit requirements of the Farmer Producer Companies /Organizations in the form of term loans to create an assets and Working capital loan to meet the recurring expenditure.
Nature of Limit	Term loans for investment purpose Working capital. Composite loan comprising of both working capital and term

	loan requirements.
Eligibility Criteria	Farmer Producer Companies/Organizations shall be registered under legal provisions i.e., Cooperatives, Producer Companies, Farmer Producer Companies, Societies and Trust. Members and stake holder of the FPCs/FPOs shall be farmers, milk producers, fishermen, weavers, rural artisans, craftsmen and institutions of primary producers. The productive land under an FPC/FPO shall be around 500 to 4000 ha. The minimum number of farmer producers in FPC is 500. FPC/FPO with six months of active operations from the date of registration minimum capital of Rs 5.00 lakh, positive net worth and one audited balance sheet In case of FPCs/FPOs eligible for Equity Grant and Credit Guarantee Scheme, SFAC guidelines issued on the scheme to be followed.
Loan Amount	Maximum loan amount under financing per FPC/FPO is Rs 1.00 Crore.
Third Party Guarantee	As per bank's existing guidelines.
Margin	Term loan: Minimum 15%. Cash credit: Minimum 20%.
Security	Primary Security: - Hypothecation of assets created out of bank finance Collateral Security: - No collateral security shall be obtained in case the loans are covered under credit guarantee scheme implemented by SFAC. - In all other cases, branches to obtain Minimum 100%

	collateral security.
Interest Rate	Loans up to Rs 50000/- MCLR+ 0.10% Loans above Rs 50000/- up to Rs 2.00 lakhs MCLR+ 0.65% Loans above Rs 2 lacs up to Rs 3.00 lakhs MCLR+ 1.90% Loans above Rs 3.00 lakhs to Rs 5.00 lakhs MCLR+ 1.00 % Loans above Rs 5.00 lakhs to Rs 25.00 lakhs MCLR+ 1. 3 5 % Loans above Rs 25.00 lakhs to Rs 1 crore MCLR+ 2. 9 0 %
Repayments	Term Loan: Repayment period maximum up to 7 years (including the moratorium period of maximum 12 months) Working Capital:12 months subject to renewal annually.
Central Bank of India	
Objectives	Collectivization of Farmer Producer Organization (FPOs) has emerged as a potential tool to transform Indian agriculture into a sustainable business by taking advantage of the scale by aggregation of input, demand, produce aggregation and collective marketing, and value addition, thus realizing the optimal returns for their produce.
Nature of Limit	Term Loan/Cash Credit/OD Book Debts against receivables Non-Fund Based (NFB) Limits- Bank Guarantee (BG)
Eligibility Criteria	Farmer Producer Organizations (FPOs)/Farmer producer Companies (FPCs)
Loan Amount	Farm Credit- Corporate Farmers- (FPOs/FPCs) up to Rs 5.00 Crores
Third Party Guarantee	As per bank's existing guidelines.
Margin	Term Loan/CC/BGs- 25% OD Book Debts- 40%
Security	✓ Primary Security:

	- Hypothecation of Stock/Book Debts/plants &machineries. EM on land and Building ✓ Collateral Security: - Up to Rs 2 Crore-NIL - Above Rs 2 Crore- 150% of limit
Interest Rate	✓Up to Rs 3,00,000/- MCLR + 1.35% ✓Above Rs 3.00 lakh to Rs 10.00 lakhs - MCLR + 2.50% ✓Above Rs 10 lakhs up to Rs100 lakhs - MCLR + 3.00% ✓Above Rs 100.00 lakhs - As per rating of borrower
Repayments	CC/OD- To be renewed every year. Term Loan- Max 8years (including max moratorium of 18 months)
Bank of India	
Objectives/ Purpose	Depending upon activities of FPOs the applications may be considered under the schemes which are related to agriculture and allied activities.
Nature of Limit	✓ Term loans for investment purpose ✓ Working capital. ✓ Composite loan comprising of both working capital and term loan requirements.
Eligibility Criteria	Registered Farmer Producer Companies fulfilling eligibility criteria as defined in Section-IXA of the Indian Companies Act, 1956 (including any amendments thereto or re-enactment thereof) and incorporated with the Registrar of Companies (RoC).
Loan Amount	✓ SFAC Scheme for FPC - Maximum up to Rs1.00 crores. ✓ SFAC/NABARD/ NCDC Scheme for FPO– Maximum up to Rs 2.00 crores.
Third Party	As per bank's existing guidelines.

Guarantee	
Margin	✓ Term Loan – Minimum 15 % ✓ Working Capital: Stocks – Minimum 15%. ✓ Book Debts – Minimum 40%. (Cover period – Maximum 90 days)
Security	✓ Primary Security: - Hypothecation / Mortgage of Assets created out of bank finance. The facilities shall be secured by way of first charge on assets created out of bank finance. ✓ Collateral Security: - Not applicable. Guarantee cover from SFAC/NABARD/NCDC is available.
Interest Rate	✓ Crop loan ✓ up to Rs 3 lakh irrespective of other limits (whenever interest subvention is available) - The applicable rate of interest will be 0% over 1 Year MCLR + BSS (security documents will carry this rate only). However, branches should charge interest @7% p.a. up to a limit of Rs3 lakhs till the due date of the crop loan. ✓ Over Rs 3 lakhs up to 10 lakhs - 1 Yr. MCLR + BSS + CRP (1.50%) ✓ Other than Crop Loan: ✓ Aggregate limits up to Rs 3 lakhs - 1 Yr. MCLR+ BSS + CRP (1.20%) ✓ Aggregate limits over Rs 3 lakhs and up to & inclusive of Rs10 lakhs - 1 Yr. MCLR + BSS + CRP (1.50%)
Repayments	Term Loan: Repayable within 3 to 7 years period (including the moratorium period of maximum 12 months) depending upon the purpose of investment, economic life of assets and cash flow of the activity Working Capital:

	Repayable on demand. To be reviewed/ renewed annually.
Bank of Baroda	
Objectives/ Purpose	A loan facility considered for any/few/all the activities depending on the requirement of FPC: ✓ Purchase of Input material for supplying to the farmers ✓ Warehouse receipt finance ✓ Marketing activities ✓ Setting up of common service centres ✓ Setting up of processing centre ✓ Common irrigation facility ✓ Custom purchase/hiring of farm equipment ✓ Purchase of high-tech farming equipment ✓ Other productive purposes – based on submitted investment plan
Nature of Limit	✓ Cash Credit ✓ Term Loan
Eligibility Criteria	✓ All registered farmer producer companies with at least six months of operations since registration. ✓ FPCs applying for collateral-free loan based on a credit guarantee from SFAC under EGCGF shall comply with the eligibility criteria as specified in the EGCGF scheme document.
Loan Amount	✓ Minimum: above Rs 3 lakhs ✓ Maximum loan limit: Rs 1 crore
Third Party Guarantee	As per bank's existing guidelines.
Margin	15% of the loan amount

Security	✓ Hypothecation of structure/equipment/machinery purchased or created out of bank finance. ✓ For credit facilities up to Rs 100 lakhs and CG from SFAC sought- No collateral security required. ✓ For credit facilities without CG from SFAC and credit facilities of more than Rs 100 lakhs – As per bank's policy.
Interest Rate	✓ Limit above Rs 3.00 lakhs and less than Rs 25.00 lakhs - One-year MCLR + SP + 1.25% ✓ Limit above Rs 25.00 lakhs ✓ For Loan period less than -3- years - One-year MCLR+ Strategic premium+2.00% ✓ 3 years & above and up to 5 years - One-year MCLR+ Strategic premium+2.10% ✓ Above 5 years and up to 7 years - One-year MCLR+ Strategic premium+2.15% ✓ Above 7 years and up to 10 years - One-year MCLR+ Strategic premium+1.85% * Additional concession of 0.5% is allowed.
✓ Repayments	✓ For cash credit: 12 months ✓ For Term Loan: Repayable in 3 to 9 years period depending upon the purpose of investment, economic life of asset and cash flow of the activity ✓ Repayment of the term loan can be fixed monthly/quarterly/half-yearly/yearly based on the purpose of loan/cash flow of the FPC

Summary

The large number of challenges being faced by the farmers in the Yavatmal and Wardha Districts of Maharashtra lead to an equally large number of opportunities by way of interventions and convergence. These will help to eliminate the gaps identified as well as aid in developing a value chain in the block.

1. The upcoming FPO can pre-plan trainings in all aspects of farming right from selection of seeds to appropriate dosage of fertilizers and pesticides needed for specific crops grown in the area. These decisions must be taken on the basis of the reflections in the Soil Health Card. The FPO can also focus on transforming the farmer from being a crop-producer to being a businessman. This is possible by orienting the farmers to look at market linkages in a different light.
2. Custom Hiring Centers and input shops
3. Credit linkage
4. The interventions can also be planned around introducing seeds of high & crop production
5. Value addition and processing
6. Market linkage and market information
7. ODOP crop of the block:

Efforts to harness technological advances in climate science, remote sensing technologies and ICT with a view to develop early warning systems are needed. The effectiveness of instruments for pooling, sharing and transfer of risks, enhancing the coping capabilities of the farmers and other mitigation measures will also go a long way in guarding the interest of farmers.

Photographs of Meetings Held with Details

Purpose of meeting, place of meeting (Village, Block, Dist.), date of meeting, names of meeting parties

ANNEXURES

Annexure 1: Questionnaire for Baseline Survey