

BASELINE SURVEY REPORT

Mission Samriddhi FPOs Promotion Project

Sonbhadra



Submitted by

ISAP

Enterprise4Impact

Indian Society of Agribusiness Professionals (ISAP)

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MISSION SAMRIDDHI

Introduction

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 three blocks spanning two states, i.e Sonbhadra in Uttar Pradesh and Wardha and Yavatmal in 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, Maharashtra and *Banwasi Sewa Ashram*, Sonbhadra are also facilitating this project at the grassroots 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 assist in periodical meetings, registration of FPOs, training and capacity-building, linking these bodies 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 a Farmer Producer Organization (FPO) under the Central Sector Scheme, for formation and promotion of 5 FPOs in the Dudhi, Myorpur, Babhani and Chopan Blocks of the Sonbhadra District of Uttar Pradesh.

DISTRICT PROFILE-SONBHADRA

The District of Sonbhadra is the 2nd largest district of Uttar Pradesh. It is popularly known as the 'Energy Capital of India' because of the numerous power plants there. It has the distinction of being the only district in India to share its border with 4 states, i.e. Madhya Pradesh, Chhattisgarh Jharkhand and Bihar.

Population-wise, it ranks 51 in the State. The district lies in the extreme southeast of UP. It is bounded by Mirzapur District, to the northwest, Chandauli District, to the north; Kaimur and Rohtas districts of Bihar, to the northeast; Garhwa District of Jharkhand, to the east; Koriya and Surguja districts of Chhattisgarh, to the south; and Singrauli District of Madhya Pradesh, to the west.

Sonbhadra has an area of 6788 sq km and a population of 1,862,559 as per the 2011 census. The population density of Sonbhadra is 270 persons per sq km, which is much lower than the state average of 829 persons per sq. km.

The district headquarters is in the town of Robertsganj. Sonbhadra District is an industrial zone and has several minerals such as bauxite, limestone, coal, gold etc. There are 18 towns in the district - including 8 census towns, out of which two statutory towns and two census towns have been added after the 2001 census. The percentage share of urban population in the district is 16.9 as against 22.3 of the population in urban areas of the state.

Location:

The district is located between the parallels of 23052' and 25032' North latitudes and 82072' and 83033' East longitudes.

Geography

One third of northern district lies on a plateau, north of the Kaimur Range and is drained by tributaries of the Ganges including the Belan and Karmanasha rivers. South of the steep escarpment of the Kaimur Range is the valley of the Son River,

which flows through the district from west to east. The southern portion of the district is hilly, interspersed with fertile stream valleys.

The Rihand River, which rises to the south in the highlands of Surguja district of Chhattisgarh, flows north to join the Son in the center of the district. The Govind Ballabh Pant Sagar reservoir on the Rihand, lies partly in the district and partly in Madhya Pradesh. East of the Rihand, the Kanhar River, which originates in Chhattisgarh, flows north to join the Son. The district has historic, cultural, and ecological affinities with the Bagelkhand region.

1.4.2 Climate

Sonbhadra has a relatively subtropical climate with high variation between summer and winter temperatures. The average temperature is 30°C–46°C in the summer and 2°C–15°C in the winter. The weather is pleasant in rainy season from July to October.

1.4.3 Ecology

The portion of the district north of the Son River lies in the Lower Gangetic plains moist deciduous forests ecoregion. The southern part of the Son lies in the Chhota Nagpur dry deciduous forests ecoregion.

Kaimur Wildlife Sanctuary lies mostly within the district, reaching generally east and west along the spine of the Kaimur Range, and extending to the Son River at its eastern end.

Physiography:

The physical characteristics of the district vary with respect to landscape. The district presents mostly upland topography. Physiographically, the district is broadly divided into two divisions. The middle *pathari* division covers more than 50% of the area starting from Vindhyan ranges through Kaimur mountain range and up to the Son River.

Under this division 4 *Vikas Khands* namely Robertsganj, Ghorawal, Chatra and Nagwa are located. It is situated above 400 to 1100 feet from Ganga valley level. Many small minors are drained in this division, which joins Karamnasa Chandraprabha and Son rivers.

Another division known as Son Valley is situated in the southern part of the district. *Vikas Khands* namely Chopan, Myorpur, Dudhi and Babhani are located in this valley. Major part of Son Valley is covered with mountain ranges and forests.

Soil:

The agricultural soils in the watershed have diversified texture i.e. clay, silty clay, sand mixed with gravel and loam. These are located in patches throughout the watershed. The four types of soil found in Sonbhadra are, *mar*, *kaber*, *padwa* and

rackad. The heavy soil is almost kept fallow during rainy season. The irrigation water is conveyed in earthen channels and surface irrigation methods, following mainly border method of flooding irrigation by farmers in the watershed. The factors substantially reduce the efficiency of scarce and valuable irrigation water in the watershed.

Red soil is found in the plateau region. The other varieties of soil found in parts of the district include *domat*, *matiyar* and *balui*.

Agriculture and Crop Patterns:

Various agriculture land uses in the watershed are extended to diversified land capabilities starting from marginal to good Class II lands. The watershed distinctly has three types of land i.e. leveled, sloping and degraded and undulating.

Agriculture is practiced on all these soil types, though the productivity considerably varies. The total area in agriculture in the watershed is about 4618 ha, out of which 290.15 is irrigated, while 4312.00 ha is under rainfed agriculture. The water (both for irrigation and drinking) is the scarcest natural resource in the watershed. The operation of tube wells for irrigation of agricultural crops, frequently leads to shortage of drinking water to the farmers.

Rabi and *kharif*, both crops are grown in the district. Under *rabi* crops, wheat, barley, gram, peas and oil seeds are grown; paddy, maize and pulses are grown under *kharif* crops. Sugarcane and vegetables are the main cash crops.

DUDHI

BLOCK PROFILE- DUDHI

The Dudhi Block of Sonbhadra District in Uttar Pradesh has an area of 2,690 sq km. It is part of the Mirzapur Division. The block boundary latitude is 24.22°N 83.25°E and longitudes are 78-5 to 80-6. It is located around 64 km from the District Headquarter (Robertsganj) and around 439 km from the State capital. As per the 2011 Census, the population of Dudhi Block was 159,001, of which 82, 420 were males and 76, 581 were females.

Baseline Survey Findings of Dudhi Block

Demography

Socioeconomic status of respondents

Age of the respondents

Figure 1 shows that most of the farmers (40%) of Dudhi Block were between the age group of 31 and 45 years. 24% of them were between the age group of 46 and 75 years and 24% of them were between 61 and 75 years, whereas only 12% of the farmers were between the age group of 15 and 30 years.

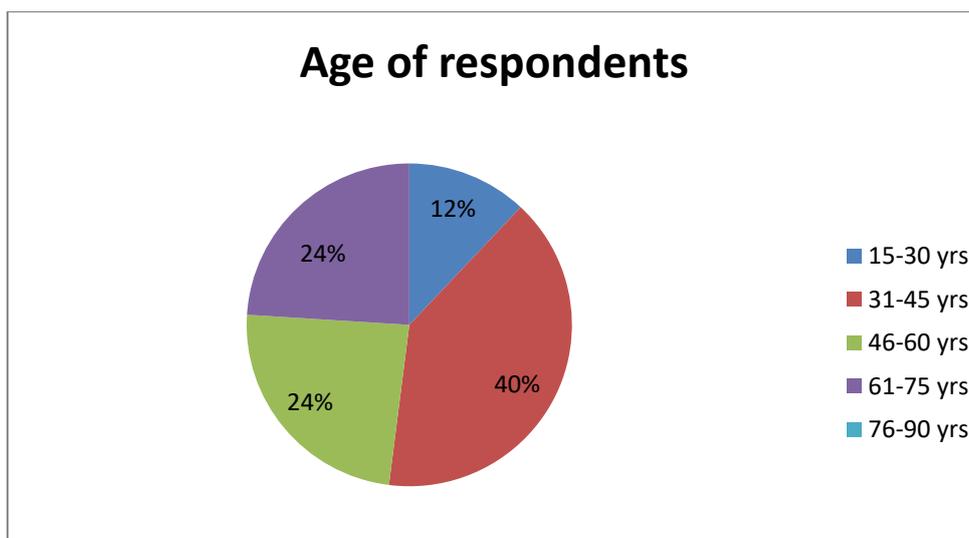


Fig 1: Age of the respondents of Dudhi Block

Category of the respondents

Figure 2 shows that 86% of the respondents of the Dudhi Block were SC/ST. 14% of them were OBC and none of them belonged to the General Category.

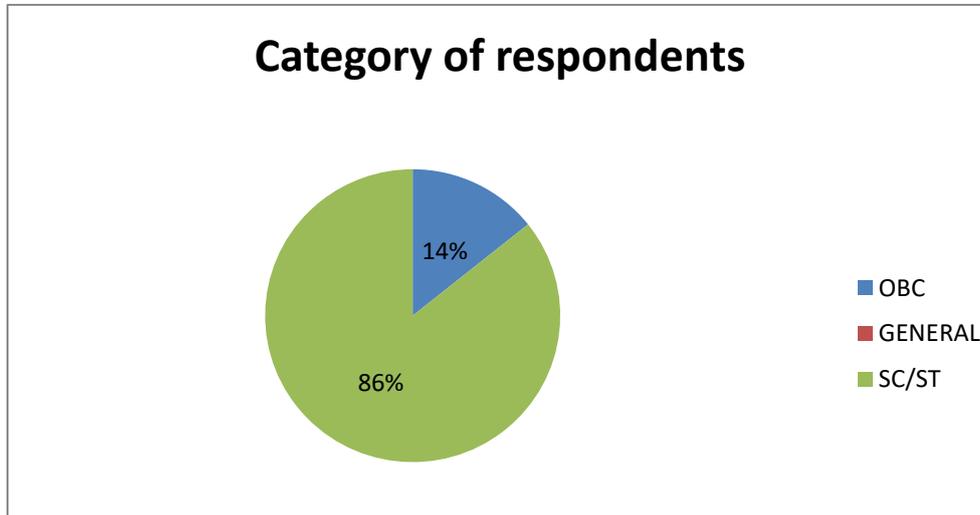


Fig 2: Category of respondents of Dudhi Block

Gender of respondents

According to **Figure 3**, 6% of the respondents were females and the rest were male.

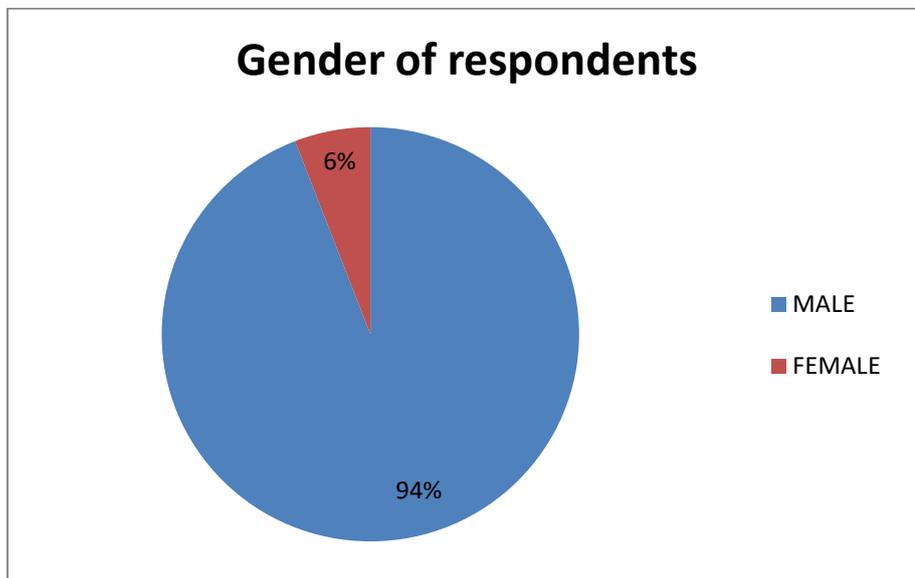


Fig 3: Gender of respondents of Dudhi Block

Educational qualification of respondents

Figure 4 shows that the majority of the respondents (53%) of the Dudhi Block were educated up to Class 8. A total of 28% were illiterate and 10% were educated up to Class 10. Only 9% were graduates and above.

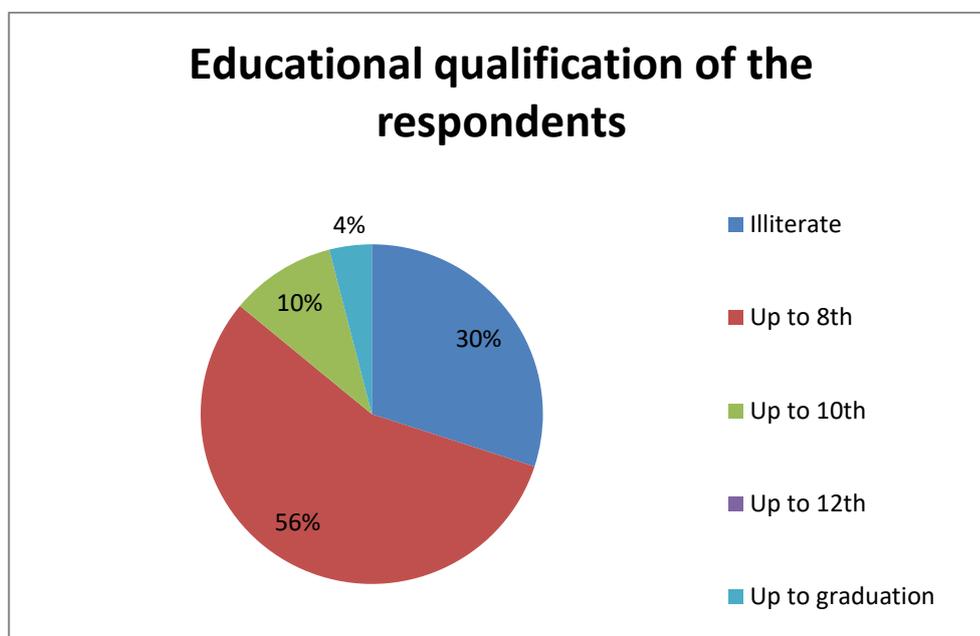


Fig 4: Educational qualifications of the respondents of Dudhi Block

Number of family members

Table 1 shows that the average number of adult members per family of the Dudhi 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 an average, one person in the household is an earning member.

Family members	Average number
Adult	4
Children	3
School-going children	2
Dependent members	1

Table 1: Average number of members in a family in Dudhi Block

Involvement of women in agriculture

100 percent of the families have women involved in agriculture.

Activities performed by women

Figure 5 shows that women of the Dudhi Block are involved in various agricultural activities such as sowing, weeding, harvesting, sorting and grading. Most of the women perform harvesting of crops. 100% of the women of the surveyed area perform harvesting. 88% of the women perform weeding activities. 74% of the women are involved in spray of pesticides. 72% of the females carry out sorting and grading. 40% do some kind of processing. Only 2% women are involved in decision-making of any kind. 2% women are involved only in sowing of crops. 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.

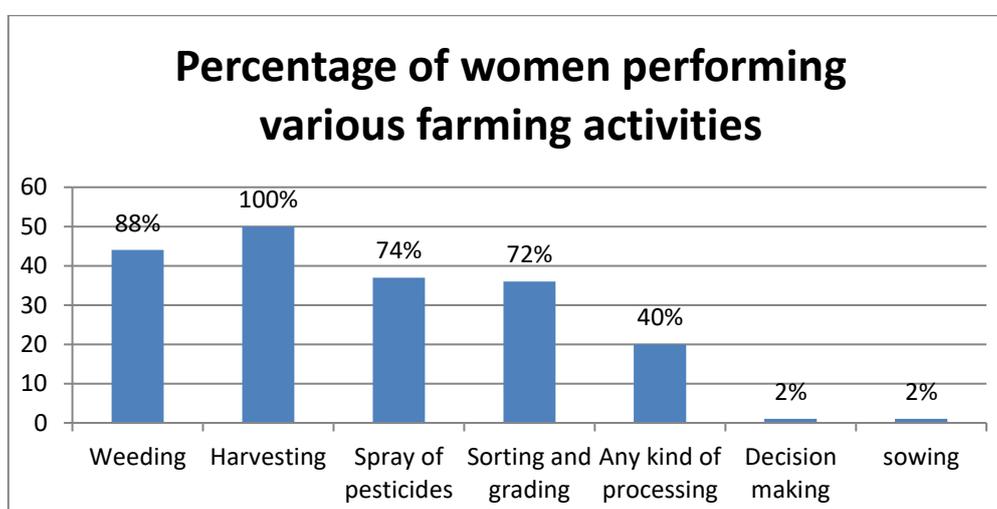


Fig 5: Percentage of farming activities performed by women in Dudhi Block

Annual income of the respondents from farming

Figure 6 shows that around 46% of the respondents had an annual income of less than 25 thousand, 38% of the respondents had an annual income between 25 and 50 thousand. Only 14% of them had an annual income between 50 thousand and 1 lakh. Just 2% of the respondents had annual income between 1 and 1.5 lakh.

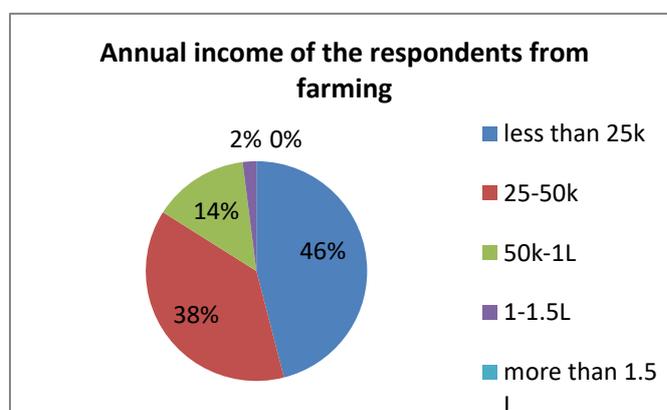


Fig 6: Annual income of the respondents from farming in Dudhi Block

Annual savings from farming

Figure 7 shows that approximately 76% of the respondents had less than 20 thousand as savings from farming. 24% of them had savings between 20 and 50 thousand.

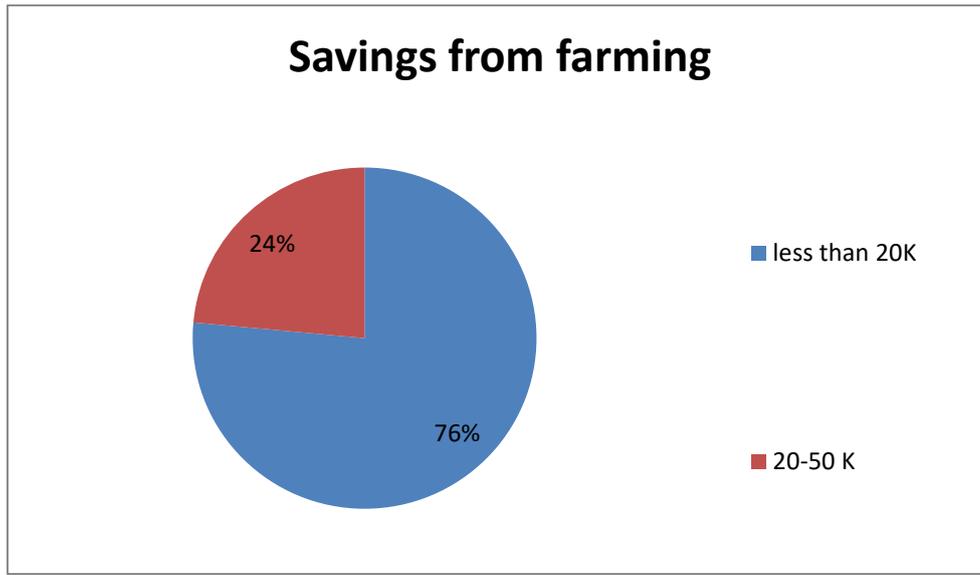


Fig 7: Annual savings from farming in Dudhi Block

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. Others are working as laborers and none of the respondents are involved in government job and petty shops.

Annual Income of the respondents from activities other than farming

Table 2 shows that the average annual income of respondents from working as laborer is Rs 34,000/- and for those working in private jobs it is Rs 95,000/-.

Average income from activities other than farming	
Laborers	Rs 34 thousand
Private jobs	Rs 95 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 5.9 km and the average distance to the *mandi* is 12.9 km from the villages.

Average distance of markets	
Local market	5.9 km
Mandi	12.9 km

Table 3: Average distance of markets in Dudhi 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. 34% of the farmers had 0-2 acres of land. 26% of the farmers had 2.1-4 acres of land. 24% of the farmers had 4.1-6 acres of land and 8% of the respondents had 8.1-10 acres of land. 5% of the respondents had 6.1-8 acres and only 3% of the farmers had more than 10 acres of land.

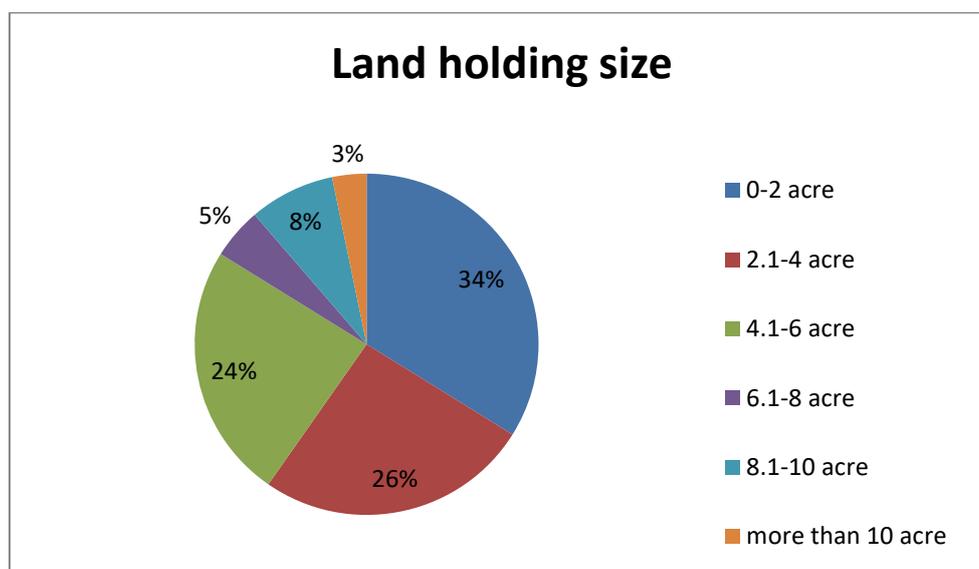


Fig 8: Land holding size of farmers in Dudhi Block

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 9 shows that approximately 94% of the respondents use borewell or minor irrigation techniques. 4% use other techniques and 2% use canal water for irrigation.

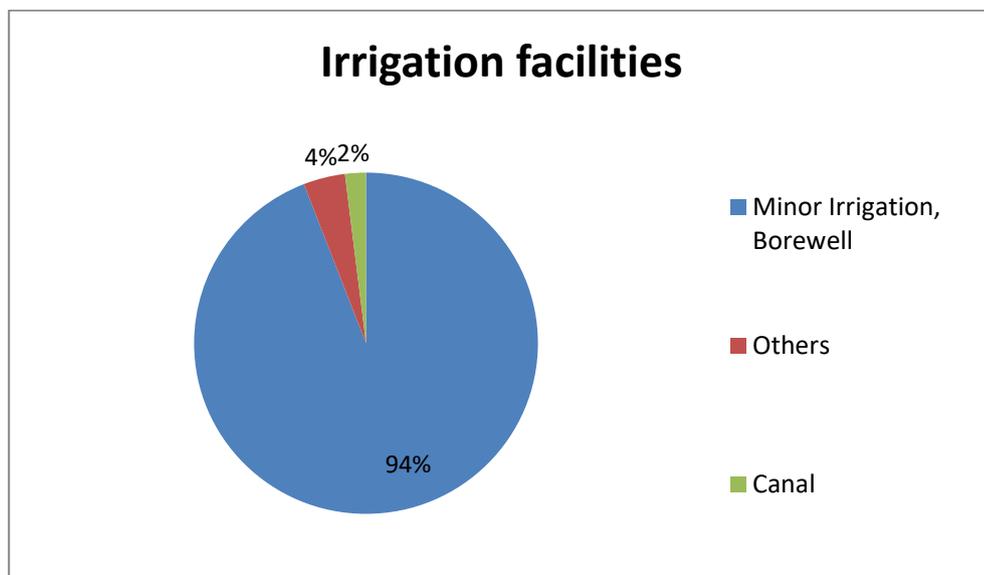


Fig 9: Irrigation Facilities in Dudhi Block

Crop-related information

Cropping pattern

Kharif crops 2020

As reflected in **Table 4**, the major *kharif* crop grown in the surveyed area is rice. Rice was grown in an area of almost 62 acres. The total production amounted to 564 quintals, out of which 283 quintals were sold in the market.

Rice is being sold at ₹900 kg/quintal. Other crops grown in the *kharif* season are sesame, red gram and maize. They were grown in an area of 28 acres. The total production was 434 quintals. 100 quintals were sold in the market at an average rate of ₹1700 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	Rice	62	564	2169	283	900
2	Sesame, Red Gram, Maize	28	434	3945	100	1700

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

Kharif Crop 2018 – Rice

Varieties of Rice grown

Figure 10 shows that almost 22% of the respondents of the Dudhi Block grew the Shankar variety of rice. 35% of the respondents grew Pant 12. About 15% grew Champion while 13% grew the *Desi* variety. 9% 6444 and 2% of them grew Kandhar, Malviya and Sonam in 2018.

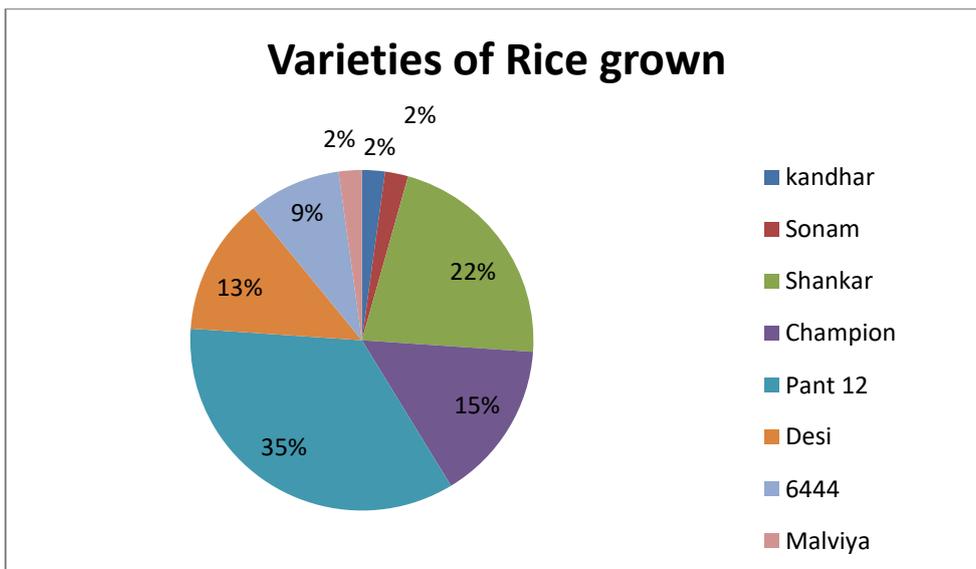


Fig 10: Varieties of Rice grown in 2018 in Dudhi

Total area under cultivation

Figure 11 shows that almost 38% of the respondents in the Dudhi Block had area less than 1 acre of land under cultivation. 36% had between 1 and 1.9 acres of land under cultivation. 13% had between 2 and 2.9 acres of land under cultivation and 11% between 3 and 3.9 acres of land under cultivation. Only 2% had between 4 and 4.9 acres of land under cultivation.

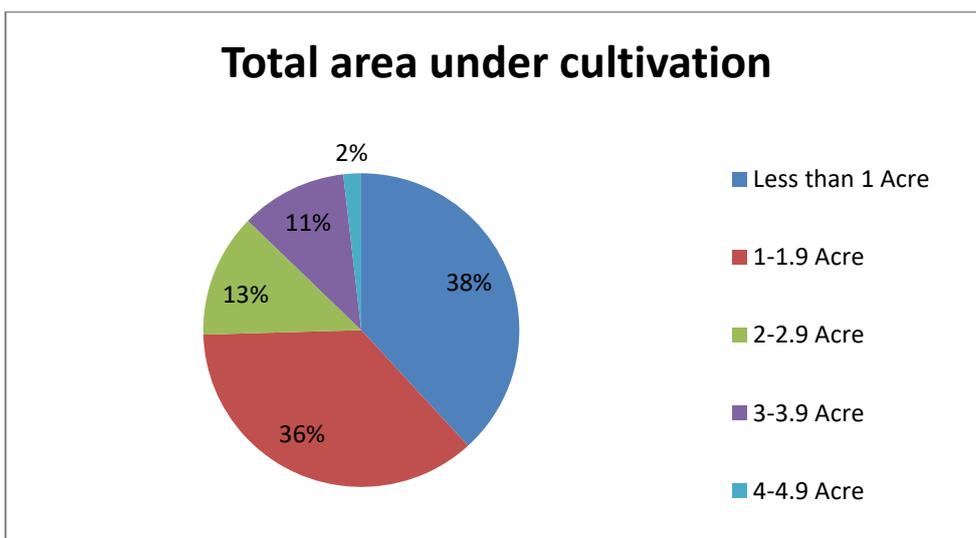


Fig 11: Total area under cultivation in 2018 in Dudhi

Production of Rice

Figure 12 shows that almost 38% of the respondents pegged their production of rice, between 5.1 and 10 tons. 24% produced between 10.1 and 15 tons of rice. 22% of the respondents produced up to 5 tons of rice. 8% of the respondents produced between 15.1 and 20 tons of rice. 6% of the respondents had a production of rice between 20.1 and 25 tons. Only 2% of the total respondents had a production of more than 25 tons of rice.

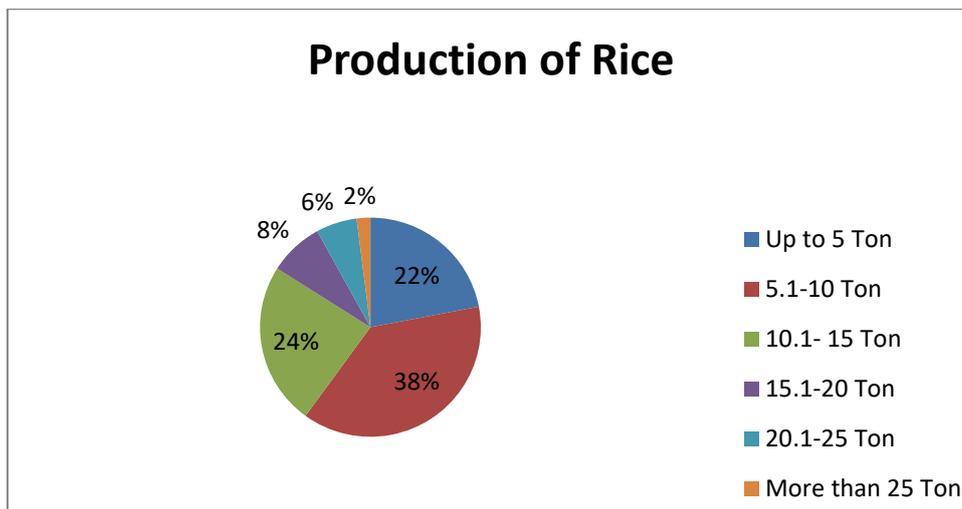


Fig 12: Production of Rice in 2018 in Dudhi

Selling price of Rice

Figure 13 shows that almost 69% respondents sold rice at a SP of Rs 800. 10% sold it for Rs 850, 9% sold it at Rs 700. 7% respondents sold it for Rs 750 and 5% sold it at Rs 900.

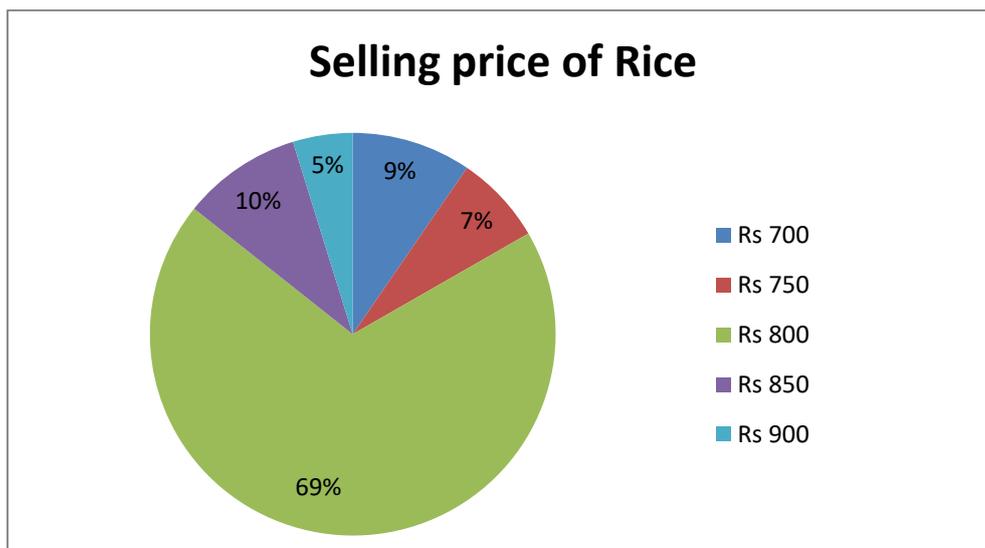


Fig 13: Selling price of rice in 2018 in Dudhi

Kharif Crop 2019 – Rice

Varieties of Rice grown

Figure 14 shows that almost 28% of the respondents grew Pant 12 variety. 19% of the respondents grew Shankar, 15% of them Desi and 13% of the respondents grew Champion. 13% of the respondents grew 6444 and 2% each of Kandhar, Malviya, Sonam and Bhanya.

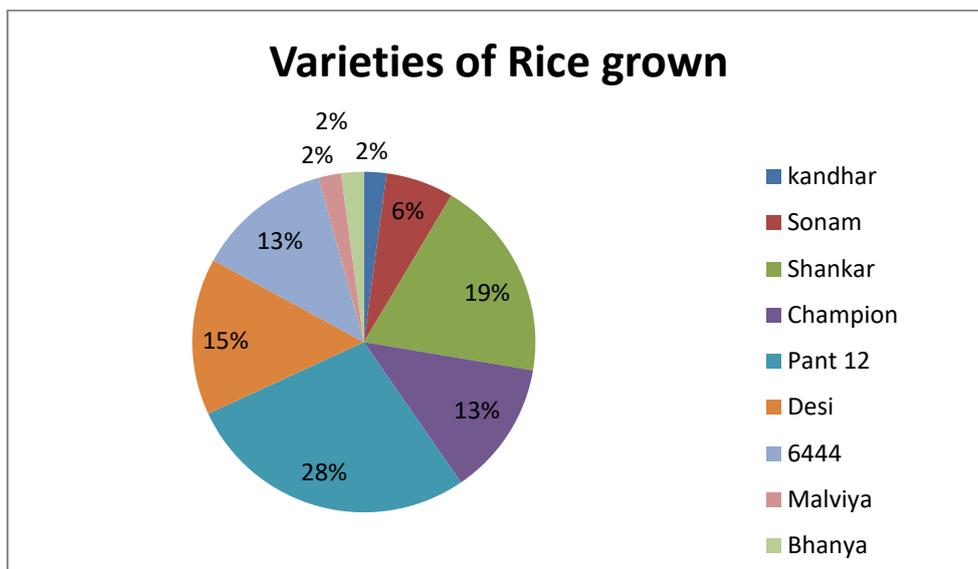


Fig 14: Varieties of Rice grown in 2019 in Dudhi

Total area under cultivation

Figure 15 shows that almost 41% of the respondents cultivated an area of less than 1 acre. 39% cultivated between 1 and 1.9 acres. 12% of the respondents cultivated between 2 and 2.9 acres of land. 6% of the respondents cultivated between 3 and 3.9 acres and only 2% cultivated between 4 and 4.9 acres.

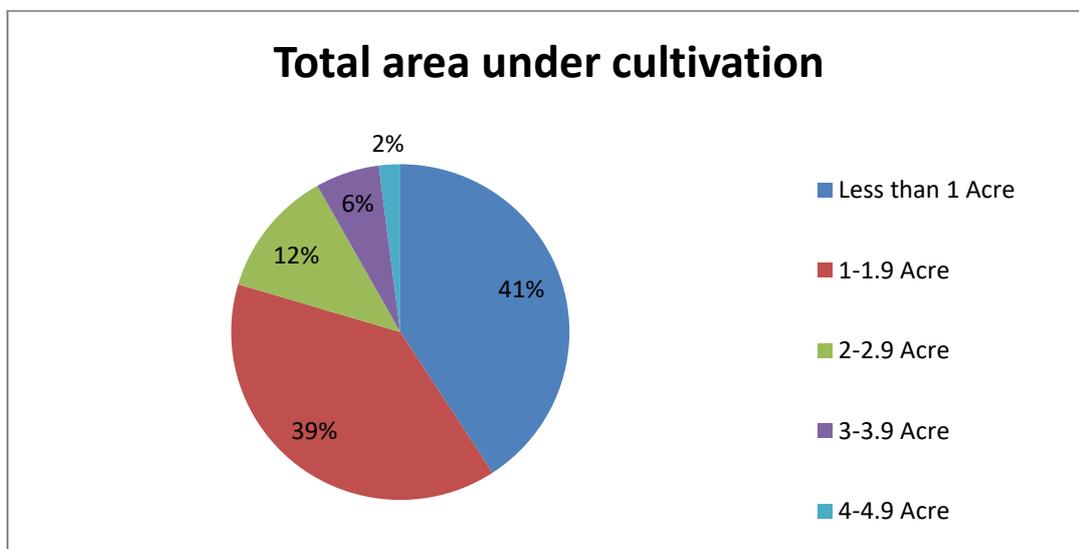


Fig 15: Total area under cultivation in 2019 in Dudhi

Production of Rice

Figure 16 shows that almost 46% respondents had a production between 5.1 and 10 tons. 25% had up to 5 tons, 19% had between 10.1 and 15 tons, 4% had a produce exceeding 25 tons and between 15.1 and 20 tons and only 2% had a production between 20.1 and 25 tons.

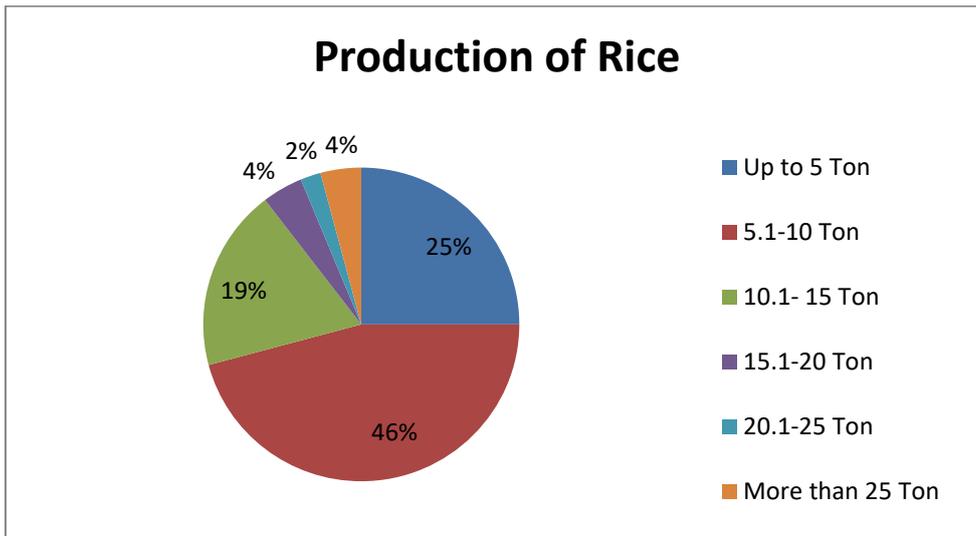


Fig 16: Production of Rice in 2019 in Dudhi

Per quintal selling price of Rice

Figure 17 shows that almost 60% respondents sold rice at a SP of Rs 900. 10% sold it for a SP of Rs 850. 12% sold it at a SP of Rs 800, whereas 7% sold it at a SP of Rs 950. 8% of the respondents sold it at a SP of Rs 1000 and only 3% managed to sell it at a SP of Rs 1200.

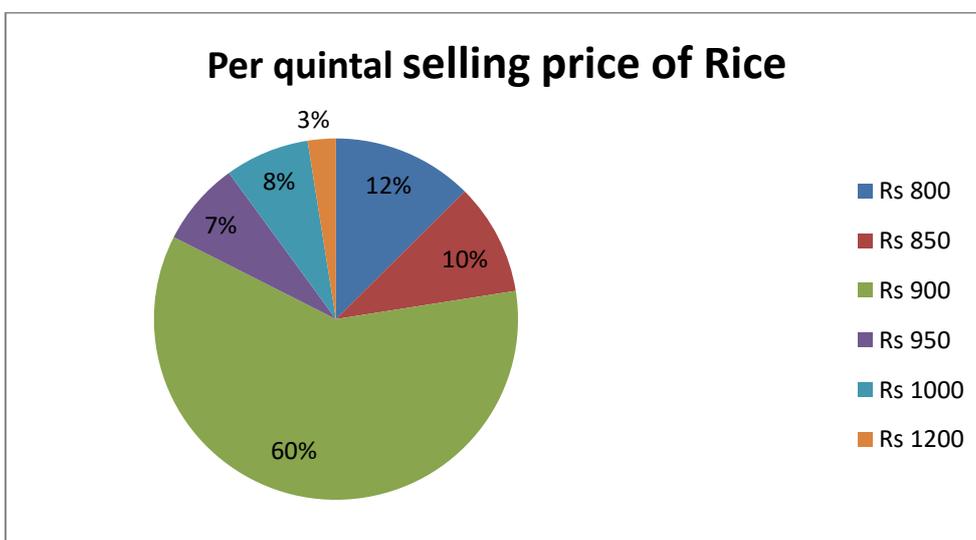


Fig 17: Per quintal selling price of rice in 2019 in Dudhi

Kharif Crop 2020 - Rice

Varieties of Rice grown

Figure 18 shows that almost 25% respondents grew Pant 12 variety. 21% of the respondents grew 6444, 14% grew Desi, 16% grew Shankar, 12% grew Champion and 4% each grew Bayosid and Sonam, whereas 2% each grew Malviya and Gold.

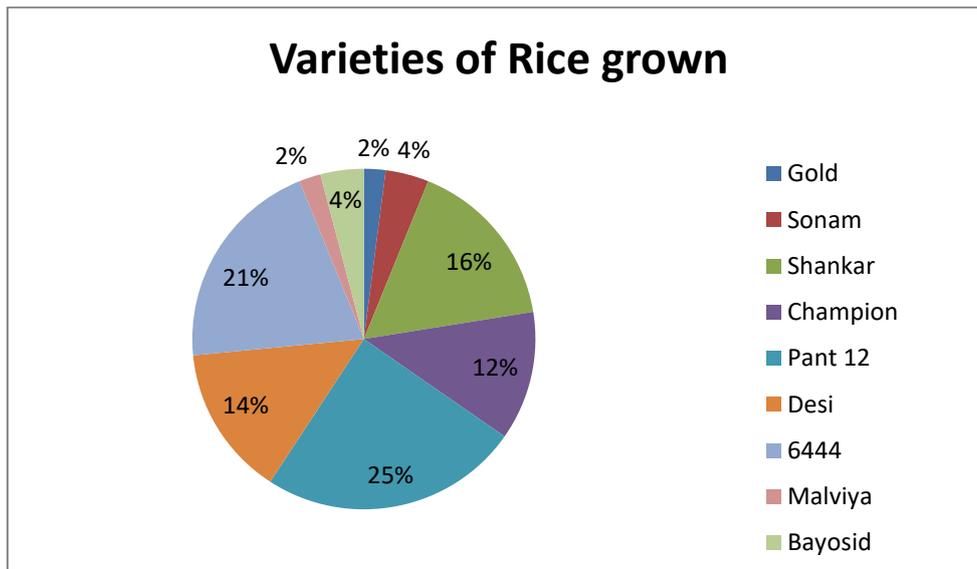


Fig 18: Varieties of Rice grown in 2019 in Dudhi

Total area under cultivation

Figure 19 shows that almost 42% respondents had area less than 1 acre under cultivation. 38% had between 1 and 1.9 acres, 12% had between 2 and 2.9 acres, 6% between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

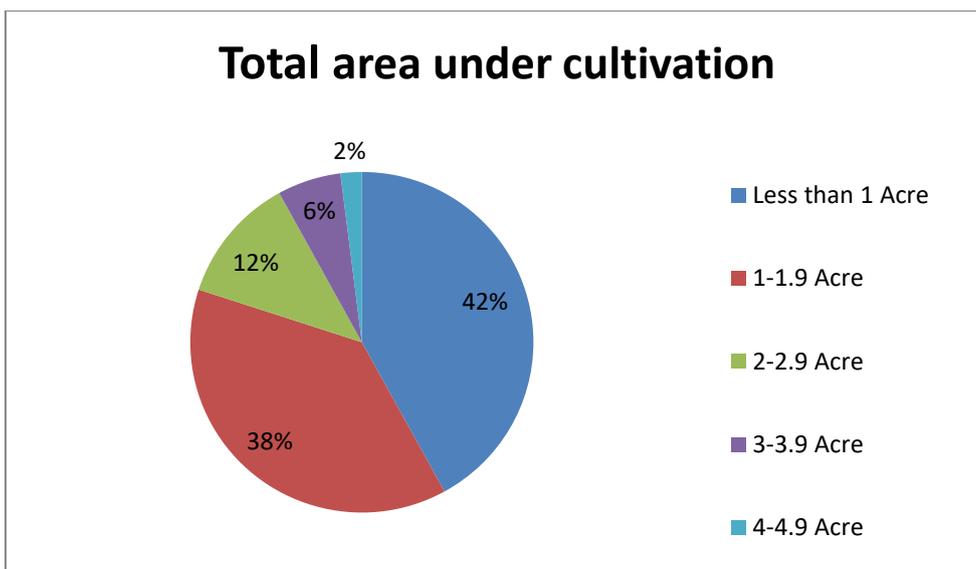


Fig 19: Total area under cultivation in 2019 in Dudhi

Production of Rice

Figure 20 shows that almost 28% of the respondents produced up to 5 tons of rice. The same percentage of respondents produced between 10.1 and 15 tons of rice. 26% of them had up to 5 tons, 10% produced between 15.1 and 20 tons of rice. The production of 6% of the respondents was more than 25 tons, while only 2% produced between 20.1 and 25 tons of rice.

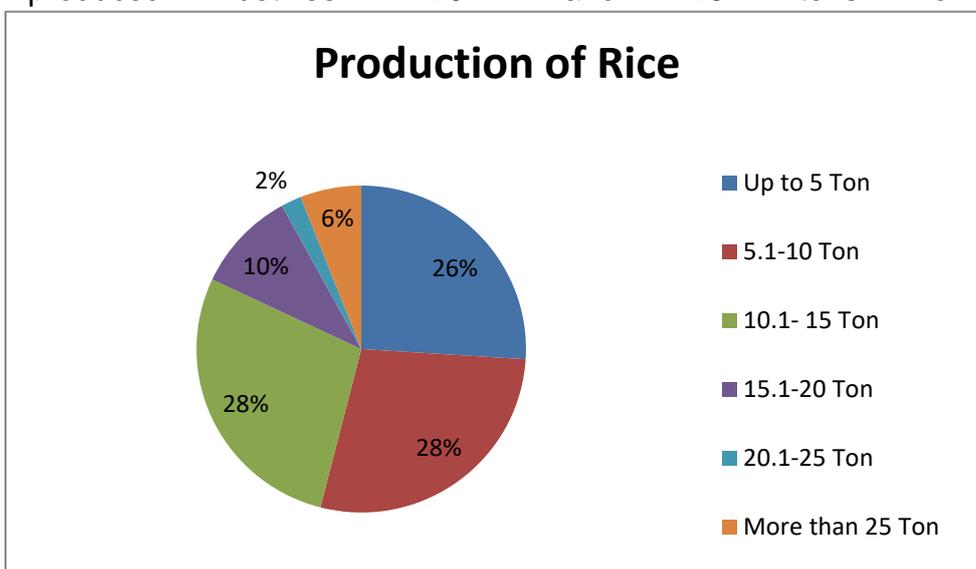


Fig 20: Production of Rice in 2019 in Dudhi

Per quintal selling price of Rice

Figure 21 shows that almost 60% of the respondents sold rice at a price of Rs 900. 10% sold it for Rs 850. 12% of them sold rice at price of Rs 800. 7% of respondents sold rice at Rs 950. Only 8% of them managed to sell rice at a price of Rs 1000 Just 3% of respondents got a handsome price of Rs 1200 of rice.

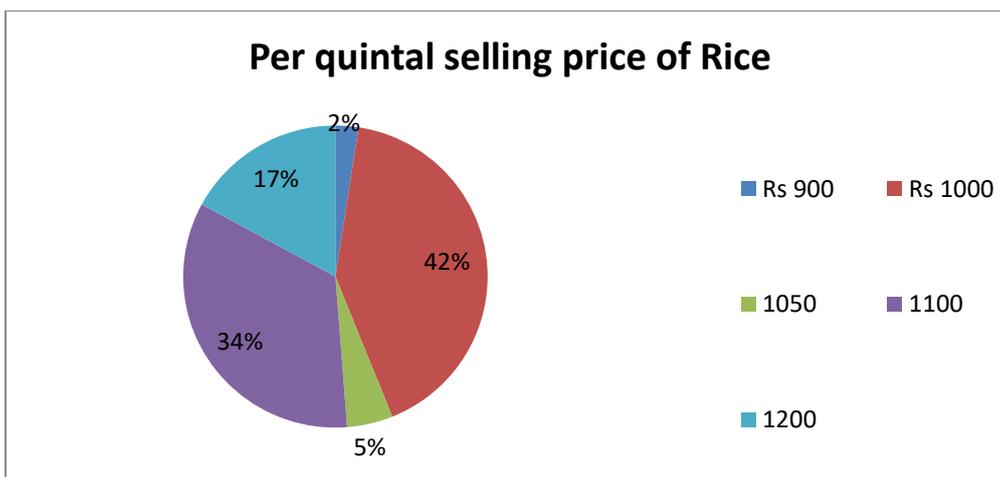


Fig 21: Per quintal selling price of Rice in 2019 in Dudhi

Kharif Crop 2018- Other than Rice

Crops grown in the area other than rice are Sesame, Maize and Red gram.

Varieties of Sesame, Maize and Red gram

Figure 22 shows that almost 88% respondents grew the Desi variety and only 12% grew Shankar.

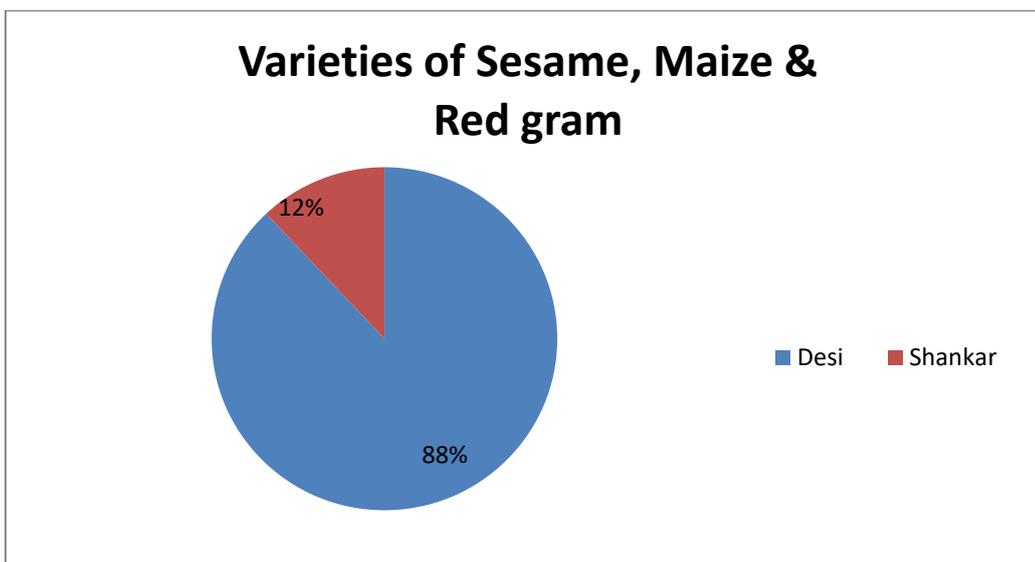


Fig 22: Varieties of Sesame, Maize and Red gram grown in 2018 in Dudhi

Total area under cultivation

Figure 23 shows that almost 78% of the respondents had an area of less than 1 acre under cultivation. 18% had between 1 and 1.9 acres, 4% had between 2 and 2.9 acres and none more than that.

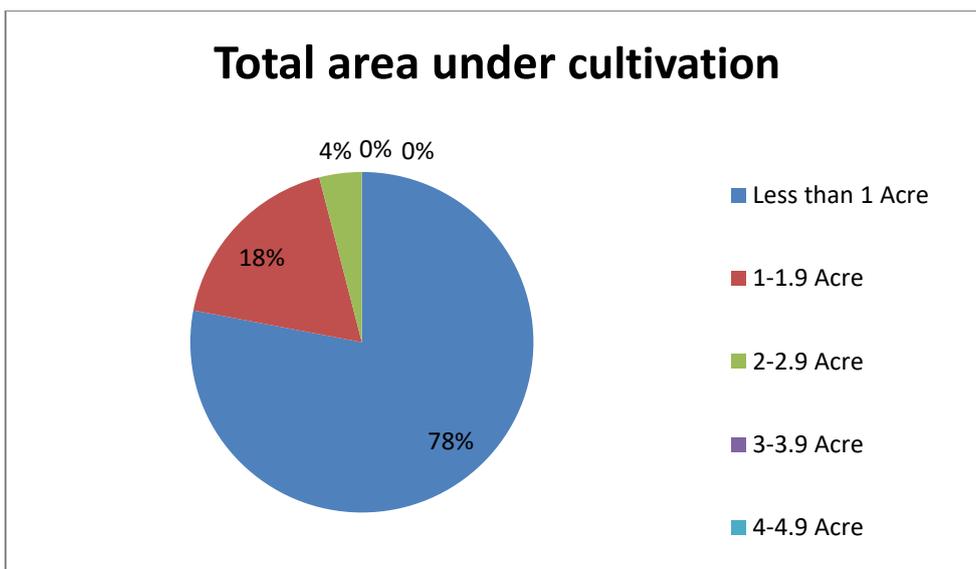


Fig 23: Total area under cultivation in 2018 in Dudhi

Production of Sesame, Maize and Red gram

Figure 24 shows that almost 68% respondents had their production up to 5 tons. 22% had a between 5.1 and 10 tons. 6% produced more than 25 tons and 2% each between 10.1 and 15 tons and 15.1 and 20 tons.

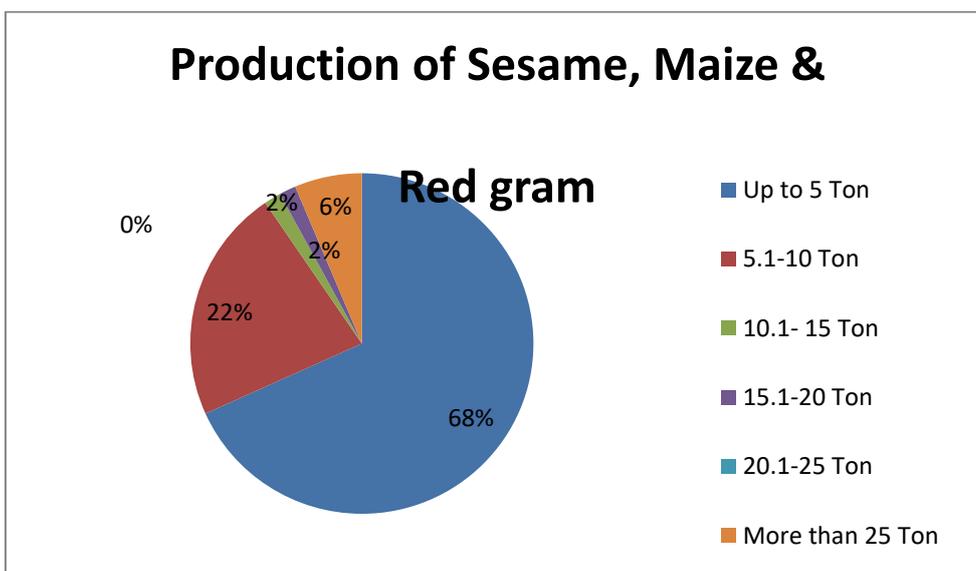


Fig 24: Production of Sesame, Maize and Red gram in 2018 in Dudhi

Per quintal Selling price of Sesame, Maize and Red gram

Figure 25 shows that not all farmers sold their entire produce, some of them kept a certain quantity for their personal use. Almost 47% of the respondents sold crops

at a price less than Rs 100. 25% sold it for Rs 700. 18% of the farmers sold it at a price of Rs 800. 4% of them sold it for a price of Rs 4000. 2% each for Rs 750, Rs 850 and Rs 3000.

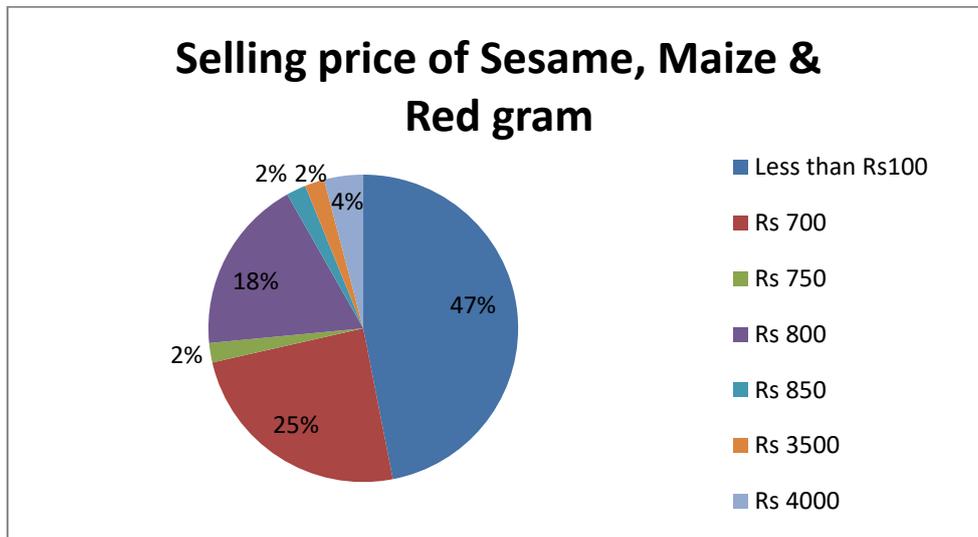


Fig 25: Selling price of Sesame, Maize and Red gram in 2018 in Dudhi

Kharif Crop 2019- Other than Rice

Crops grown in the area other than rice are Sesame, Maize and Red gram.

Varieties of Sesame, Maize and Red gram

Figure 26 shows that almost 96% respondents grew the Desi variety and only 2% used Shankar.

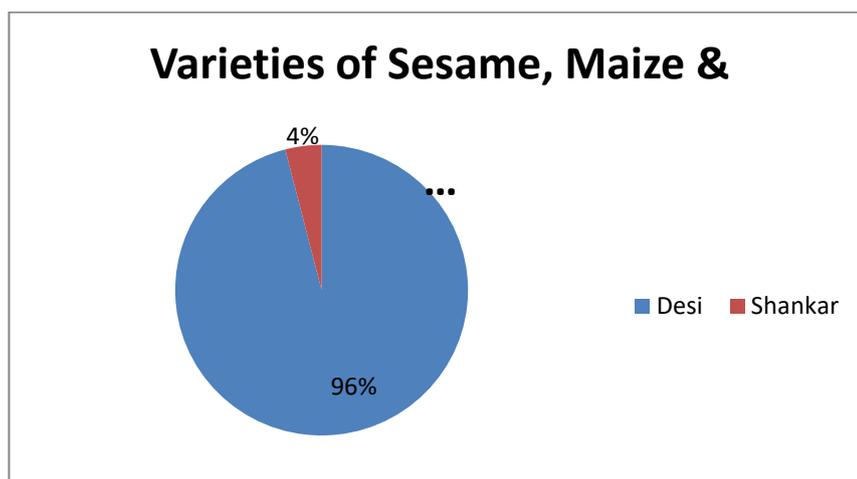


Fig 26: Varieties of Sesame, Maize and Red gram in 2019 in Dudhi

Total area under cultivation

Figure 27 shows that almost 78% of the respondents had an area of less than 1 acre under cultivation. 18% had between 1 and 1.9 acres, 4% had between 2 and 2.9 acre and none more than that.

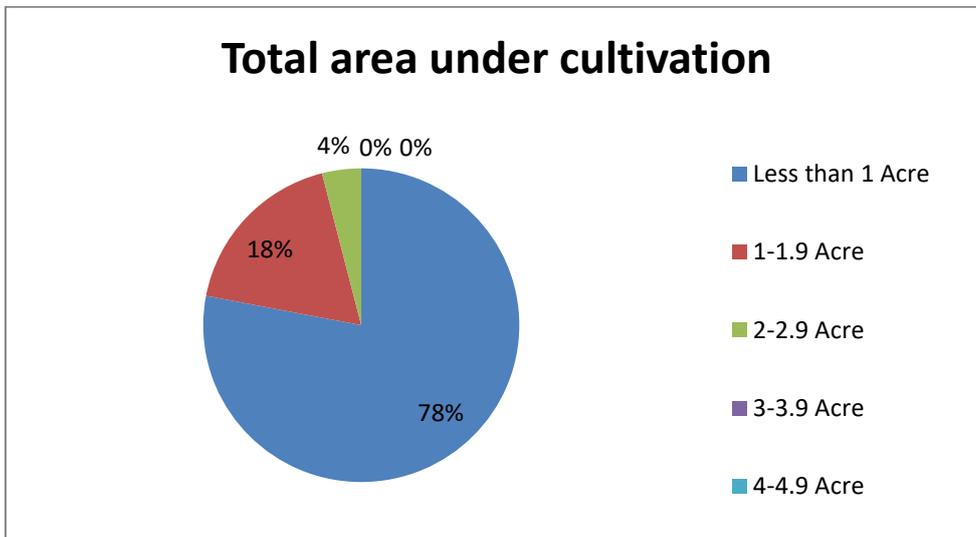


Fig 27: Area under cultivation in 2019 in Dudhi

Production of Sesame, Maize & Red gram

Figure 28 shows that almost 82% respondents had a production up to 5 tons and 4% each between 5.1 and 10 tons and 20.1-25 tons. 8% had produced more than 25 tons and 2% between 10.1 and 15 tons.

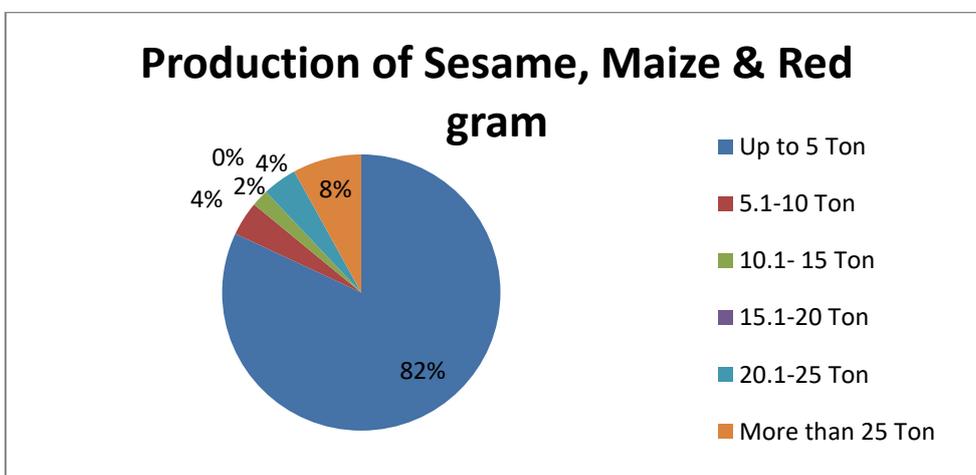


Fig 28: Production of Sesame, Maize and Red gram in 2019 in Dudhi

Per quintal Selling price of Sesame, Maize & Red gram

Figure 29 shows that all the farmers did not sell their produce and kept them for personal consumption. Out of the farmers who sold it, almost 50% respondents sold crops for a SP of less than Rs 100. 20% sold it for Rs 800, 18% of them sold it at Rs 900, 6% for a SP of Rs 750 and 2% each for Rs 4000, Rs 5000 and Rs 6000.

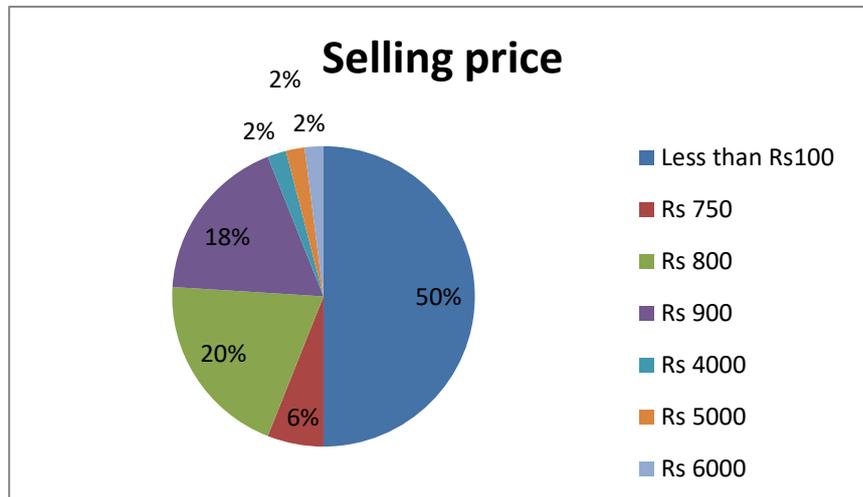


Fig 29: Selling price of Sesame, Maize & Red gram in 2019 in Dudhi

Kharif Crop 2020- Other than Rice

Crops grown in the area other than rice are Sesame, Maize and Red Gram.

Varieties of Sesame, Maize & Red gram

Figure 30 shows that almost 96% of the respondents grew Desi variety and only 2% used Shankar.

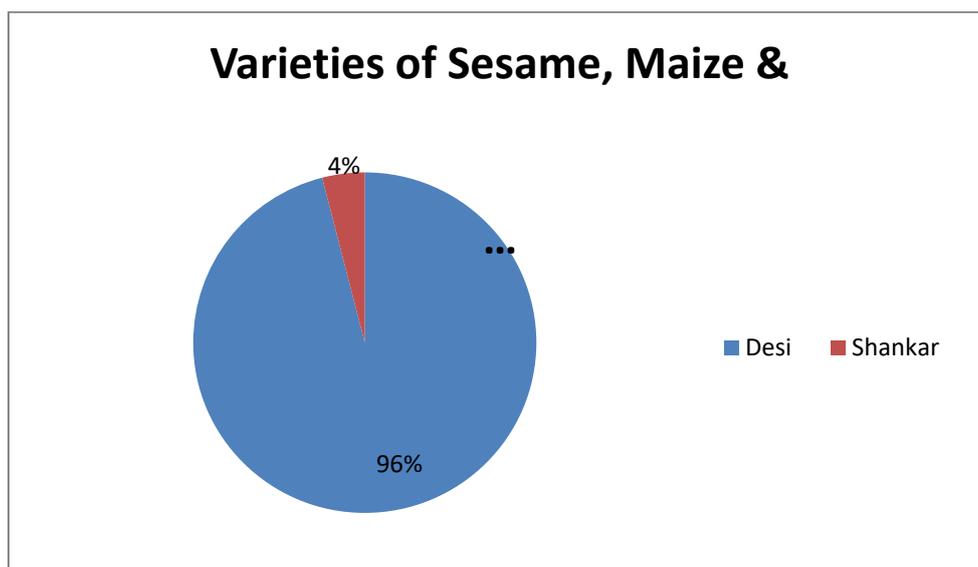


Fig 30: Varieties of Sesame, Maize & Red gram grown in Dudhi in 2020

Total area under cultivation of crops other than Rice in Dudhi

Figure 31 shows that almost 80% of the respondents had an area of less than 1 acre under cultivation. 16% had between 1 and 1.9 acres, 4% had between 2 and 2.9 acres and none more than that.

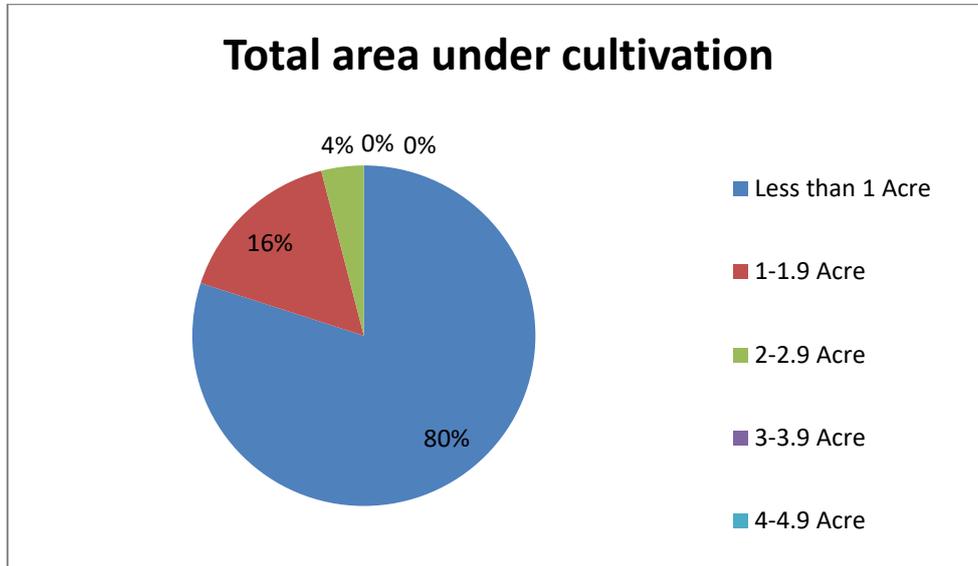


Fig 31: Total area under cultivation of crops other than Rice in Dudhi in 2020

Production of Sesame, Maize and Red gram

Figure 32 shows that almost 82% of the respondents produced up to 5 tons and 4% between 20.1 and 25 tons and 2% of them produced between 5.1 and 10 tons. 12% of the respondents had over 25 tons of produce.

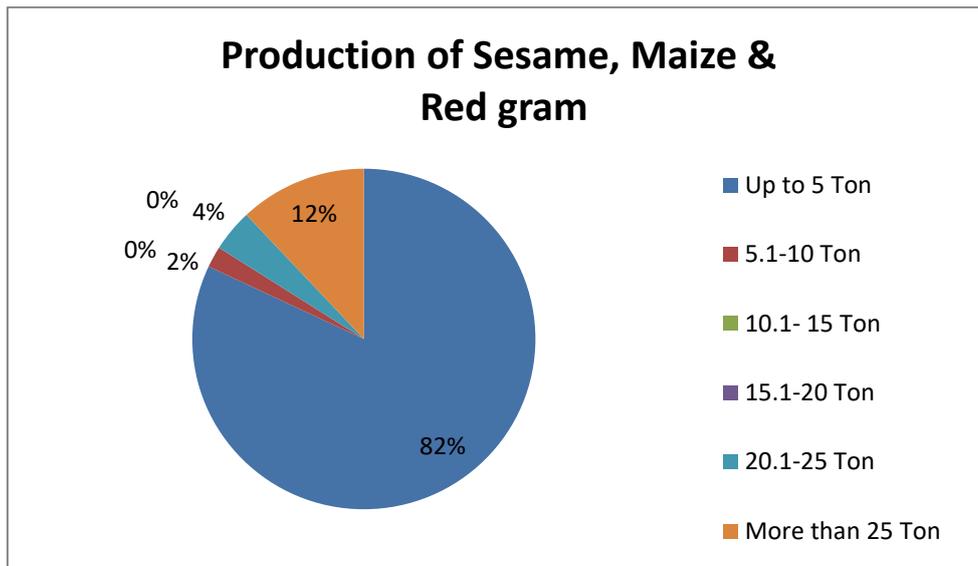


Fig 32: Production of Sesame, Maize and Red gram in Dudhi in 2020

Per quintal selling price of Sesame, Maize and Red gram

Figure 33 shows that some of the farmers did not sell the entire quantity of their produce; some of it was kept for personal use. Almost 52% of the respondents sold crops at a SP of Rs 1000. 18% sold it at Rs 900. 11% of them sold it for less than Rs 100, whereas 7% sold it for a price of Rs 1100 and 4% each sold it at Rs 5000, Rs 6000 and Rs 7000.

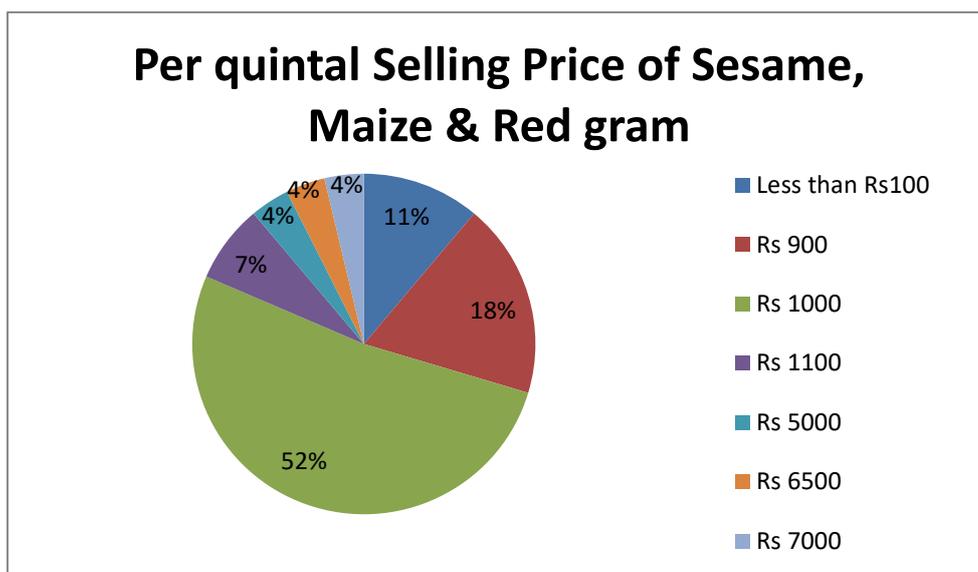


Fig 33: Per quintal selling price of Sesame, Maize and Red gram in Dudhi in 2020

Rabi Crops (2020)

As seen in **Table 5**, the main crop grown during the *rabi* season is wheat. Apart from that, mustard, green gram, red gram and vegetables such as potato, tomato and cabbage were also grown. Wheat was grown in an area of 52 acres. Even though production was 387 quintals, only 200 quintals was sold in the market. Most of the produce was kept for home consumption. Mustard, green gram, red gram and vegetables such as potato, tomato and cabbage were grown in an area of approximately 15 acres. The total production was 553 quintals. Only 219 quintals were sold at an average selling price of Rs 1480 per quintal.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Wheat	52	387	1842	200	1137
2	Mustard, Red gram, Green gram,	15	553	9216	219	1480

	potato, tomato, cabbage					
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Table 5: Crops grown during the Rabi season in Dudhi in 2020

No new crop was cultivated by farmers in the surveyed area. Farmers restricted themselves to cultivating rice and few vegetables and did not risk growing any new crops.

Rabi Crop 2018 - Wheat

Varieties of Wheat grown

Figure 34 shows that almost 94% of the respondents grew Malviya variety of wheat and only 6% grew the Desi variety.

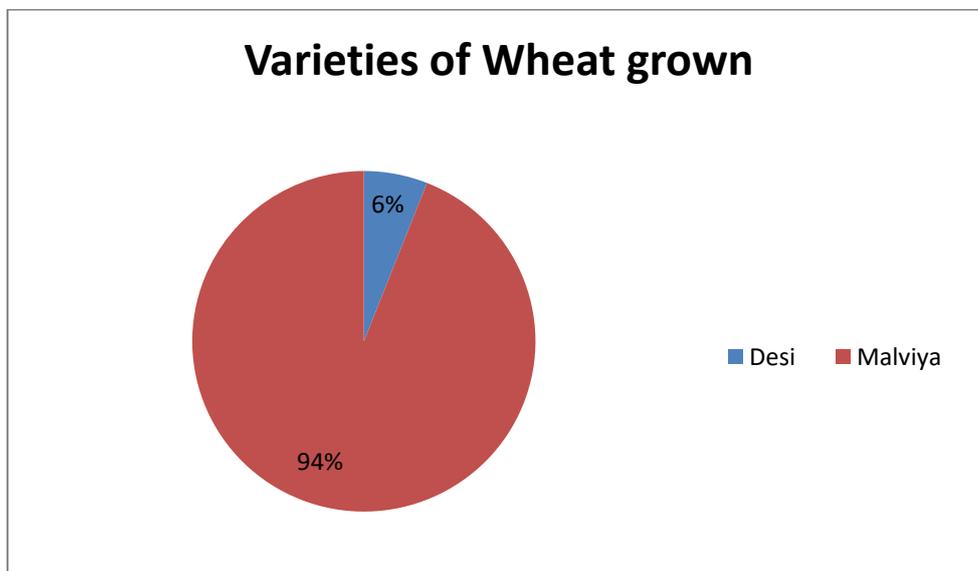


Fig 34: Varieties of Wheat grown in the Rabi season in Dudhi in 2020

Total area under cultivation

Figure 35 shows that almost 46% of the respondents had an area of less than 1 acre under cultivation. 44% had between 1 and 1.9 acres, 8% had between 2 and 2.9 acres. Only 2% had between 4 and 4.9 acres.

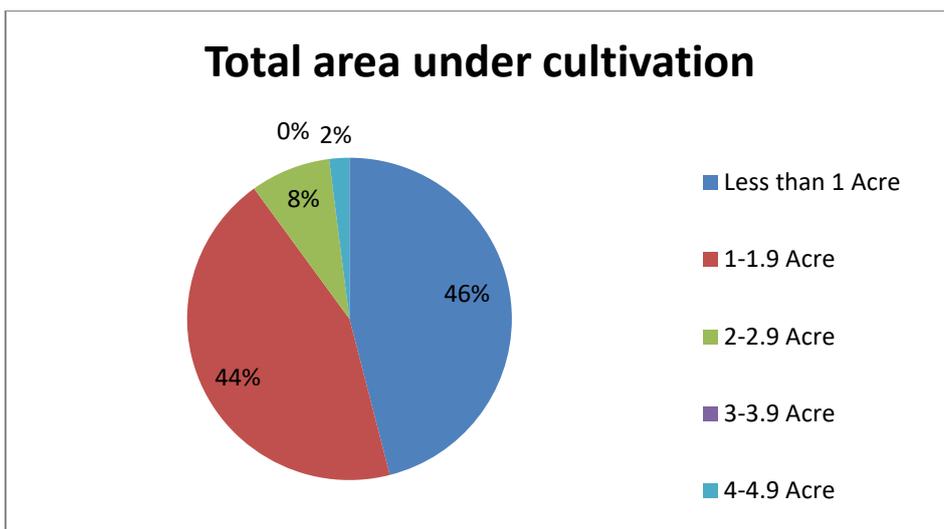


Fig .35: Total area under cultivation in the Rabi season in Dudhi in 2020

Production of Wheat

Figure 36 shows that almost 42% of the respondents produced up to 5 tons and between 10.1 and 15 tons. 8% each, produced between 10.1 and 15 tons and 15.1 and 20 tons of wheat.

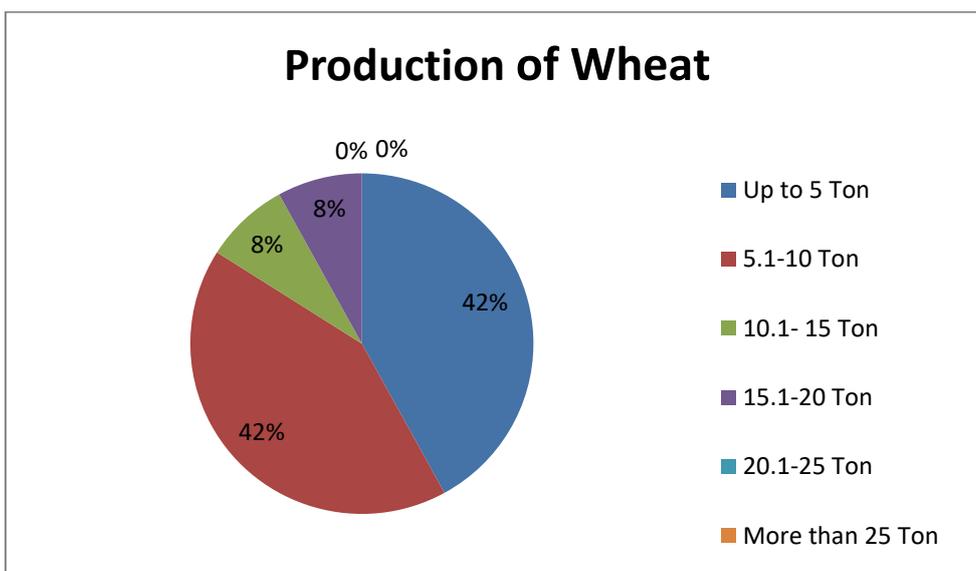


Fig 36: Production of Wheat in the Rabi season in Dudhi in 2020

Per quintal selling price of Wheat

Figure 37 shows that not all the respondents sold their produce. Some of them reserved their produce for home consumption. 46% of the respondents sold it at a price of Rs 800. 15% sold it for Rs 850, 26% for Rs 900. 8% of them sold it at Rs 1000. 3% of the respondents sold it at Rs 750 and 2% sold it at Rs 700.

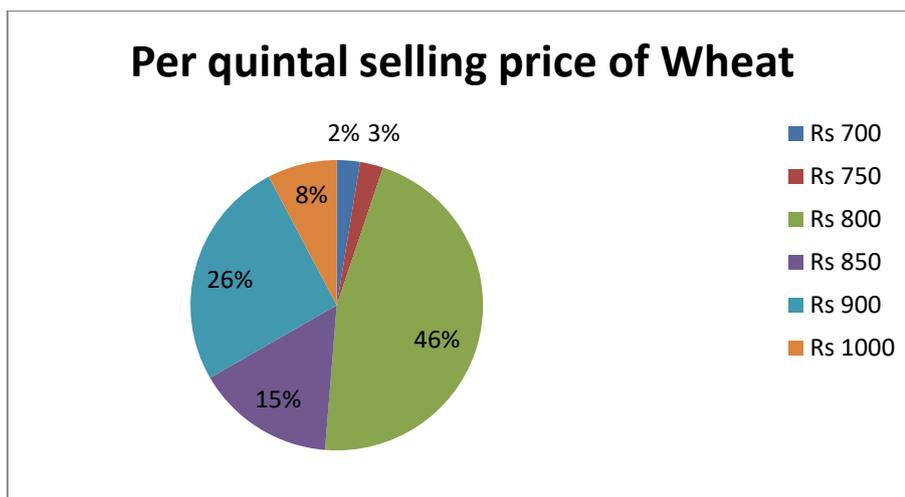


Fig 37: Per quintal selling price of Wheat in the Rabi season in Dudhi in 2020

Rabi Crop 2019-Wheat

Varieties of Wheat grown

Figure 38 shows that almost 98% of the respondents grew Malviya variety and only 2% grew the Desi variety.

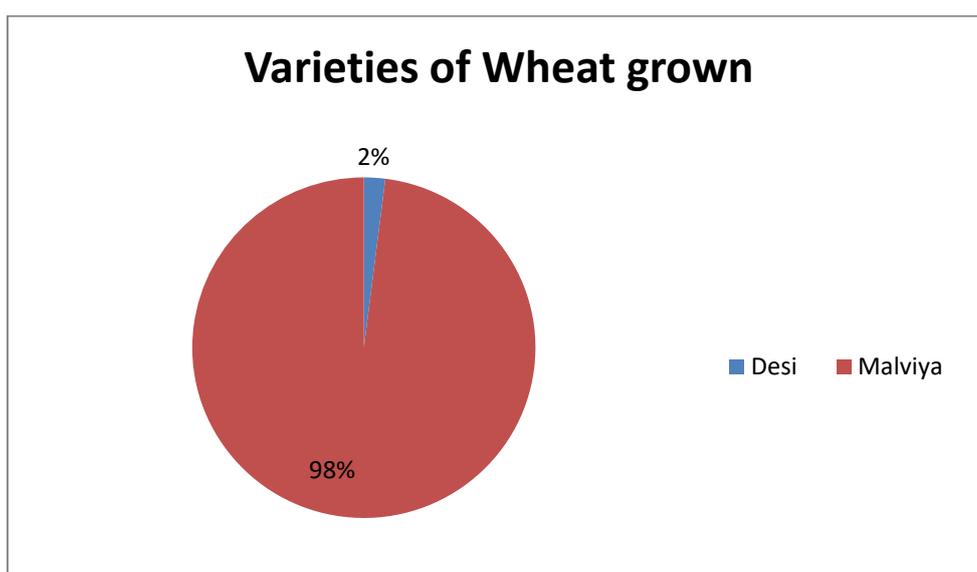


Fig 38: Varieties of Wheat grown in the Rabi season in Dudhi in 2019

Total area under cultivation

Figure 39 shows that almost 46% of the respondents had an area of less than 1 acre under cultivation. 44% of them cultivated between 1 and 1.9 acres. 8% of the respondents cultivated between 2 and 2.9 acres and only 2% cultivated between 4 and 4.9 acres of land.

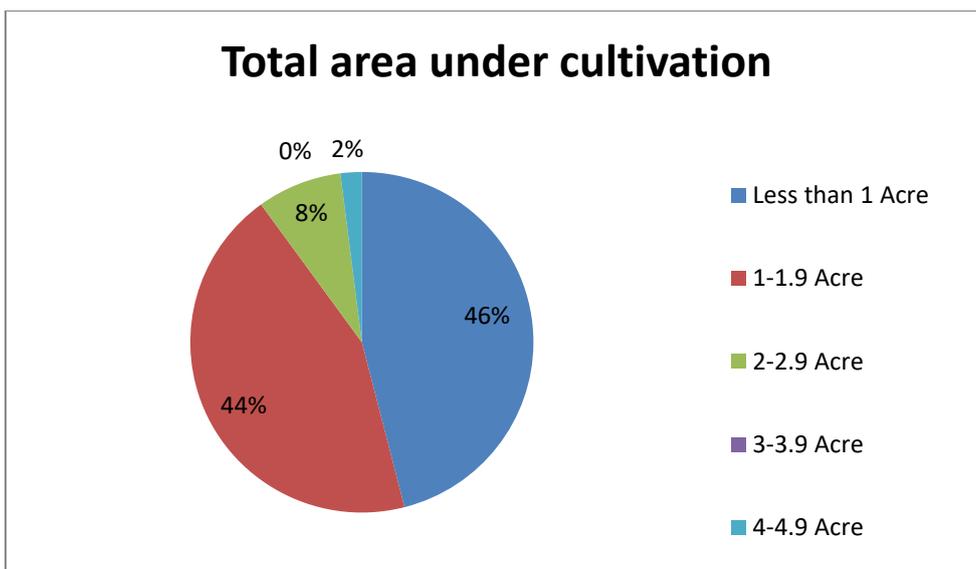


Fig 39: Total area under cultivation in the Rabi season in Dudhi in 2019

Production of Wheat

Figure 40 shows that almost 46% of the respondents produced between 5.1 and 10 tons and 36% produced up to 5 tons. 10% produced between 10.1 and 15 tons, 6% produced between 15.1 and 20 tons of wheat and only 2% produced between 20.1 and 25 tons of wheat.

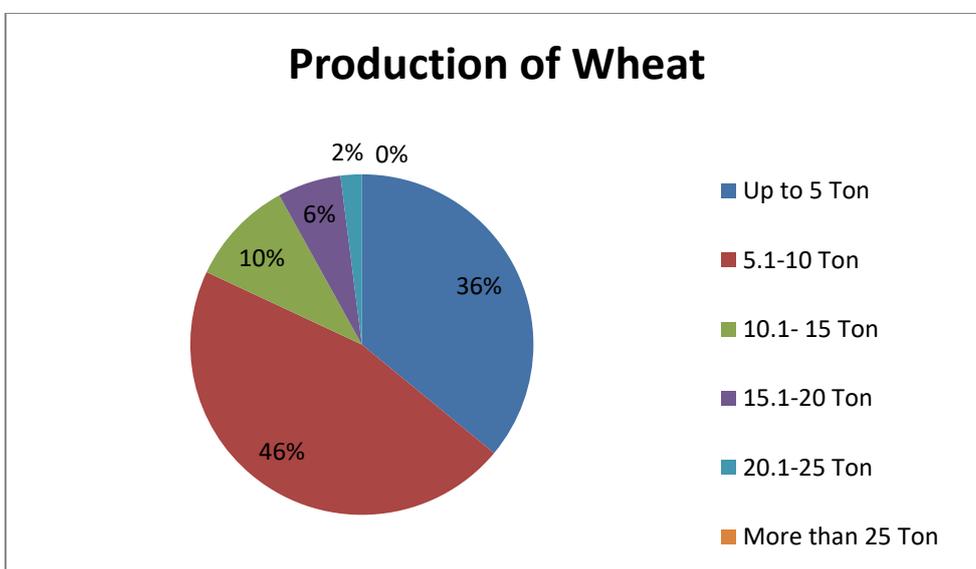


Fig 40: Production of Wheat in the Rabi season in Dudhi in 2019

Per quintal selling price of Wheat

Figure 41 shows that all the respondents did not sell the entire quantity of wheat that they produced. Almost 39% of the respondents sold it at a price of Rs 900.

27% sold it for Rs 1000. 14% sold the wheat for a price of Rs 850. 5% each sold their wheat at Rs 950, Rs 1100. Rs 1200 and Rs 800.

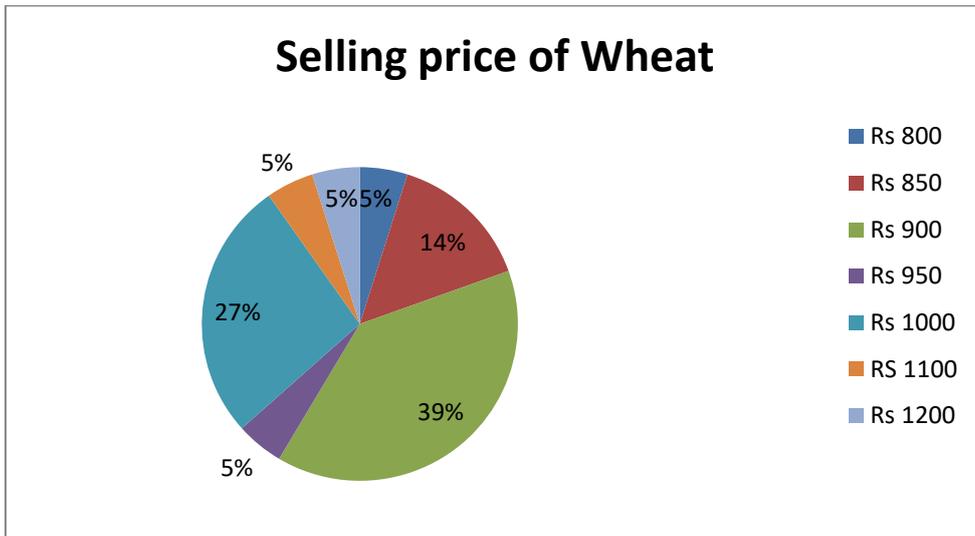


Fig 41: Per quintal selling price of Wheat in the Rabi season in Dudhi in 2019

Rabi Crop 2020 - Wheat

Varieties of Wheat grown

Figure 42 shows that almost 98% of the respondents grew Malviya variety and only 2% grew Desi wheat.

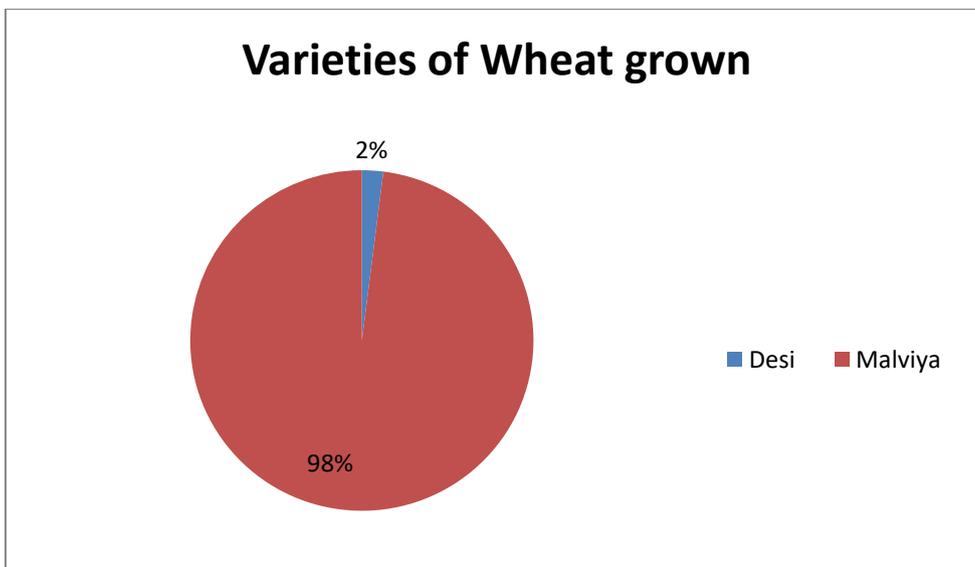


Fig 42: Varieties of Wheat grown in the Rabi season in Dudhi in 2020

Total area under cultivation

Figure 43 shows that almost 46% of the respondents had an area of less than 1 acre under cultivation. 44% cultivated between 1 and 1.9 acres, 8% cultivated between 2 and 2.9 acres and only 2% had an area between 4 and 4.9 acres under cultivation.

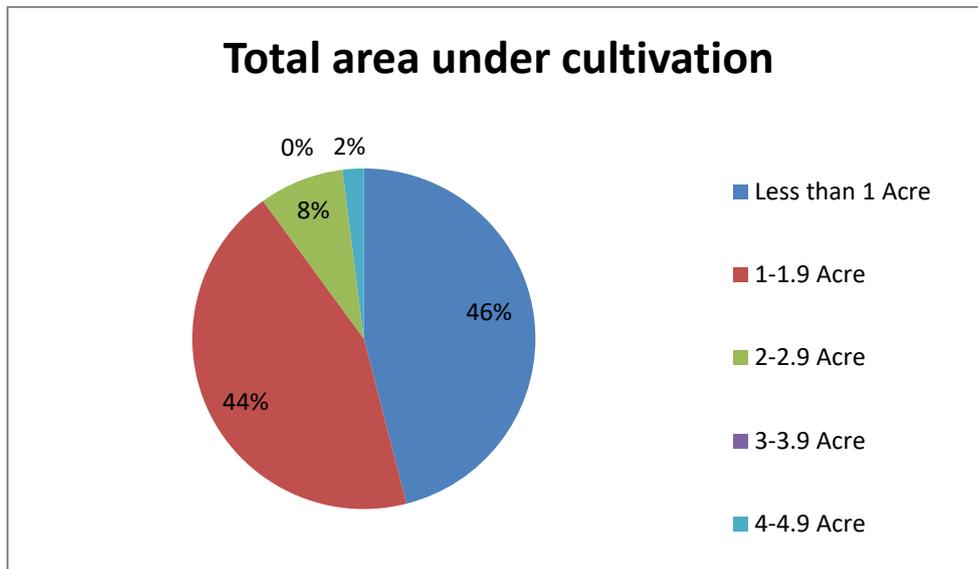


Fig 43: Total area under cultivation in the Rabi season in Dudhi in 2020

Production of Wheat

Figure 44 shows that almost 38% respondents had their production between 5.1 and 10 tons and up to 5 tons. 20% had between 10.1 and 15 tons, 4% had between 20.1 and 25 tons.

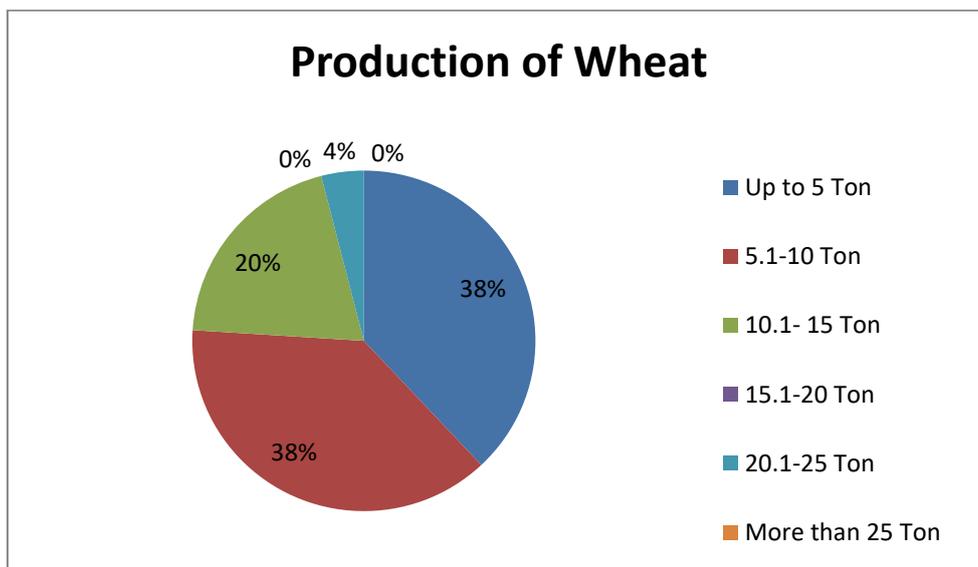


Fig 44: Production of Wheat in the Rabi season in Dudhi in 2020

Per quintal selling price of Wheat

Figure 45 shows that all the respondents did not sell their entire produce of wheat, some of them reserved a part of it for their home consumption. Almost 43% of the respondents sold the wheat at a price of Rs 1200. 25% of them sold it for Rs 1100, whereas 12% of the respondents sold it for Rs 1000. 8% each sold their wheat for Rs 1300 and 5% each sold their wheat at Rs 900 and Rs 1400. Only 2% of the respondents sold it for a price of Rs 1150.

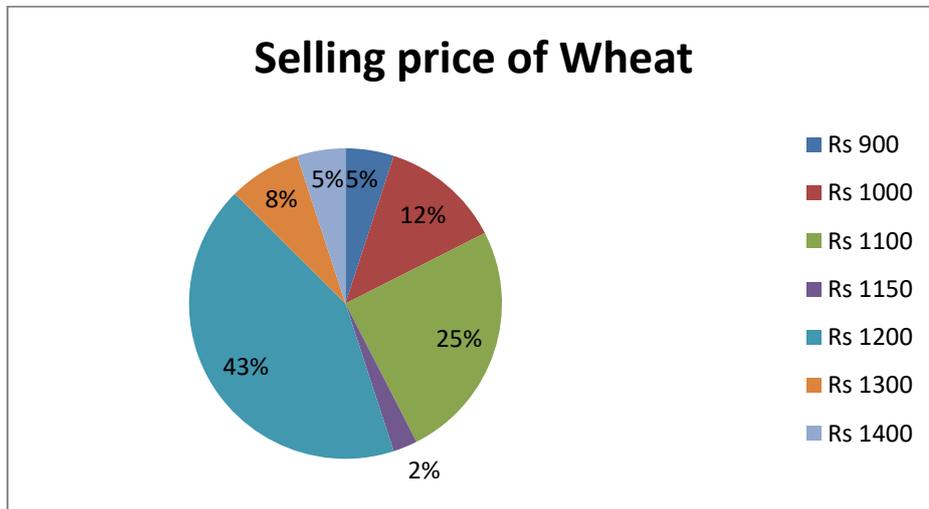


Fig 45: Per quintal selling price of Wheat in the Rabi season in Dudhi in 2020

Rabi Crop 2018- Other than Wheat

Crops grown in the area other than wheat are mustard, red gram, green gram, potato, tomato and cabbage.

Varieties of crops grown

Figure 46 shows that almost 98% of the respondents grew the Desi variety and only 2% grew Samrat.

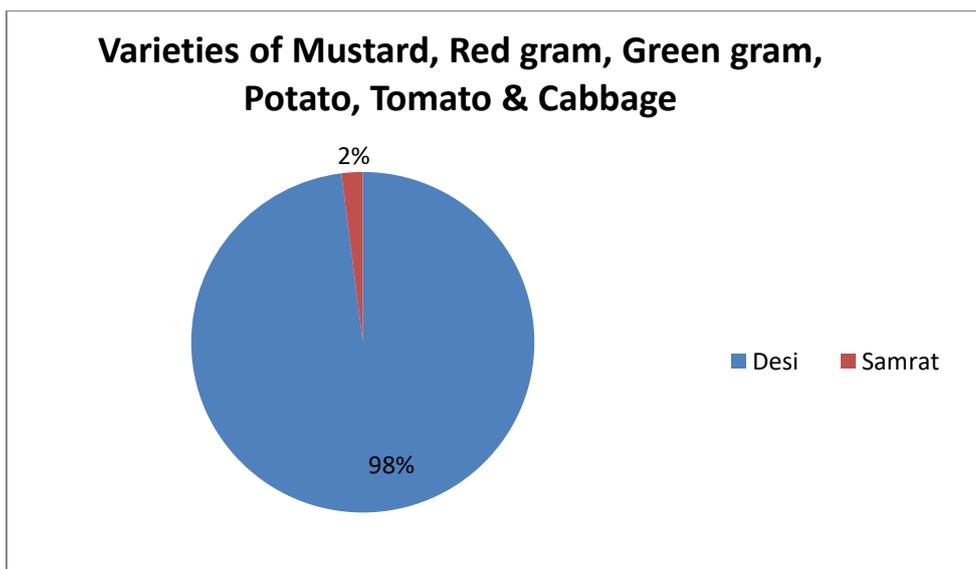


Fig 46: Different varieties of crops grown in the Rabi season in Dudhi in 2018

Total area under cultivation

Figure 47 shows that almost 98% of the respondents had an area of less than 1 acre under cultivation. 2% had between 2 and 2.9 acres and none more than that.

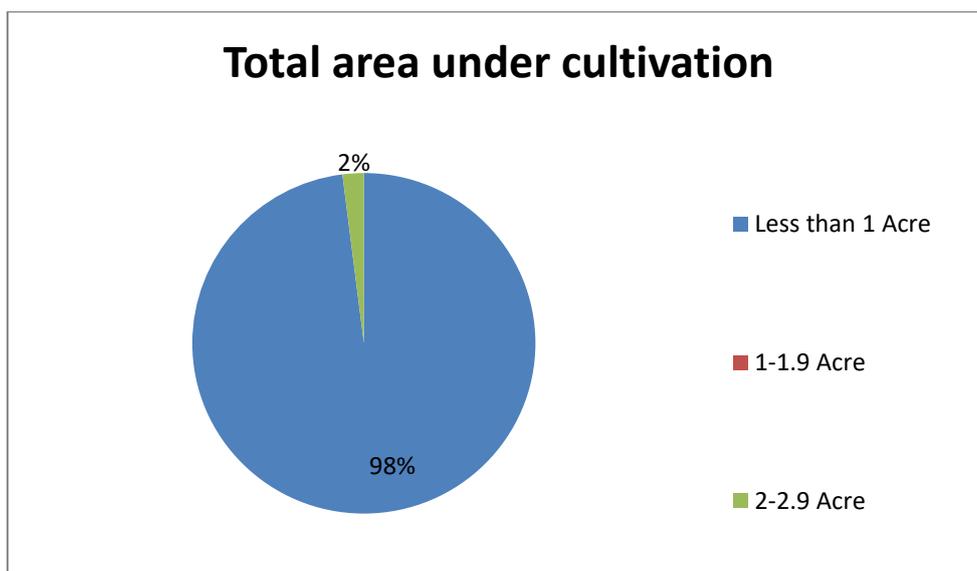


Fig 47: Total area under cultivation in the Rabi season in Dudhi in 2018

Production of Sesame, Maize and Red gram

Figure 48 shows that almost 70% of the respondents produced up to 5 tons and 16% produced more than 25 tons. 8% produced between 15.1 and 20 tons and 6% produced between 5.1 and 10 tons.

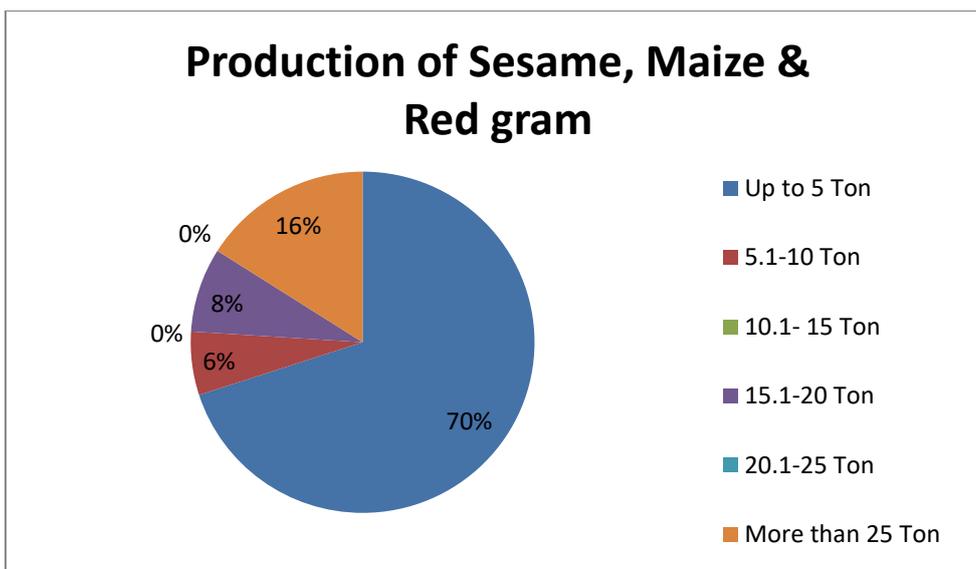


Fig 48: Production of Sesame, Maize and Red Gram in the Rabi season in Dudhi in 2018

Per quintal Selling price of Sesame, Maize and Red gram

Figure 49 shows that all the farmers did not sell the entire quantity of their produce. Some of them kept a part for home consumption. Almost 35% of the respondents sold these crops at a price of Rs 3500. 12% each sold it for Rs 4000. 17% sold it for Rs 3000. 6% each sold these crops for a price of Rs 700, Rs 1000, Rs 2500 and 3200.

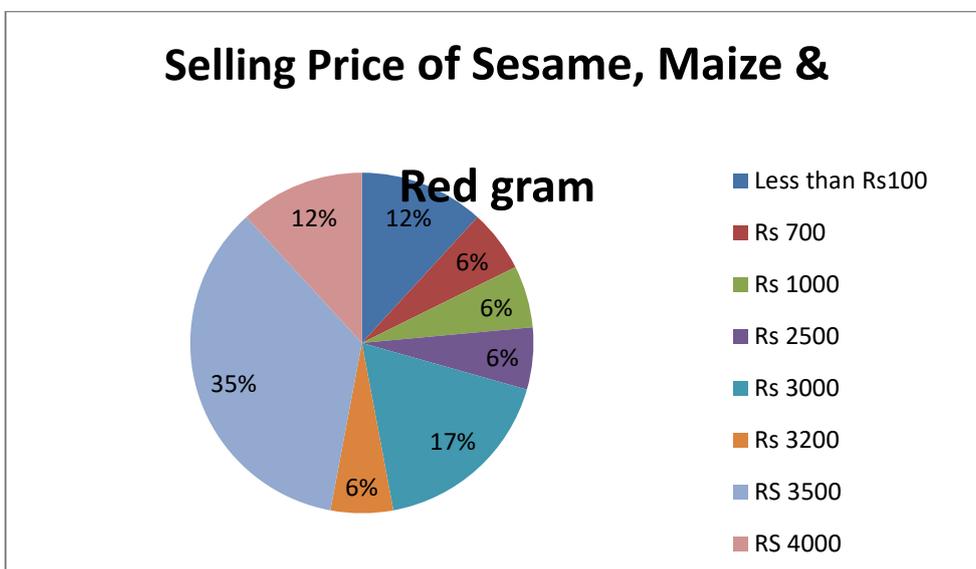


Fig 49: Selling Price of Sesame, Maize & Red gram in Dudhi in 2018

Farming Ecosystem

Agricultural labor employed by farmers

100% of the farmers involved their family members in the agricultural activities in their farms. This way they did not need to hire additional labour and could cut their cost this way. Wages of an agricultural labor are ₹100 per day for both male and female laborers.

Source of purchasing seeds

Figure 50 shows the various sources from where farmers can purchase seeds. All the farmers in the surveyed area bought seeds only from retailers.

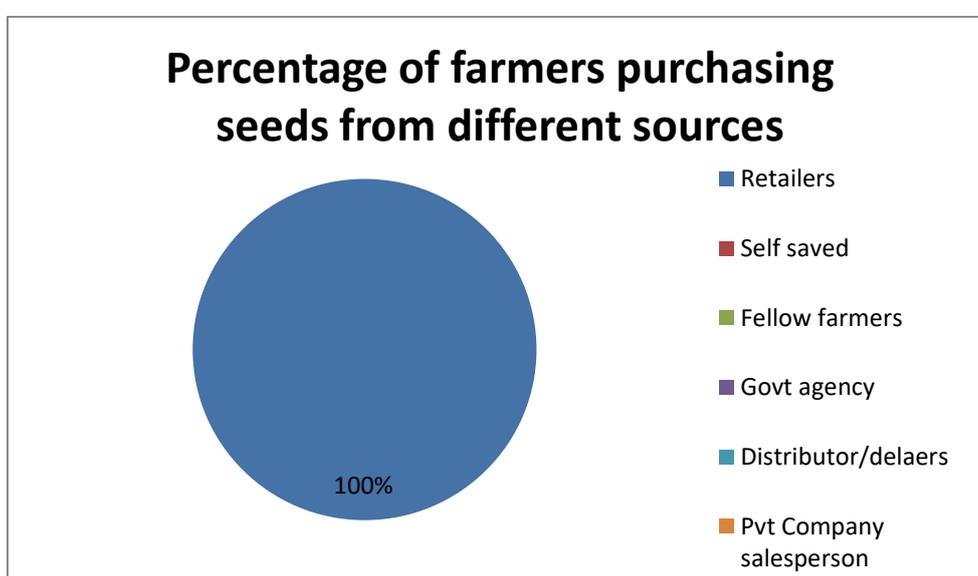


Fig 50: Percentage of farmers purchasing seeds from different sources

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.

Fertilizer used in different crops (kg/acre)								
	FYM	Urea	DAP	MOP	Zinc	Micronutrient	Vermicompost	Others
1. Rice	0	57.6	34.6	0	0.32	0	92.2	0
2. Wheat	0	47.4	28.62	0	0.04	0	128	0
3. Sesame, Red Gram, Maize	0	4.6	2.2	0	0	0	29.4	0
4. Mustard, Red gram, Green Gram, Potato, Tomato, Cabbage	0	1.9	0.4	0	0	0	27.8	0

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

Expenses incurred in pesticide spray

Table 7 shows the cost incurred in spray 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 spray
1. Rice	51.2
2. Wheat	50.8
3. Sesame, Red Gram, Maize	6.38
4. Mustard, Red gram, Green gram, Potato, Tomato, Cabbage	6.38

Table 7: Expenses incurred in spraying pesticides

Source of buying inputs

Figure 51 shows that 98% of the farmers purchased inputs from retailers and only 2% of the farmers purchased inputs from distributors/dealers.

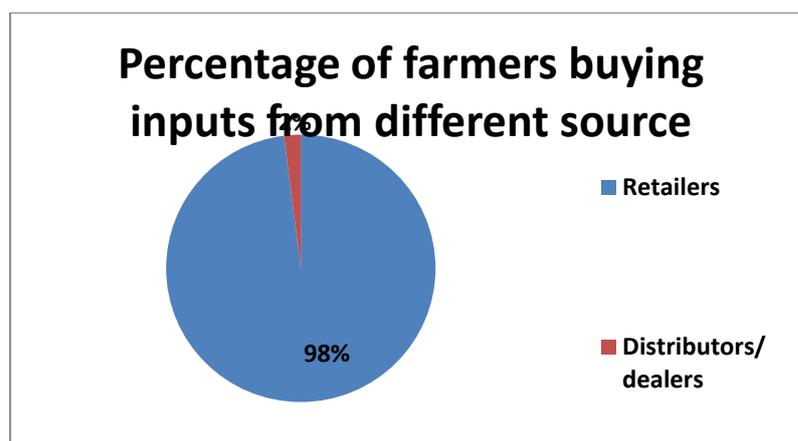


Fig 51: Percentage of farmers buying inputs from different sources

Constraints faced by farmers during production process

Table 8 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 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 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 unavailability of fertilizers. 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 necessary technology	68.36	1
Lack of better-quality varieties seeds & planting materials	66.25	2
Poor/Timely availability of fertilizers	58.22	3
Lack of irrigation facility	53.77	4
High pest and disease incidence	51.25	5

Table 8: Constraints faced by farmers during production process

Extension advisories for getting advice regarding crop cultivation

Figure 52 shows the various agencies that farmers contact for their problems related to farm practices and crop diseases. As many as 48% of the farmers of the surveyed area contact their peer farmers for getting advice. 38% of the farmers contact dealers/ distributors for getting advice on farm practices. 8% of the farmers contact a helpline number for their problems. 4% get in touch with NGOs and 2% contacted 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.

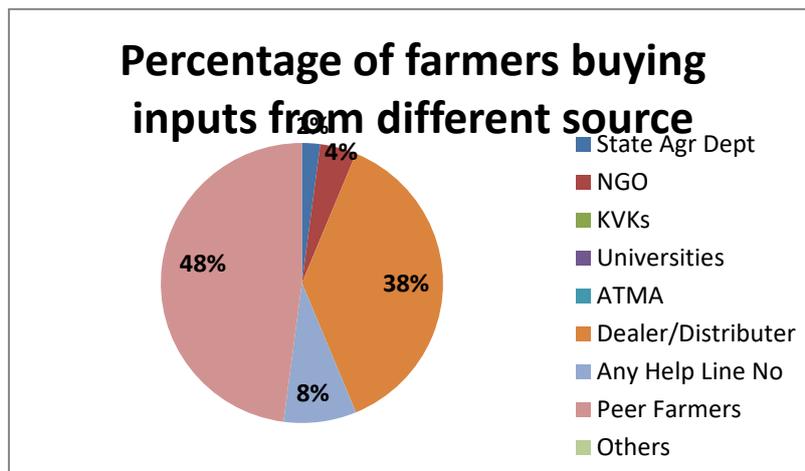


Fig 52: Percentage of farmers contacting different sources for getting advice on farming activities

Percentage of farmers who adopted the advice for farming activities

Figure 53 shows that almost 86% of the farmers adopt the advice given to them by the different agencies. Only 14% do not adopt the guidelines of the advice provided by various agencies.

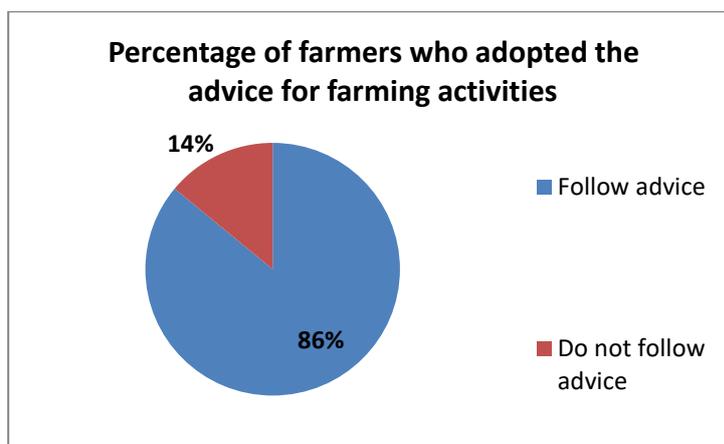


Fig 53: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 54 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. 64% of the farmers got the benefit of an increase in yield and 62% of the farmers saw an increase in income/profit. 34% of the farmers saw a decrease in cases of disease/pest infestation and 26% of them saw a decrease in input usage as well. 8% of the farmers saw a decrease in the overall cost of cultivation after adopting the measures suggested by the extension advisories.

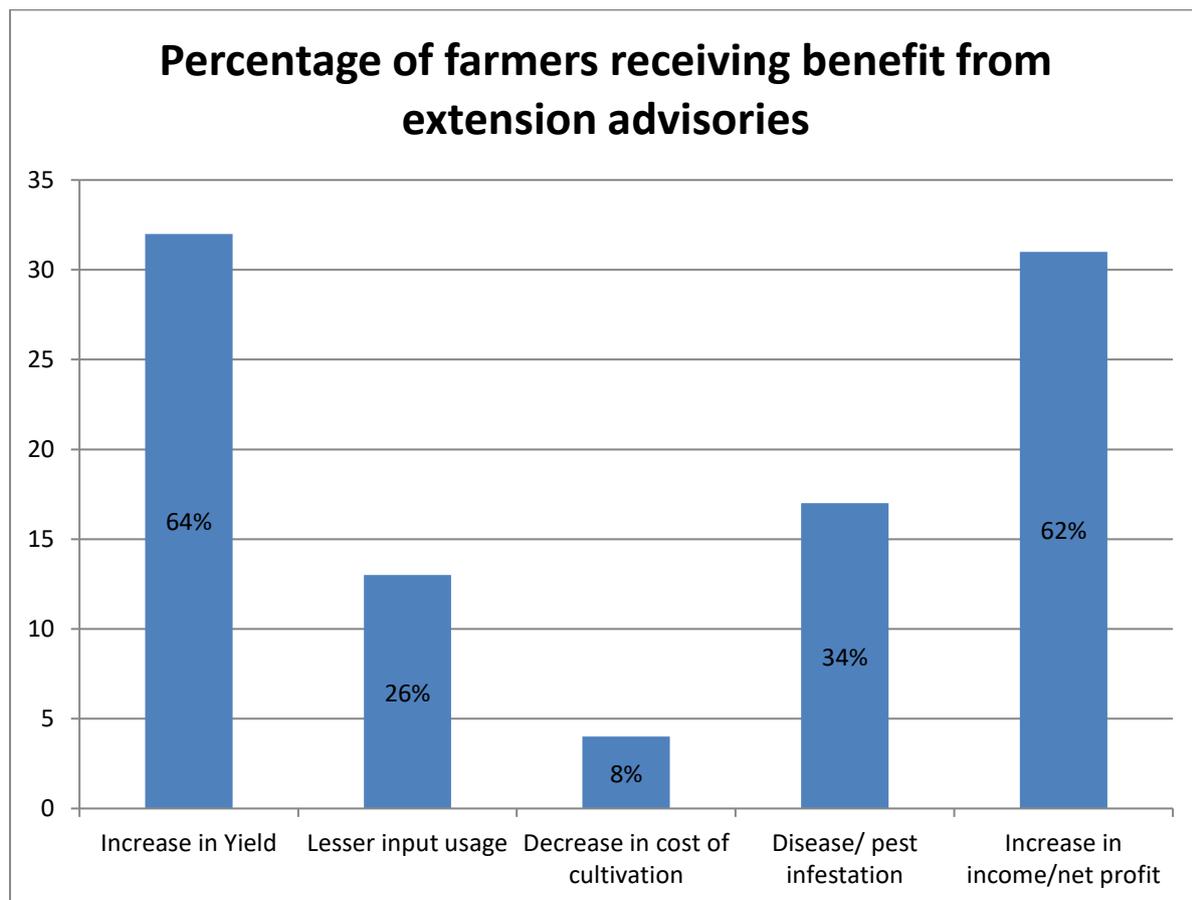


Fig 54: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 55 shows that only 14% of the farmers were unaware of the government schemes being extended. The other 86% of the farmers were aware about the schemes.

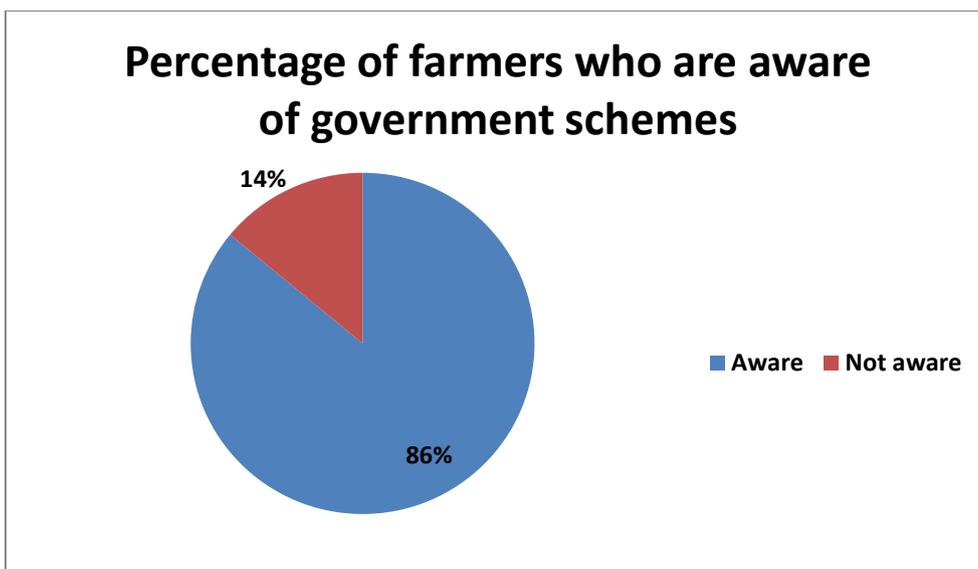


Fig 55: Awareness of farmers about government schemes

Accessibility to credit

Figure 56 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, high rate of interest, amongst others.

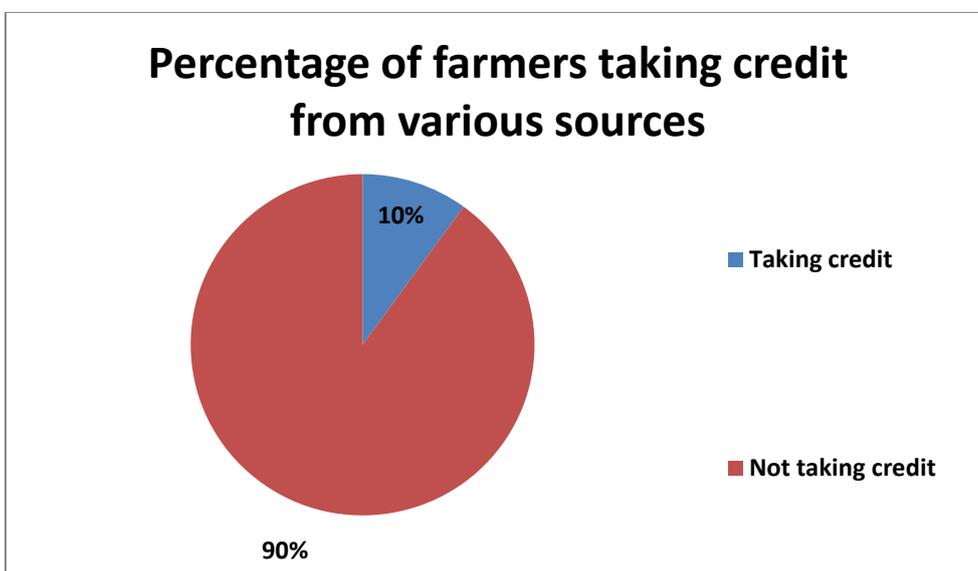


Fig 56: Percentage of farmers taking credit from various sources

Awareness of benefits of FPOs

All the farmers were aware of the benefits of Farmer Producer Organizations.

Membership to farmer's associations/ cooperatives

None of the farmers had membership to any Farmer's associations/ cooperatives.

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 57 shows that farmers did face issues in the post-harvest packaging. 44% of them however did not face any problems. 38% of the farmers had a problem with higher wages while 16% faced shortage of skilled labor and 2% faced non-availability of packaging material.

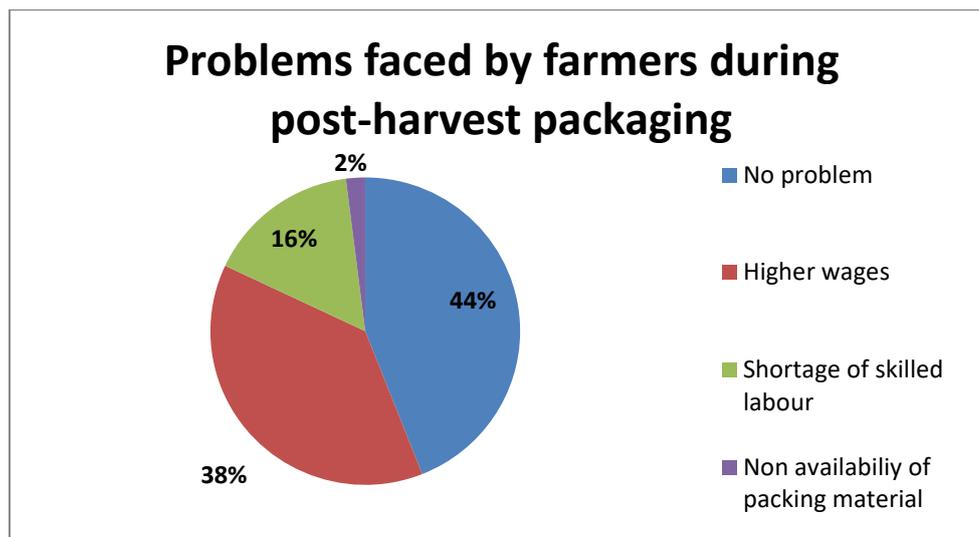


Fig 57: Problems faced by farmers during post-harvest packaging

Problems faced by farmers during post-harvest transportation

Figure 58 shows that farmers faced many issues in the post-harvest transportation. 49% of the farmers faced non-availability of vehicle, 21% of them had to pay high transportation charges. 17% of the farmers witnessed problems due to a lack of all-weather roads. 8% of the farmers received misleading information and only a miniscule 5% did not face any issues.

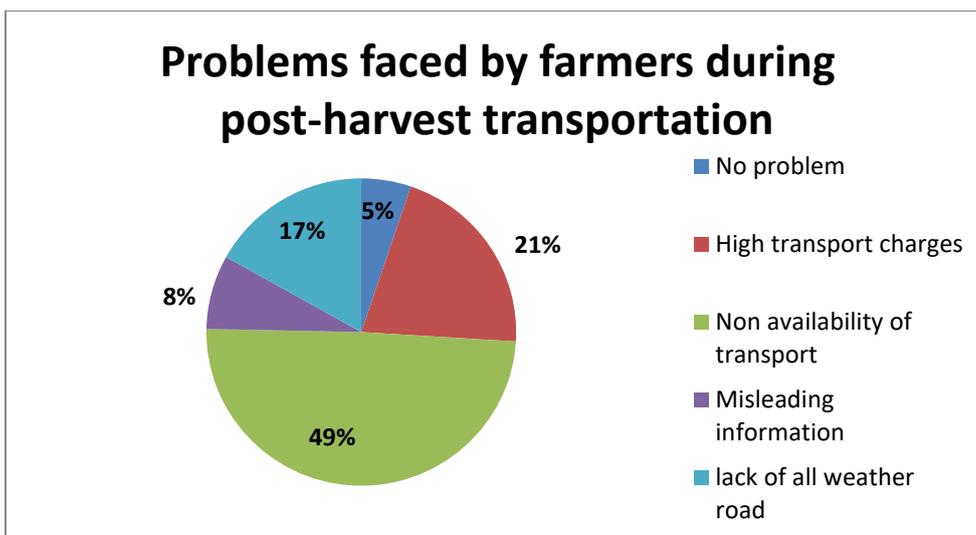


Fig 58: Problems faced by farmers during post-harvest transportation

Problems faced by farmers due to malpractices post-harvest

Figure 59 shows that farmers faced issues because of the existing malpractices post-harvest. Many of them faced more than one problem. 46% had to be content with part-payment of their sale proceeds. 36% of them experienced multiplicity of charges, 16% were quoted lower prices than the prevailing market rates. Only a miniscule 2% of farmers, however, did not face any problems.

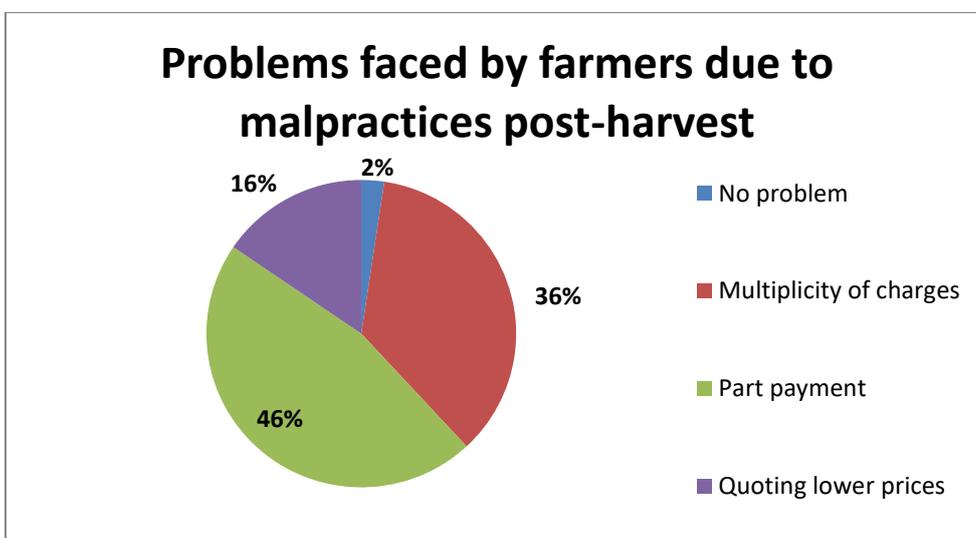


Fig 59: Problems faced by farmers due to post-harvest malpractices

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 were 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 markets are some of the other reasons for not getting a good selling price.

MYOPUR

MYORPUR

Profile

Myorpur is a Block in Sonbhadra District of Uttar Pradesh State, India. The Myorpur Town is the Block Head Quarters. Myorpur belongs to the Mirzapur Division. Renukoot City, Obra City, Singrauli City, Kota City are the nearby cities to Myorpur. It is in the 287 m elevation (altitude).

Socioeconomic status of respondents

Age of the respondents

Figure 60 shows that most of the farmers (42%) were of the age group 31-45 years. 37% were of the age group 46-60 years and 24% were of the age group 61-75 years. 8% were of the age group 15-30 years and only 1% in the age group 76-90 years

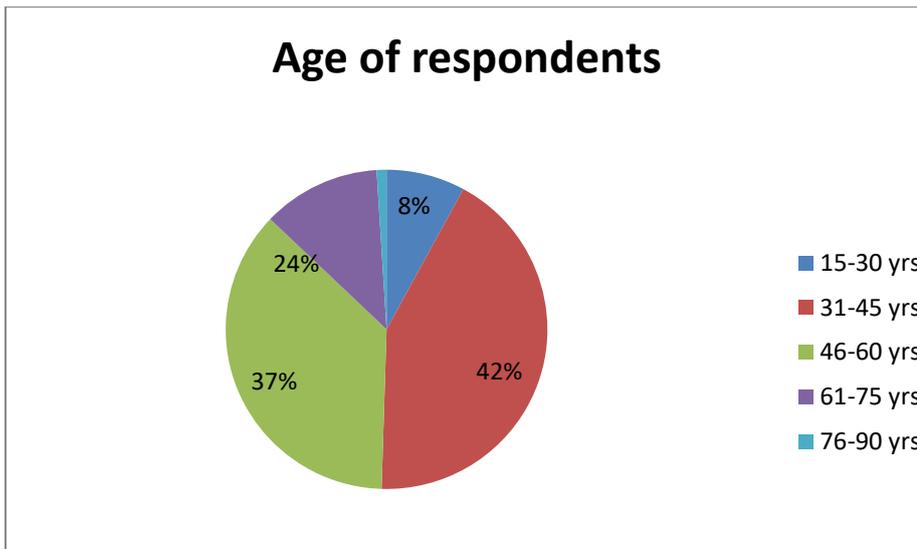


Fig 60: Age of respondents in Myorpur

Category of the respondents

Figure 61 shows that 64% of the respondents were SC/ST, 33% were OBC and 3% belonged to the general category.

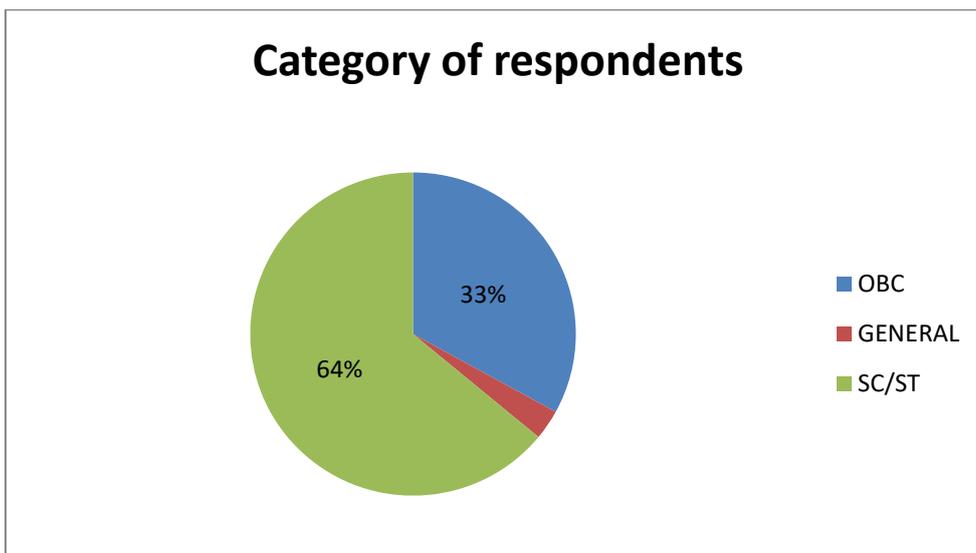


Fig 61: Category of respondents in Myorpur

Gender of respondents

Figure 62 shows that 8% of the respondents were female and the rest were male.

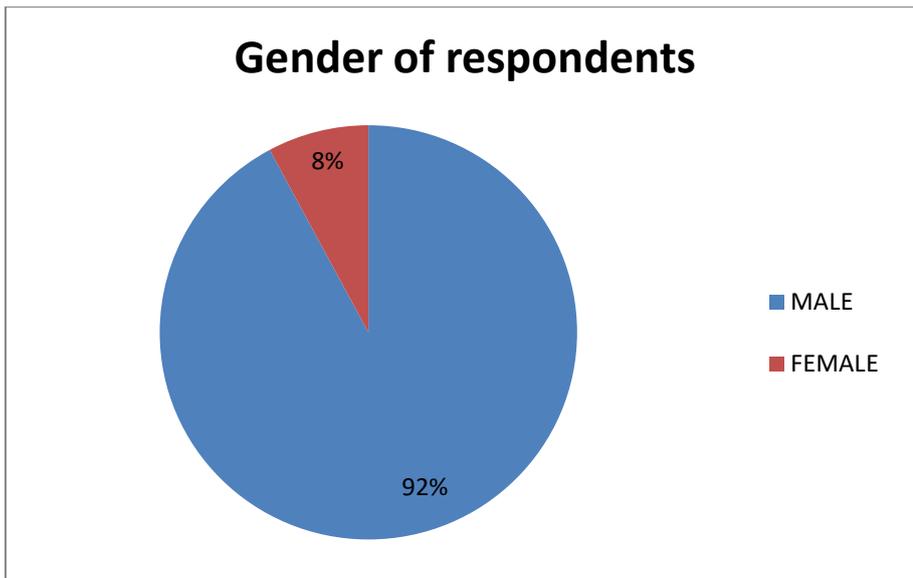


Fig 62: Gender of the respondents of Myorpur

Educational qualification of the respondents

Figure 63 shows that the majority of the respondents (63%) were educated till Class 8th. A total of 27% were illiterate and 8% were educated till class 10th and 2% were graduates and above.

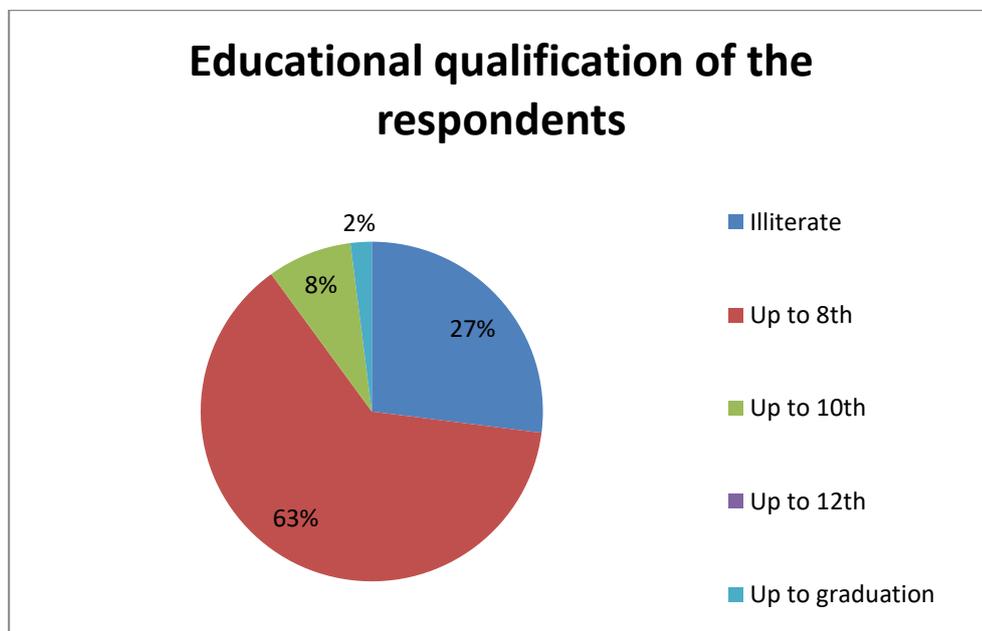


Fig 63: Educational qualification of the respondents in Myorpur

Average number of members in the family

Table 9 shows that the average number of adult members in the family of the surveyed area is 3. The average number of children is 3 as well. The school-going children averaged to 2. The average number of dependent members in a family is less than one. So, it can be inferred that on an average, there is a single earning member in the household.

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

Table 9: Average number of members in a family

Involvement of women in agriculture

100 percent of the families have women involved in agriculture.

Activities performed by women

Figure 64 shows that women are involved in various agricultural activities such as sowing, weeding, harvesting, sorting and grading. Most of the women perform harvesting of crops. 100% of the women of the surveyed area perform harvesting. 88% of the women perform weeding activities. 74% of the women are involved in spray of pesticides. 72% of the females carry out sorting and grading and 40% do some kind of processing. Only 2% women are involved in decision making of any kind and sowing. 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.

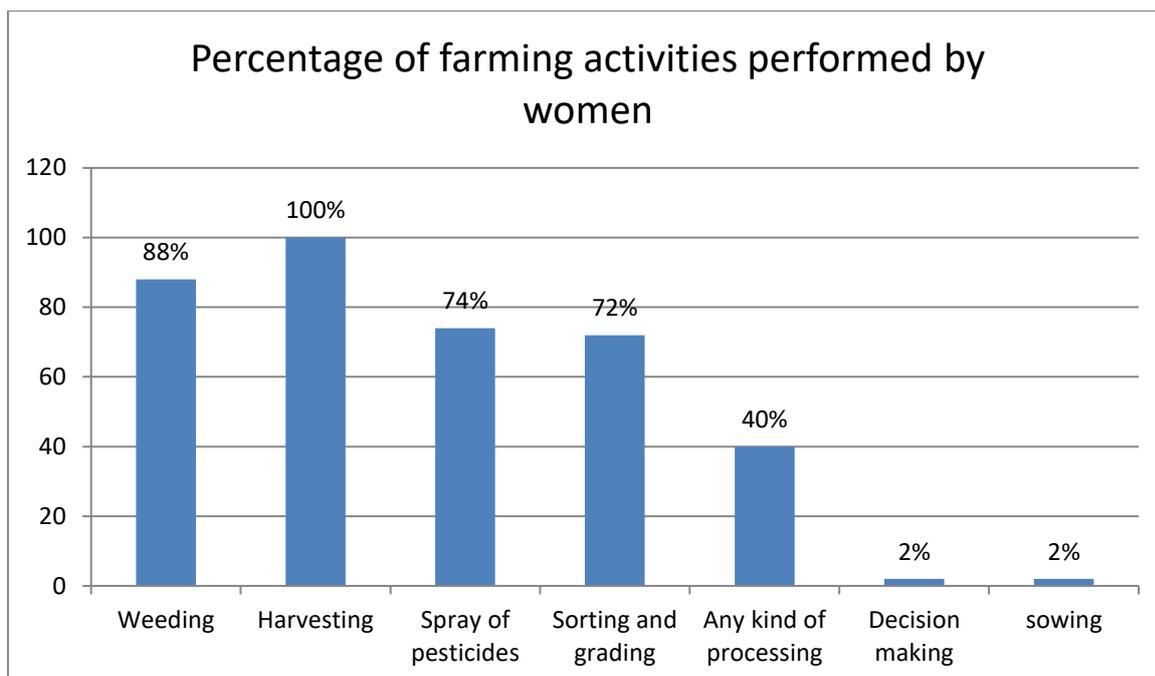


Fig 64: Percentage of farming activities performed by women

Annual income of the respondents from farming

Figure 65 shows that around 54% of the respondents had an annual income less than 25 thousand, 37% respondents had an annual income between 25 and 50 thousand. Only 8% had an annual income between 50 thousand to 1 lakh and only 1% of respondents had an annual income between 1 and 1.5 lakh.

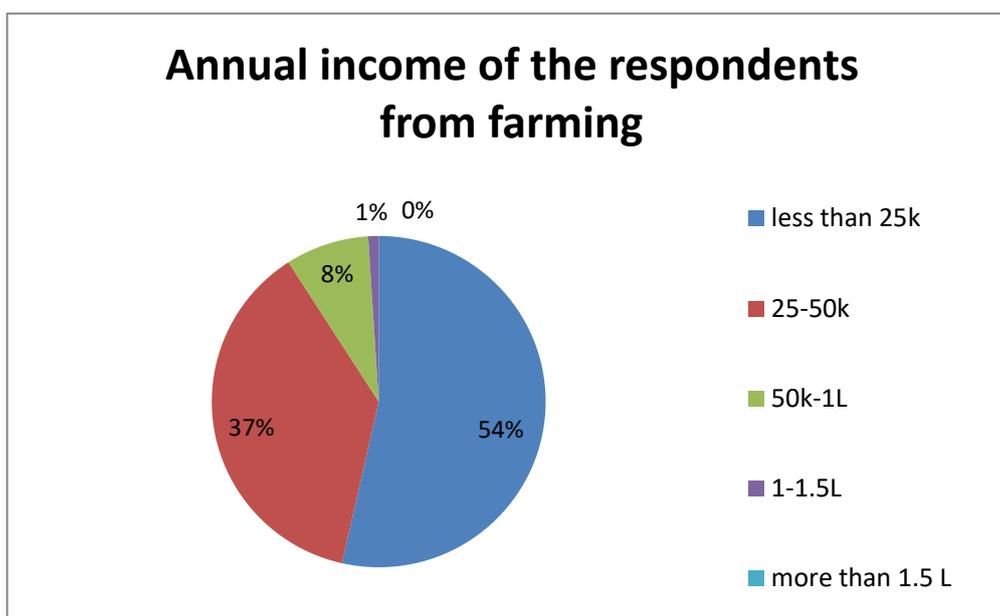


Fig 65: Annual income of the respondents from farming in Myorpur

Annual savings from farming

Figure 66 shows that approximately 88% of the respondents had savings from farming which were less than 20 thousand and 11% had savings between 20 and 50 thousand. Only one farmer had savings exceeding 1 lakh.

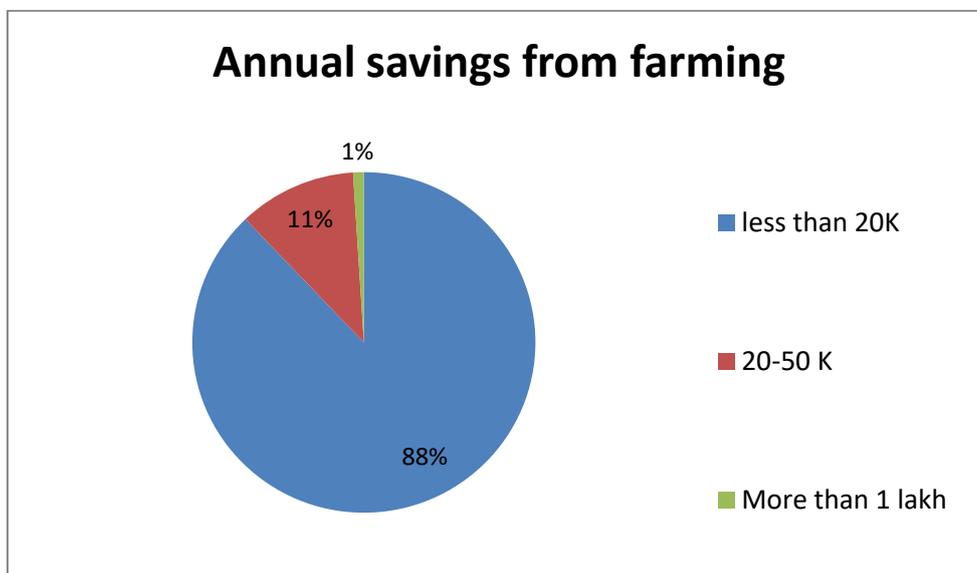


Fig 66: Annual savings from farming

Non-farming activities

Apart from farming activities, the farmers are also involved in non-farming activities to increase their income. 7% of the farmers have private jobs and one has a small business. Others are working as laborers and none of the respondents are involved in government job and petty shop.

Annual Income of the respondents from activities other than farming

Table 10 shows that the average annual income of respondents from working as laborer is Rs 39,000/- and for those working in private jobs it is Rs 1,30,000/-.

Average income from activities other than farming	
Labourers	Rs 39 thousand
Private jobs	Rs 1 lakh 30 thousand

Table 10: 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 2.2 km and the average distance to the *mandi* is 56.3 km from the village.

Average distance of markets	
Local market	2.2 km
Mandi	56.3 km

Table 11: Average distance of markets

Landholding size of the respondents

Figure 67 shows that in the rural areas, agriculture is the mainstay of the economy, with hardly any non-farm occupations available. 35% of the farmers had 2.1-4 acres of land. 24% of the farmers had 0-2 acres of land. 26% of the farmers had 4.1-6 acres of land and 7% of the respondents had more than 10 acres of land. 4% had land between 6.1 and 10 acres.

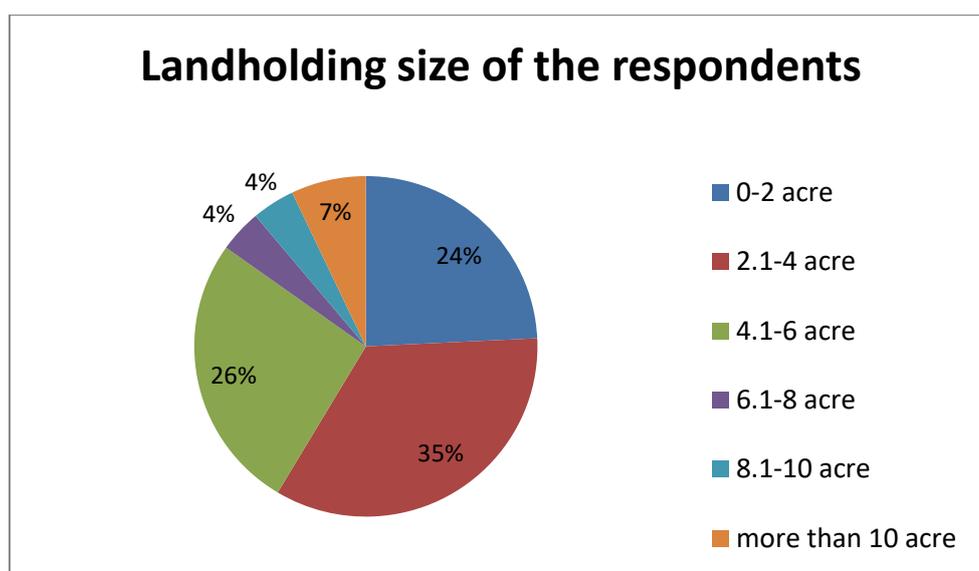


Fig 67: Landholding size of the respondents

Problems in taking bank loan

Almost 14% of respondents had taken bank loan ranging from Rs 35 thousand to Rs 10 lakh. Most of the respondents cited unfriendly behaviour of banking staff, time taken for documentation and other processes and the distance of bank from their village 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 want that government should take steps to provide technological advances and financial aid. They also highlighted the need of 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 of soil testing and none had soil health card. Only 7% of the farmers received any advice on crops to be grown and nutrients required in their field based on soil test report. 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 68 shows that approximately 46% and 47% of the respondents, respectively, use lift irrigation or minor irrigation techniques. 7% use bore wells for irrigation.

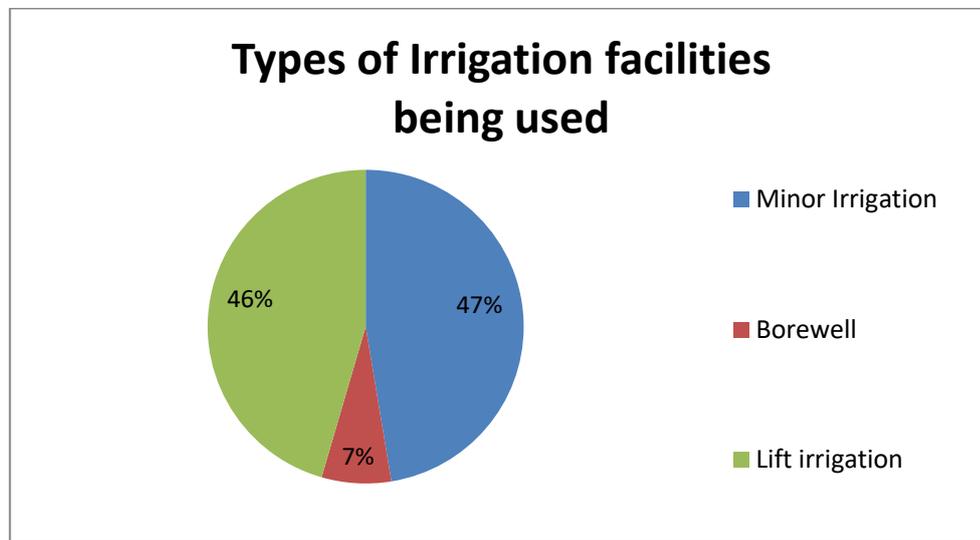


Fig 68: Types of Irrigation facilities being used

Crop related information

Cropping pattern

Kharif crops (2020)

Table 12 shows that the major *kharif* crop grown in the surveyed area is rice. Rice was grown in an area of almost 62 acres. Total production was 564 quintals, and 283 quintals were sold in the market. Rice was being sold at ₹900 kg/qttl. Other crops grown in the *kharif* season are sesame, red gram and maize. They were grown in an area of 28 acres. Total production was 434 quintals. 100 quintals were sold in the market at an average rate of ₹1700 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	Rice	62	564	2169	283	900
2	Sesame, Red gram, Maize	28	434	3945	100	1700

Table 12: Crops grown in kharif season in 2020 in Myorpur

Kharif Crop 2018- Rice

Varieties of Rice grown

Figure 69 shows that almost 22% respondents grow Shankar variety. 35% of respondents grow Pant 12, 15% Champion, 13% Desi, 9% 6444 and 2% each of Kandhar, Malviya and Sonam.

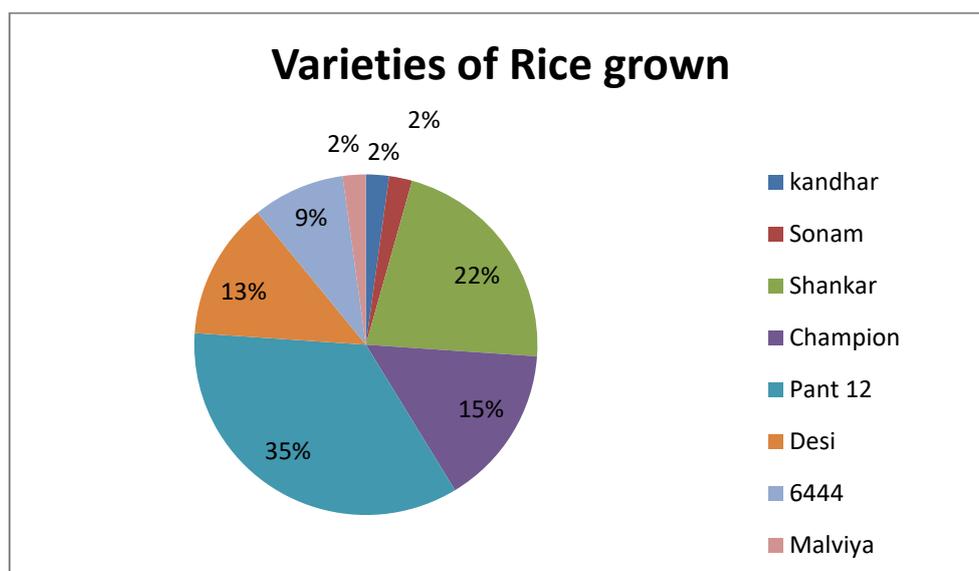


Fig 69: Varieties of rice grown in kharif season in 2018 in Myorpur

Total area under cultivation

Figure 70 shows that almost 38% respondents had an area of less than 1 acre under cultivation. 36% cultivated between 1 and 1.9 acres, 13% cultivated between 2 and 2.9 acres, 11% cultivated between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres under cultivation.

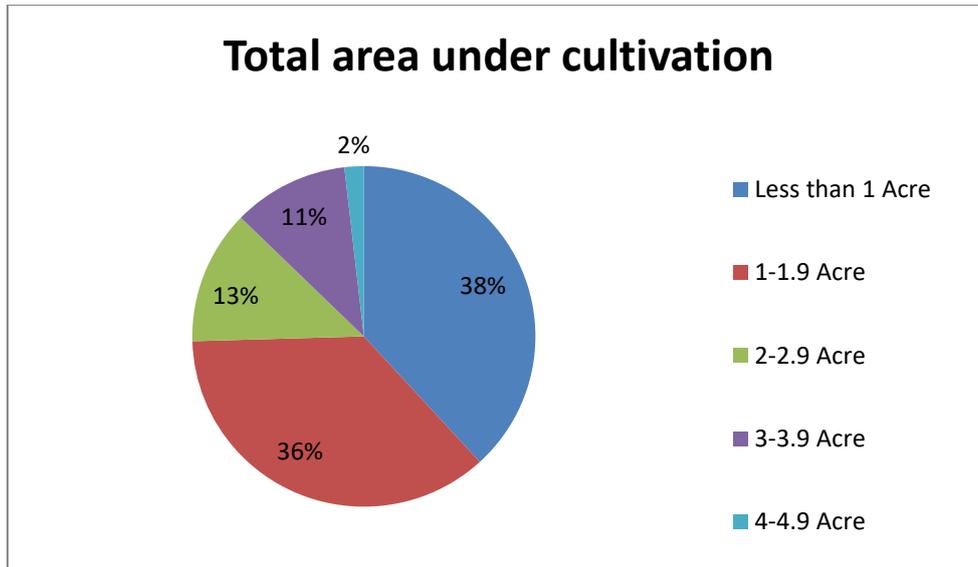


Fig 70: Total area under cultivation in 2018 in Myorpur

Production of Rice

Figure 71 shows that almost 38% respondents had a production between 5.1 and 10 tons. 24% had between 10.1 and 15 tons, 22% produced up to 5 tons, 8% between 15.1 and 20 tons, 6% between 20.1 and 25 tons and only 2% had their production exceeding 25 tons.

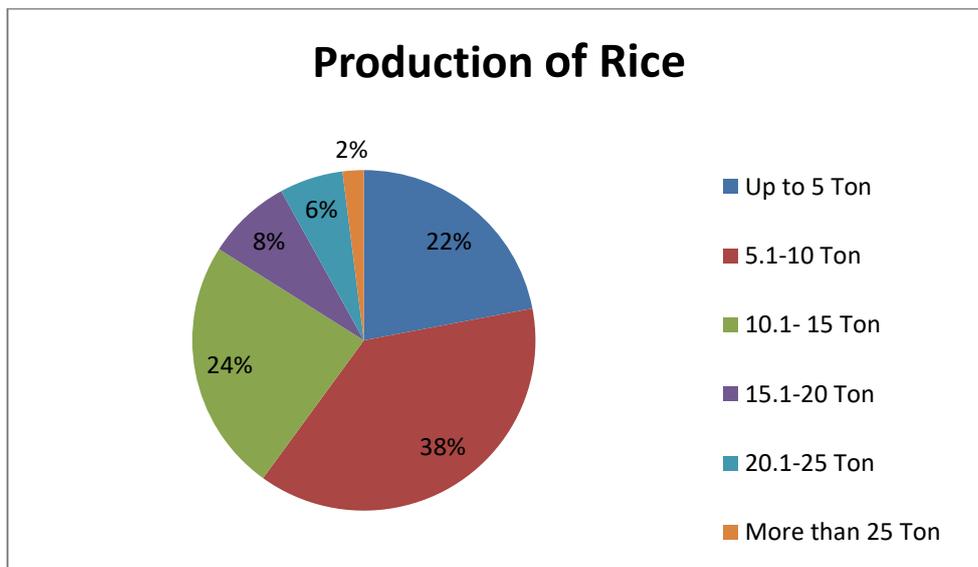


Fig 71: Production of Rice in 2018 in Myorpur

Per quintal Selling Price of Rice

Figure 72 shows that almost 69% respondents sold rice at a price of Rs 800. 10% sold it for Rs 850, 9% for Rs 700, 7% for Rs 750 and 5% for Rs 900.

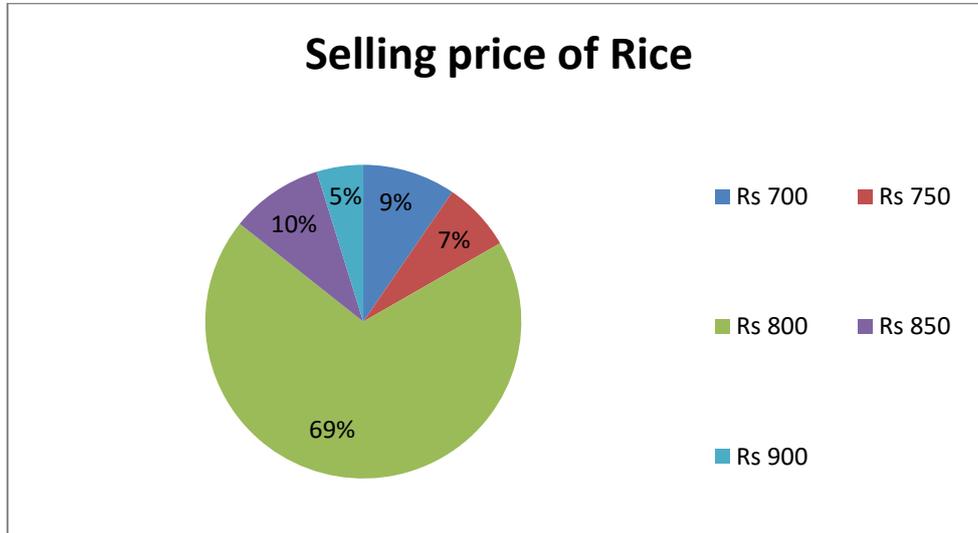


Fig 72: Per quintal selling price of rice in 2018 in Myorpur

Kharif Crop 2019 - Rice

Varieties of Rice grown

Figure 73 shows that almost 28% of the respondents grew Pant 12 variety. 19% of them grew Shankar, 15% Desi, 13% Champion, 13% 6444 and 2% each grew Kandhar, Malviya, Sonam.

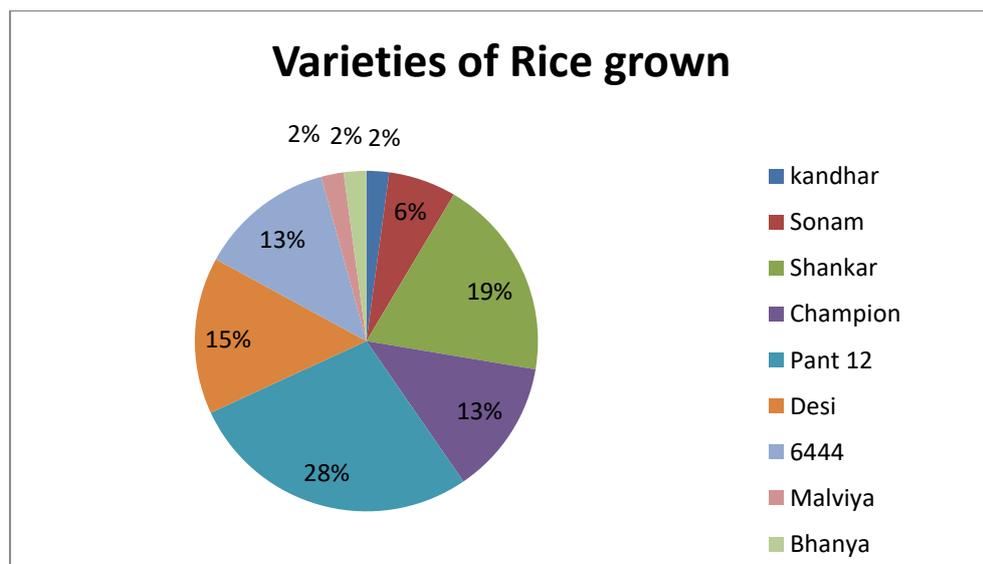


Fig 73: Varieties of rice grown in kharif season in 2018 in Myorpur

Total area under cultivation

Figure 74 shows that almost 41% of the respondents had an area of less than 1 acre under cultivation. 39% of them cultivated between 1 and 1.9 acres, 12% cultivated between 2 and 2.9 acres. 6% of the respondents cultivated between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

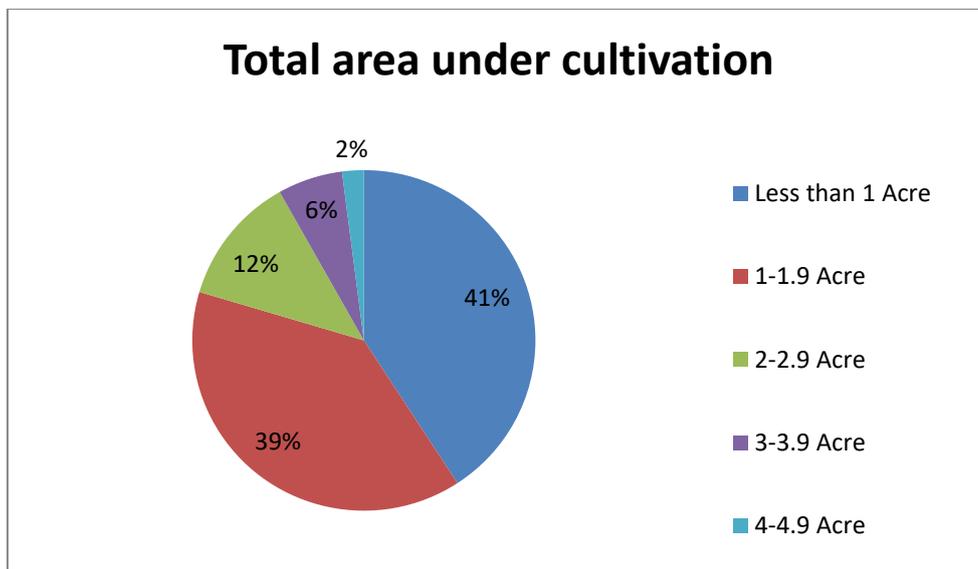


Fig 74: Total area under cultivation in 2018 in Myorpur

Production of Rice

Figure 75 shows that almost 46% of the respondents had their production between 5.1 and 10 tons. 25% had up to 5 tons. 19% had between 10.1 and 15 tons, 4% had a production of more than 25 tons and another 4% produced between 15.1 and 20 tons and only 2% had their production between 20.1 and 25 tons.

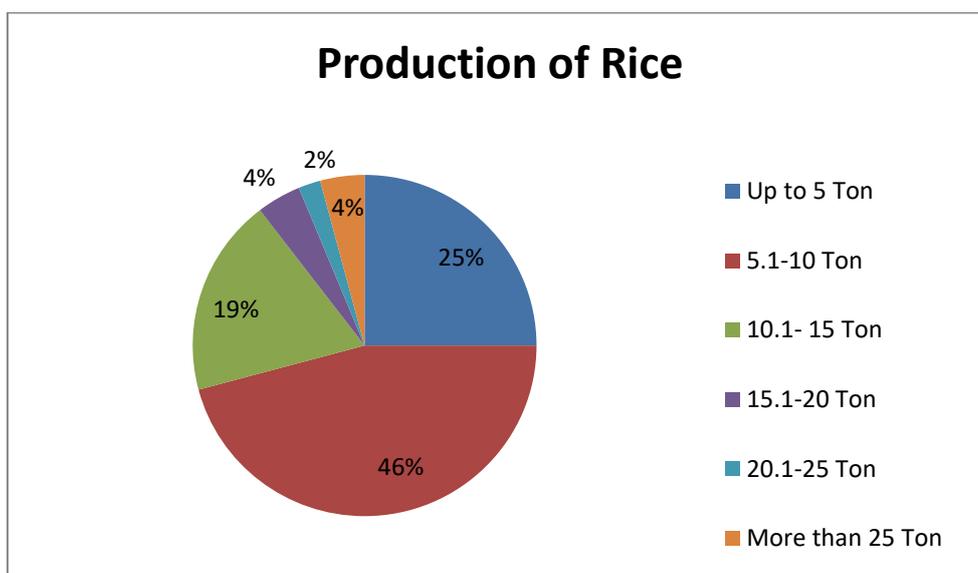


Fig 75: Production of Rice in 2018 in Myorpur

Per quintal selling price of Rice

Figure 76 shows that almost 60% of the respondents sold rice at a price of Rs 900. 10% sold it for Rs 850, 12% of them sold it for Rs 800. 7% of the respondents sold rice at Rs 950, while 8% of them sold it for a price of Rs 1000 and 3% for Rs 1200.

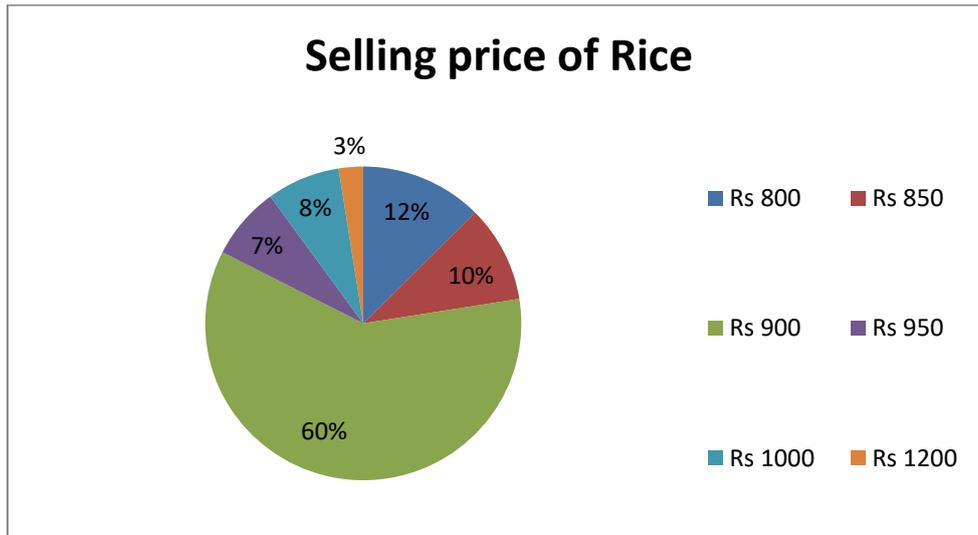


Fig 76: Per quintal selling price of rice in 2018 in Myorpur

Kharif Crop 2020 - Rice

Varieties of Rice grown

Figure 77 shows that almost 25% of the respondents grew Pant 12 variety. 21% of them grew 6444, 14% grew Desi. 16% of the respondents grew Shankar, 12% grew Champion and 4% each grew Bayosid and Sonam and 2% of the respondents grew Malviya and Gold each.

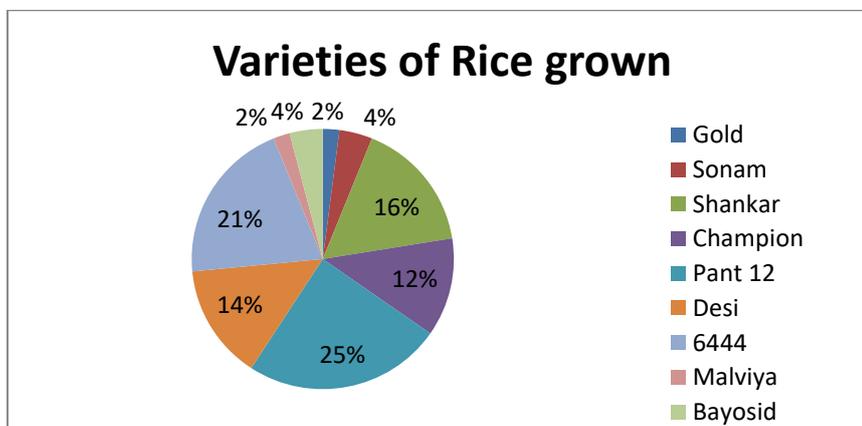


Fig 77: Varieties of Rice grown in 2020 in Myorpur

Total area under cultivation

Figure 78 shows that almost 42% of the respondents had an area less than 1 acre under cultivation. 39% of them cultivated between 1 and 1.9 acres, 12% of the respondents cultivated between 2 and 2.9 acres of land. 6% of the respondents cultivated between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

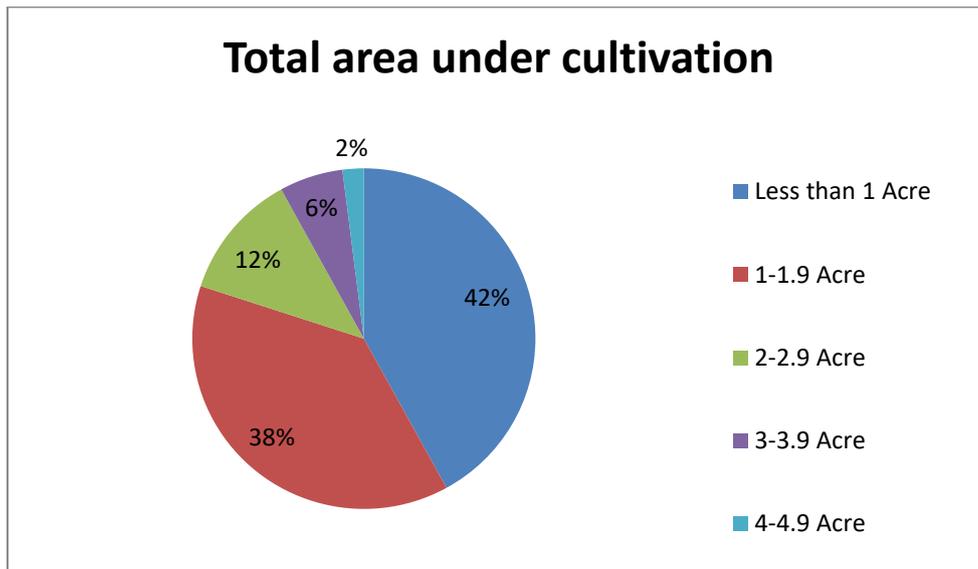


Fig 78: Area under cultivation in 2020 in Myorpur

Production of Rice

Figure 79 shows that almost 28% of the respondents had a production up to 5 tons and between 10.1 and 15 tons. 26% of them had up to 5 tons production, 10% of the respondents had between 15.1 and 20 tons, 6% had a production of more than 25 tons. Only 2% of the respondents had between 20.1 and 25 tons of production.

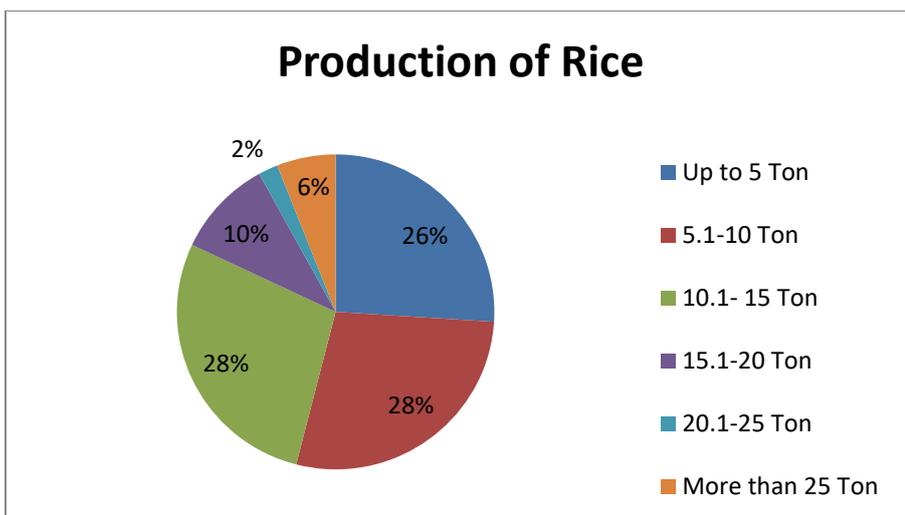


Fig 79: Production of Rice in 2020 in Myorpur

Per quintal selling price of Rice

Figure 80 shows that almost 60% of the respondents sold rice at a price of Rs 900. 10% of them sold it for Rs 850. 12% of the respondents sold the rice for Rs 800, while 7% of them sold it at Rs 950. 8% of the respondents sold the rice at Rs 1000 and only 3% managed to get a price of Rs 1200.

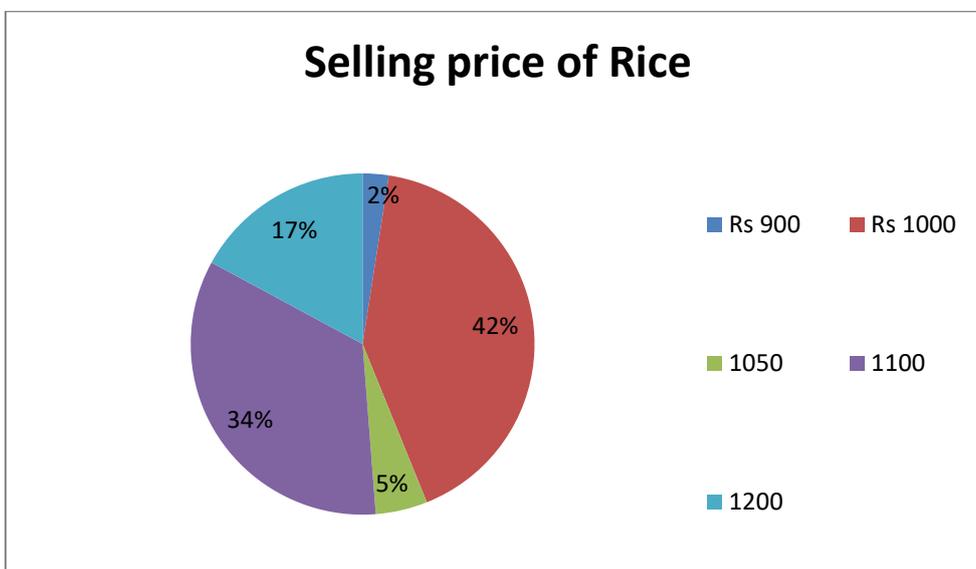


Fig 80: Per quintal selling price of rice in 2020 in Myorpur

Kharif Crop 2018- Other than Rice

Crops grown in the area other than rice are Sesame, Maize and Red Gram.

Varieties of Sesame, Maize & Red gram grown

Figure 81 shows that almost 96% of the respondents grew Desi variety and only 4% grew Shankar.

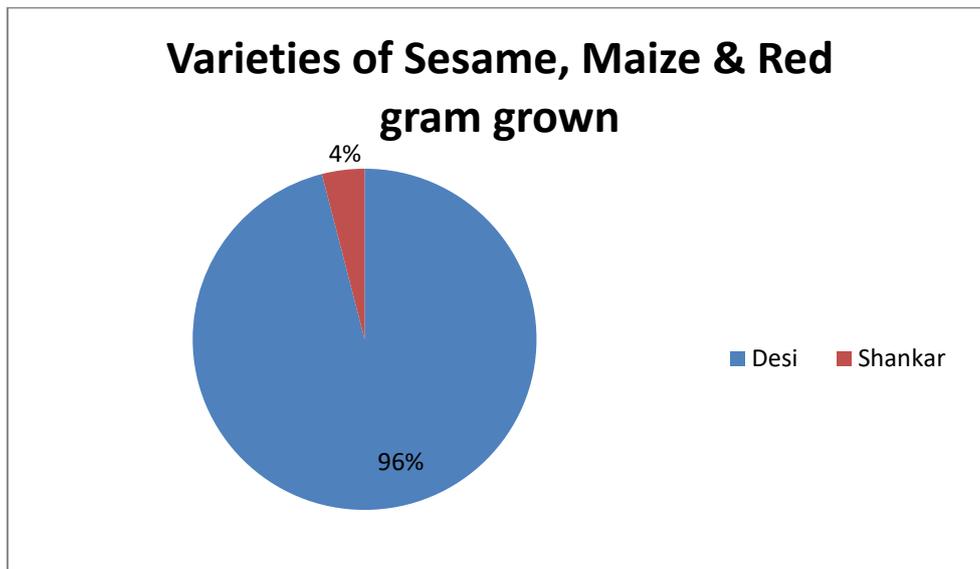


Fig 81: Varieties of Sesame, Maize & Red Gram grown in 2018 in Myorpur

Total area under cultivation

Figure 82 shows that almost 78% of the respondents had area of less than 1 acre under cultivation. 18% of them cultivated between 1 and 1.9 acres, 4% cultivated between 2 and 2.9 acres and none more than that.

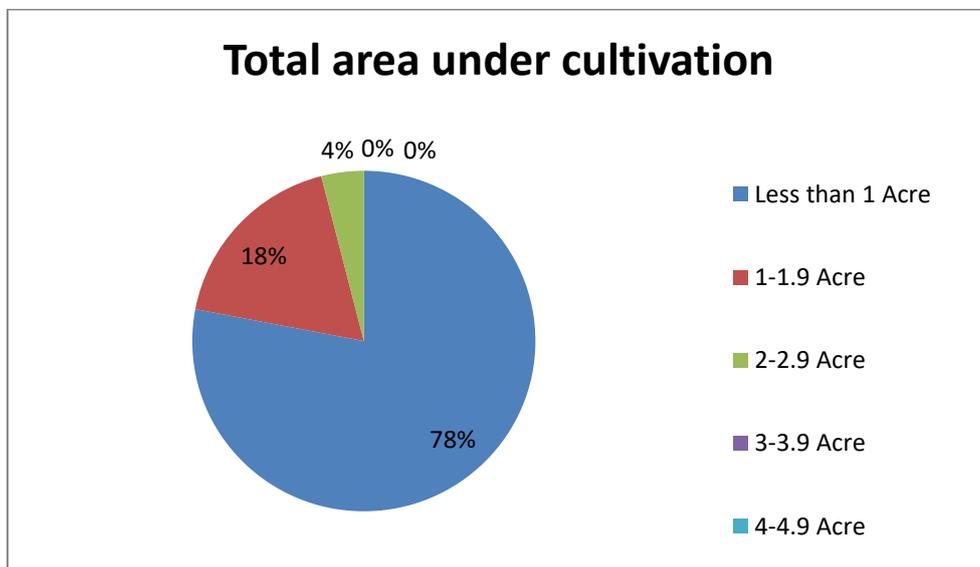


Fig 82: Total area under cultivation in 2018 in Myorpur

Production of Sesame, Maize and Red gram

Figure 83 shows that almost 69% of the respondents had a production up to 5 tons and 22% of them produced between 5.1 and 10 tons of crops. 5% of the

respondents had a production of more than 25 tons. Only 2% each had a production between 10.1 and 15 tons and 15.1 and 20 tons.

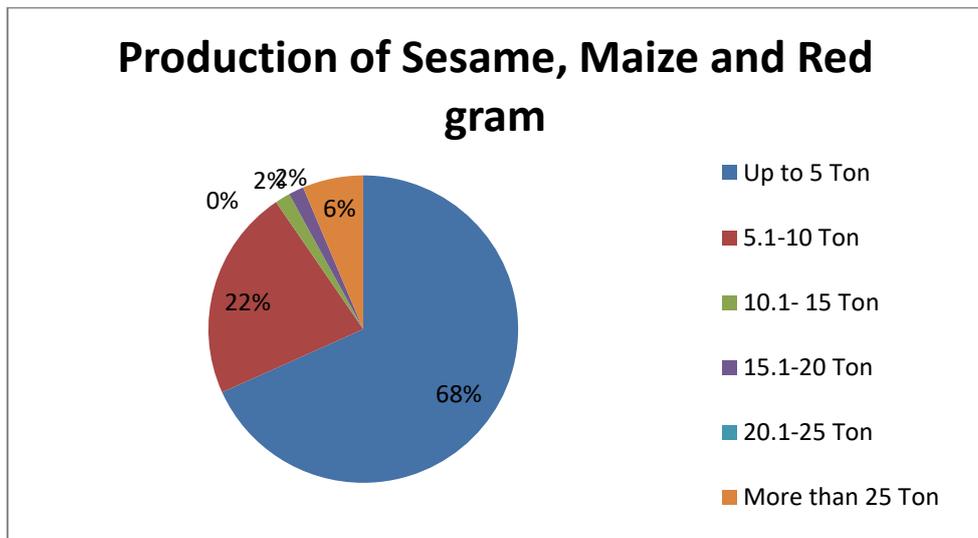


Fig 83: Production of Sesame, Maize and Red gram in 2018 in Myorpur

Selling price of Sesame, Maize and Red gram

Figure 84 shows that all the farmers did not sell their entire produce some of them kept a part of it for their household consumption. Almost 47% of the respondents sold their crops at a SP of less than Rs 100. 25% of them sold it for Rs 700. 18% of the respondents sold it for Rs 800, while 4% sold it at Rs 4000. 2% of them sold it at Rs 750, Rs 850 and Rs 3000, each.

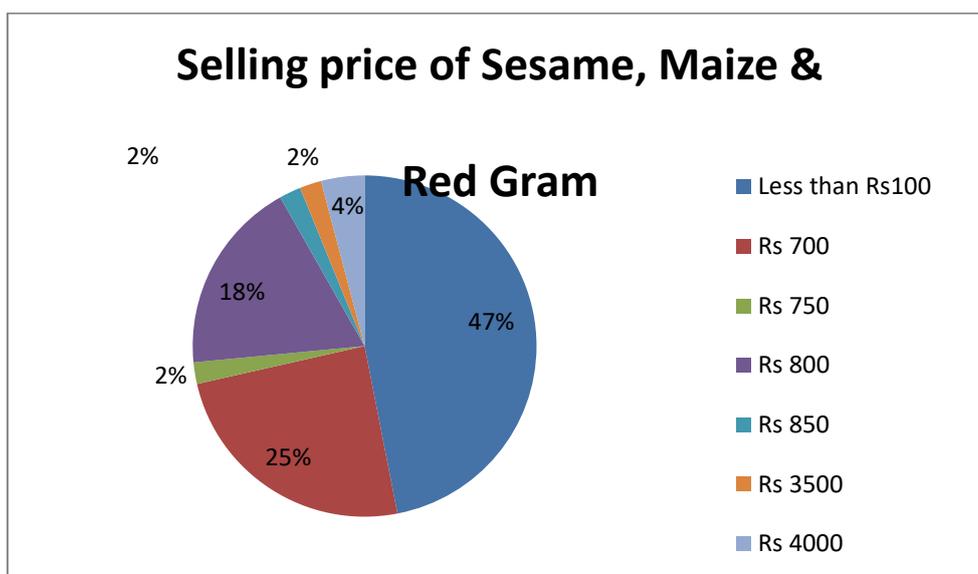


Fig 84: Selling price of Sesame, Maize and Red gram in 2018 in Myorpur

Kharif Crop 2019 - Other than Rice

The crops grown in the area other than rice are Sesame, Maize and Red gram.

Varieties of Sesame, Maize & Red gram grown

Figure 85 shows that almost 96% of the respondents grew the Desi variety and only 2% grew Shankar.

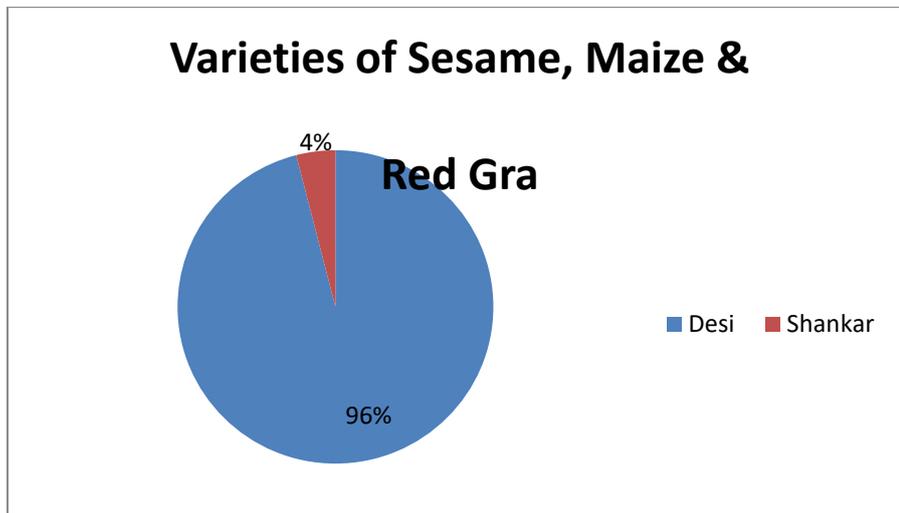


Fig 85: Varieties of Sesame, Maize & Red gram grown in 2019 in Myorpur

Total area under cultivation

Figure 86 shows that almost 78% of the respondents had an area of less than 1 acre under cultivation. 18% of them cultivated between 1 and 1.9 acres. 4% of the respondents had between 2 and 2.9 acres of area under cultivation and none more than that.

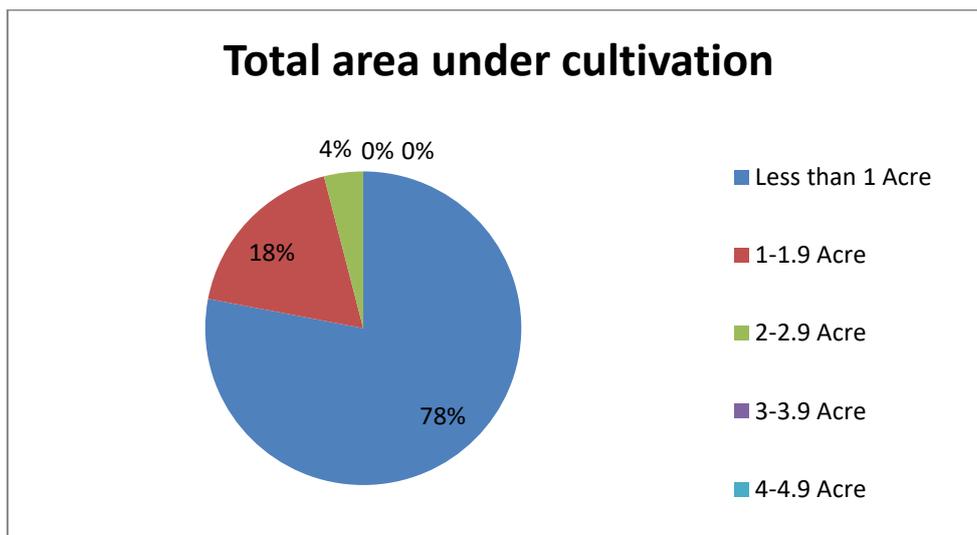


Fig 86: Total area under cultivation in 2019 in Myorpur

Production of Sesame, Maize and Red gram

Figure 87 shows that almost 82% of the respondents had a production up to 5 tons and 4% each between 5.1 and 10 tons and 20.1 and 25 tons. 8% produced more than 25 tons and 2% between 10.1 and 15 tons.

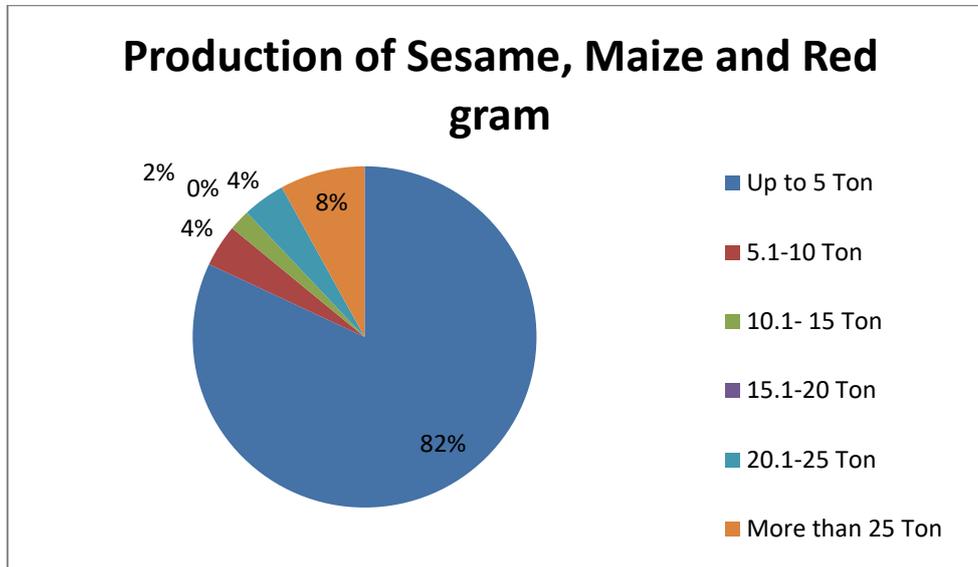


Fig 87: Production of Sesame, Maize and Red gram in 2019 in Myorpur

Per quintal Selling Price of Sesame, Maize and Red gram

Figure 88 shows that all the farmers did not sell their entire produce, some kept a part of it for household use. Almost 50% of the respondents sold their crops at a price of less than Rs 100. 25% sold it at Rs 800. 18% of them sold it for Rs 900, 6% of the respondents sold their crops for a price of Rs 750. 2% of the respondents each, sold their crops for a price of Rs 4000, Rs 5000 and Rs 6000.

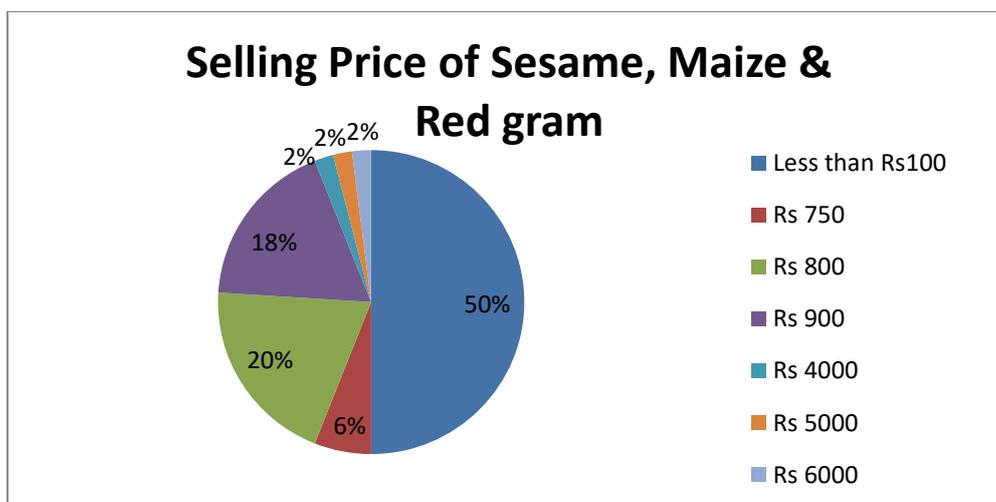


Fig 88: Selling Price of Sesame, Maize & Red Gram in 2019 in Myorpur

Kharif Crop 2020- Other than Rice

The crops grown in the area other than rice are Sesame, Maize and Red gram.

Varieties of crops grown

Figure 89 shows that almost 96% of the respondents grew the Desi variety and only 4% grew Shankar.

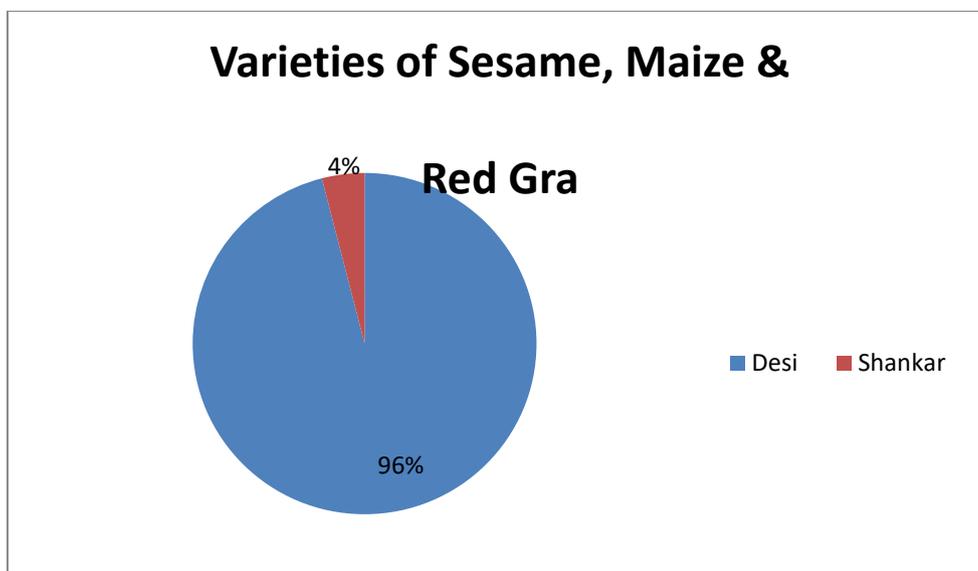


Fig 89: Varieties of Sesame, Maize & Red Gram in 2020 in Myorpur

Total area under cultivation

Figure 90 shows that almost 80% of the respondents had an area of less than 1 acre under cultivation. 16% of them cultivated between 1 and 1.9 acres. 4% of them had between 2 and 2.9 acres under cultivation and none more than that.

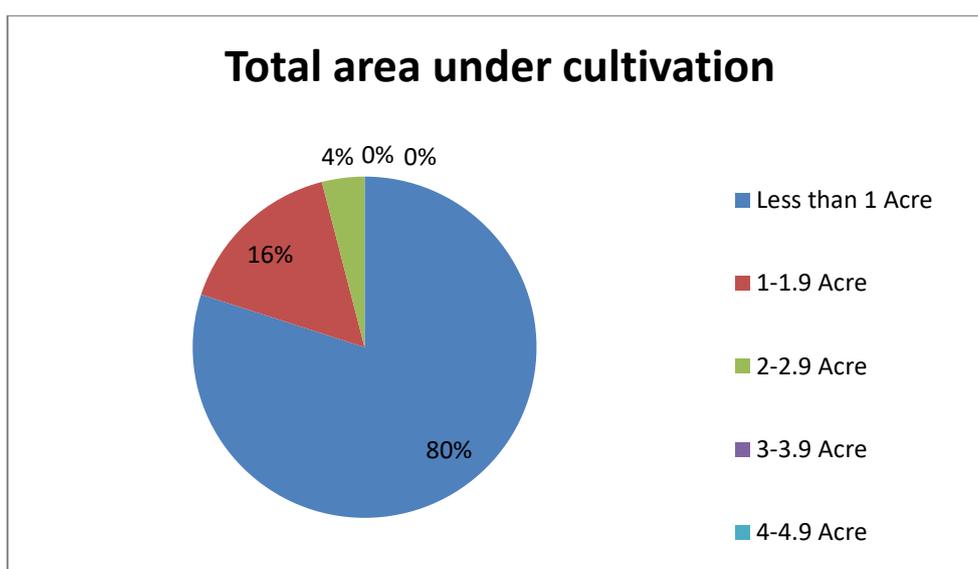


Fig 90: Total area under cultivation

Production of Sesame, Maize and Red gram

Figure 91 shows that almost 82% of the respondents had a production up to 5 tons and 4% between 20.1 and 25 tons and 2% produced between 5.1 and 10 tons.

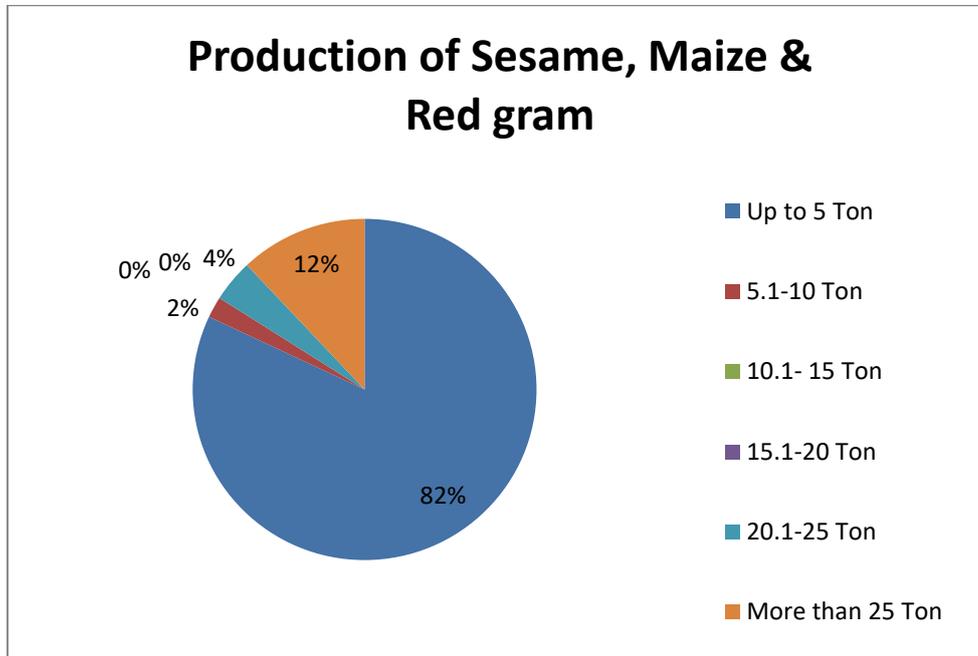


Fig 91: Production of Sesame, Maize & Red gram in 2020 in Myorpur

Selling price of Sesame, Maize and Red gram

Figure 92 shows that all the farmers did not sell the entire quantity of their produce, some of them kept a part of it for their household use. Almost 52% of the respondents sold crops at a price of Rs 1000. 18% sold it for Rs 900, 11% for an less than Rs 100, 7% sold it at Rs 1100 and 4% each, sold it at Rs 5000, Rs 6000 and Rs 7000.

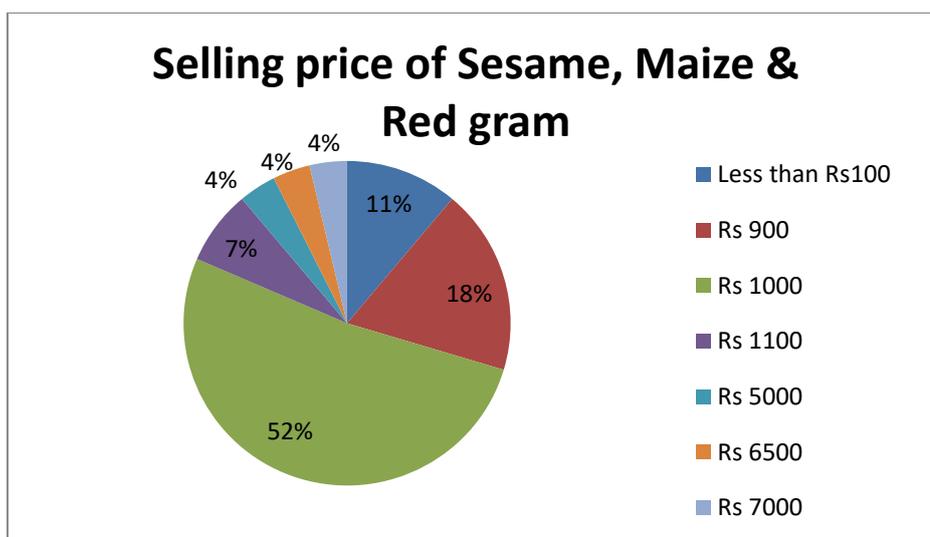


Fig 92: Selling Price of Sesame, Maize & Red gram in 2020 in Myorpur

Rabi Crops (2020)

Table 13 reflects that the main crop grown during *rabi* season is wheat. Apart from that mustard, green gram, red gram and vegetables such as potato, tomato and cabbage are also grown. Wheat is grown in an area of 87.84 acres. Even though production is 538.9 quintals, only 135 quintals is sold in the market. A large part of the produce is kept for home consumption. Mustard, green gram, red gram and vegetables such as potato, tomato and cabbage were grown in an area of approximately 15 acres. Total production was 382.95 quintals out of which only 49.3 quintals were sold at an average selling price of Rs 2616.6 per quintal.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Average price received per quintal (₹)
1	Wheat	87.84	538.9	1515	135	1547
2	Mustard, Red gram, green gram, Potato, Tomato, Cabbage	14.04	382.95	6742	49.3	2616.6

Table 13: Crops grown during rabi season in 2020 in Myorpur

No new crop was cultivated by farmers in the surveyed area. Farmers restricted themselves to cultivating Wheat and few vegetables.

Rabi Crop 2018 - Wheat

Varieties of Wheat grown

Figure 93 shows that almost 63% of the respondents grew the Malviya variety, 34% grew the Desi variety and 3% grew the Hybrid variety.

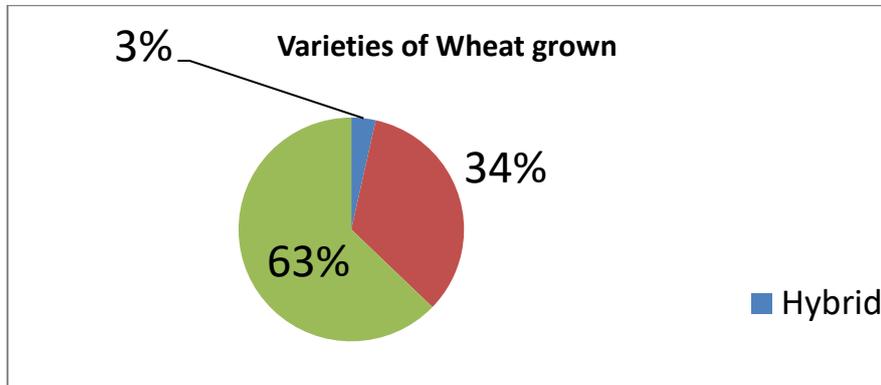


Fig 93: Varieties of wheat grown in Myorpur in 2018

Total area under cultivation

Figure 94 shows that almost 46% of the respondents had an area less than 1 acre under cultivation. 44% of them cultivated between 1 and 1.9 acres. 8% of the respondents cultivated between 2 and 2.9 acres of area, whereas only 2% cultivated between 4 and 4.9 acres.

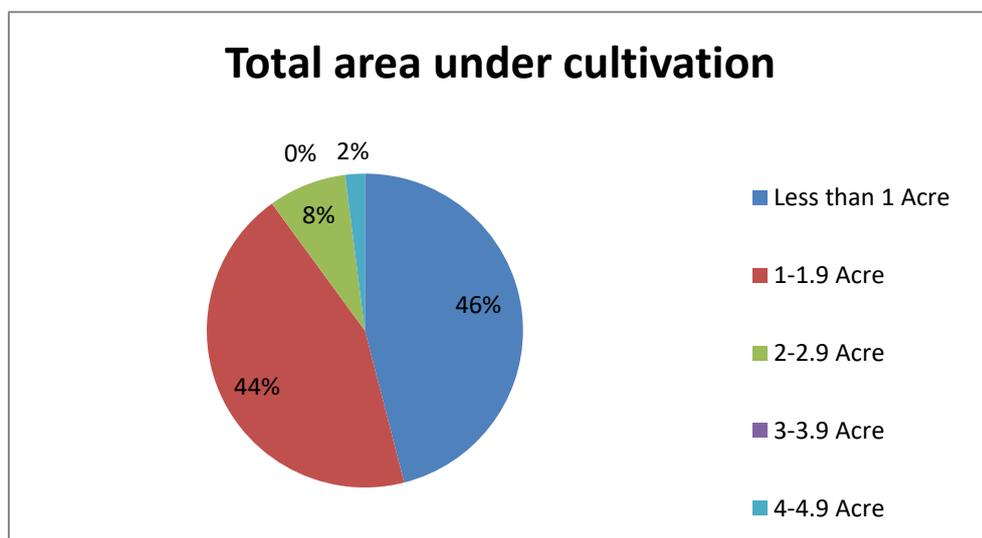


Fig 94: Total area under cultivation in Myorpur in 2018

Production of Wheat

Figure 95 shows that almost 67% of the respondents had a production up to 5 tons and 22% had between 5.1 and 10 tons. 8% had between 10.1 and 15 tons of production and 1% each produced between 15.1 and 20 tons, 20.1-25 tons and more than 25 tons.

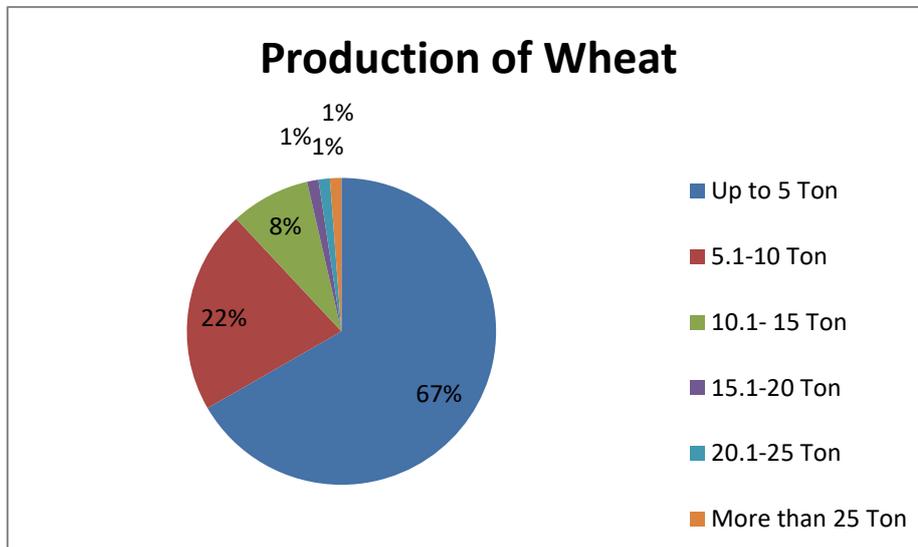


Fig 95: Production of Wheat in Myorpur in 2018

Per quintal Selling price of Wheat

Figure 96 shows that all the respondents did not sell the entire quantity of their produce, some kept a part of it for home consumption. Almost 55% of the respondents sold their wheat at Rs 900. 13% of them sold it for Rs 850, whereas 19% of them sold it at Rs 800. Only 7% managed to sell their wheat at Rs 1000. 3% each, sold their produce for a price of Rs 950 and Rs 3000.

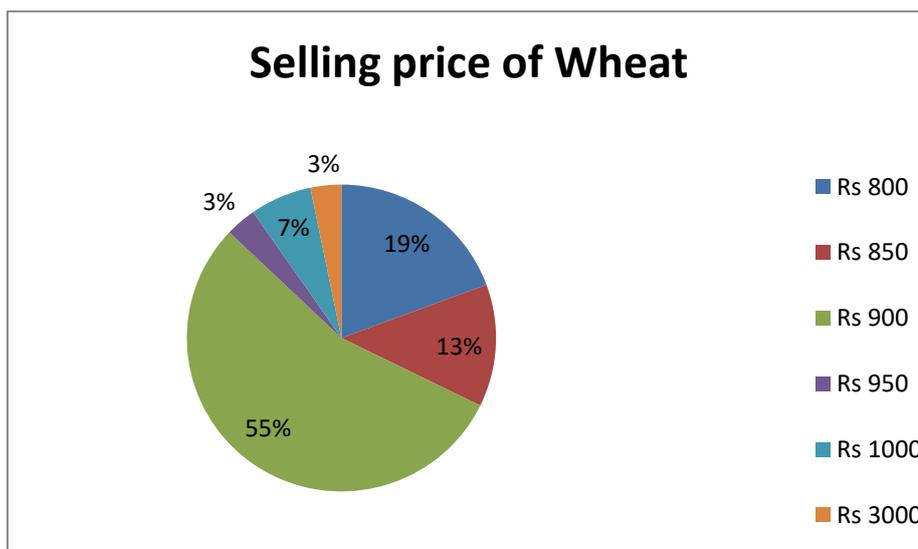


Fig 96: Selling price of Wheat in Myorpur in 2018

Rabi Crop 2019 - Wheat

Varieties of Wheat grown

Figure 97 shows that almost 76% of the respondents grew the Malviya variety and only 2% grew the Desi variety of wheat. 22% grew the Hybrid variety of wheat.

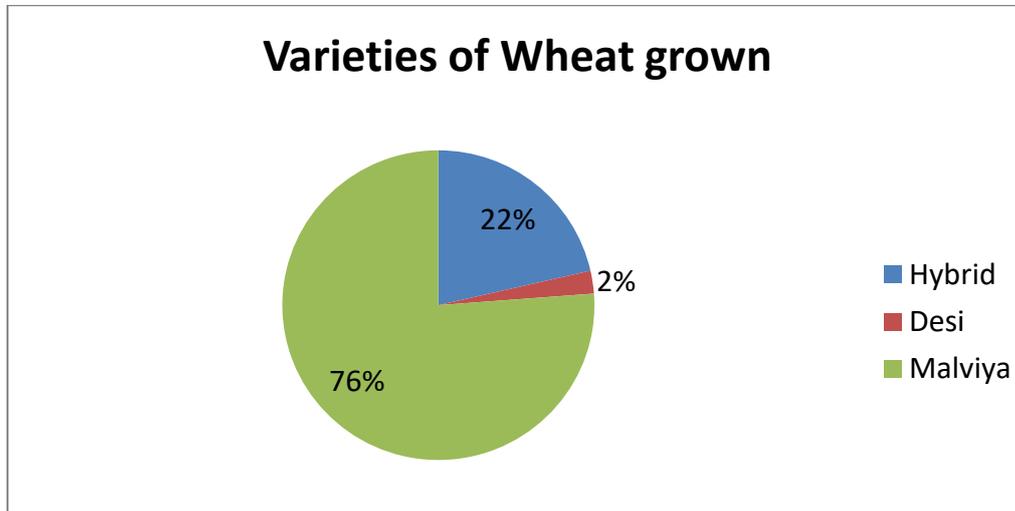


Fig 97: Varieties of Wheat grown in Myorpur in 2019

Total area under cultivation

Figure 98 shows that almost 46% of the respondents had an area of less than 1 acre under cultivation. 44% had between 1 and 1.9 acres, whereas 8% had between 2 and 2.9 acres of area under cultivation. Only 2% of the respondents had between 4 and 4.9 acres under cultivation.

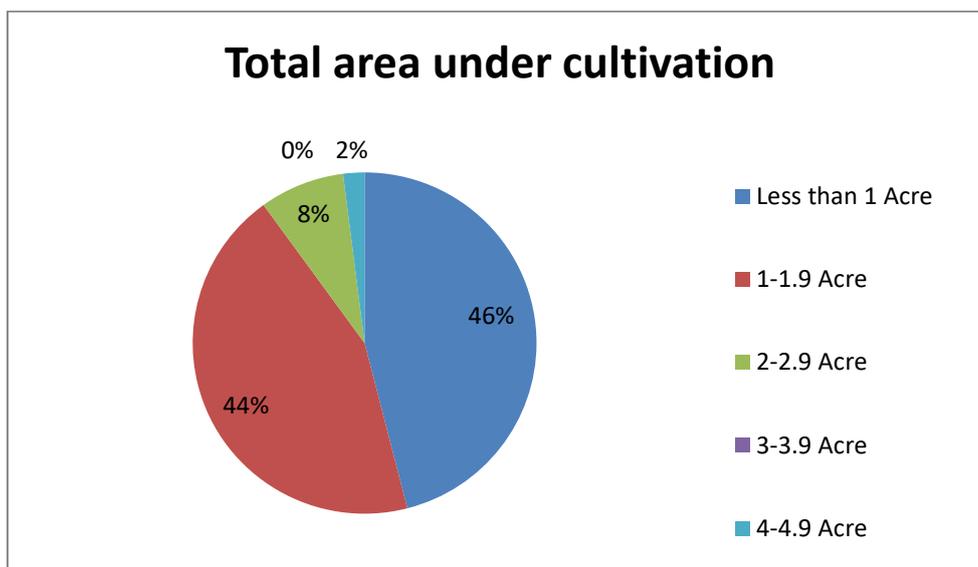


Fig 98: Total area under cultivation in Myorpur in 2019

Production of Wheat

Figure 99 shows that almost 46% of the respondents had a production between 5 and 10 tons and 36% produced up to 5 tons. 10% had between 10.1 and 15 tons. 6% of the respondents had a production between 15.1 and 20 tons. Only 2% produced between 20.1 and 25 tons of wheat.

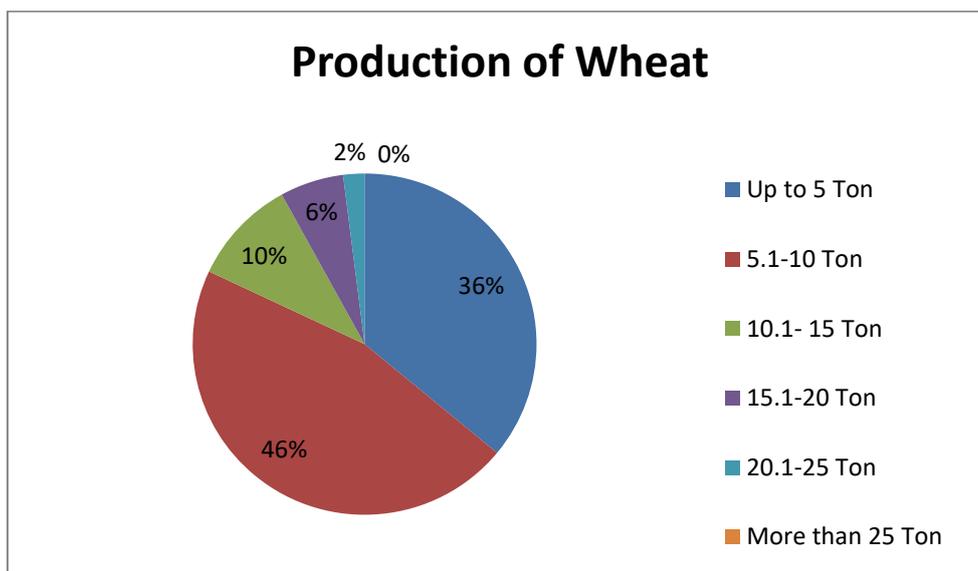


Fig 99: Production of Wheat in Myorpur in 2019

Selling price of Wheat

Figure 100 shows that all the respondents did not sell the entire quantity of their produce, some kept a part of it for home consumption. Almost 39% of the respondents sold it at a price of Rs 900. 27% of them sold it for Rs 1000. 14% of the respondents sold the wheat at a price of Rs 850. 5% each sold it for Rs 950, Rs 1100. Rs 1200 and Rs 800.

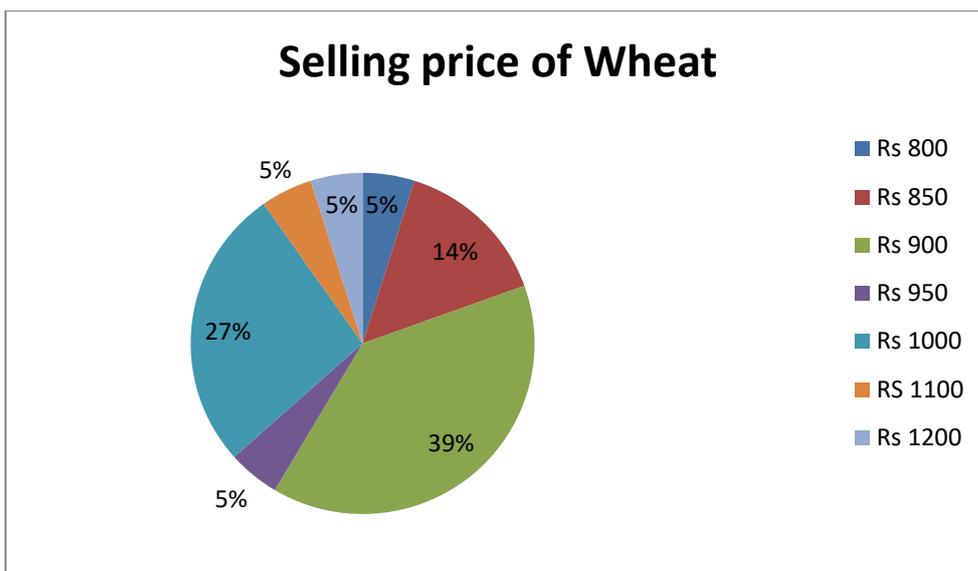


Fig 100: Selling price of Wheat in Myorpur in 2019

Rabi Crop 2020 - Wheat

Varieties of Wheat grown

Figure 101 shows that almost 98% of the respondents grew the Malviya variety and only 2% grew the Desi variety of wheat.

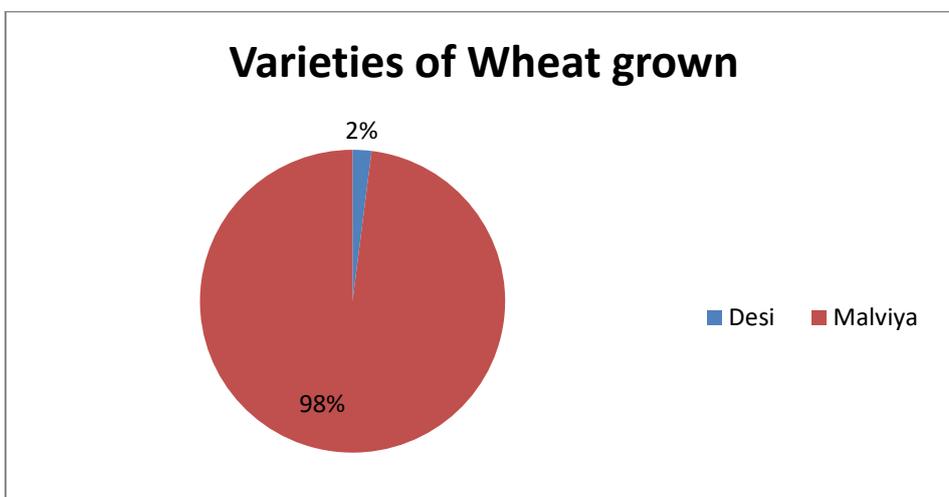


Fig 101: Varieties of Wheat grown in Myorpur in 2020

Total area under cultivation

Figure 102 shows that almost 46% of the respondents had an area of less than 1 acre under cultivation. 44% of them cultivated between 1 and 1.9 acres, 8% cultivated between 2 and 2.9 acres. Only 2% had an area between 4 and 4.9 acres under cultivation.

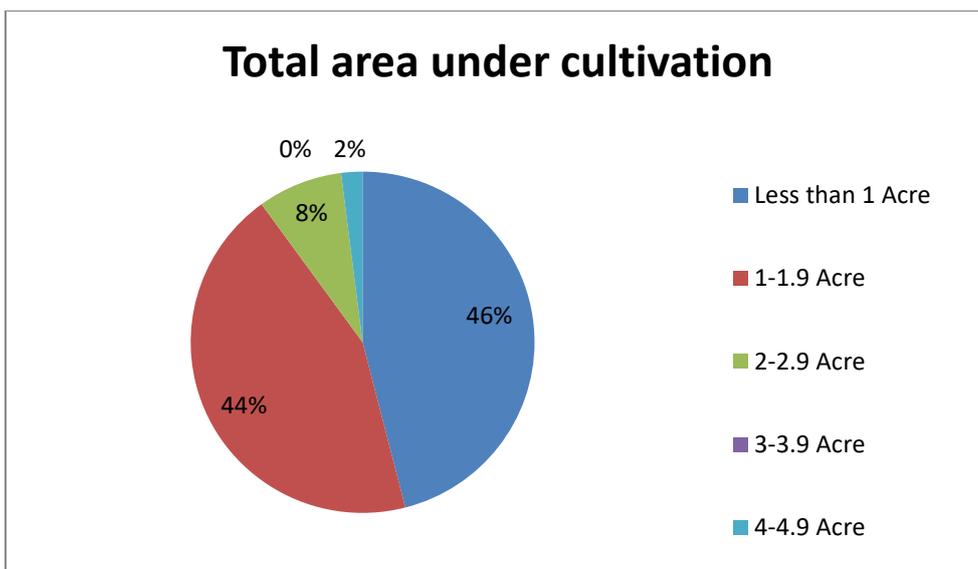


Fig 102: Total area under cultivation in Myorpur in 2020

Production of Wheat

Figure 103 shows that almost 38% of the respondents had a production between 5.1 and 10 tons and up to 5 tons. 20% of them produced between 10.1 and 15 tons. Only 4% had a production between 20.1 and 25 tons of wheat.

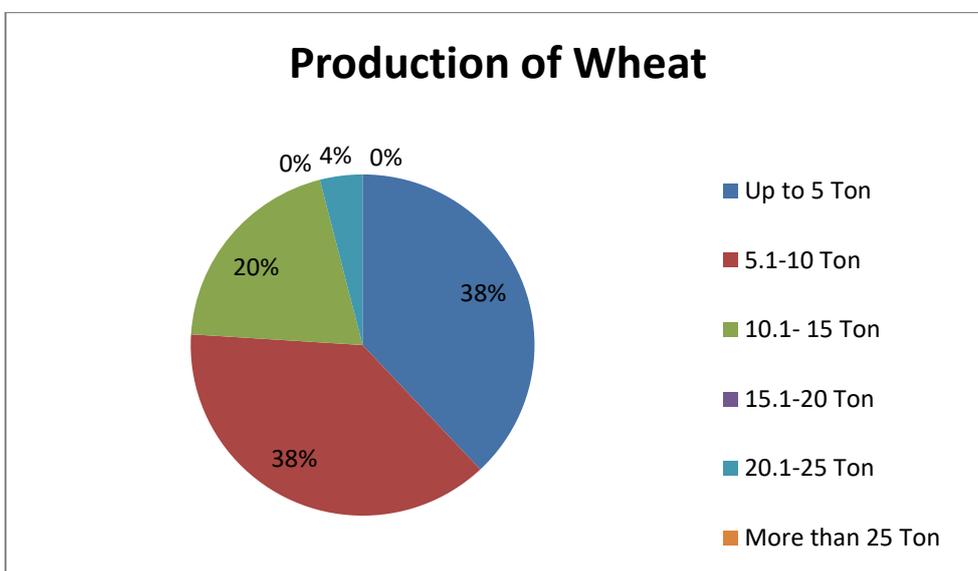


Fig 103: Production of Wheat in Myorpur in 2020

Selling price of Wheat

Figure 104 shows that all the respondents did not sell the entire quantity of their produce, some kept a part of it for home consumption. Almost 43% of the

respondents sold it at Rs 1200. 25% sold it for Rs 1000, whereas 8% of them sold the wheat at Rs 1300. 5% each, sold it at Rs 900 and Rs 1400. 2% of the respondents sold it for Rs 1150.

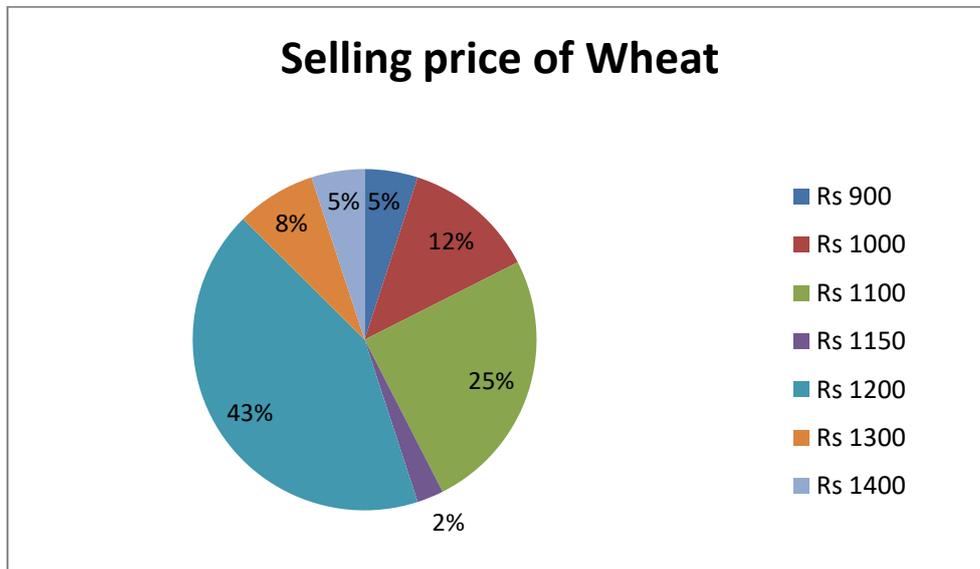


Fig 104: Selling price of Wheat in Myorpur in 2020

Rabi Crop 2018- Other than Wheat

Crops grown in the area other than wheat are mustard, red gram, green gram, potato, tomato and cabbage.

Varieties of Mustard, Red gram, Green gram, Potato, Tomato and Cabbage grown

Figure 105 shows that almost 98% of the respondents grew the Desi variety and only 2% grew the Samrat variety.

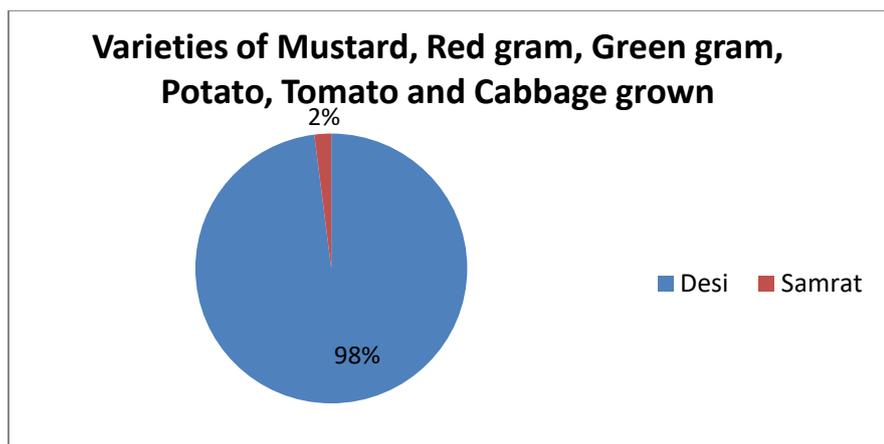


Fig 105: Varieties of Mustard, Red gram, Green gram, Potato, Tomato and Cabbage grown in Myorpur in 2018

Total area under cultivation

Figure 106 shows that almost 98% of the respondents had an area of less than 1 acre under cultivation. 2% cultivated between 2 and 2.9 acres and none more than that.

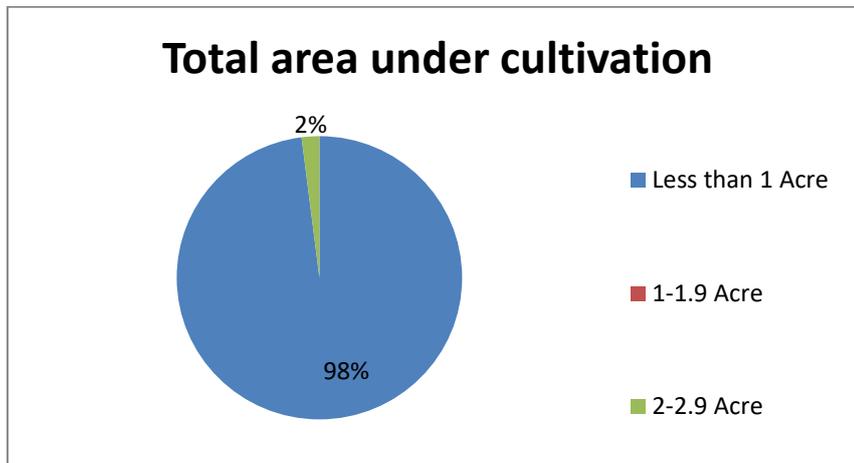


Fig 106: Total area under cultivation in Myorpur in 2018

Production of Sesame, Maize and Red gram

Figure 107 shows that almost 70% of the respondents had a production up to 5 tons and 16% produced more than 25 tons. 8% of them produced between 15.1 and 20 tons of crops. Only 6% of the respondents produced between 5 and 10 tons.

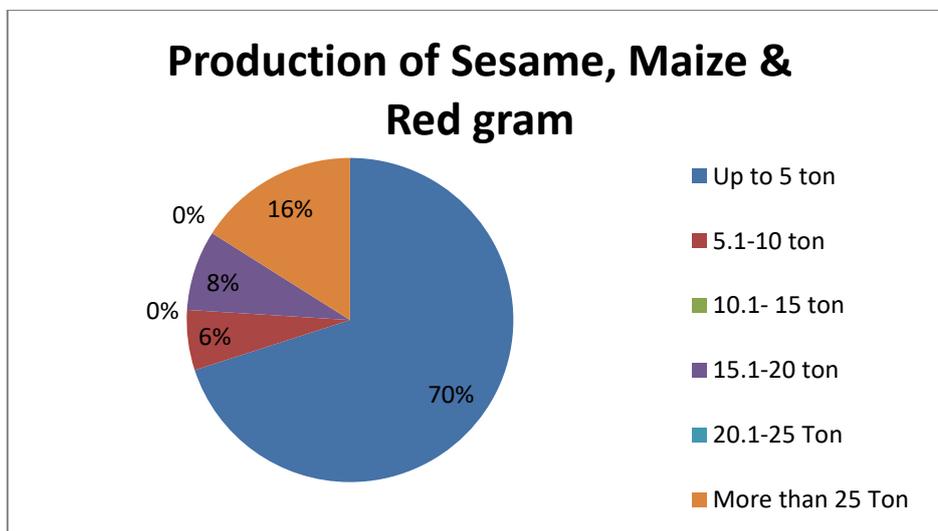


Fig 107: Production of Sesame, Maize and Red gram in Myorpur in 2018

Selling Price of Sesame, Maize and Red gram

Figure 108 shows that all the respondents did not sell the entire quantity of their produce, some kept a part of it for home consumption. Almost 35% of the

respondents sold crops at a price of Rs 3500. 12% each, of the respondents sold their produce at Rs 4000 and less than Rs 100. 17% of them sold it for Rs 3000. 6% each, sold their crops for Rs 700, Rs 1000 and Rs 2500.

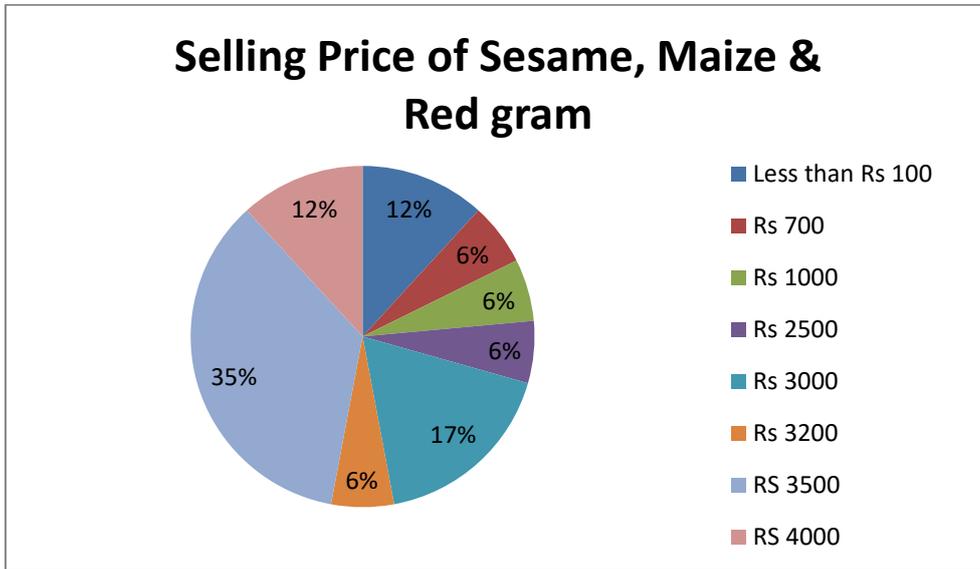


Fig 108: Selling Price of Sesame, Maize and Red gram in Myorpur in 2018

Farming Ecosystem

Agricultural labor used by the farmers

Figure 109 shows that 100% the farmers involved their family members in the agricultural field. This way they could save the cost of labor.

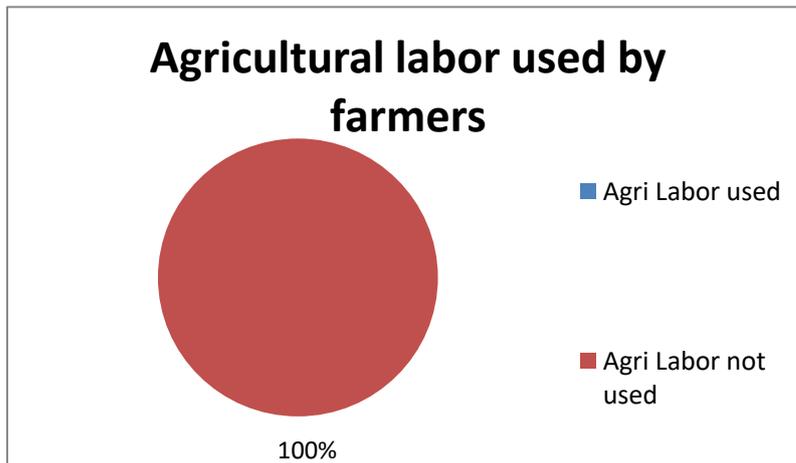


Fig 109: Agricultural labor used by the farmers

Wages of an agricultural laborer are ₹100 per day for both male and female laborers.

Source of purchasing seeds

Figure 110 shows the various sources from where farmers can purchase seeds. But all the farmers in the surveyed area bought seeds only from retailers.

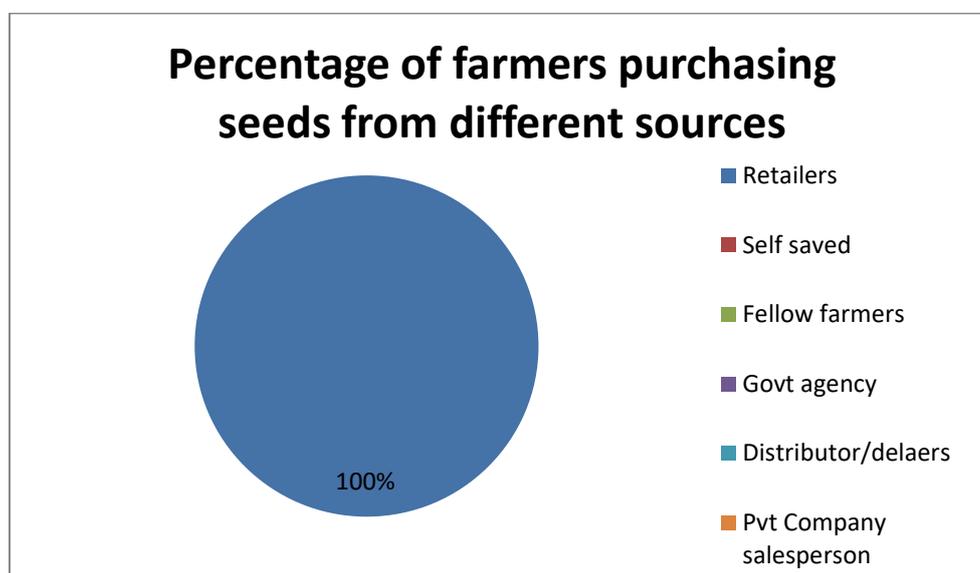


Fig 110: Percentage of farmers purchasing seeds from different sources

Fertilizer dose used in different crops

Table 14 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.

Fertilizers used in different crops (kg/acre)								
	FYM	Urea	DAP	MOP	Zinc	Micronutrient	Vermicompost	Others
1. Rice	0	57.6	34.6	0	0.32	0	92.2	0
2. Wheat	0	47.4	28.6	0	0.04	0	128	0
3. Sesame, Red gram, Maize	0	4.6	2.2	0	0	0	29.4	0
4. Mustard, Red gram, Green gram, Potato, Tomato, Cabbage	0	1.9	0.4	0	0	0	27.8	0

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

Expenses incurred in pesticide spray

Table 15 shows the cost incurred in spray 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
1. Rice	51.2
2. Wheat	50.8
3. Sesame, Red Gram, Maize	6.38
4. Mustard, Red gram, Green Gram, Potato, Tomato, Cabbage	6.38

Table 16: Expenses incurred in spraying pesticides

Source of purchasing inputs

Figure 111 shows that 98% of the respondent farmers purchased inputs from retailers and only 2% of the respondent farmers purchased inputs from distributors/dealers.

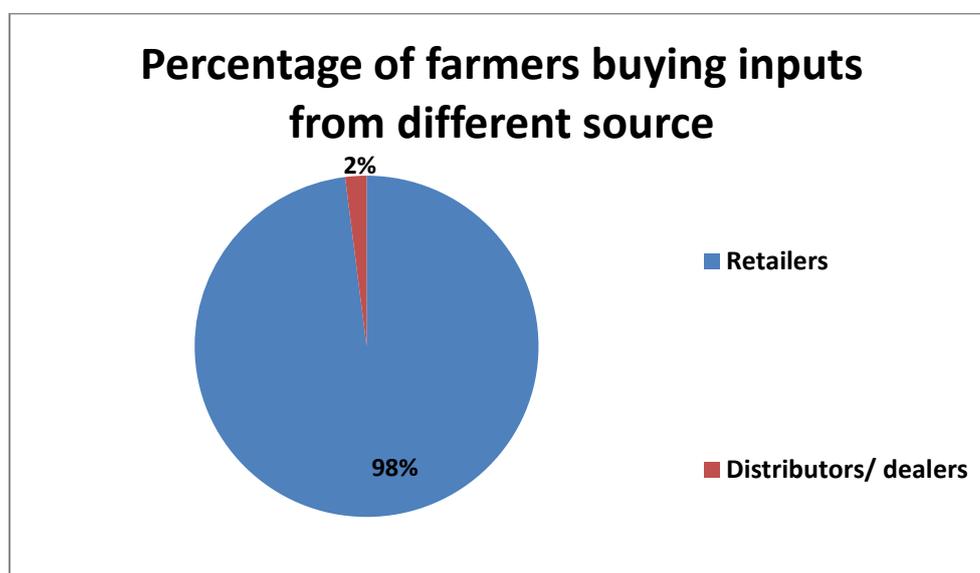


Fig 111: Percentage of farmers buying inputs from different sources

Constraints faced by farmers during production process

Table 17 shows the various constraints that farmers face during the production process. They live in rural areas and often do not have access to various inputs and technology. One of the main constraints faced by the farmers is poor access to necessary technology. Technology might be in the form of new seed varieties, fertilisers, pesticides, machinery. Another constraint faced by the farmers is 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 utmost necessary. Unavailability of fertilizers and awareness of their optimal use is one more constraint that the farmers face. Other constraints faced by the farmers are lack of irrigation facility, lack of knowledge about maturity indices, lack of accessibility to credits, non-availability of agricultural laborers and high pest and disease incidences.

Main constraints	Avg score	Rank
Poor access to necessary technology	68.36	1
Lack of better-quality varieties seeds & planting materials	66.25	2
Lack of timely availability of fertilizers	58.22	3
Lack of irrigation facility	53.77	4
High pest and disease incidence	51.25	5

Table 17: Constraints faced by farmers during production process

Extension advisories regarding crop cultivation

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

Figure 112 shows the various agencies that the farmers contacted for their problems related to farm practices and crop diseases. Most of the farmers contacted their peer farmers for their problems. 48% of the respondent farmers of the surveyed area contacted their peer farmers for getting advice. 38% of the respondent farmers contacted dealers/distributors for getting advice on farm practices. 8% of the farmers contacted a helpline number for their problems. And 2% of them contacted the State Agricultural Dept. Usually, KVKs and universities are located far from villages, so farmers are often reluctant to go to these places. A negligible number of farmers contact NGOs, State Agricultural Department and dealer/distributors.

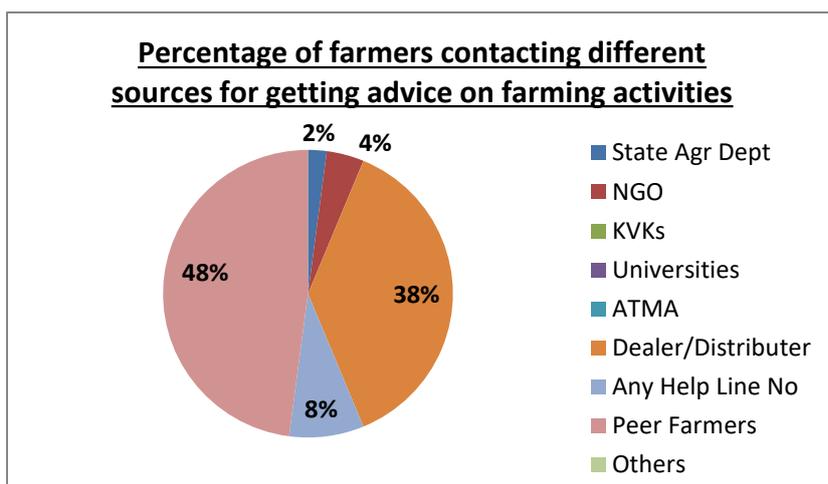


Fig 112 : Percentage of farmers contacting different sources for getting advice on farming activities

Percentage of farmers adopting the advice for farming activities

Figure 113 shows that almost 86% of farmers adopted the advice given to them by different agencies. Only 14% did not adopt the guidelines of the advice by various agencies.

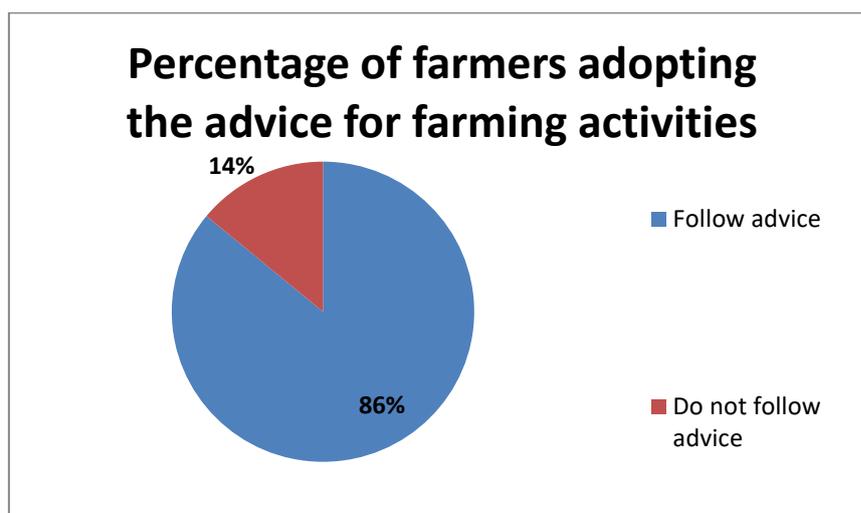


Figure 113: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 114 shows the various benefits that the farmers get from extension advisories including increase in yield, lesser input usage, increase in income/profit and decrease in cost of cultivation. 64% of the farmers experienced an increase in yield and 62% of farmers saw an increase in income/profit. 34% of them saw a decrease in cases of disease/pest infestation and 26% of the respondents saw a

decrease in input usage. 8% of the respondent farmers saw a decrease in the overall cost of cultivation after adopting the advice of extension advisories.

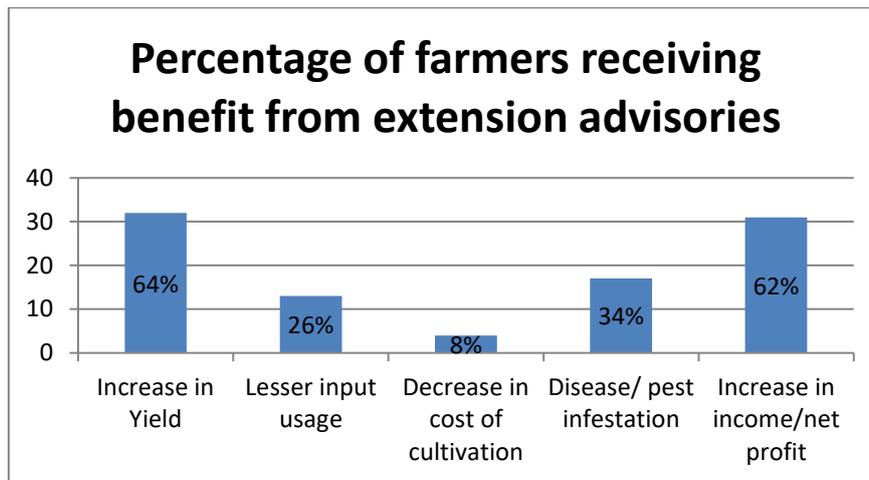


Fig 114: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 115 shows that only 14% of the farmers were unaware about the government schemes. Rest of the farmers were aware regarding the schemes extended by the government.

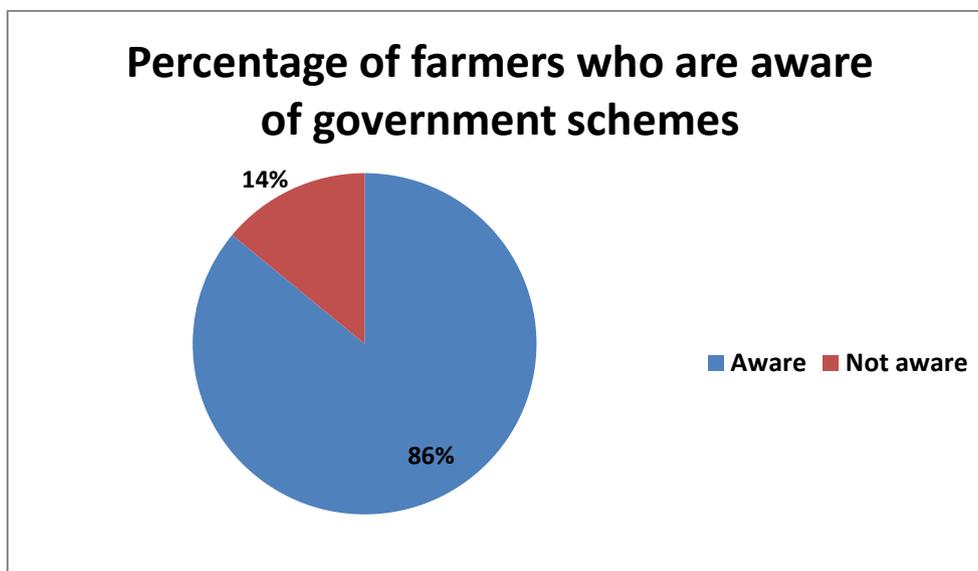


Fig 115: Percentage of farmers aware about government schemes

Accessibility to credit

Figure 116 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 such as documentation, long distance from village, high rate of interest, etc.

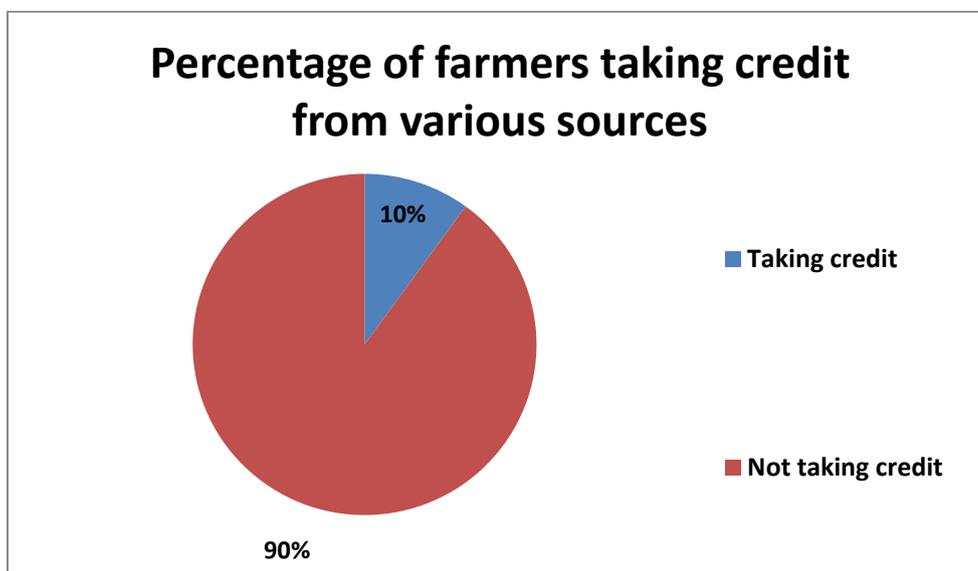


Fig 116: Percentage of farmers taking credit from various sources

Farmer Producer Organization

Awareness about benefits of FPOs

All the farmers were aware of the benefits of Farmer Producer Organisation.

Member of farmer's association/cooperative

None of the farmers were members of farmer's association/ cooperative.

Willingness of farmers to form groups on basis of crops

Hundred percent farmers have displayed willingness 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 packaging practices, post-harvest management, marketing, etc.

Problems faced during post-harvest packaging

Figure 117 shows that farmers faced many issues in post-harvest packaging. 44% of them, however, did not face any problems. 38% had problems with higher wages. 16% faced shortage of skilled labor and 2% faced non-availability of packaging material.

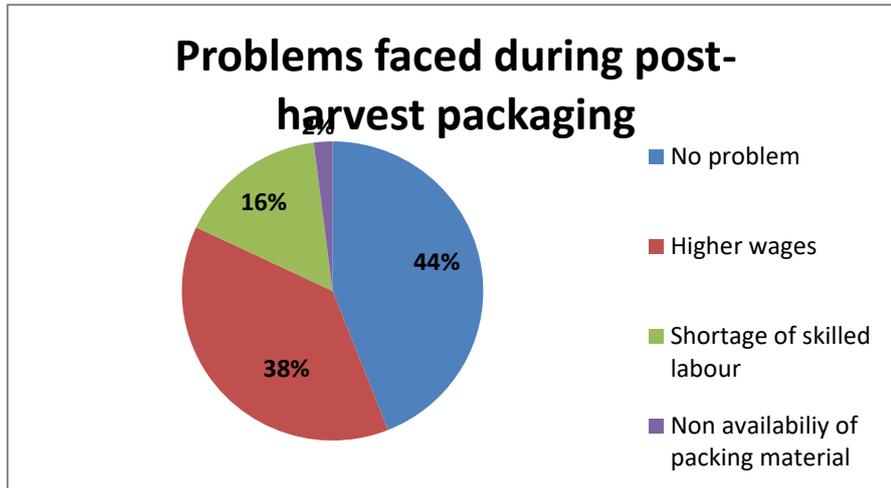


Fig 117: Problems faced during post-harvest packaging

Problems faced during post-harvest transportation

Figure 118 shows that farmers faced many issues in the post-harvest transportation, and many faced more than one problem. 48% of the respondents faced non-availability of vehicle. 19% of them had to pay high transportation charges. 20% of them encountered a lack of all-weather roads and found it to be a big problem. 2% even faced misleading information and only a miniscule 11% did not face any issues.

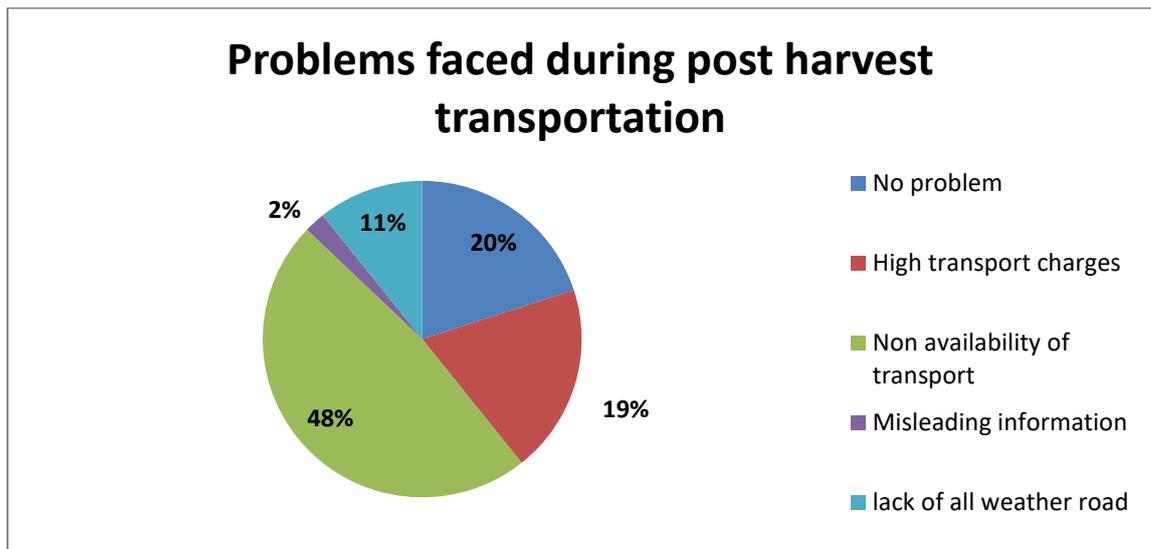


Fig 118: Problems faced during post-harvest transportation

Problems faced post-harvest due to malpractices

Figure 119 shows that farmers faced many issues because of the existing malpractices post-harvest, and many faced more than one problem. 43% of the farmers had to be content with part payment of their sales proceeds. 42% of them experienced multiplicity of charges. 2% of the farmers were quoted lower prices than the prevailing market rates. Just 13% of farmers said that they did not face any problems.

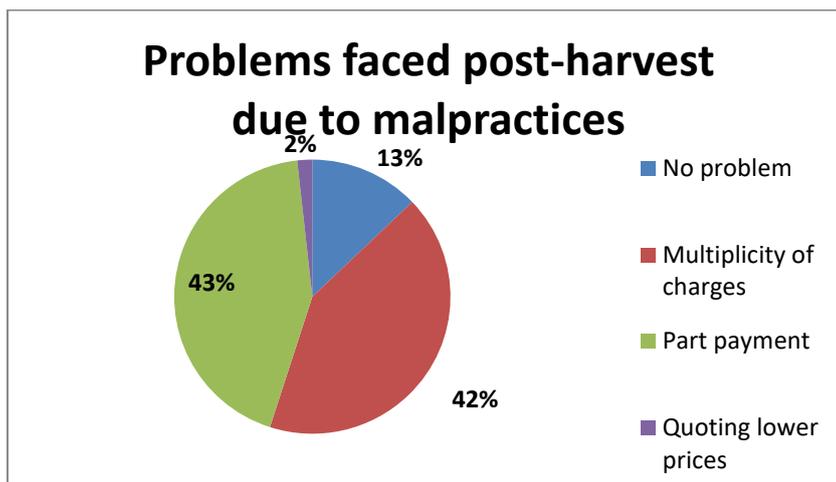


Fig 119: Problems faced post-harvest due to malpractices

Storage post-harvest

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

Problems of poor realization for crops post-harvest

The farmers in the area do not get a good selling price for their crops because of factors including unavailability of storage space, lower price offered by local traders/less price realization and unavailability of market.

Babhani

Babhani

Profile

Babhani is a Town in Babhani Block in Sonbhadra District of Uttar Pradesh State, India. It belongs to Mirzapur Division. It is located 95 kms towards South from District head quarters Robertsganj. It is a Block headquarter. Renukoot, Singrauli , Obra , Kota are the nearby Cities to Babhani.

Socioeconomic status of respondents

Age of the respondents

Figure 120 shows that most of the farmers (43%) were of the age group 31-45 years. 37% were of the age group 46-60 years and 12% were of the age group 61-75 years. 8% were of the age group 15-30 years.

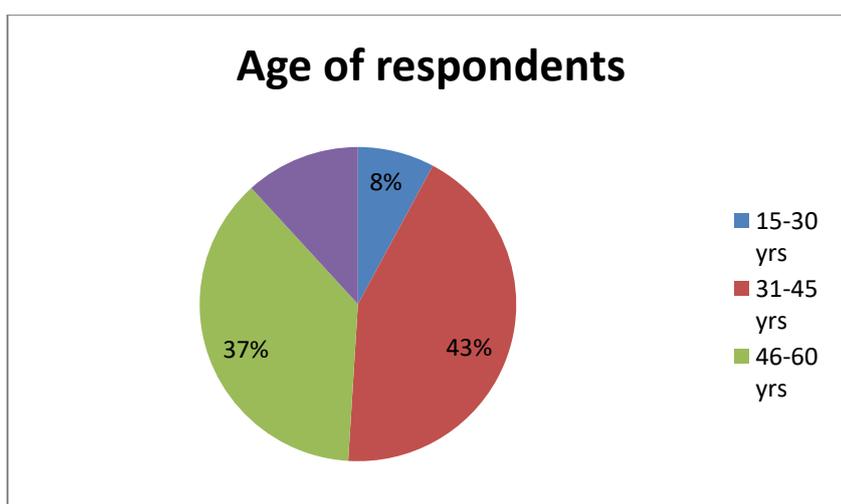


Fig 120: Age of respondents

Category of the respondents

Figure 121 shows that 64% of the respondents were SC/ST, 33% were OBC and 3% belonged to the general category.

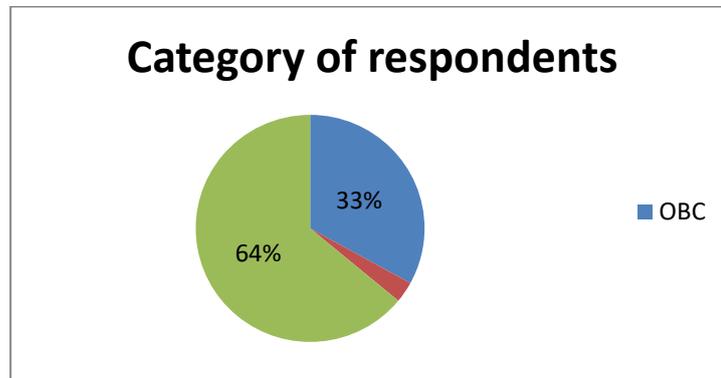


Fig 121: Category of respondents

Gender of respondents

Figure 122 shows that 6% of the respondents were female and others were male.

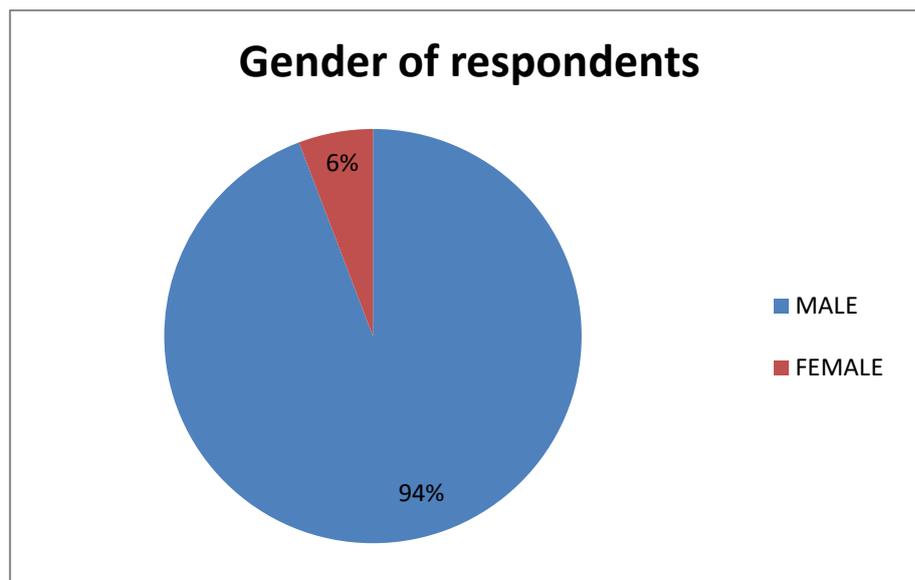


Fig 122: Gender of respondents

Educational qualification of respondents

Figure 123 shows that a majority of the respondents (63%) were educated till Class 8th. A total of 27% were illiterate and 8% were educated till class 10th and 2% were graduates and above.

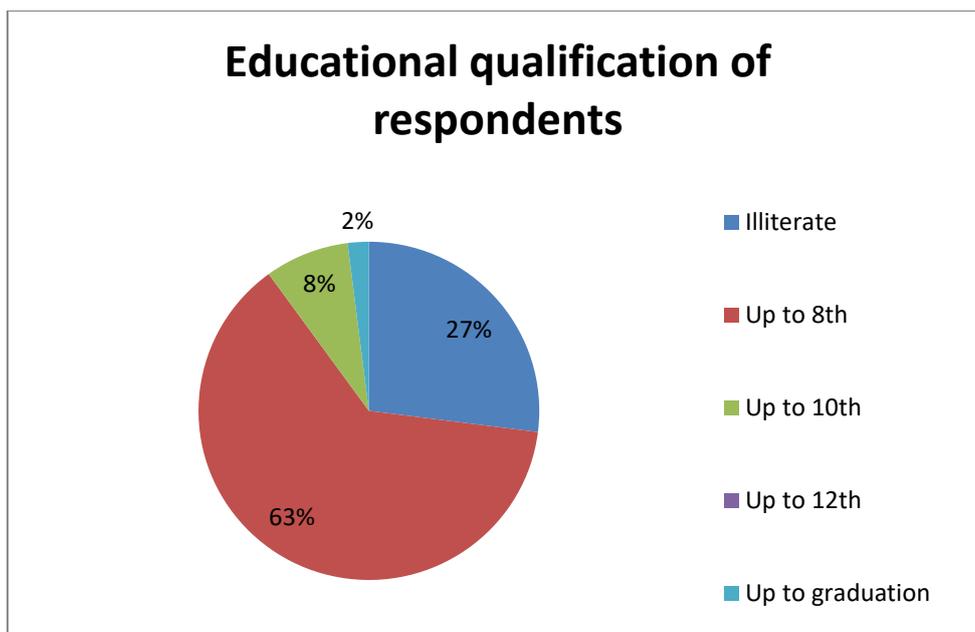


Fig 123: Educational qualification of respondents

Members in the family

Table 18 shows that the average number of adult members per family of the Babhani Block is 4. The average number of children per family is 3 and school-going children are 7. The average number of dependent members in a family is 2. So, it can be inferred that on an average, one person in the household is an earning member

Family members	Average number
Adult	4
Children	3
School going children	7
Dependent members	2

Table 18: Average number of members in a family

Involvement of women in agriculture

100 percent of the families have women involved in agriculture.

Activities performed by women

Figure 124 shows that women of the Babhani are involved in various agricultural activities such as sowing, weeding, harvesting, sorting and grading. Most of the women perform harvesting of crops. 100% of the women of the surveyed area perform harvesting and weeding. 64% of the women perform weeding activities. 64% of the women are involved in spray of pesticides. 50.9% of the females carry out

sorting and grading and 60.7% do some kind of processing. Only 2% women are involved in decision making of any kind and 39.2% do sowing. None of the women of the families are interested in engaging themselves in alternative agriculture-based income generation activities. Women usually perform household activities or farming activities.

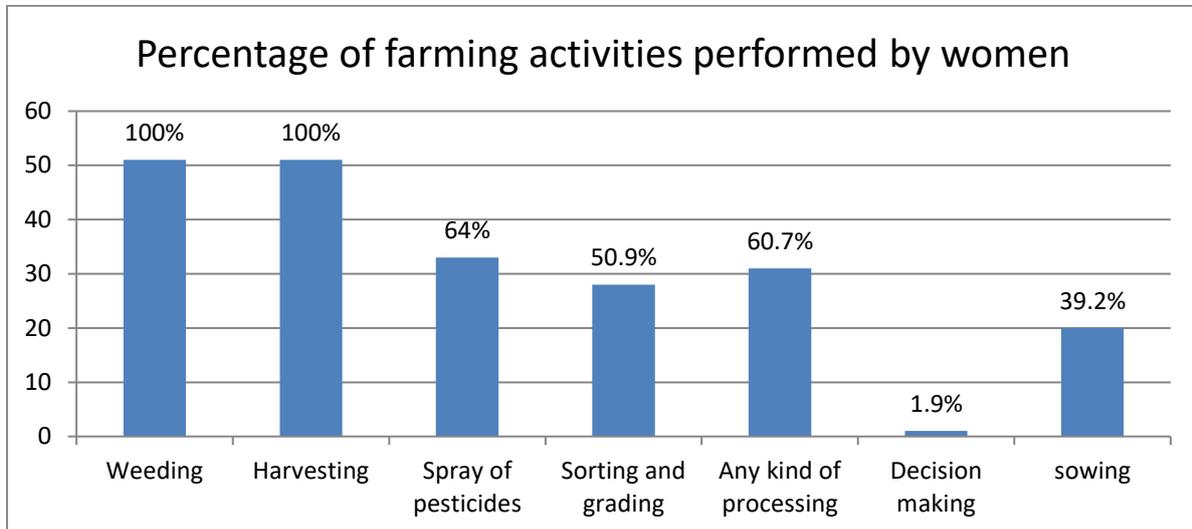


Fig 124: Percentage of farming activities performed by women

Annual income of the respondents

Figure 125 shows that around 54% of the respondents had an annual income less than 25 thousand, 37% respondents had an annual income between 25 and 50 thousand. Only 8% had an annual income between 50 thousand to 1 lakh and only 1% of respondents had annual income between 1 and 1.5 lakh.

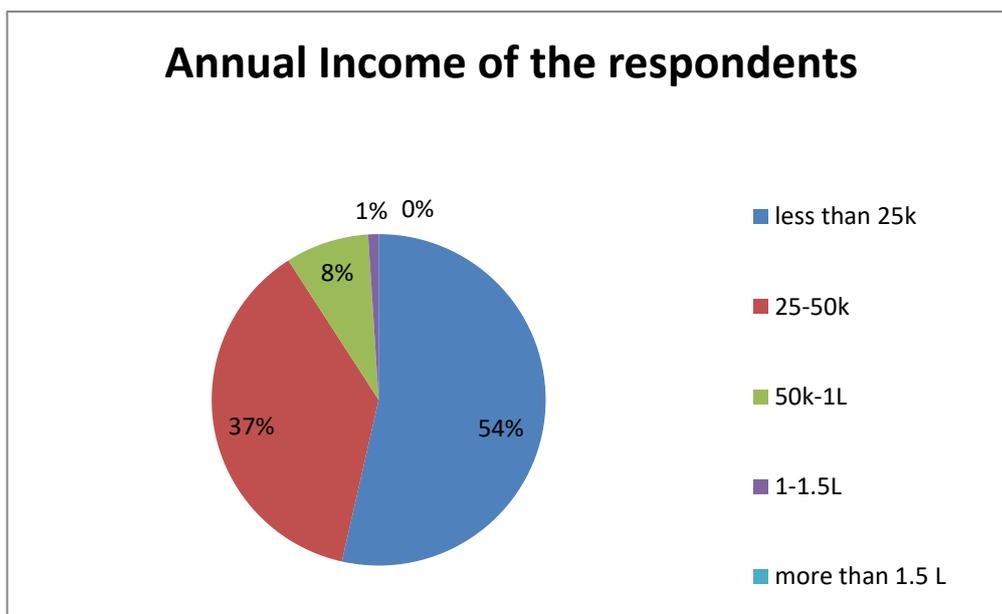


Fig 125: Annual income of the respondents

Savings from farming

Figure 126 shows that approximately 88% respondents had savings from farming less than 20 thousand and 11% had savings between 20 to 50 thousand. Only one farmer had savings exceeding 1 lakh.

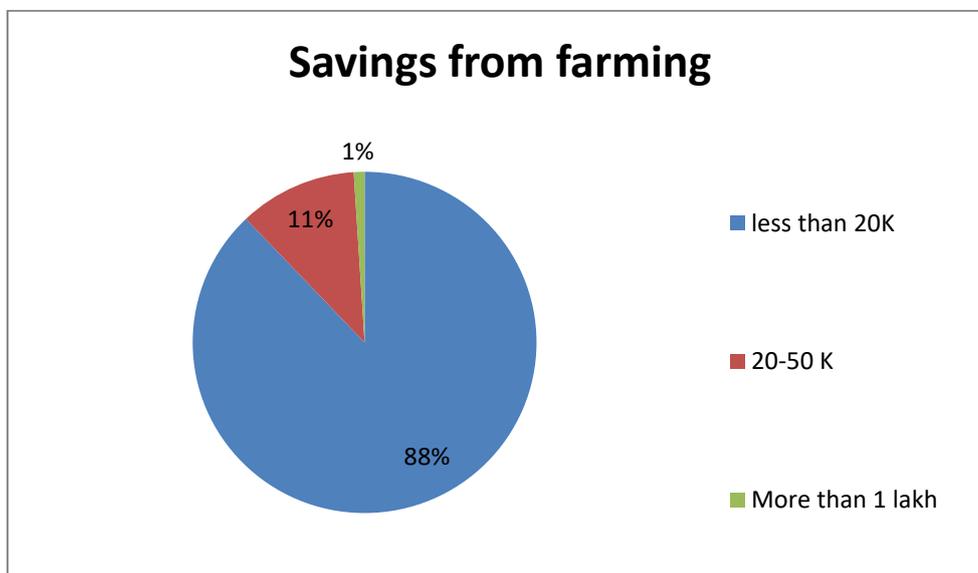


Fig 126: Annual savings from farming

Non-farming activities

Apart from farming activities, the farmers are also involved in non-farming activities to increase their income. 7% of the farmers have private jobs and one has a small business. 2% are working as laborers and none of the respondents are involved in government job and petty shops.

Annual income of the respondents from activities other than farming

Table 19 shows that the average annual income of respondents from working as laborer is Rs 34,000/- and for those working in private jobs it is Rs 95,000/-.

Average income from activities other than farming	
Labourers	Rs 34 thousand
Private jobs	Rs 95 thousand

Table 19: Annual Income of the Respondents from activities other than farming

Average distance of markets

Table 20 shows that the average distance of local market is 2.2 km and average distance to *mandi* is 56.3 km from the villages.

Average distance of markets	
Local market	5.9 km

Table 20: Average distance of markets

Land holding size of the respondents

Figure 127 shows that in the rural areas; agriculture is the mainstay of the economy, with hardly any non-farm occupations available. 35% of the farmers had 2.1 and 4 acres of land. 24% of the farmers had less than 2 acres of land. 26% of the farmers had 4.1 and 6 acres of land and 7% of the respondents had more than 10 acres of land. 4% had land between 6.1 and 10 acres.

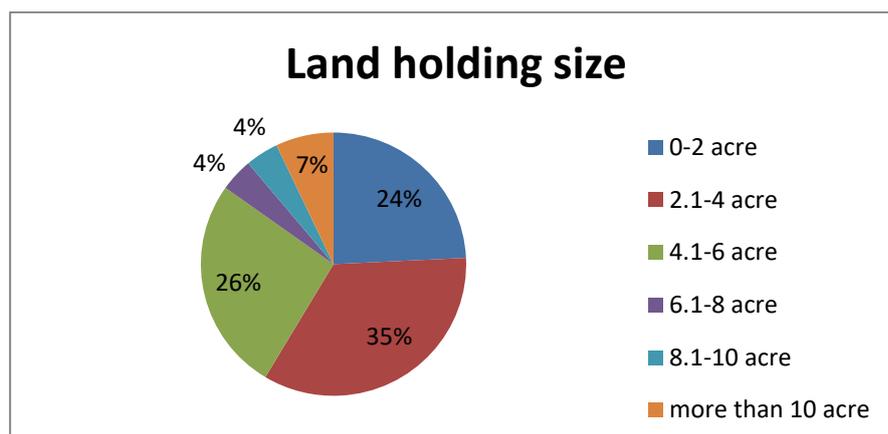


Fig 127: Land holding size of respondents

Problems in taking bank loan

Almost 12% of respondents had taken bank loan ranging from Rs 35 thousand to Rs 10 lakh. 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 want that government should take steps to provide technological advances and financial aid. They also highlighted the need of 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 of soil testing and none had soil health card. Only 7% of the farmers received any advice on crops to be grown and nutrients required in their field based on soil test report. 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 128 shows that Approximately 46% and 47% respondents respectively use lift irrigation or minor irrigation techniques. 7% use bore wells for irrigation.

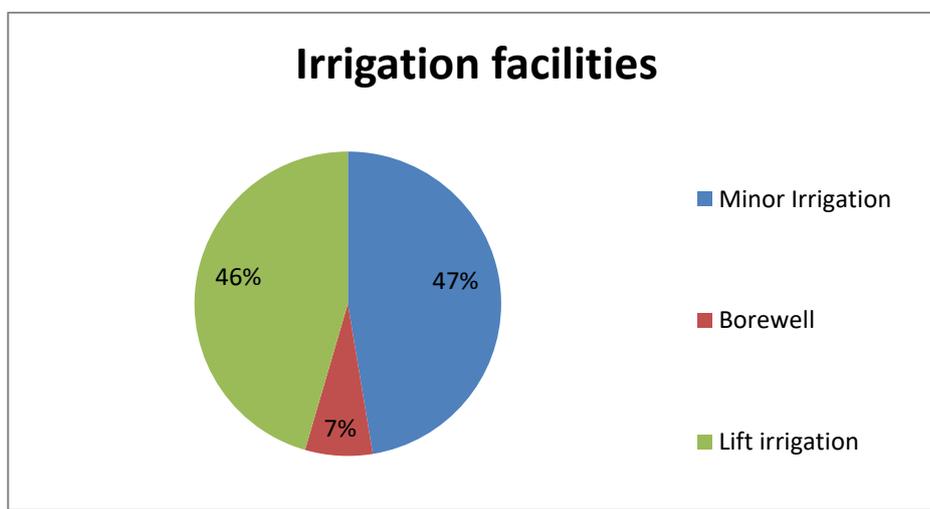


Fig 128: Irrigation Facilities

Crop related information

Cropping pattern

Kharif crops (2020)

Table 21 shows that major *kharif* crop grown in the surveyed area is rice. Rice was grown in an area of almost 102 acres. Total production was 814 quintals, and 298 quintals were sold in the market. Rice was being sold at Rs 803 per quintal. Other crops grown in the *kharif* season are Sesame, Red Gram and Maize. They were grown in an area of 39.79 acres. Total production was 490 quintals. Only 16 quintals were sold in the market at the average rate of Rs 570 per quintal. .

CROP ROTATION (KHARIF)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Avg Price received per quintal (₹)
1	Rice	101.8	814	1975	298.2	803
2	Sesame, Red Gram, Maize	39.79	490.7	3047	16	570

Table 21: Crops grown in kharif season

Kharif crop 2018- Rice

Types of rice

Figure 129 shows that almost 22% respondents grow Shankar variety. 35% of respondents grow Pant 12, 15% Champion, 13% Desi, 9% 6444 and 2% each of Kandhar, Malviya and Sonam.

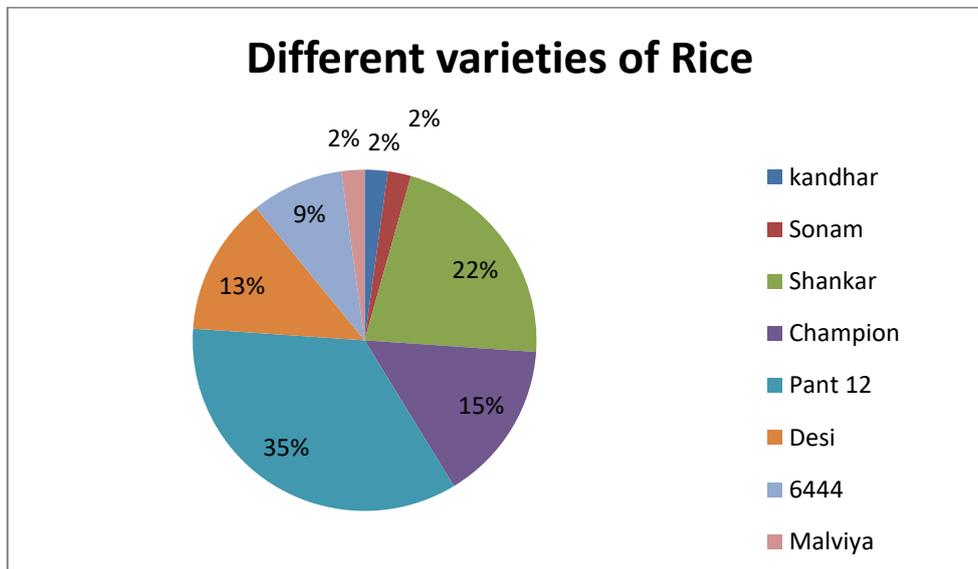


Fig 129: Varieties of Rice grown

Total area under cultivation

Figure 130 shows that almost 38% respondents had area less than 1 acre under cultivation. 36% cultivated between 1 and 1.9 acres, 13% cultivated between 2 and 2.9 acres, 11% cultivated between 3 and 3.9 acres and only 2% cultivated between 4 and 4.9 acres.

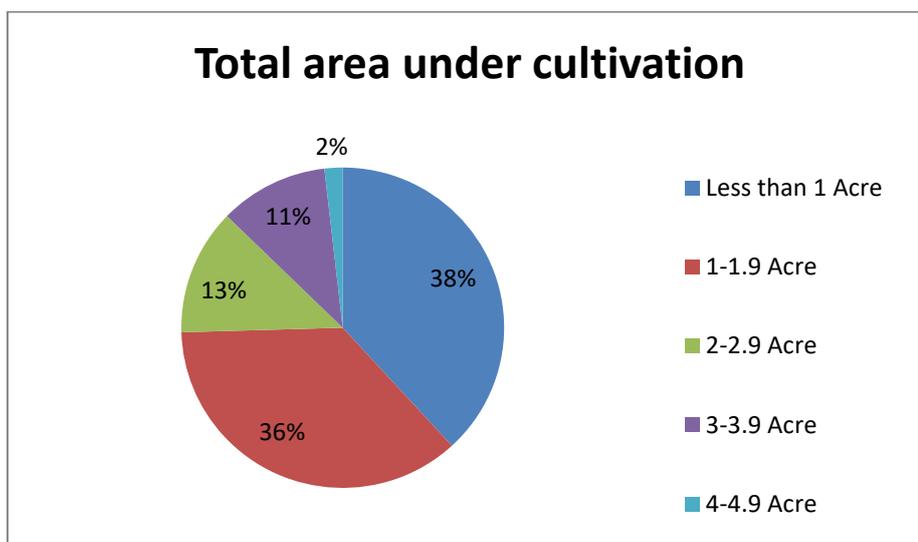


Fig 130: Total area under cultivation

Production of Rice

Figure 131 shows that almost 38% respondents had their production between 5.1 to 10 tons. 24% had between 10.1 and 15 tons, 22% produced up to 5 tons, 8% between 15.1 and 20 tons, 6% between 20.1 and 25 tons and only 2% had their production more than 25 tons.

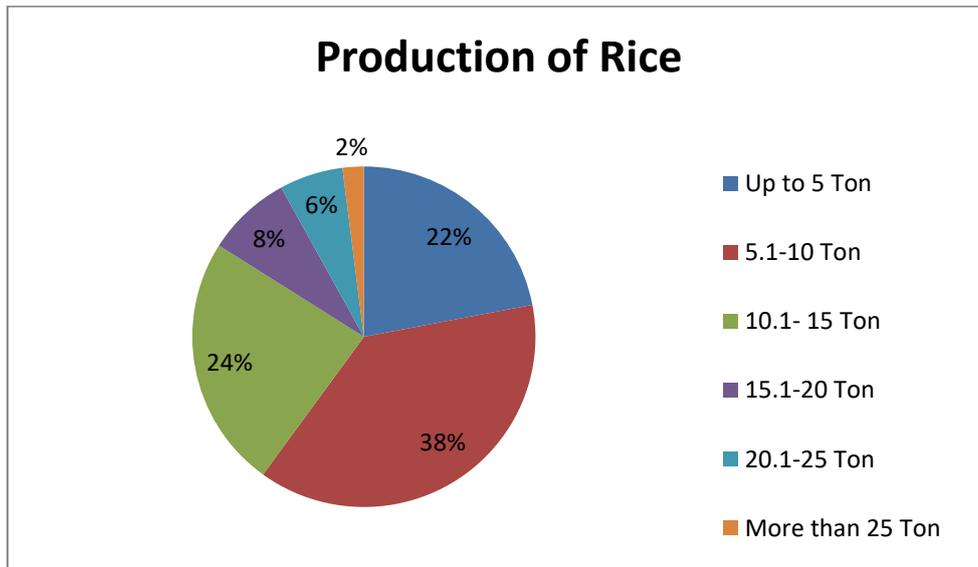


Fig 131: Production of Rice in 2018

Selling price of Rice

Figure 132 shows that almost 69% respondents sold rice at a price of Rs 800. 10% sold it for Rs 850, 9% sold it for Rs 700, 7% for 750 and 5% sold it at Rs 900.

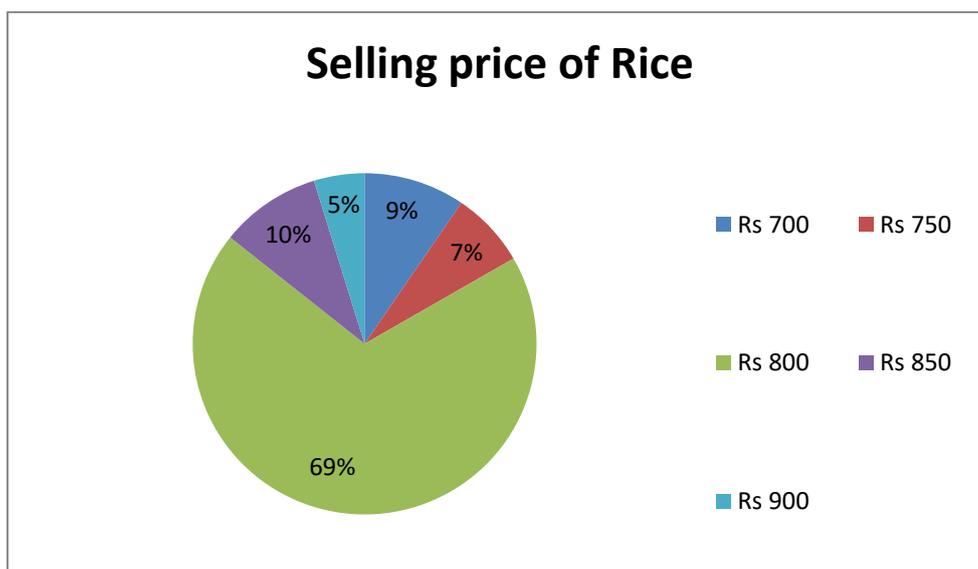


Fig 132: Selling price of rice in 2018

Kharif Crop 2019 - Rice

Varieties of Rice

Figure 133 shows that almost 28% respondents grew Pant 12 variety. 19% of respondents grew Shankar, 15% Desi, 13% Champion, 13% 6444 and 2% each of Kandhar, Malviya, Sonam and Bhanya.

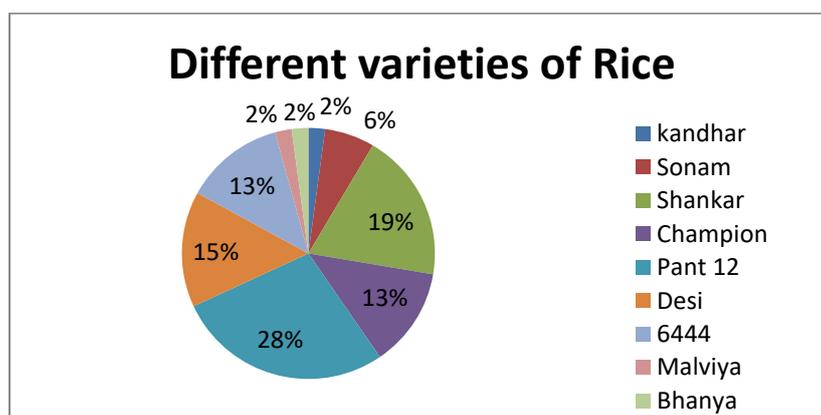


Fig 133: Different varieties of Rice being grown in 2019

Total area under Cultivation

Figure 134 shows that almost 41% respondents had area less than 1 acre under cultivation. 39% had between 1 and 1.9 acres, 12% cultivated between 2 and 2.9 acres, 6% between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

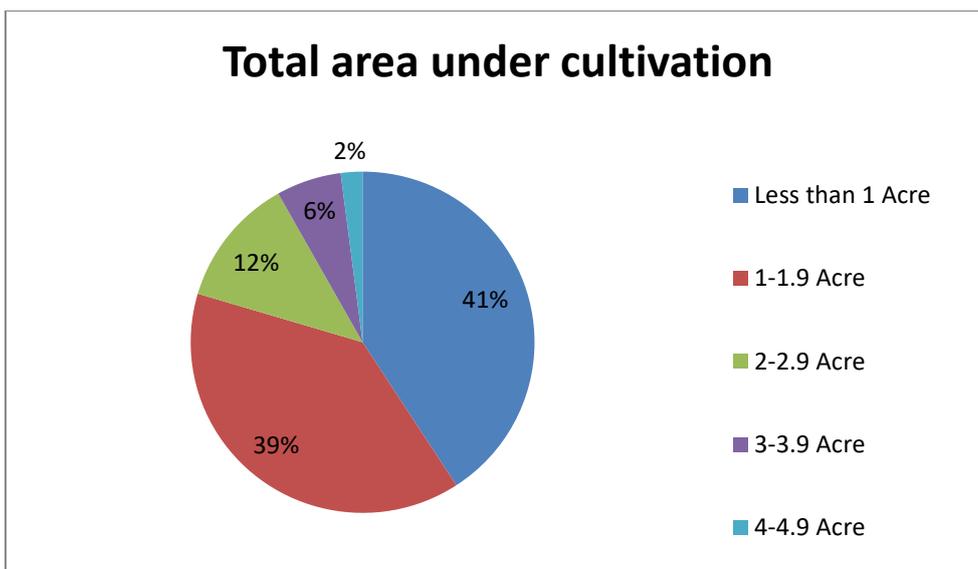


Fig 134: Total area under cultivation for Rice in 2019

Production of Rice

Figure 135 shows that almost 46% respondents had a production between 5.1 to 10 tons. 25% had up to 5 tons, 19% had between 10.1 and 15 tons, 4% each produced more than 25 tons and between 15.1 and 20 tons and only 2% had their production between 20.1 and 25 tons.

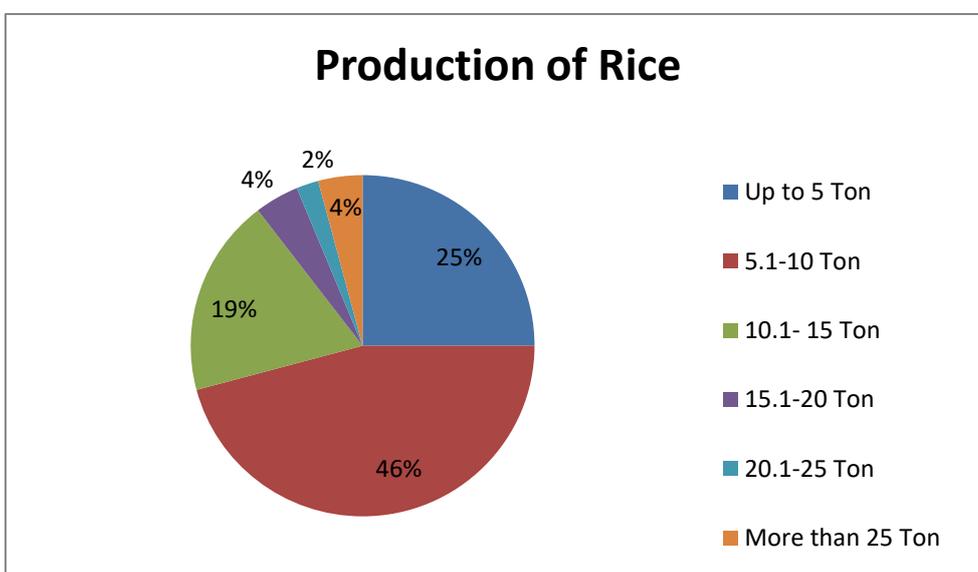


Fig 135: Production of Rice in 2019

Per quintal Selling price of Rice

Figure 136 shows that almost 60% respondents sold rice at Rs 900. 10% sold it for Rs 850, 12% for Rs 800, 7% at a price of Rs 950, 8% for Rs 1000 and 3% at Rs 1200.

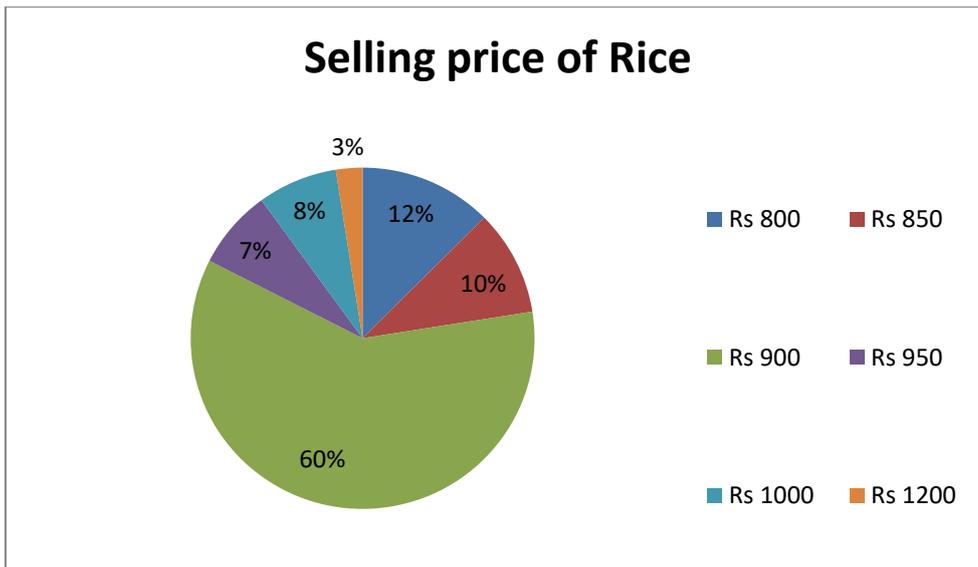


Fig 136: Selling price of Rice in 2019

Kharif Crop 2020 - Rice

Varieties of Rice

Figure 137 shows that almost 25% respondents grew Pant 12 variety. 21% of respondents grew 6444, 14% Desi, 16% Shankar, 12% Champion and 4% each of Bayosid and Sonam and 2% each of Malviya and Gold.

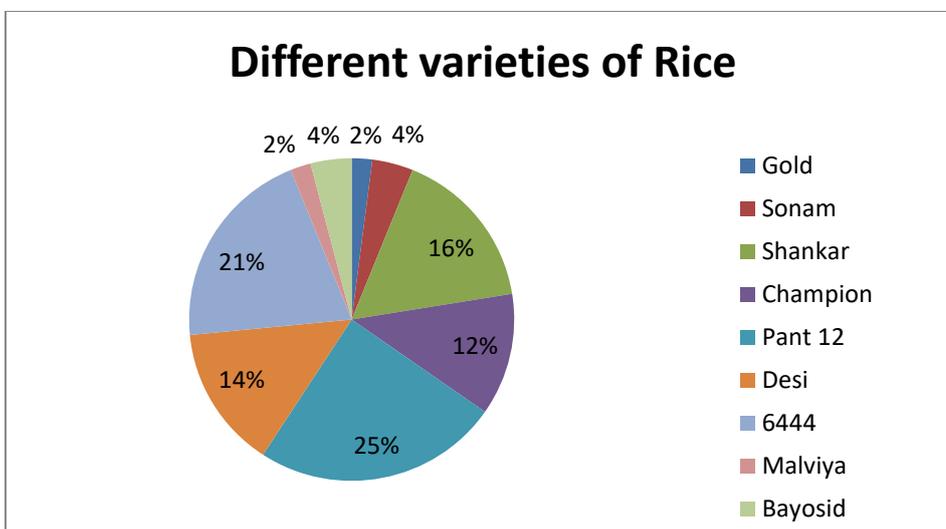


Fig 137: Different varieties of Rice being grown in 2020

Total area under Cultivation

Figure 138 shows that almost 42% respondents had an area of less than 1 acre under cultivation. 39% cultivated between 1 and 1.9 acres, 12% cultivated between

2 and 2.9 acres, 6% cultivated between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

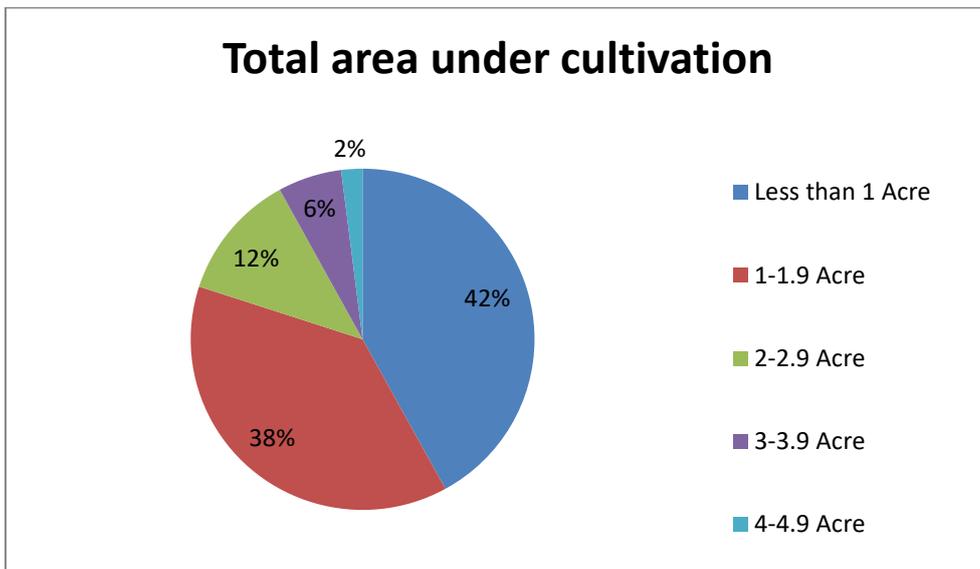


Fig 138: Total area under cultivation for Rice in 2020

Production of Rice

Figure 139 shows that almost 28% respondents had their production up to 5 tons and between 10.1 and 15 tons. 26% produced up to 5 tons, 10% produced between 15.1 and 20 tons, 6% had a production of more than 25 tons and 2% produced between 20.1 and 25 tons.

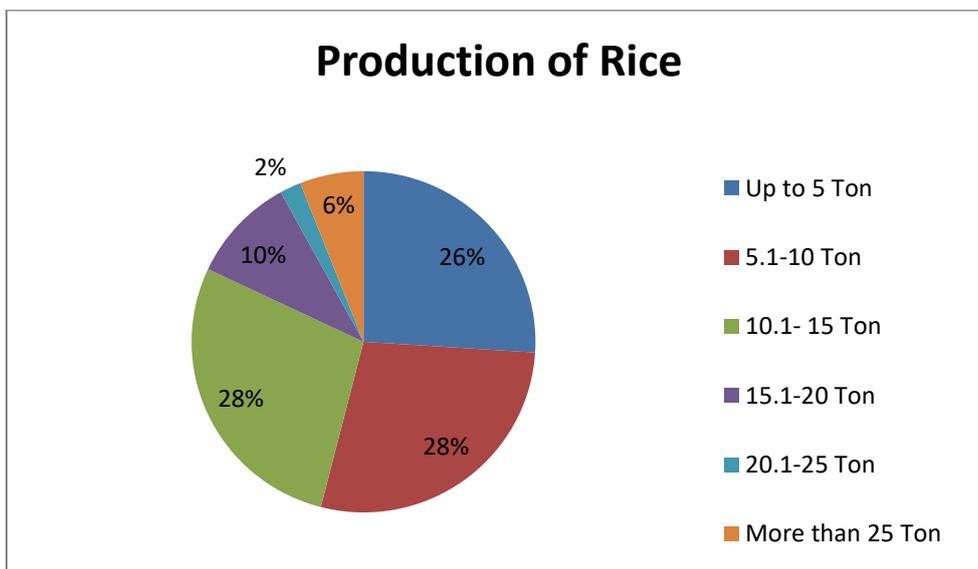


Fig 139: Production of Rice in 2020

Per quintal Selling price of Rice

Figure 140 shows that almost 60% respondents sold rice at a price of Rs 900. 10% sold it for Rs 850, 12% sold it at Rs 800, 7% for Rs 950, whereas 8% sold their crop at Rs 1000 and 3% sold it for Rs 1200.

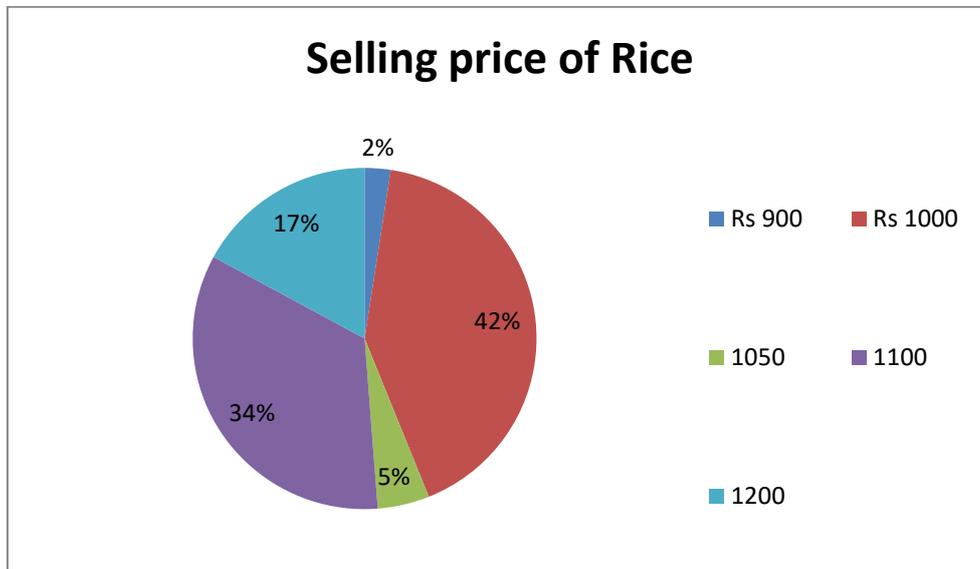


Fig 140: Selling price of Rice in 2020

Kharif Crop 2018- Other than Rice

Crops grown in the area other than rice are sesame, maize and red gram.

Varieties of Sesame, Maize & Red gram

Figure 141 shows that almost 96% respondents grew Desi variety and only 4% used Shankar.

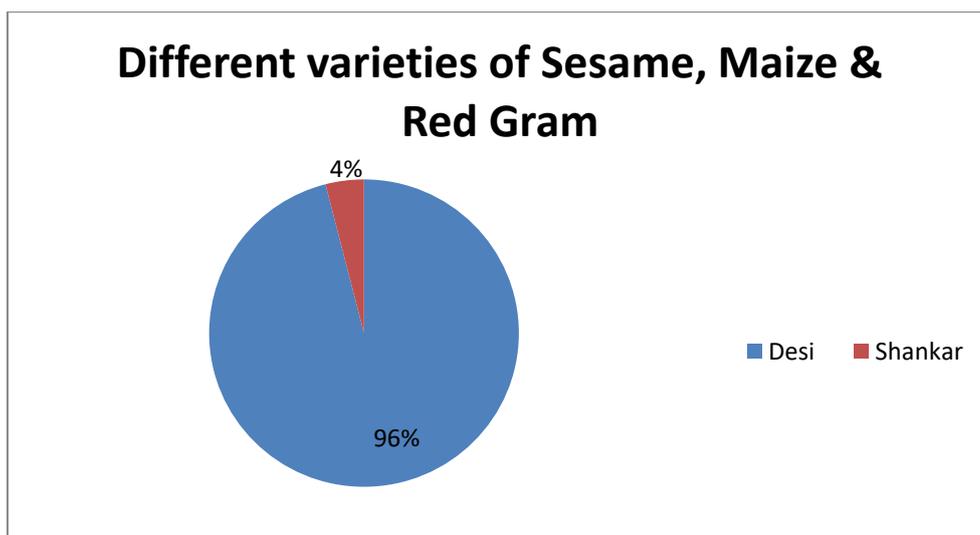


Fig 141: Different varieties of Sesame, Maize & Red gram being grown in 2018

Total area under cultivation

Figure 142 shows that almost 78% respondents had an area less than 1 acre under cultivation. 18% cultivated between 1 and 1.9 acres, 4% had between 2 and 2.9 acres land under cultivation and none more than that.

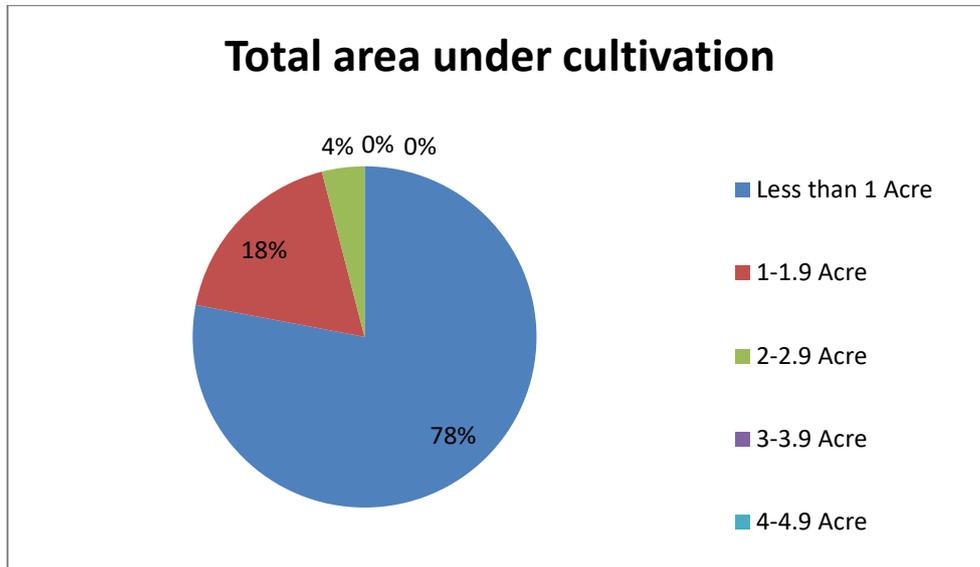


Fig 142: Total area under cultivation for Sesame, Maize and Red gram in 2018

Production of Sesame, Maize and Red gram

Figure 143 shows that almost 69% respondents had a production up to 5 tons and 22% produced between 5.1 and 10 tons. 5% had a production more than 25 tons and 2% each produced between 10.1-15 tons and 15.1-20 tons.

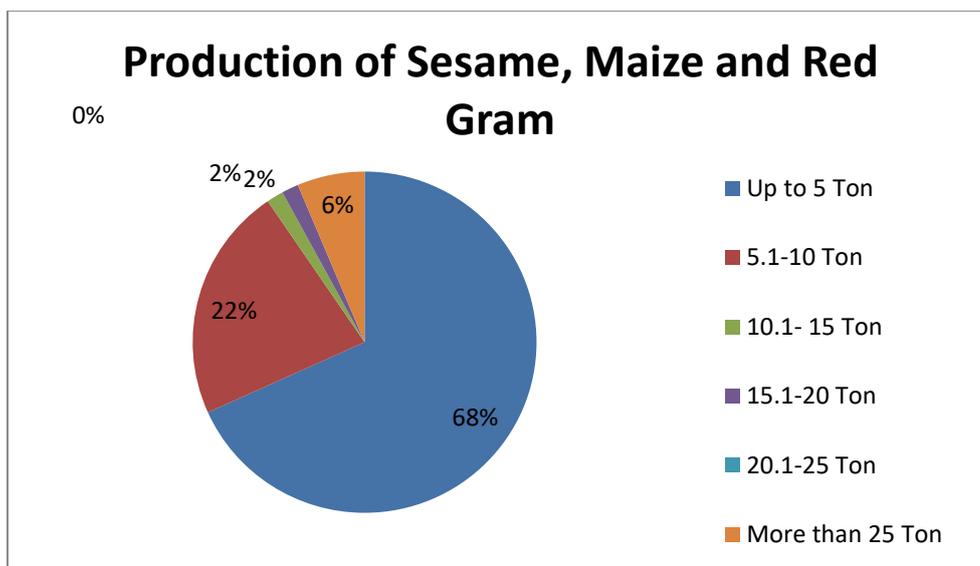


Fig 143: Production of Sesame, Maize and Red gram in 2018

Selling price of Sesame, Maize and Red gram

Figure 144 shows all the farmers did not sell their produce and some kept them for their use. Out of the farmers who sold their produce almost 47% respondents sold crops for less than Rs 100. 25% sold it for Rs 700, 18% sold it at Rs 800, 4% sold it for Rs 4000 and 2% each, sold it for Rs 750, Rs 850 and Rs 3000.

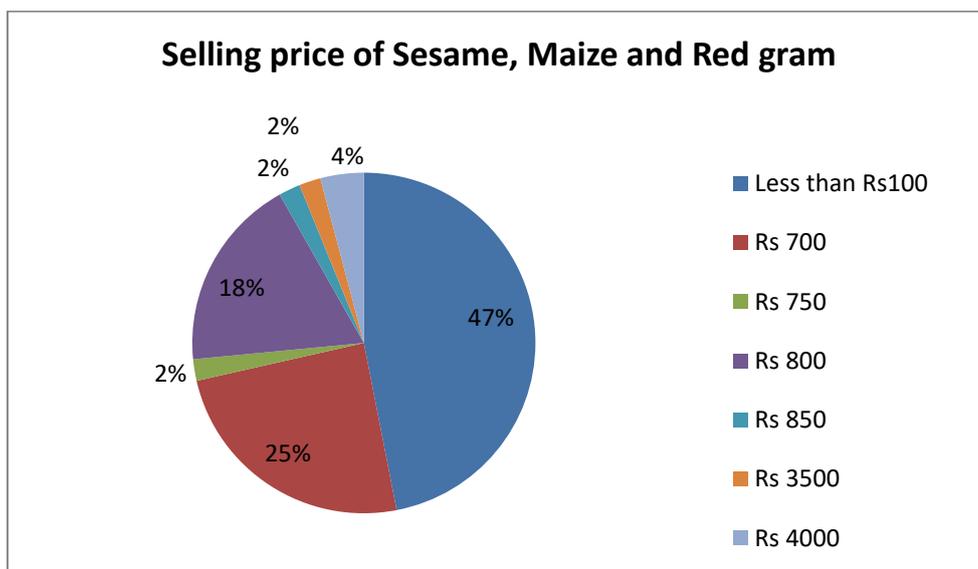


Fig 144: Selling price of Sesame, Maize and Red gram in 2018

Kharif Crop 2019- Other than Rice

Crops grown in the area other than rice are sesame, maize and red gram.

Varieties of Sesame, Maize & Red gram

Figure 145 shows that almost 96% respondents grew Desi variety and only 4% used Shankar.

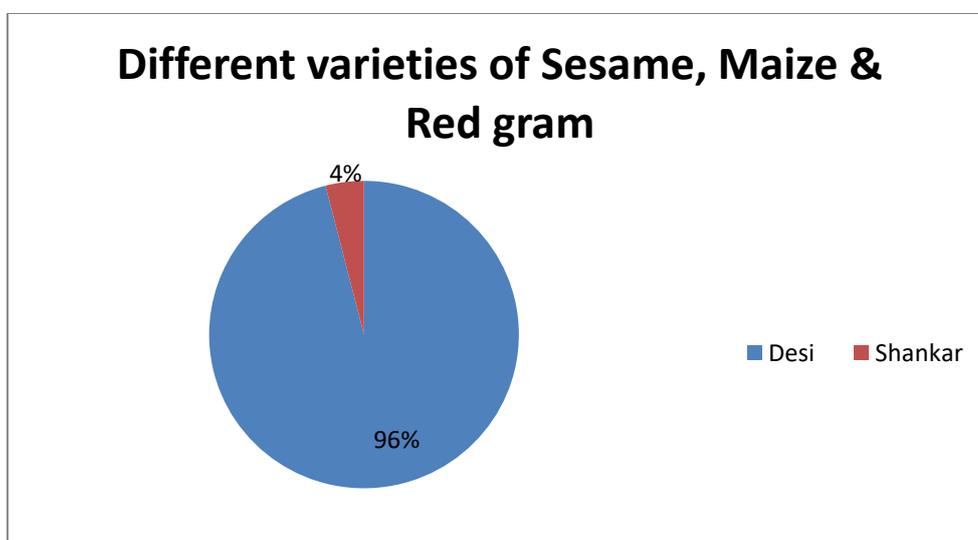


Fig 145: Selling price of Sesame, Maize & Red gram in 2019

Total area under cultivation

Figure 146 shows that almost 78% respondents had an area of less than 1 acre under cultivation. 18% cultivated between 1 and 1.9 acres, 4% cultivated between 2 and 2.9 acres and none more than that.

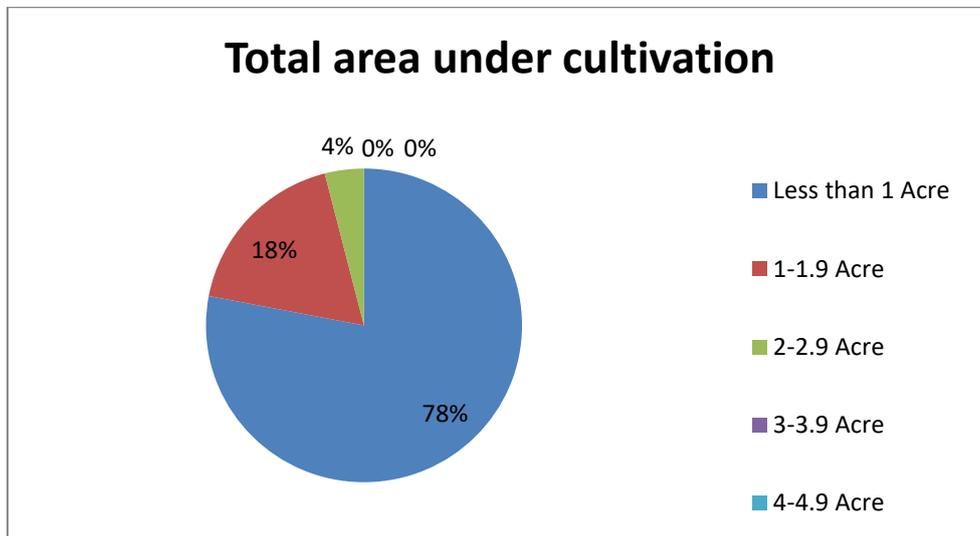


Fig 146: Total area under cultivation

Production of Sesame, Maize and Red gram

Figure 147 shows that almost 82% respondents had a production up to 5 tons and 4% each produced between 5.1 and 10 tons and 20.1 and 25 tons. 8% produced more than 25 tons and 2% produced between 10.1 and 15 tons.

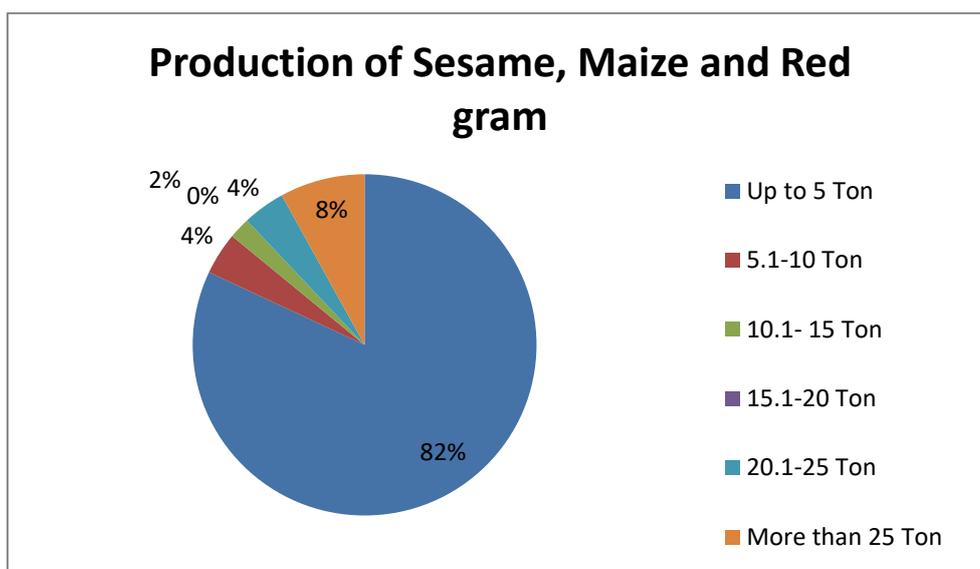


Fig 147: Production of Sesame, Maize and Red gram in 2019

Selling Price of Sesame, Maize and Red gram

Figure 148 shows that all the farmers did not sell their products and some kept them for their consumption. Out of the farmers who sold, almost 50% respondents sold their crops for less than Rs 100. 25% sold it for Rs 800, 18% sold it at Rs 900. On the other hand, 6% sold it for Rs 750 and 2% each, sold it for Rs 4000, Rs 5000 and Rs 6000.

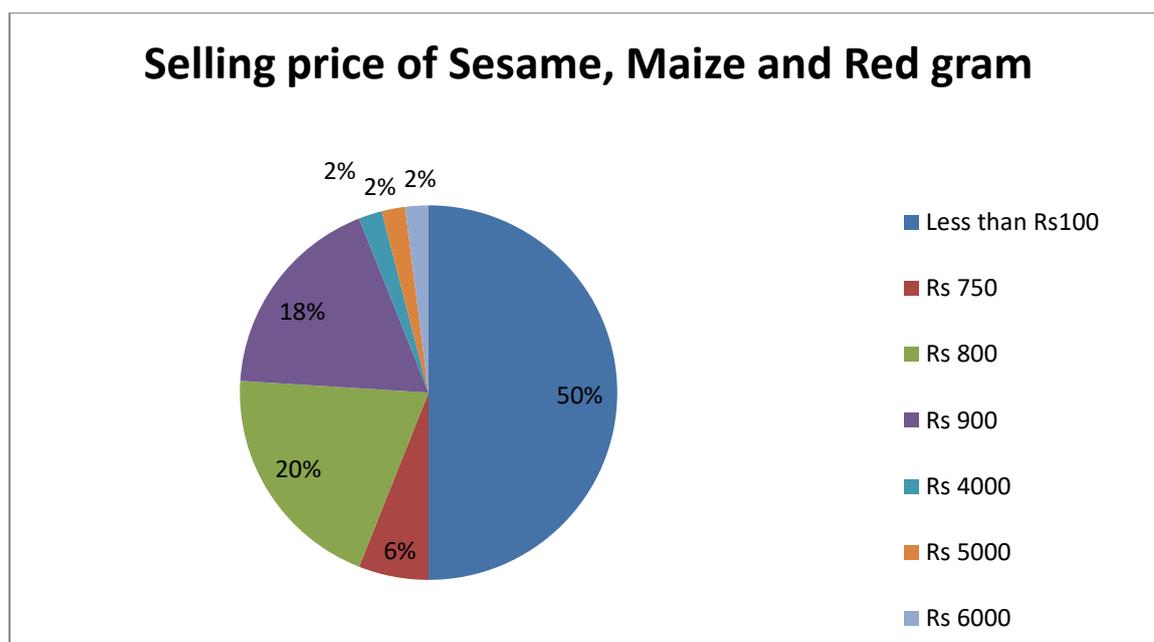


Fig 148: Selling price of Sesame, Maize and Red gram in 2019

Kharif Crop 2020- Other than Rice

Crops grown in the area other than rice are sesame, maize and red gram.

Varieties of Sesame, Maize & Red gram

Figure 149 shows that almost 96% respondents grew Desi variety and only 4% used Shankar.

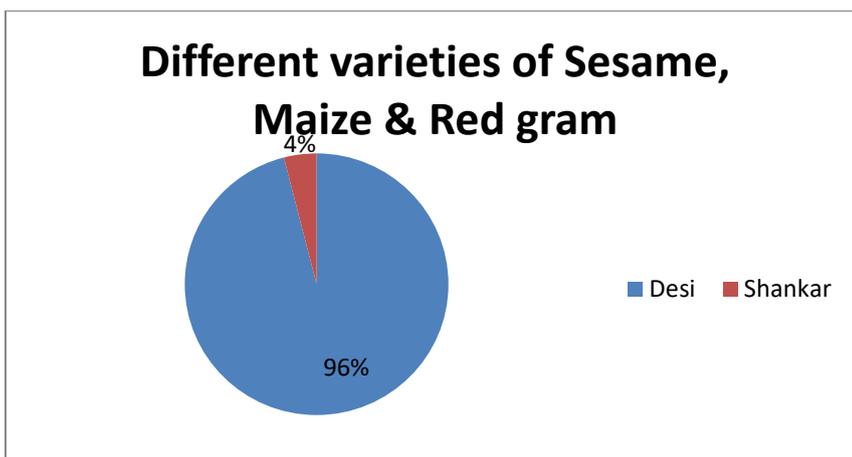


Fig 149: Varieties of Sesame, Maize and Red gram grown in 2020

Total area under cultivation

Figure 150 shows that almost 80% respondents had an area of less than 1 acre under cultivation. 16% cultivated between 1 and 1.9 acres, 4% cultivated between 2 and 2.9 acres and none more than that.

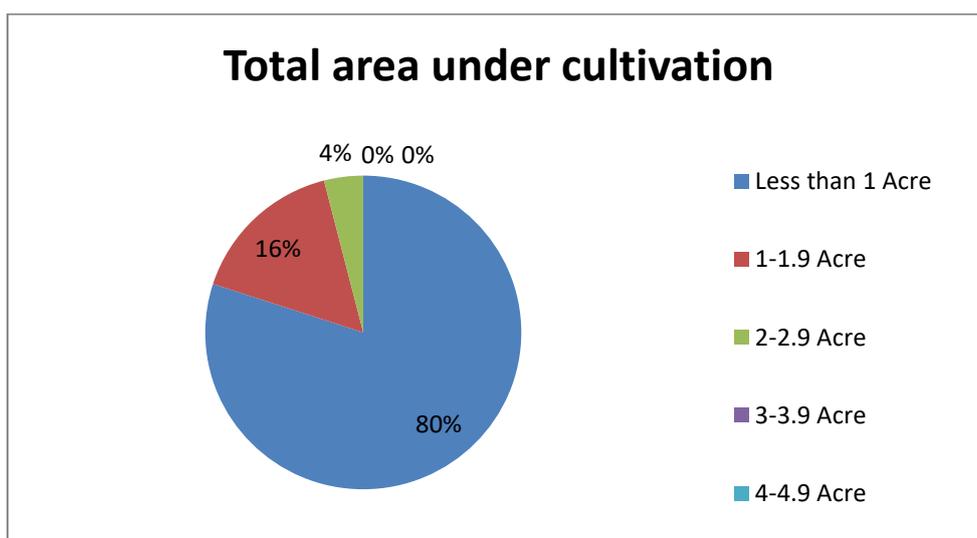


Fig 150: Total area under cultivation of Sesame, Maize and Red gram in 2020

Production of Sesame, Maize and Red gram

Figure 151 shows that almost 82% respondents had a production up to 5 tons and 4% produced between 20.1 and 25 tons and 2% produced between 5.1 and 10 tons.

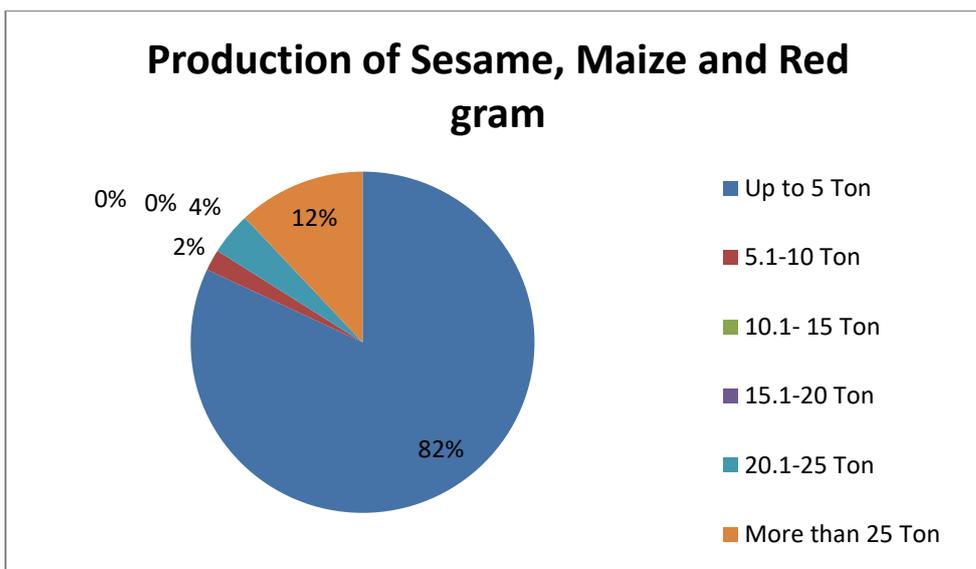


Fig 151: Production of Sesame, Maize and Red gram in 2020

Per quintal Selling price of Sesame, Maize and Red gram

Figure 152 shows that all the farmers did not sell their produce and some kept a part or whole for home consumption. Out of the farmers who sold it, almost 52% respondents sold their crops at Rs 1000. 18% sold it for Rs 900, 11% sold it at less than Rs 100, 7% sold it for Rs 1100 and 4% each, sold it for Rs 5000, Rs 6500 and Rs 7000.

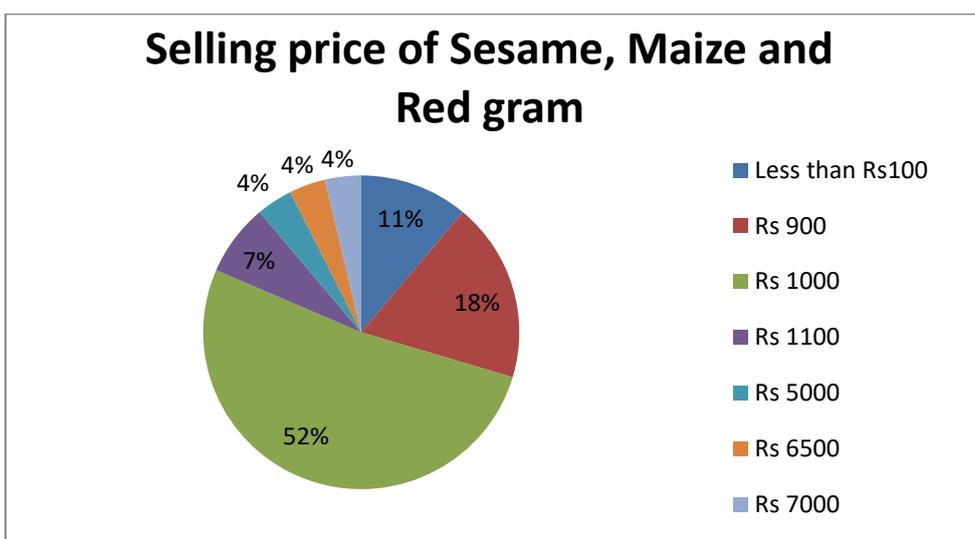


Fig 152: Selling price of Sesame, Maize and Red gram in 2020

Rabi crops(2020)

Main crop grown during *rabi* season is wheat. Apart from that mustard, green gram, red gram and vegetables such as potato, tomato and cabbage are also grown. Wheat is grown in an area of approximately 34 acres. Even though production is 263.35 quintals, only 48.65 quintals is sold in the market. Most of the produce is kept for home consumption. Mustard, green gram, red gram and vegetables such as potato, tomato and cabbage were grown in an area of approximately 8 acres. Total production was 226.75 quintals. Only 5 quintals were sold at an average selling price of Rs 1200 per quintal.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Wheat	34.34	263.35	1894	48.65	1661
2	Mustard, Red gram, Green gram, Potato, Tomato, Cabbage	8	226.75	7020	5	1200

Table 22: Crops grown during the Rabi season in Babhani in 2020

No new crop was cultivated by farmers in the surveyed area. Farmers restricted themselves to cultivating rice and few vegetables.

Rabi Crop 2018 - Wheat

Varieties of Wheat

Figure 153 shows that almost 94% respondents grew Malviya variety and only 2% grew Desi.

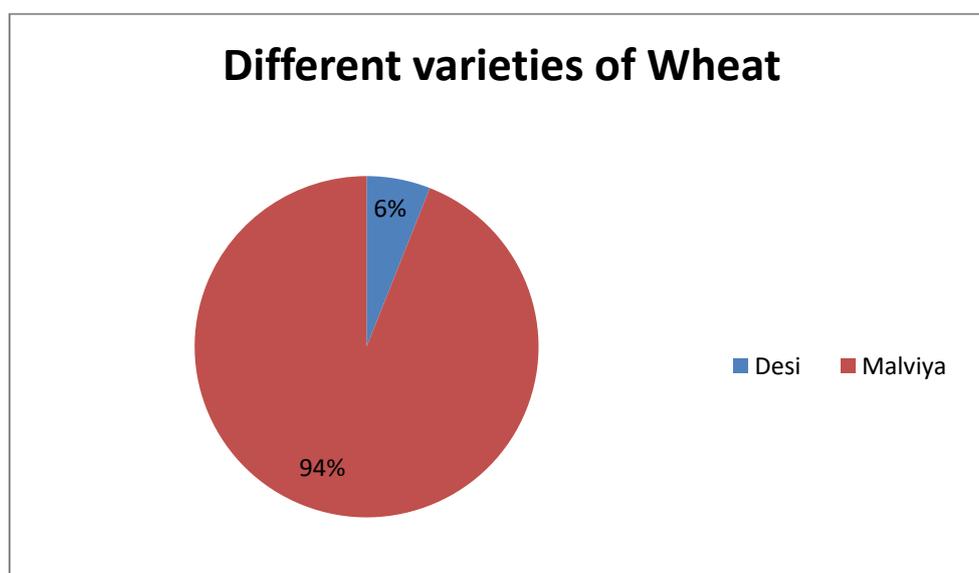


Fig 153: Different varieties of wheat grown in 2018

Total area under cultivation

Figure 154 shows that almost 46% respondents had area less than 1 acre under cultivation. 44% had between 1 and 1.9 acres, 8% had between 2 and 2.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

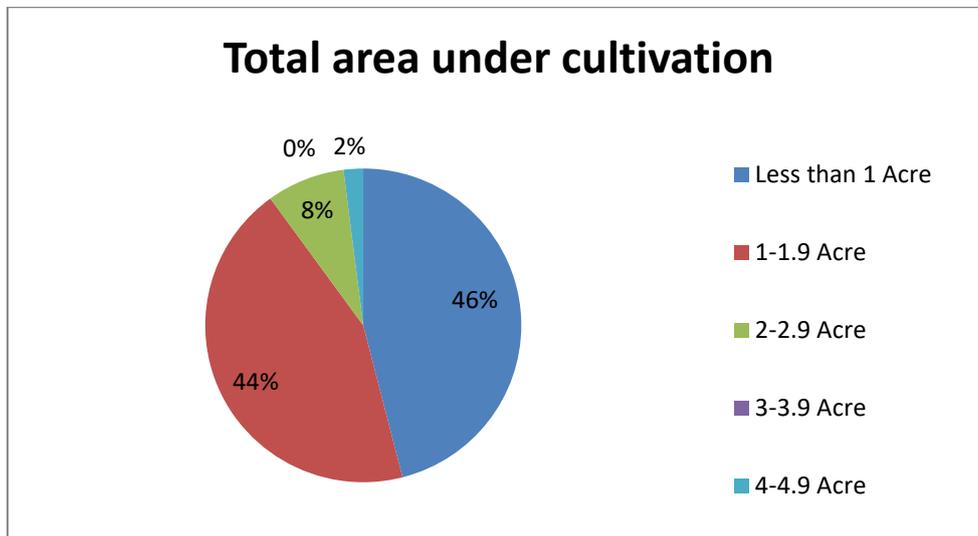


Fig 154: Total area under cultivation for wheat in 2020

Production of Wheat

Figure 155 shows that almost 42% respondents had their production up to 5 tons and between 10.1 and 15 tons. 8% each had between 10.1 and 15 tons and 15.1 and 20 tons.

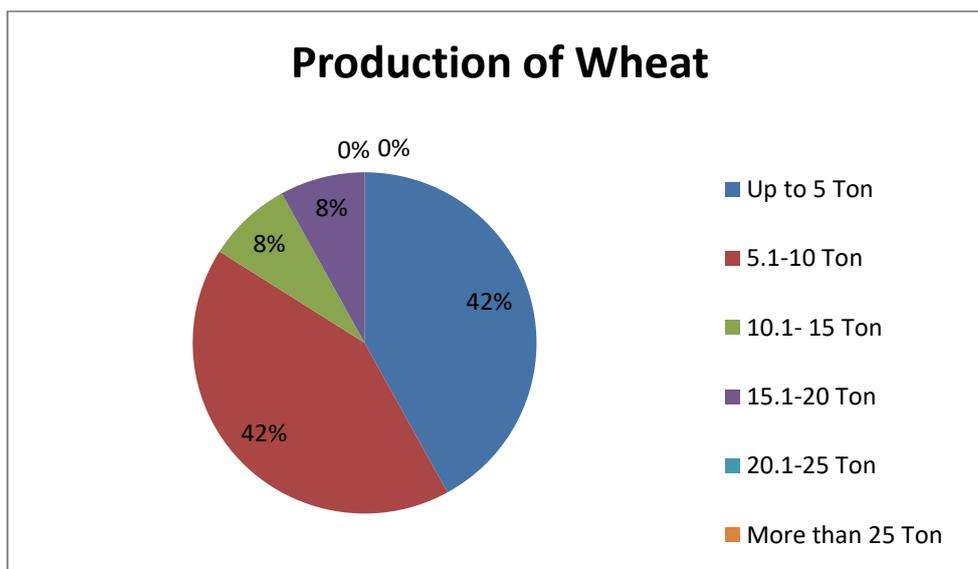


Fig 155: Production of wheat in 2020

Per quintal Selling price of Wheat

Figure 156 shows that all the respondents did not sell their production. However, amongst the one who sold it almost 50% respondents sold with an SP of Rs 800. 16% sold it for an SP of Rs 850, 28% for an SP of Rs 900, 8% for an SP of Rs 1000 and 3% each for an SP of Rs 750 and Rs 700.

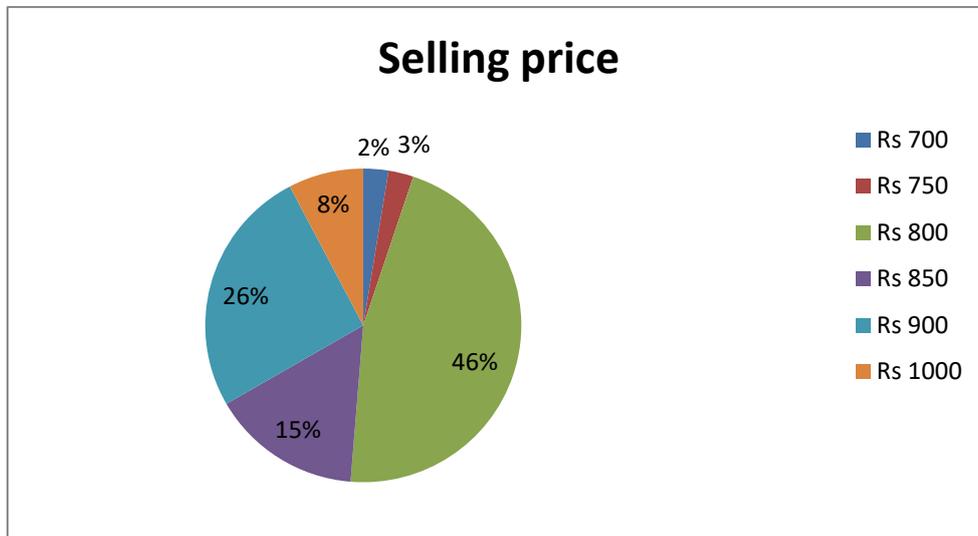


Fig 156: Selling price of wheat in 2020

Rabi Crop 2019 - Wheat

Varieties of Wheat

Figure 157 shows that almost 98% respondents grew Malviya variety and only 2% grew Desi.

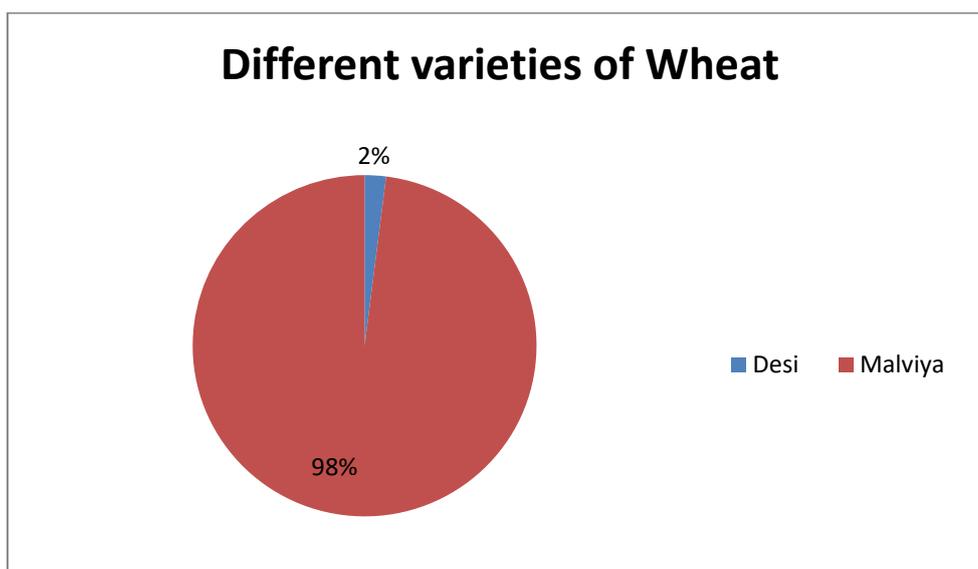


Fig 157: Different varieties of wheat grown in 2019

Total area under cultivation

Figure 158 shows that almost 50% respondents had an area of less than 1 acre under cultivation. 42% cultivated between 1 and 1.9 acres, 6% cultivated between 2 and 2.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

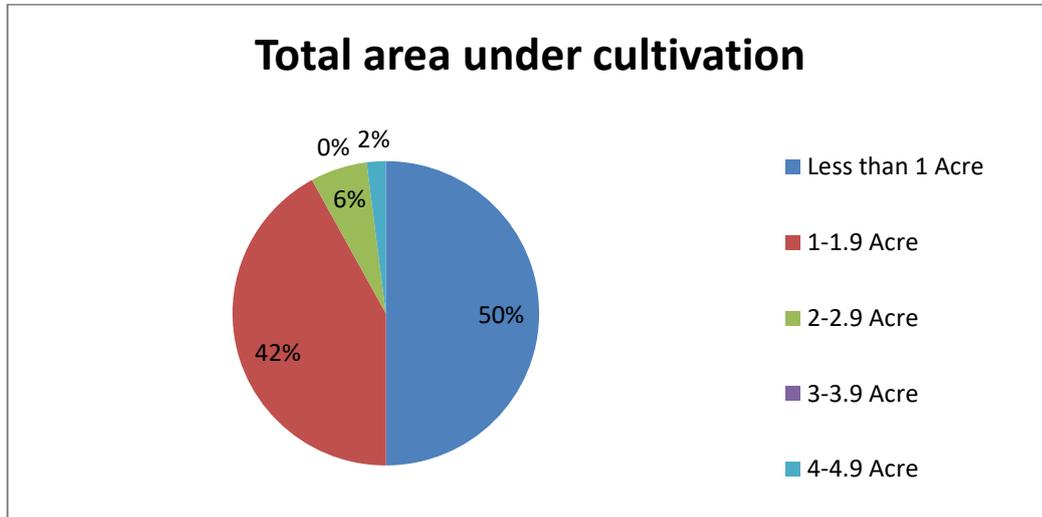


Fig 158: Total area under cultivation for wheat in 2019

Production of Wheat

Figure 159 shows that almost 36% respondents had a production up to 5 tons and 46% between 5.1 and 10 tons. 10% between 10.1 and 15 tons and 6% produced between 15.1 and 20 tons.

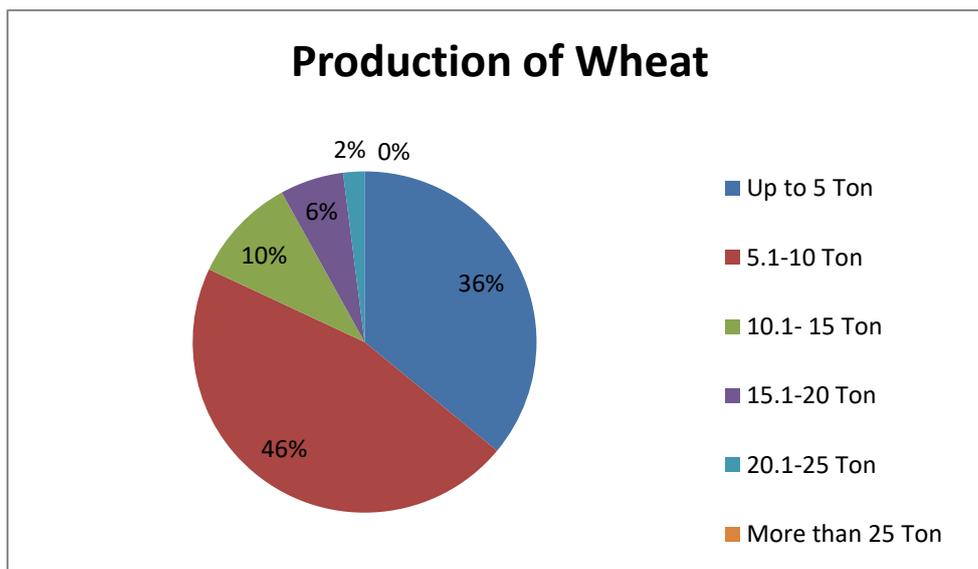


Fig 159: Production of wheat in 2019

Per quintal Selling price of Wheat

Figure 160 shows that all the respondents did not sell their production. However, amongst the one who sold it almost 39% respondents sold with an SP of Rs 900. 27% sold it for an SP of Rs 1000, 14% for an SP of Rs 850, 5% each for an SP of Rs 950, Rs 1100, Rs 1200 and Rs 800.

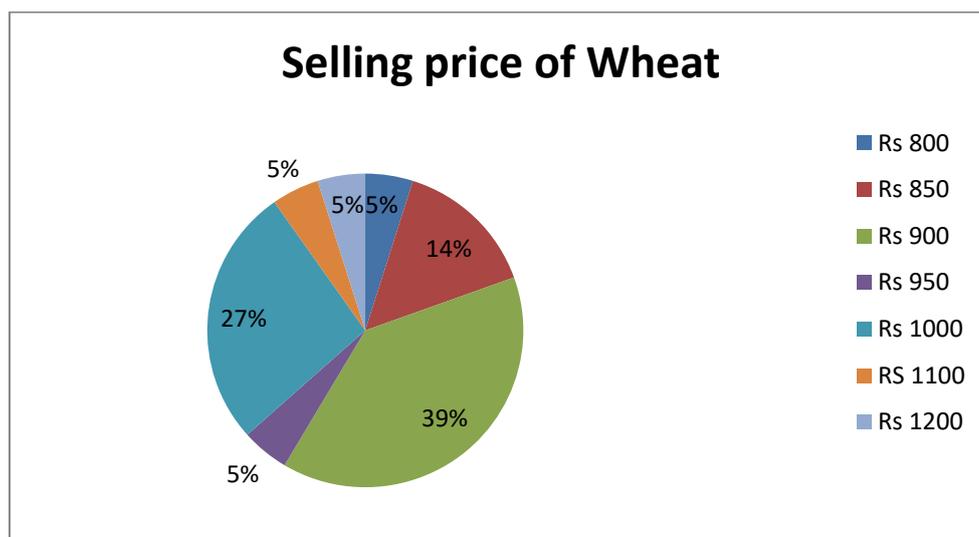


Fig 160: Selling price of Wheat in 2019

Rabi Crop 2020 - Wheat

Varieties of Wheat

Figure 161 shows that almost 98% respondents grew Malviya variety and only 2% grew Desi.

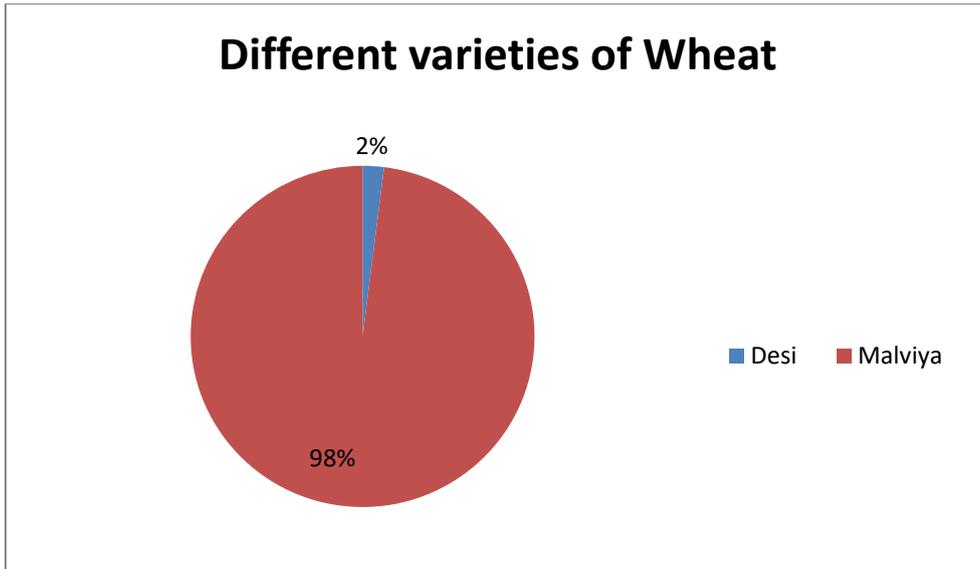


Fig 161: Different varieties of Wheat grown in 2020

Total area under cultivation

Figure 162 shows that almost 46% respondents had area less than 1 acre under cultivation. 44% had between 1 and 1.9 acres, 8% had between 2 and 2.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

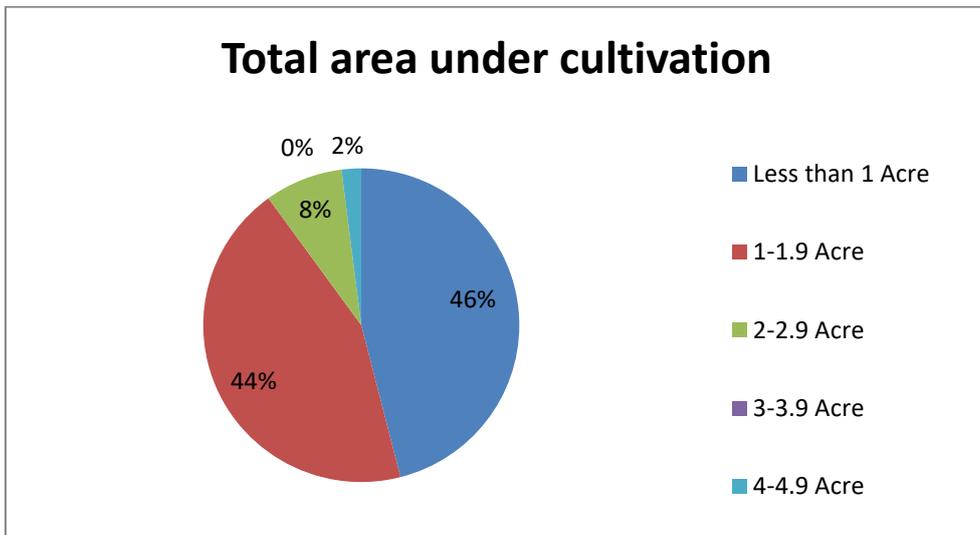


Fig 162: Total area under cultivation for Wheat in 2020

Production of Wheat

Figure 163 shows that almost 38% respondents had their production between 5.1 and 10 tons and up to 5 tons. 20% had between 10.1 and 15 tons, 4% had between 20.1 and 25 tons.

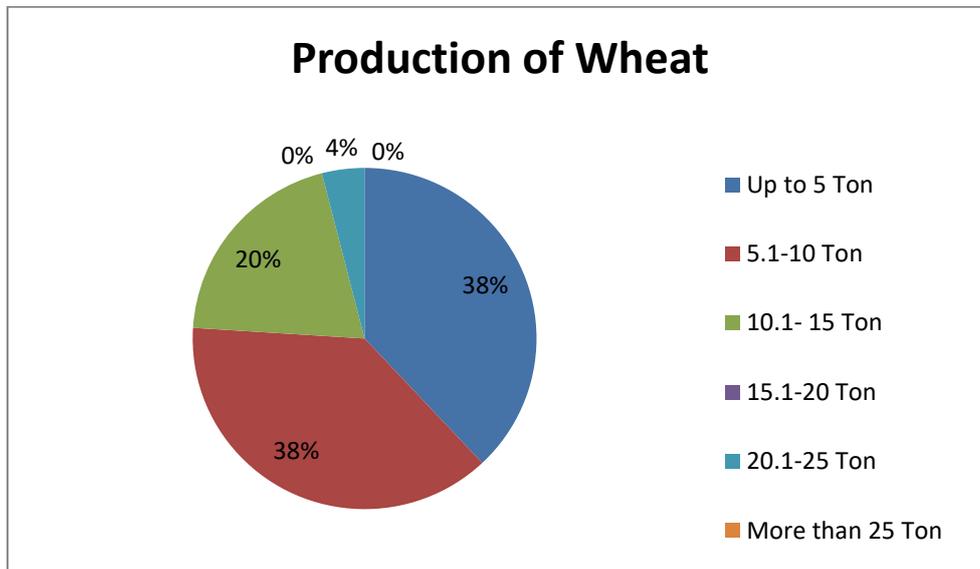


Fig 163: Production of Wheat in 2020

Per quintal Selling price of Wheat

Figure 164 shows that all the respondents did not sell their production. However, amongst the one who sold it almost 43% respondents sold with an SP of Rs 1200. 25% sold it for an SP of Rs 1000, 8% for an SP of Rs 1300, 5% each for an SP of Rs 900 Rs 1400. 2% sold it for an SP of Rs 1150.

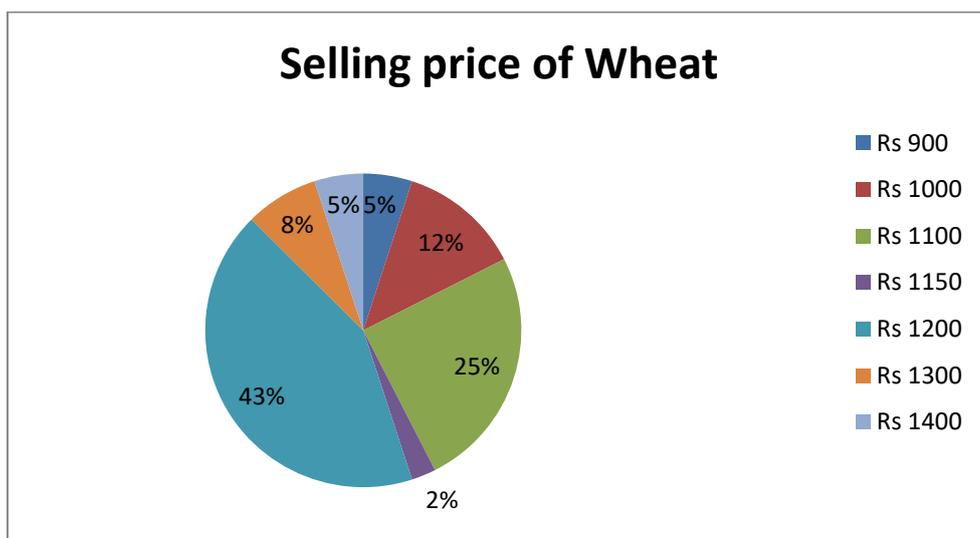


Fig 164: Selling price of wheat in 2020

Rabi Crop 2018- Other than Wheat

Crops grown in the area other than wheat are mustard, red gram, green gram, potato, tomato and cabbage.

Varieties of Mustard, Red gram, Green gram, Potato, Tomato & Cabbage

Figure 165 shows that almost 98% respondents grew Desi variety and only 2% used Samrat.

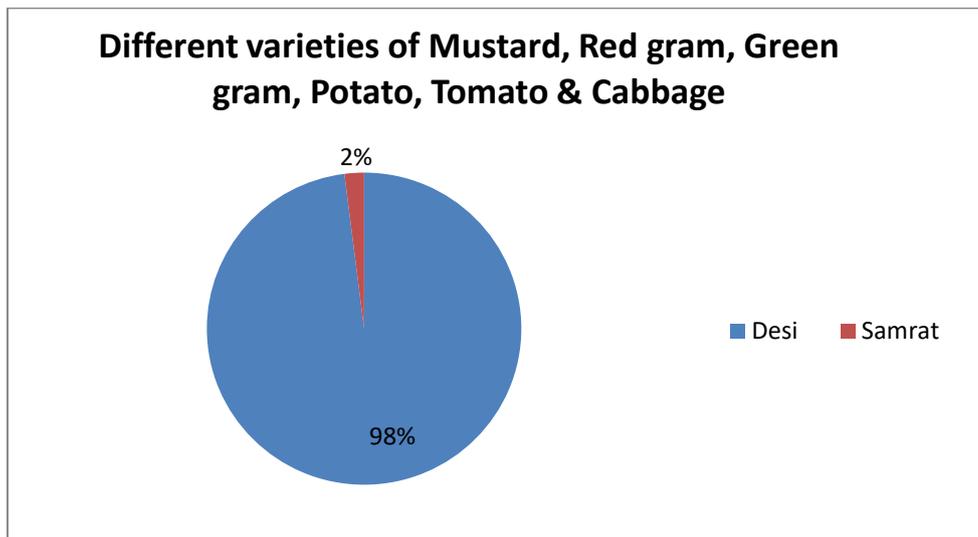


Fig 165: Different varieties of Mustard, Red gram, Green gram, Potato, Tomato and Cabbage in 2018

Total area under cultivation

Figure 166 shows that almost 98% of the respondents had area less than 1 acre under cultivation. 2% had between 2 and 2.9 acres and none more than that.

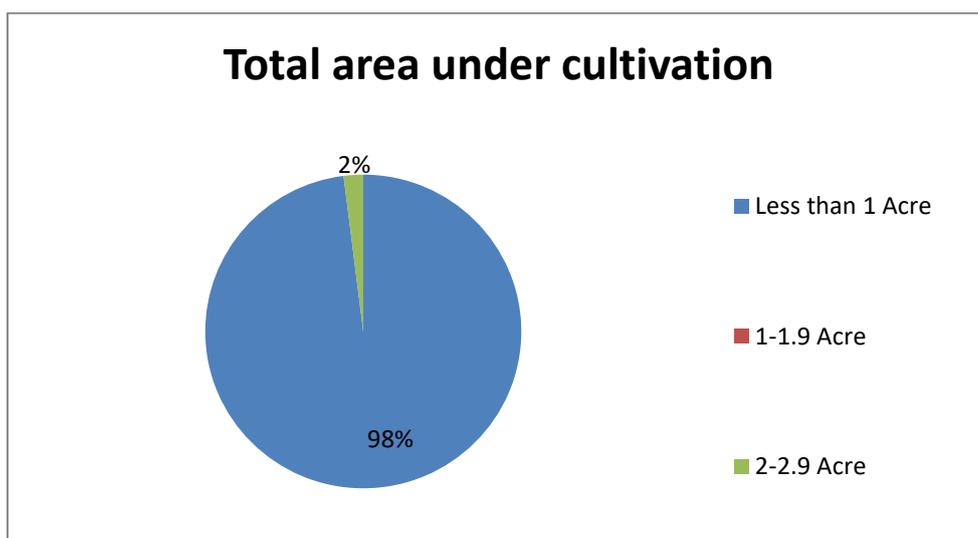


Fig 166: Area under cultivation for Mustard, Red gram, Green gram, Potato, Tomato and Cabbage in 2018

Production of Sesame, Maize and Red Gram

Figure 167 shows that almost 70% respondents had their production up to 5 tons and 16% had their productions more than 25 tons. 8% had between 15.1 and 20 tons and 6% had between 5.1 and 10 tons.

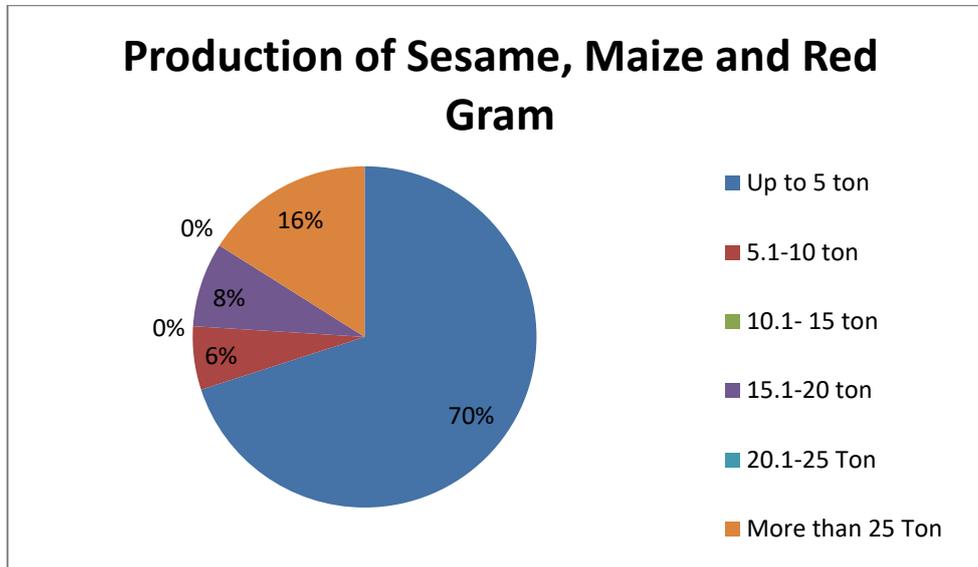


Fig 167: Production of Mustard, Red gram & Green gram

Per quintal Selling price of Sesame, Maize and Red Gram

Figure 168 shows that all the farmers did not sell their products and kept them for their use. Out of the farmers who sold almost 35% respondents sold crops with an SP of Rs 3500. 12% each for an SP of Rs 4000 and less than Rs 100. 17% sold it for a SP of RS 3000. 6% each for SP of Rs 700, Rs 1000 and Rs 2500.

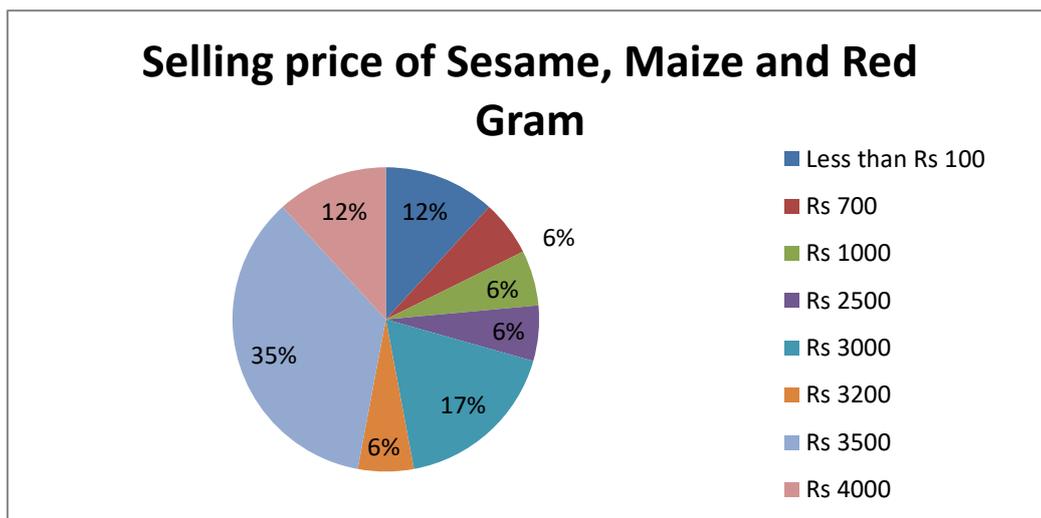


Fig 168: Selling price of Mustard, Red gra &, Green gram

Farming Ecosystem

Agricultural labor used by the farmers

100% the farmers involved their family members in the agricultural field. This way they could save the cost of labor. Wages of agricultural laborer is ₹100 per day for both male and female laborers.

Source of purchasing seeds

Figure 169 shows that there are various sources from where farmers can purchase seeds. But all the farmers in the surveyed area bought seeds only from retailers.

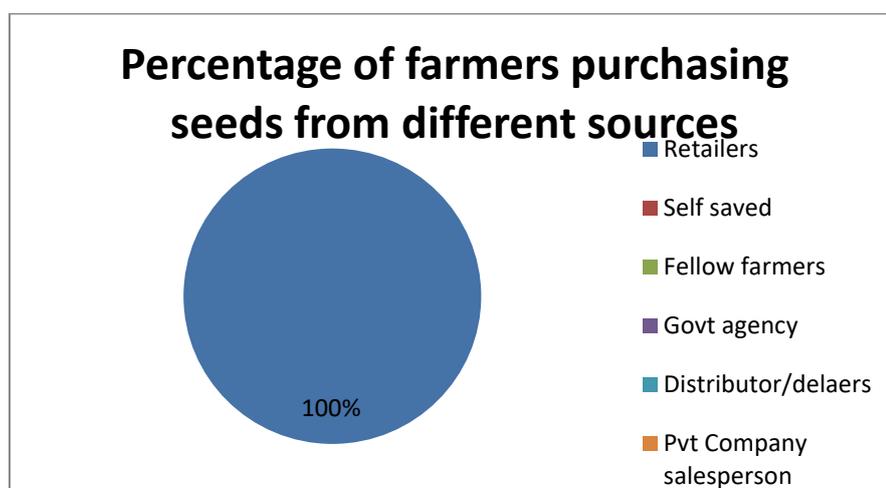


Fig 169: Percentage of farmers purchasing seeds from different sources

Fertilizer dose used in different crops

Table 22 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	Micronutrient	Vermicompost	Others
1. Rice	0	84.2	49.5	0	0	0	170	0
2. Wheat	0	26.04	16	0	0	0	84	0
3. Sesame, Red Gram, Maize	0	1.2	0.5	0	0	0	3	0
4. Mustard, Red gram, Green Gram, Potato, Tomato, Cabbage	0	4.28	3.16	0	0	0	9	0

Table 22: Fertilizer dose applied in different crops by the farmers

Expenses incurred in pesticide spray

Table 23 shows the cost incurred in spray 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 in any other crop than rice.

Expenses on pesticides per acre	
Crops	Cost incurred in spray (in Rs)
1. Rice	51.2
2. Wheat	0
3. Sesame, Red Gram, Maize	0
4. Mustard, Red gram, Green Gram, Potato, Tomato, Cabbage	0

Table 23: Expenses incurred in spraying pesticides

Source of purchasing inputs

Figure 170 shows that 98% of the farmers purchased inputs from retailers and only 2% of the farmers purchased inputs from distributors/dealers.

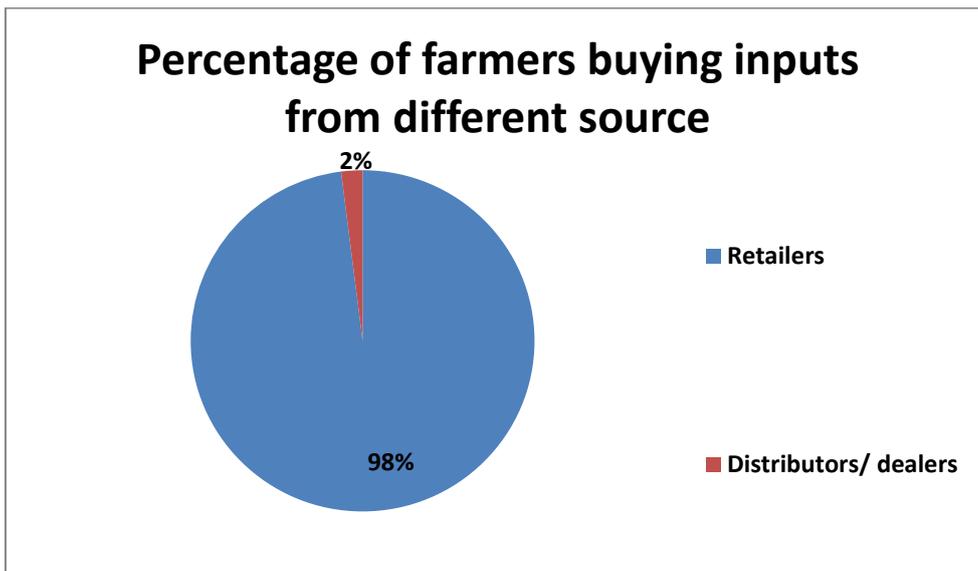


Fig 170: Percentage of farmers buying inputs from different source

Constraints faced by farmers during production process

Farmers face various constraints during the production process. Farmers live in rural area and often do not have access to various inputs and technology. Main constraints faced by the farmers was poor access to necessary technology. Technology might be in the form of new seed varieties, fertilisers, pesticides, machineries. 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 utmost necessary. Third constraints faced by the farmers are unavailability of fertilizers. Other constraints faced by the farmers are

lack of irrigation facility, Lack of knowledge about maturity indices, Lack of accessibility to credits, non-availability of agricultural laborers and High pest and disease incidences.

Main constraints	Avg score	Rank
Poor access to necessary technology	68.36	1
Lack of better quality varieties seeds & planting materials	66.25	2
Poor/ Timely availability of fertilizers	58.22	3
Lack of irrigation facility	53.77	4
High pest and disease incidence	51.25	5

Table 24: Constraints faced by farmers during production process

Extension advisories for getting advice regarding crop cultivation

Farmers contact various agencies for their problems related to farm practices and crop diseases. Most of the farmers contact their peer farmers for their problems. **Figure 171** shows that 48% of the farmers of the surveyed area contact their peer farmers for getting advice. 38% of the farmers contact dealers/ distributors for getting advice on farm practices. 8% of the farmers contact a help line no for their problems. And 2% contacted State agricultural dept. Usually, KVKs and universities are located far from villages, so farmers are often reluctant to go to these places. Negligible numbers of farmers contact NGOs, State Agricultural Department and dealer/distributors.

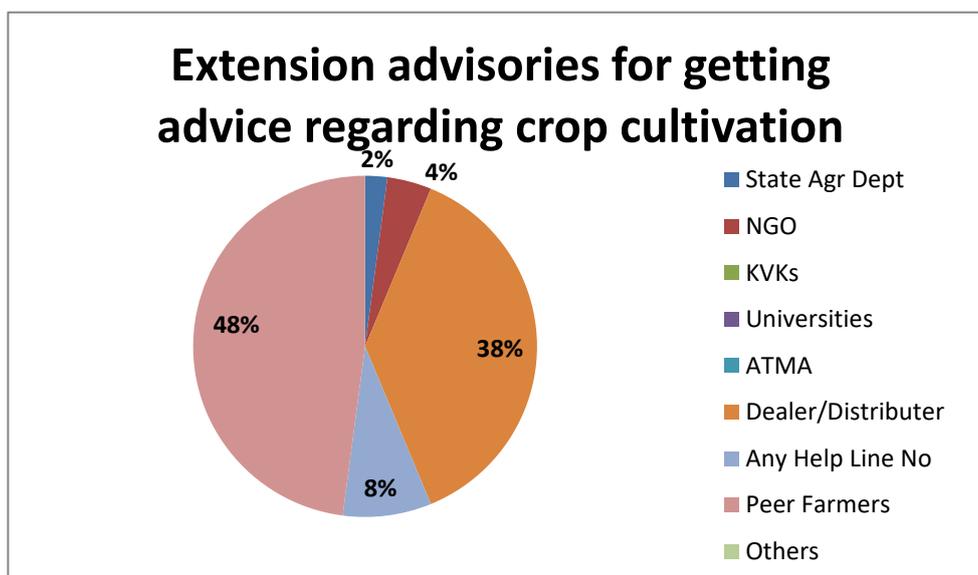


Fig 171: Percentage of farmers contacting different sources for getting advice on farming activities

Figure 172 shows that almost 86% of farmers adopt the advice given to them by the different agencies. Only 14% do not adopt the guidelines of the advice by various agencies.

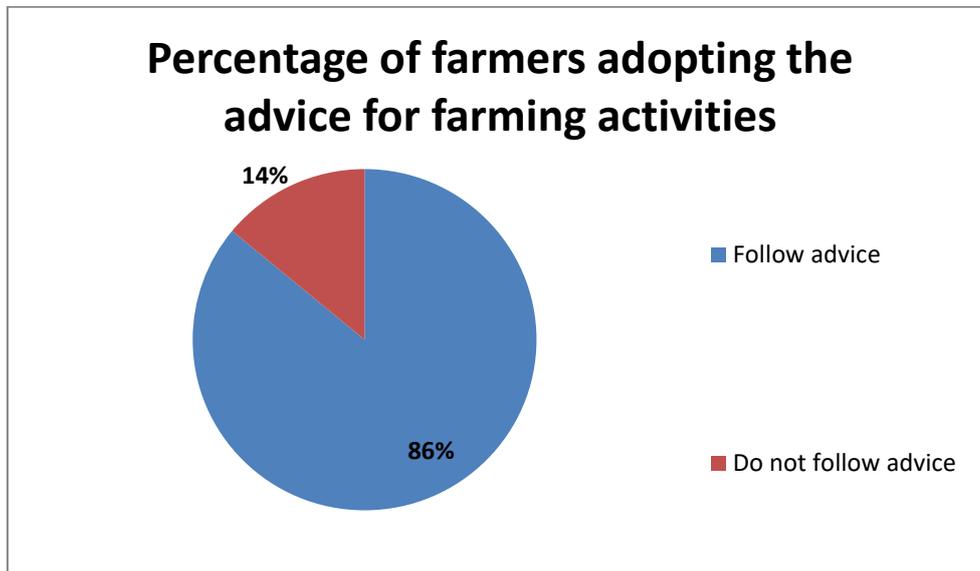


Fig 172: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

Figure 173 shows that the various benefits that the farmers get from extension advisories are increase in yield, lesser input usage, increase in income/profit and decrease in cost of cultivation. 64% of the farmers got the benefit increase in yield and 62% farmers saw an increase in income/profit. 34% saw a decrease in cases of disease/ pest infestation and 26% saw a decrease in input usage. 8% saw a decrease in the overall cost of cultivation after adopting the advice of extension advisories.

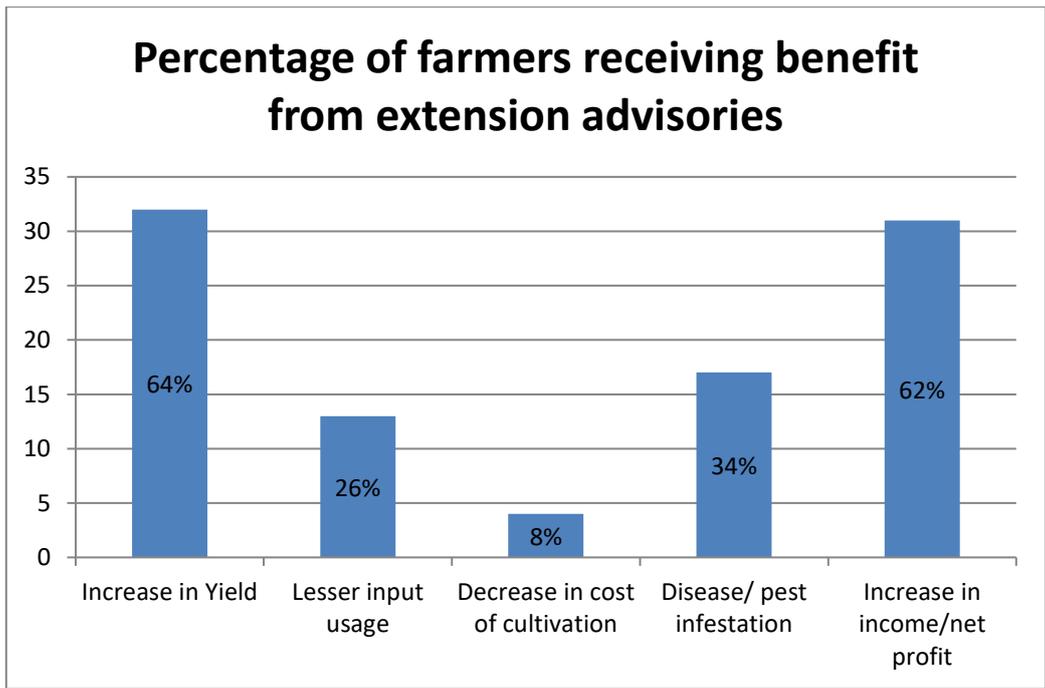


Fig 173: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 174 shows that only 14% of the farmers were not aware regarding government schemes. Rests of the farmers were aware regarding the schemes.

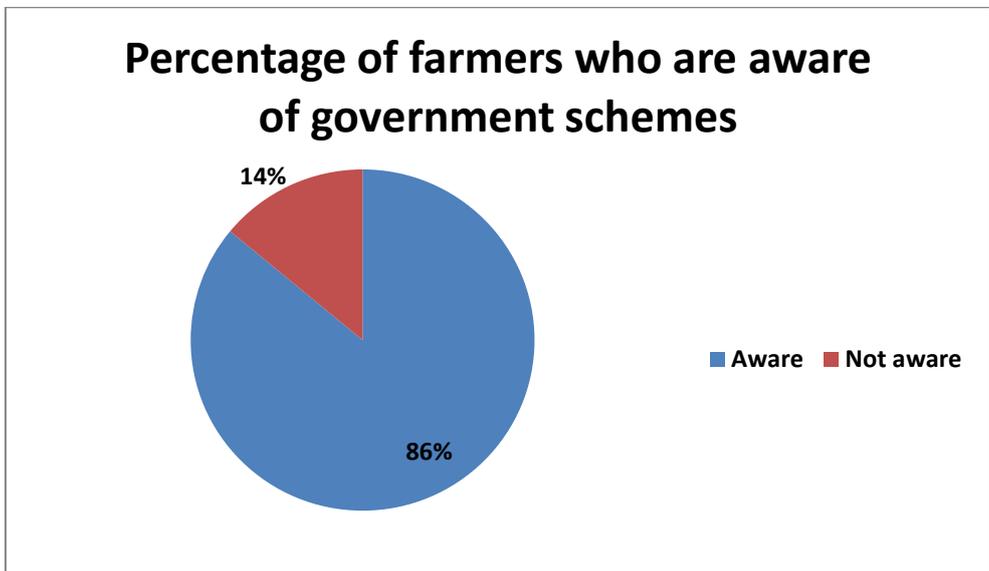


Fig 174: Percentage of farmers aware of government schemes

Accessibility to credit

Figure 175 shows that only 16% of the farmers have taken credit from banks for crop cultivation. There were various constraints that the farmers face while taking credit such as documentation, long distance from village, high rate of interest, etc.

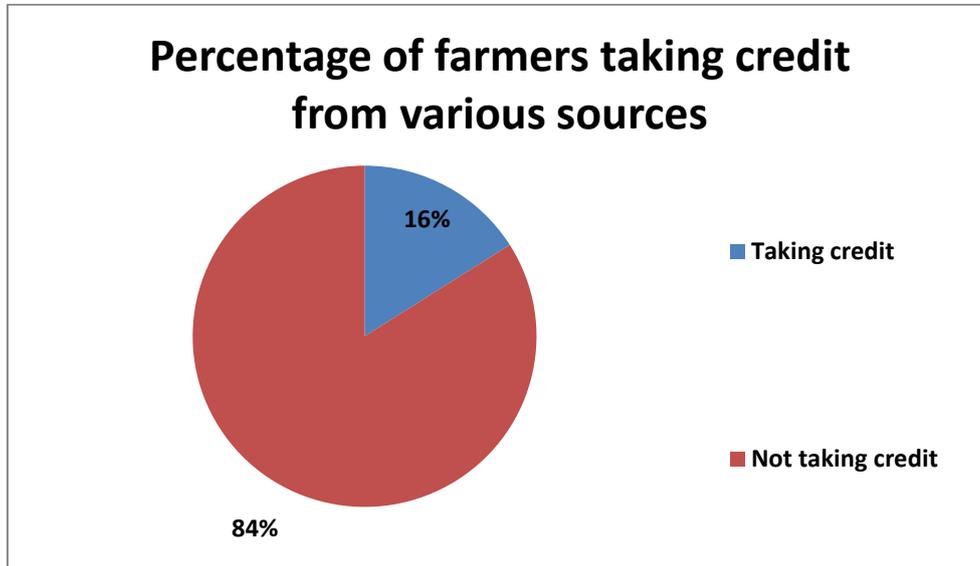


Fig 175: Percentage of farmers taking credit from various sources

Awareness of benefits of FPOs

Figure 176 shows that 90% of the respondents were aware of the benefits of Farmer Producer Organisation. Only 10% were not aware about the benefits of FPOs.

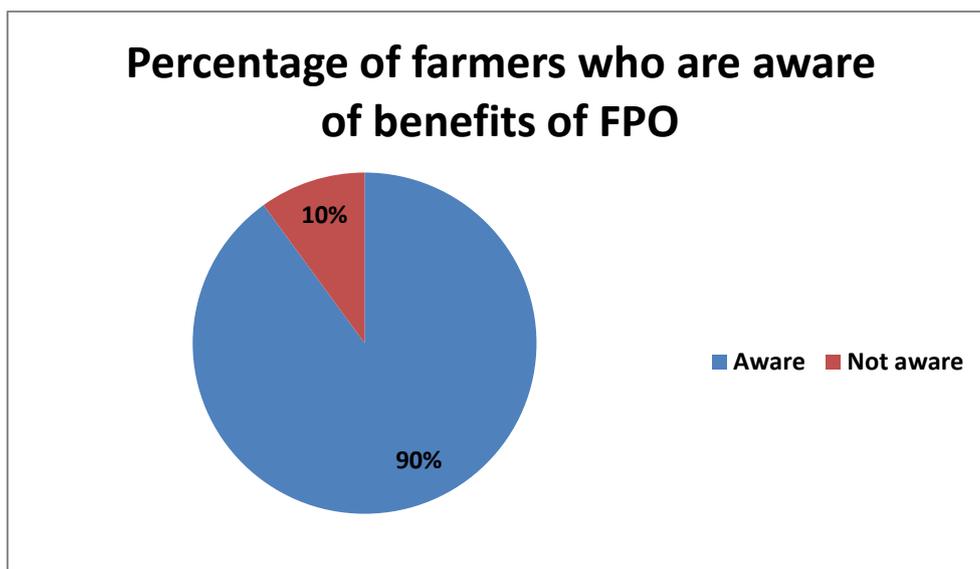


Fig 176: Percentage of farmers aware of benefits of FPO

Member of farmer's association/cooperative

None of the farmers were member of farmer's association/cooperative.

Willingness of farmers to form groups

Hundred percent farmers are 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 during post-harvest packaging

Farmers faced many issues in the post-harvest packaging. **Figure 177** shows that 42% however did not face any problems, 40% had the problem with higher wages, 16% faced shortage of skilled labor and 2% faced non availability of packaging material.

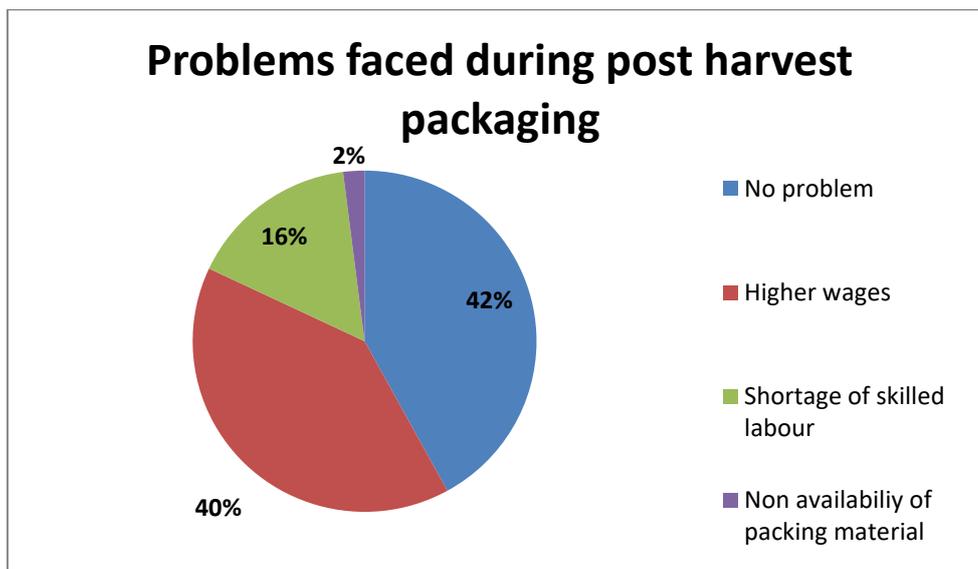


Fig 177: Problems faced during post-harvest packaging

Problems faced during post-harvest transportation

Farmers faced many issues in the post-harvest transportation, and many faced more than one problem. **Figure 178** shows that 44% faced non availability of vehicle, 23% had to pay high transportation charges, 17% feel lack of all-weather roads is a big problem, 13% had to face misleading information and 3% did not face any issues.

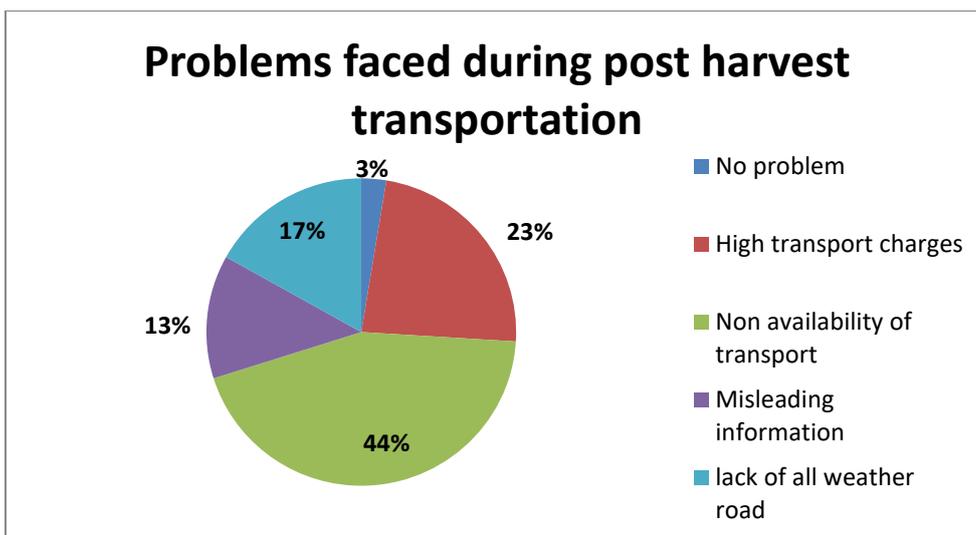


Fig 178: Problems faced during post-harvest transportation

Problems faced during because of malpractices post-harvest

Farmers faced many issues because of the existing malpractices post-harvest, and many faced more than one problem. **Figure 179** shows that 42% had to be content with part payment of their sales proceeds, 39% had to see multiplicity of charges, 13% were quoted lower prices than the prevailing market rates. 6% of farmers however did not face any problems.

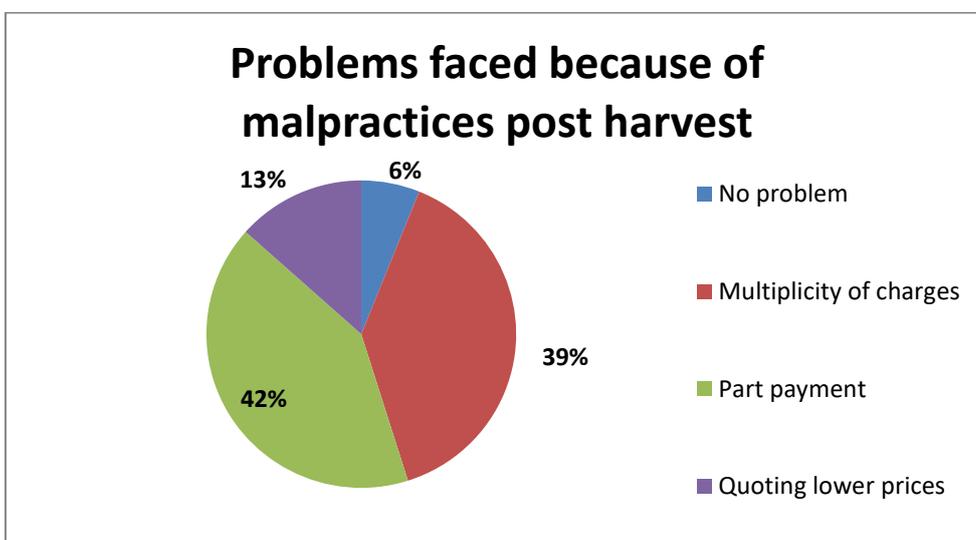


Fig 179: Problems faced during because of malpractices post-harvest

Storage post-harvest

Figure 180 shows that 80% of farmers had their own storage areas and stored the crop there only post-harvest as there is little or no availability of godowns in the area. 16% used public storage spaces and 4% used private. The ones which are available are prohibitive because of the distances involved.

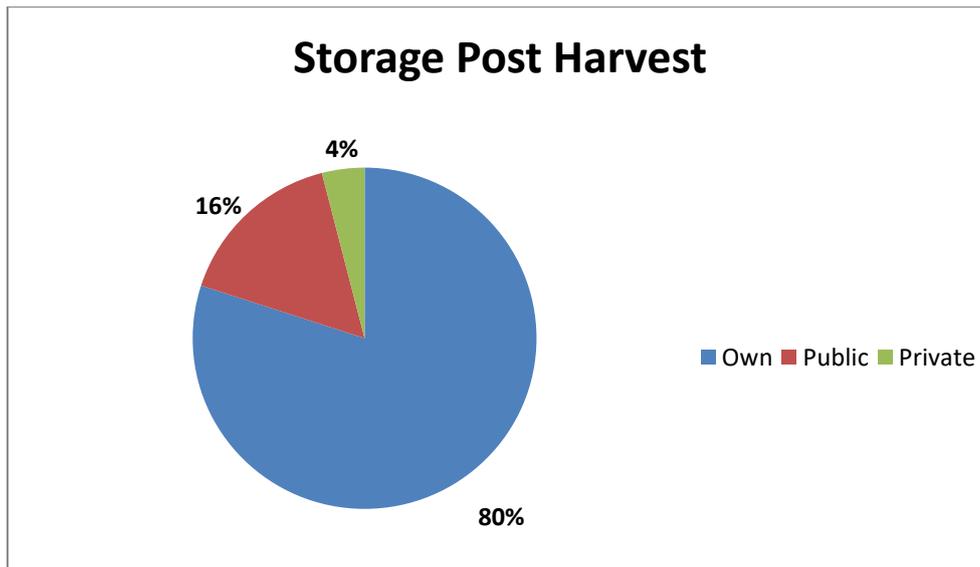


Fig 180: Storage post-harvest

Problems for getting a good SP post-harvest

The farmers in the area do not get a good SP for their crops because of unavailability of storage space, Lower price offered by local traders/less price realization, Unavailability of market.

CHOPAN

Chopan

Profile

Chopan is a Block in Sonbhadra District of Uttar Pradesh State, India. Chopan Block Head Quarters is Chopan town. It belongs to Mirzapur Division. Obra City, Kota City, Robertsganj City, Shahganj City are the nearby Cities to Chopan.

Socioeconomic status of respondents

Age of the respondents

Figure 181 shows that most of the farmers (53%) were of the age group 46-60 years. 37% were of the age group 31-45 years and 9% were of the age group 61-75 years. 2% were of the age group 15-30 years.

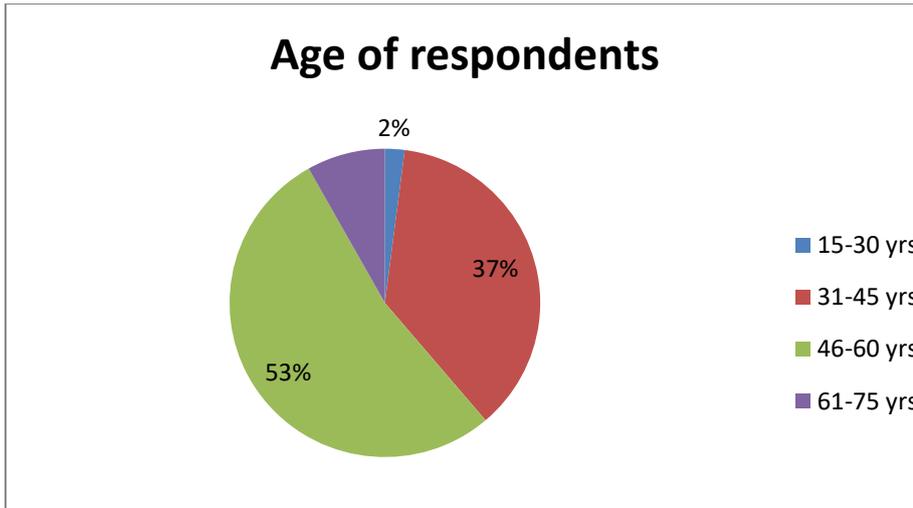


Fig 181: Age of respondents

Category of the respondents

Figure 182 shows that 86% of the respondents were SC/ST, 12% were OBC and 2% belonged to the general category.

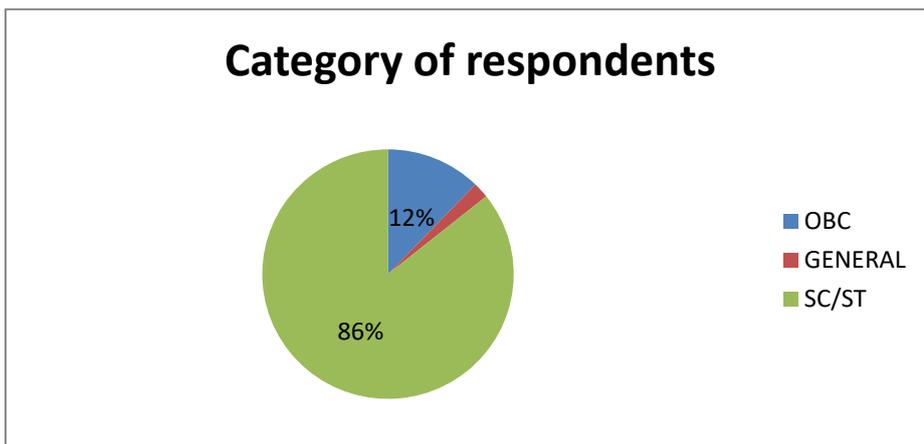


Fig 182: Category of respondents

Gender of respondents

Figure 183 shows that 10% of the respondents were female and rest were male.

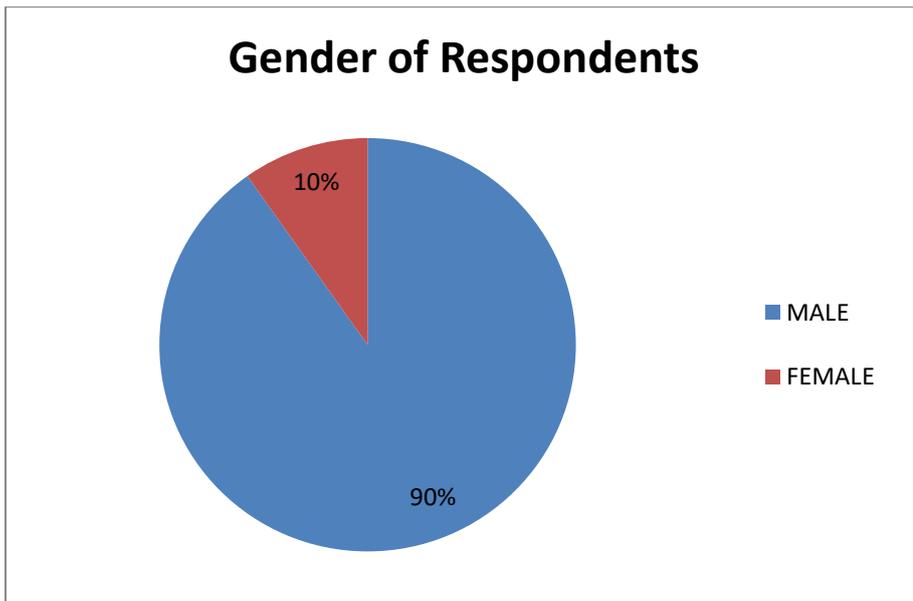


Fig 183: Gender of respondents

Educational qualification of respondents

Figure 184 shows that majority of the respondents (54%) were educated till Class 8th. A total of 42% were illiterate and 4% were educated till class 10th.

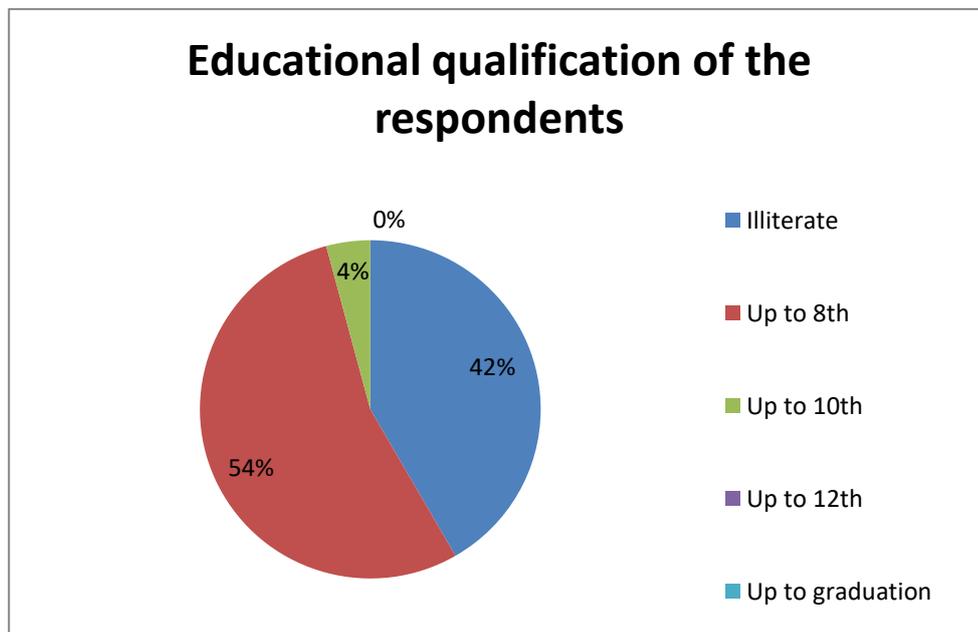


Fig 184: Educational qualification of respondents

Members in the Family

Table 25 shows that the average number of adult members per family of the Babhani Block is 4. The average number of children per family is 3 and school-going children are 7. The average number of dependent members in a family is 2. So, it

can be inferred that on an average, one person in the household is an earning member

Average number of family members	Average number
Adult	4
Children	3
School going children	7
Dependent members	2

Table 25: Average number of members in a family

Involvement of women in agriculture

100 percent of the families have women involved in agriculture.

Activities performed by women

Women of the Babhani are involved in various agricultural activities such as sowing, weeding, harvesting, sorting and grading. Most of the women perform harvesting of crops. **Figure 185** shows that 100% of the women of the surveyed area perform harvesting and weeding. 64% of the women perform weeding activities. 64% of the women are involved in spray of pesticides. 50.9% of the females carry out sorting and grading and 60.7% do some kind of processing. Only 2% women are involved in decision making of any kind and 39.2% do sowing. None of the women of the families are interested in engaging themselves in alternative agriculture-based income generation activities. Women usually perform household activities or farming activities.

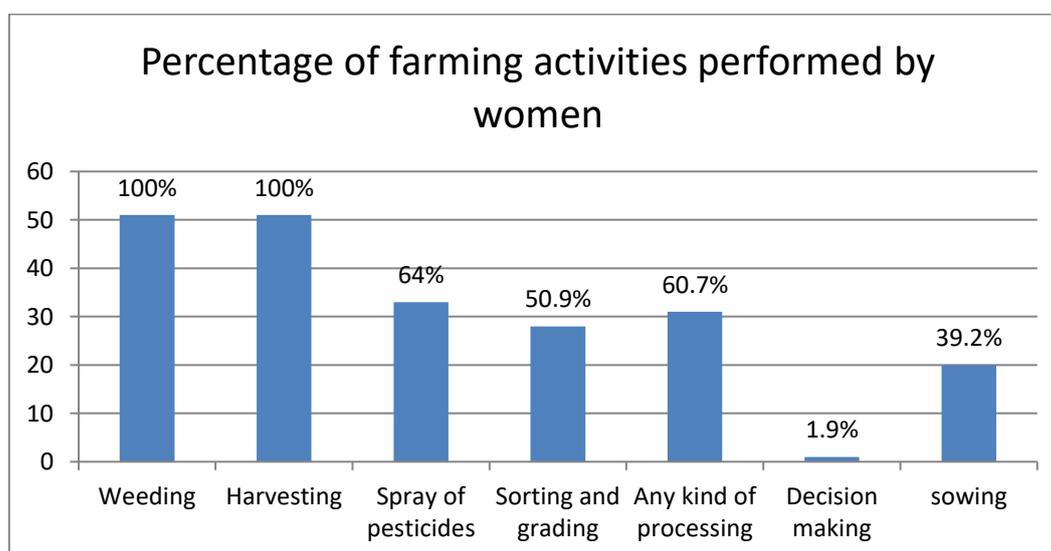


Fig 185: Percentage of farming activities performed by women

Annual income of the respondents

Figure 186 shows that around 54% of the respondents had an annual income less than 25 thousand, 37% respondents had an annual income between 25 and 50 thousand. Only 8% had an annual income between 50 thousand and 1 lakh and only 1% of respondents had annual income between 1 and 1.5 lakh.

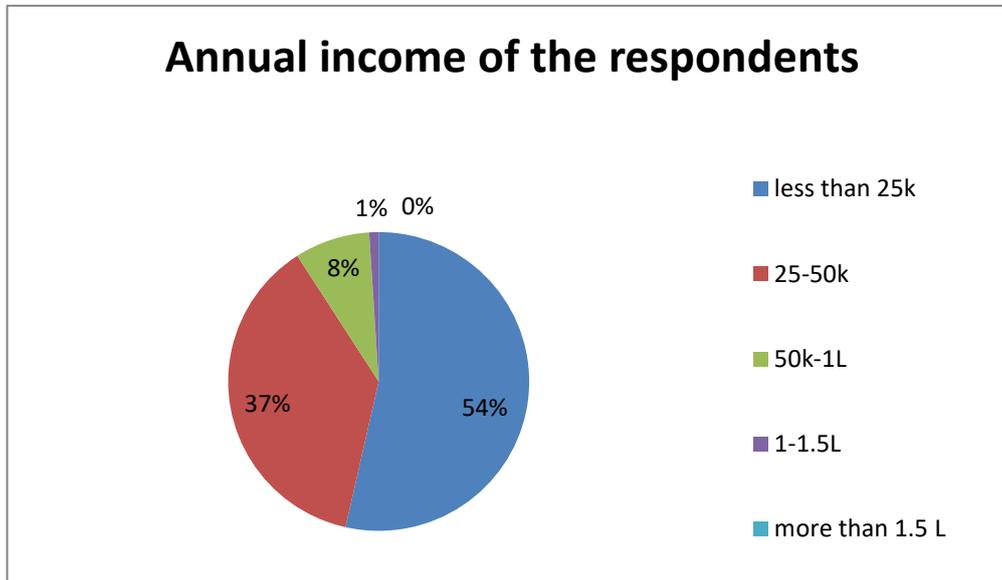


Fig 186: Annual income of the respondents

Savings from Farming

Figure 187 shows that approximately 88% respondents had savings from farming less than 20 thousand and 11% had savings between 20 and 50 thousand. Only one farmer had savings more than 1 lakh.

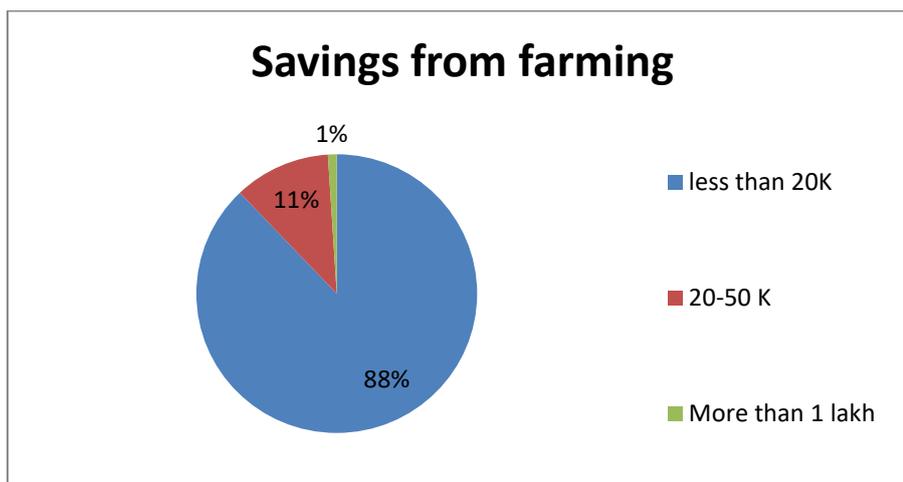


Fig 187: Annual savings from farming

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. 3% are working as laborers and none of the respondents are involved in government job and petty shop.

Annual income of the respondents from activities other than farming

The average annual income of respondents from working as labourer is approx Rs 30,000/- and for those having private job is Rs 39,000/-.

Average income from activities other than farming	
Labourers	Rs 30 Thousand
Private jobs	Rs 39 Thousand

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

Average distance of markets

Average distance of local market is 4.06 km and average distance to Mandi is 20.51 km from the villages.

Average distance of markets	
Local market	4.06 km
Mandi	20.51 km

Table 26: Average distance of markets

Land holding size of the respondents

In the rural areas, agriculture is the mainstay of the economy, with hardly any non-farm occupations available. **Figure 188** shows that 35% of the farmers had 2.1-4 acres of land. 24% of the farmers had 0-2 acres of land. 26% of the farmers had 4.1-6 acres of land and 7% of the respondents had more than 10 acres of land. 4% had land between 6.1 and 10 acres.

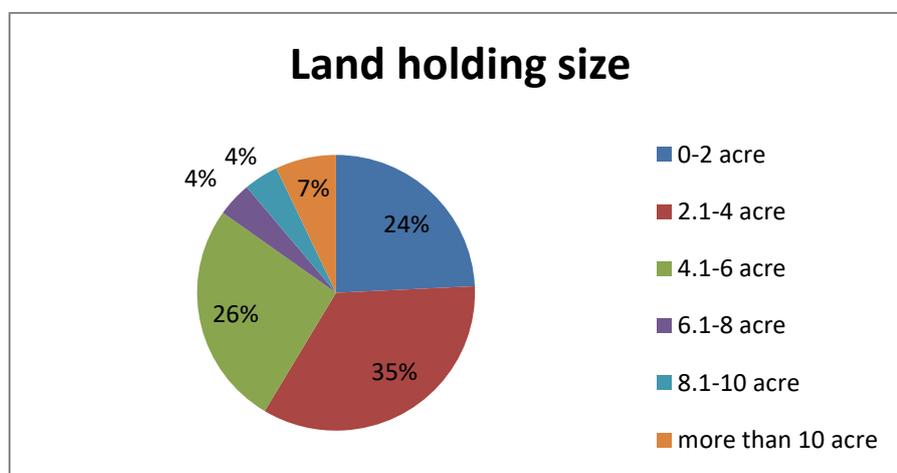


Fig 188: Land holding size

Problems in taking bank loan

Almost 7% of respondents had taken bank loan ranging from Rs 35 thousand to Rs 5 lakh. 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 reason 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 want that government should take steps to provide technological advances and financial aid. They also highlighted the need of 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 of soil testing and none had soil health card. Only 10% of the farmers received any advice on crops to be grown and nutrients required in their field based on soil test report. Proper awareness and trainings were required to be given to the farmers regarding soil testing.

Irrigated land of the respondents

Around 95 acres of the land in the area is irrigated land

Types of irrigation facilities being used

Figure 189 shows that approximately 47% and 43% respondents respectively use lift irrigation or minor irrigation techniques. 10% use bore wells for irrigation.

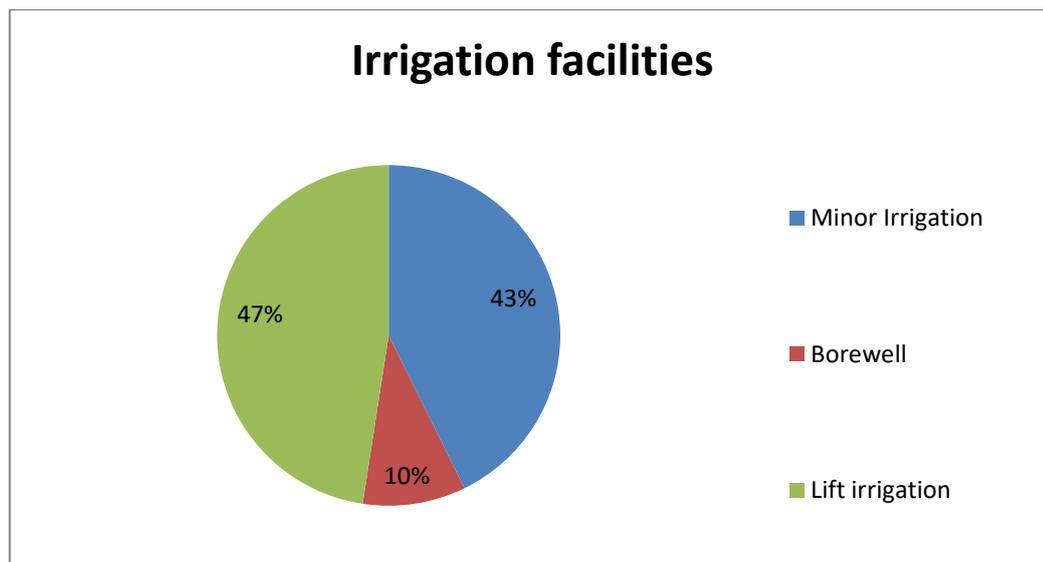


Fig 189: Irrigation Facilities

Crop related information

Cropping pattern

Kharif crops (2020)

Major kharif crop grown in the surveyed area is rice. Rice was grown in an area of almost 102 acres. Total production was 814 quintals, and 298 quintals were sold in the market. Rice was being sold at ₹803 per quintal. Other crops grown in the kharif season are Sesame, Red Gram and Maize. They were grown in an area of 39.79 acres. Total production was 490 quintals. Only 16 quintals were sold in the market at the rate of ₹570 average per quintal.

CROP ROTATION (KHARIF)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Avg Price received per quintal (₹)
1	Rice	41	368.2	2219	78.5	1843
2	Sesame, Red Gram, Maize	45.59	298.1	1615	61.5	7060

Table 26: Crops grown in kharif season

Kharif Crop 2018

Types of Crop

Figure 190 shows that almost 59% grew rice and rest 41% cultivated Maize in the area

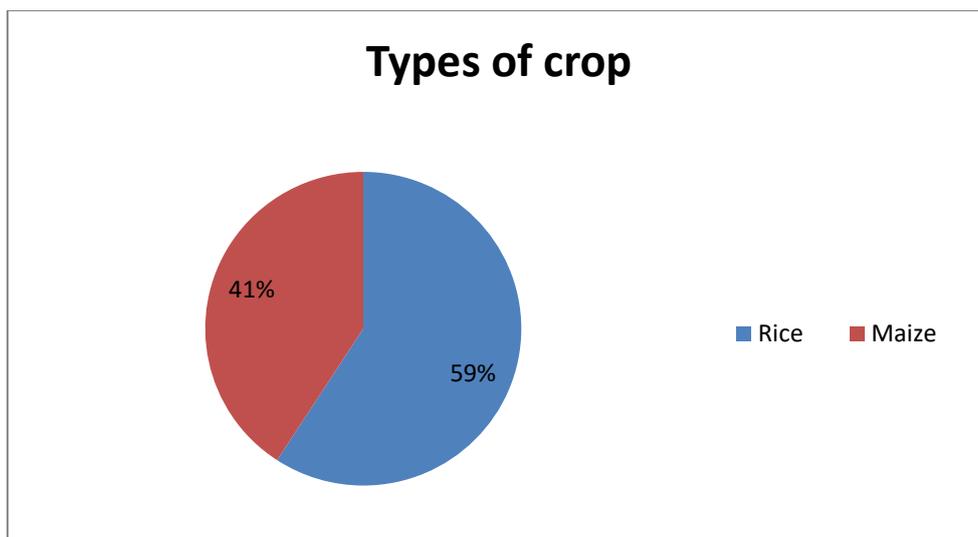


Fig 190: Types of crop

Varieties of Crop

Figure 191 shows that most of the respondents grew Desi variety of the crop.

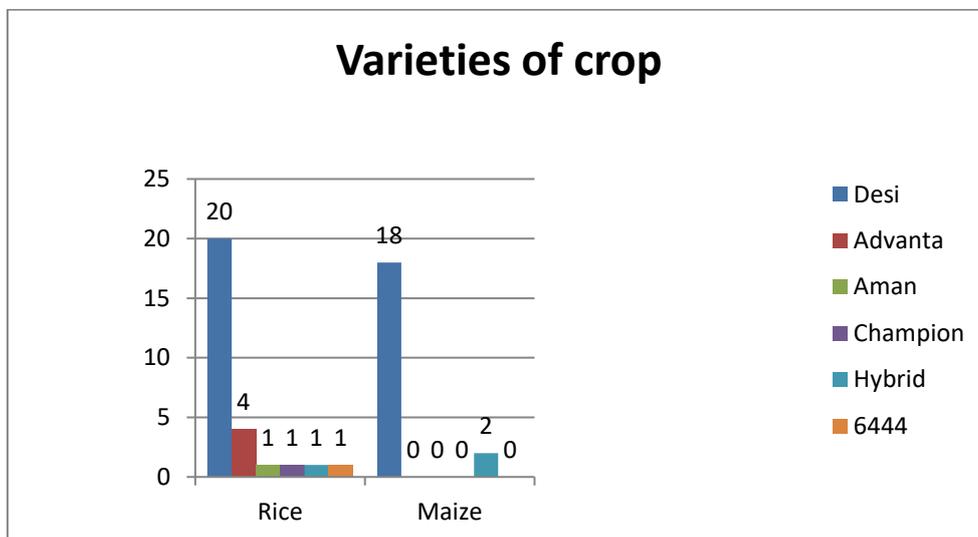


Fig 191: Varieties of crop

Total area under Cultivation

Figure 192 shows that almost 69% respondents had area less than 1 acre under cultivation. 25% had between 1 and 1.9 acres, 2% had between 2 and 2.9 acres, none between 3 and 3.9 acres and only 4% had between 4 and 4.9 acres of land under cultivation.

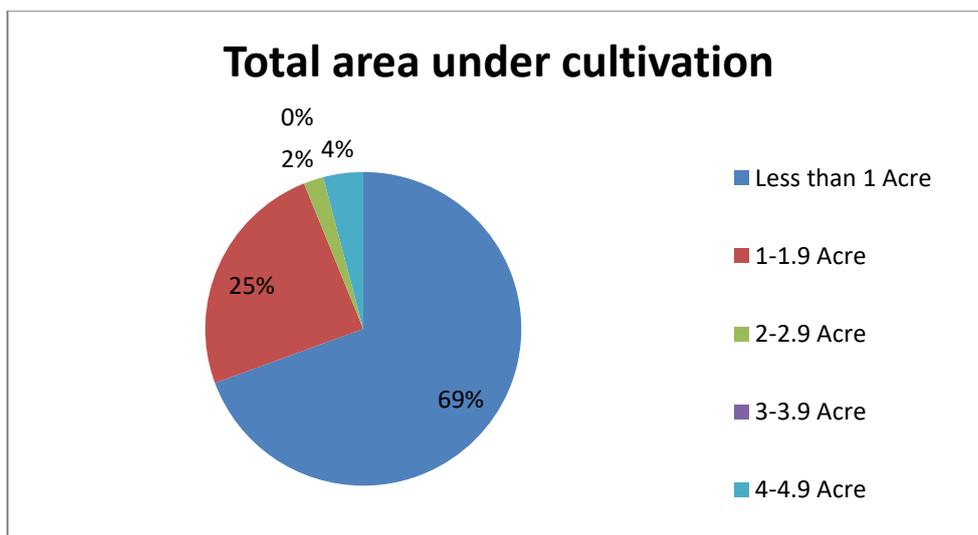


Fig 192: Total area under cultivation

Production of rice

Figure 193 shows that almost 84% respondents had their production up to 5 tons. 10% had between 10.1 and 15 tons, 22% produced between 5.1 and 10 tons, 2% each produced between 15.1 and 20 and more than 25 tons.

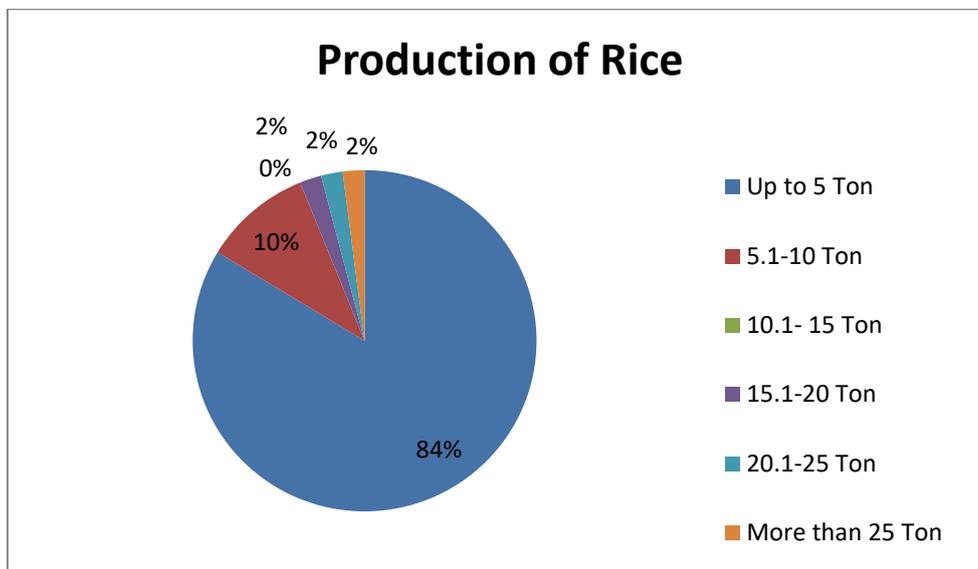


Fig 193: Production of rice

Selling price of Rice

Figure 194 shows that only 34% respondents sold their produce and out of which Almost 59% respondents sold rice with a MSP of Rs 800. 6% sold it for a MSP of Rs 850 and 35% for MSP of Rs 900.

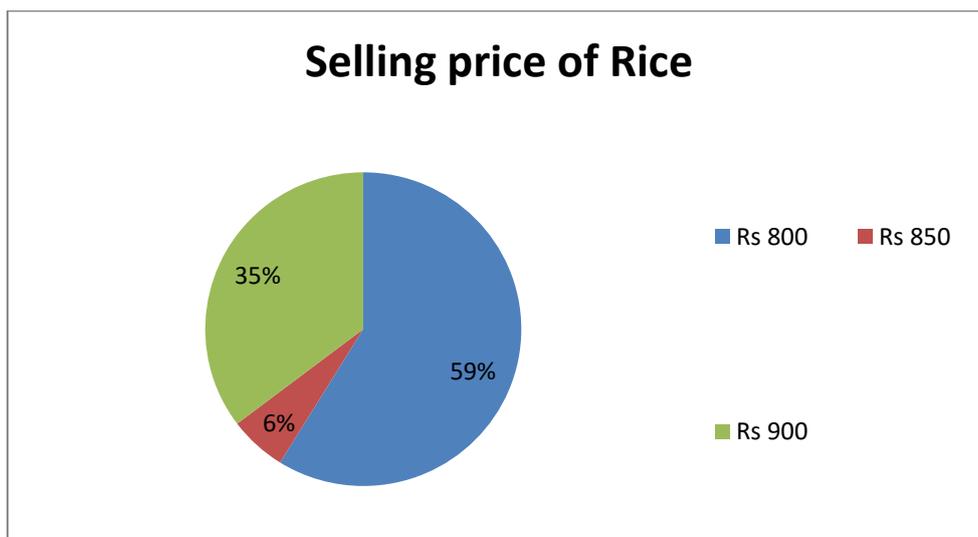


Fig 194: Selling price of Rice

Kharif Crop 2019

Types of Crop

Figure 195 shows that almost 59% grew rice and rest 41% cultivated Maize in the area

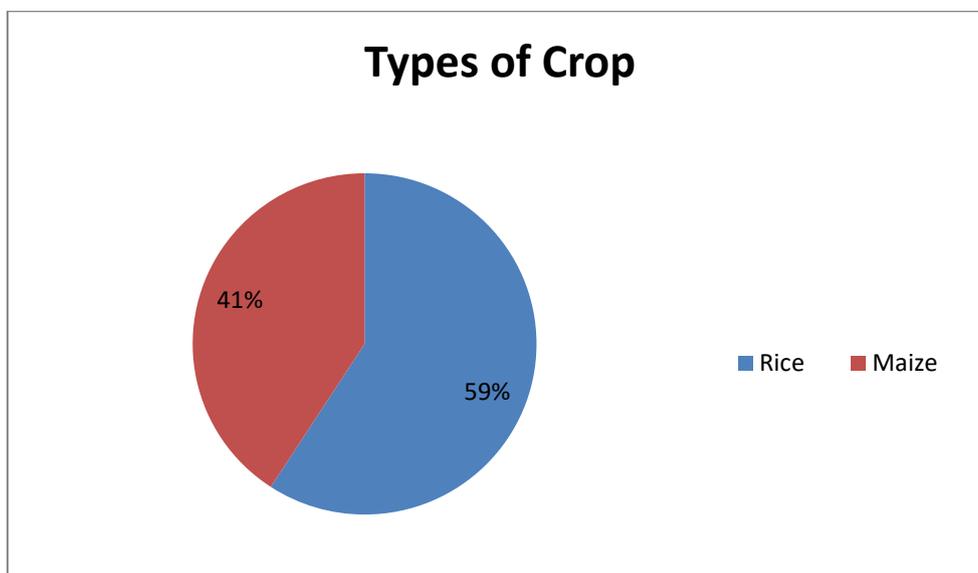


Fig 195: Types of crop

Varieties of Crop

Figure 196 shows that most of the respondents grew Desi variety of the crop.

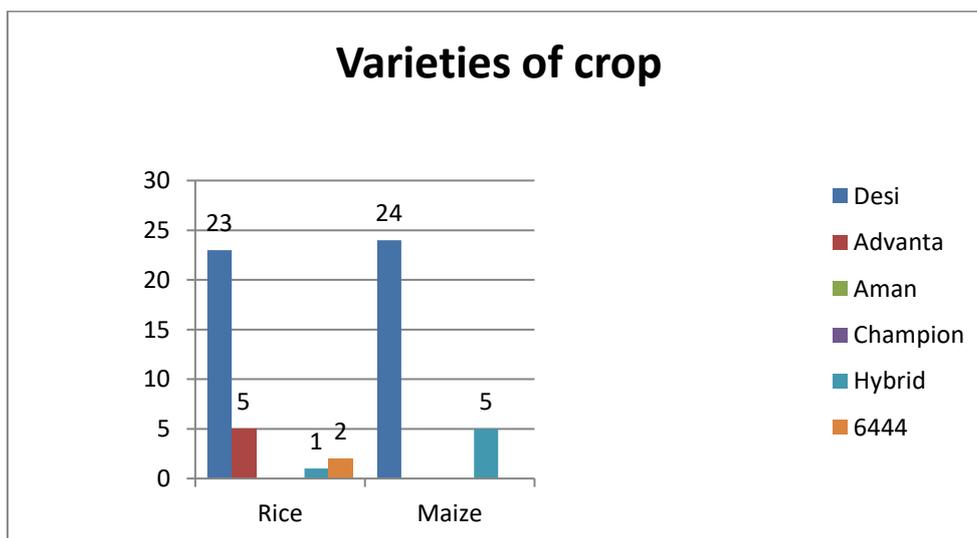


Fig 196: Varieties of crop

Total area under cultivation

Figure 197 shows that almost 72% respondents had area less than 1 acre under cultivation. 26% had between 1 and 1.9 acres and 2% more than 4 acres.

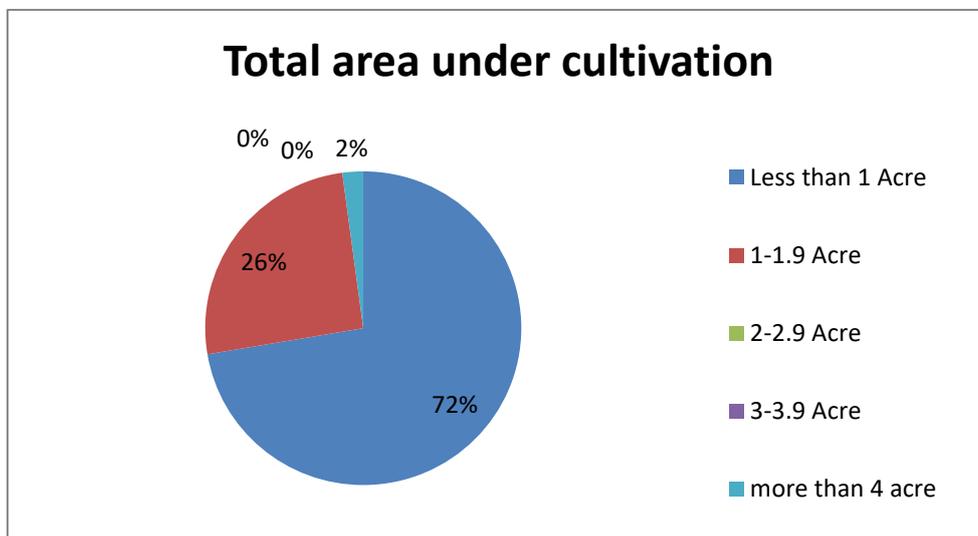


Fig 197: Total area under cultivation

Production of Rice

Figure 198 shows that almost 79% respondents had their production up to 5 tons, 13% had between 5.1 and 10 tons, 6% had more than 25 tons and 2% had between 10.1 and 15 tons.

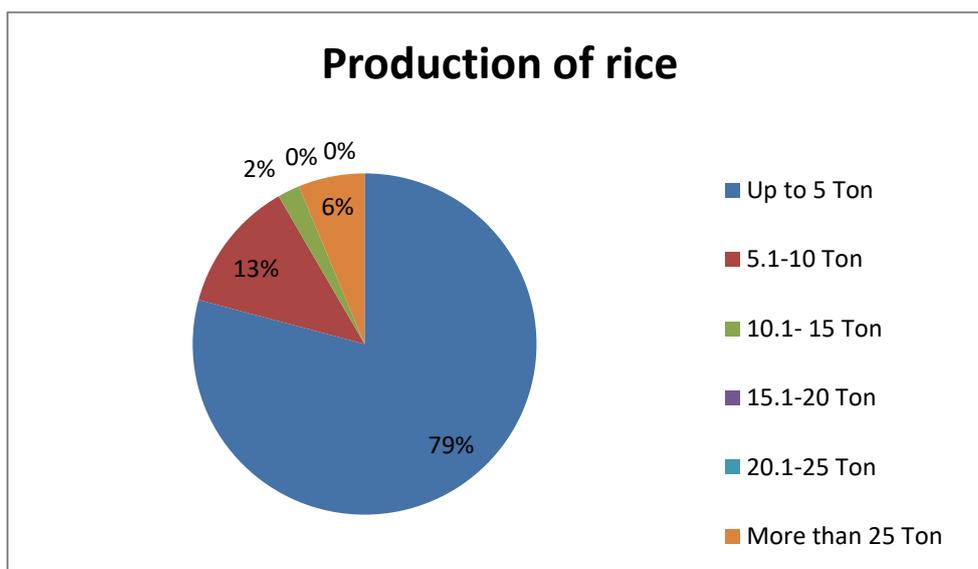


Fig 198: Production of rice

Selling price of Rice

Figure 199 shows that only 29% of respondents sold their produce. Almost 7% respondents sold rice with an MSP of Rs 900, 16% for MSP of Rs 1000 and 77% for an MSP of Rs 1200.

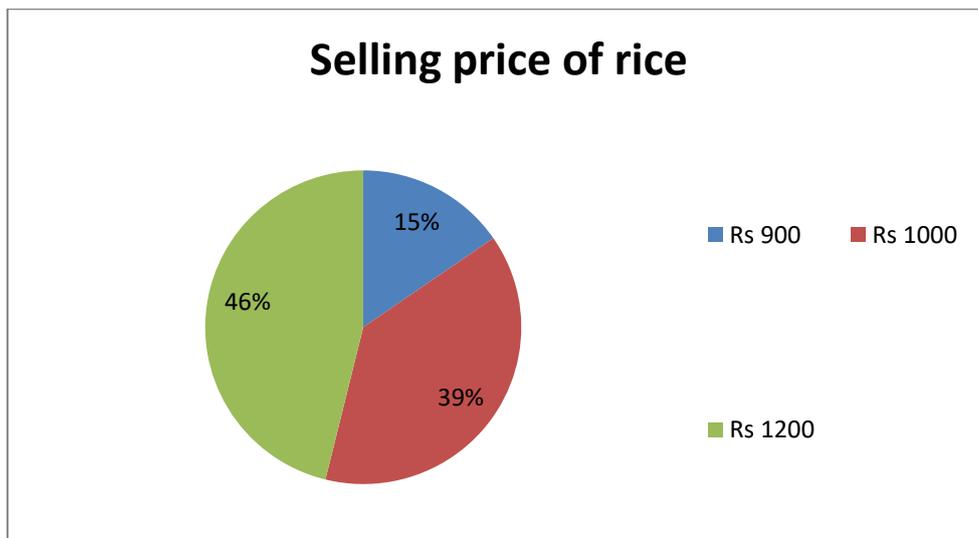


Fig 199: Selling price of rice

Kharif Crop 2020

Types of crop

Figure 200 shows that almost 59% grew rice and rest 41% cultivated Maize in the area

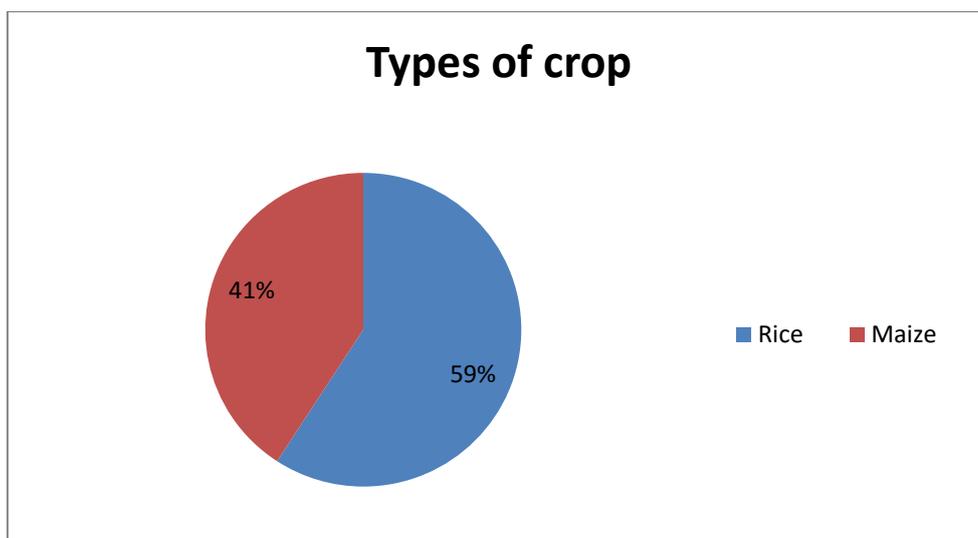


Fig 200: Types of crop

Varieties of crop

Figure 201 shows that most of the respondents grew Desi variety of the crop.

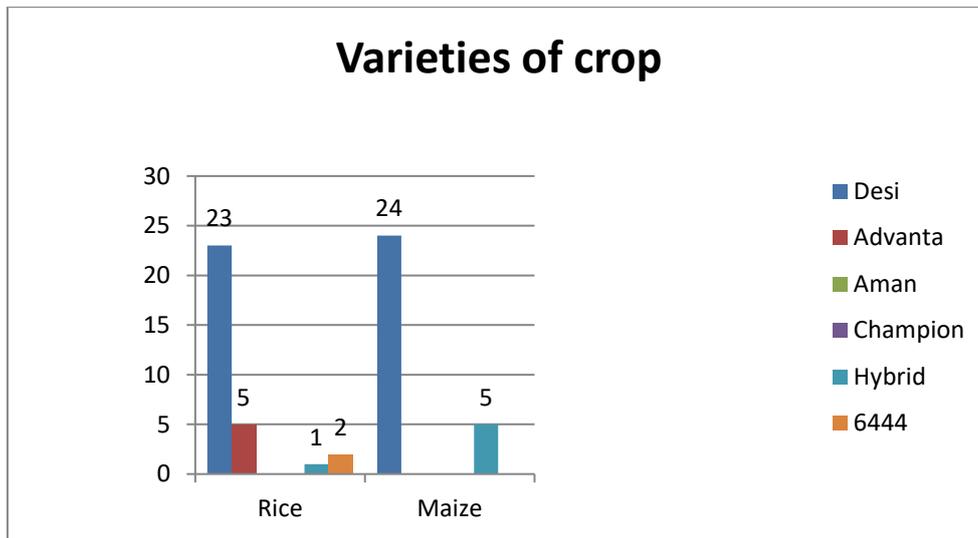


Fig 201: Varieties of crop

Total area under cultivation

Figure 202 shows that almost 40% respondents had area less than 1 acre and between 1 and 1.9 acres under cultivation. 10% had between 2 and 2.9 acres, 8% between 3 and 3.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

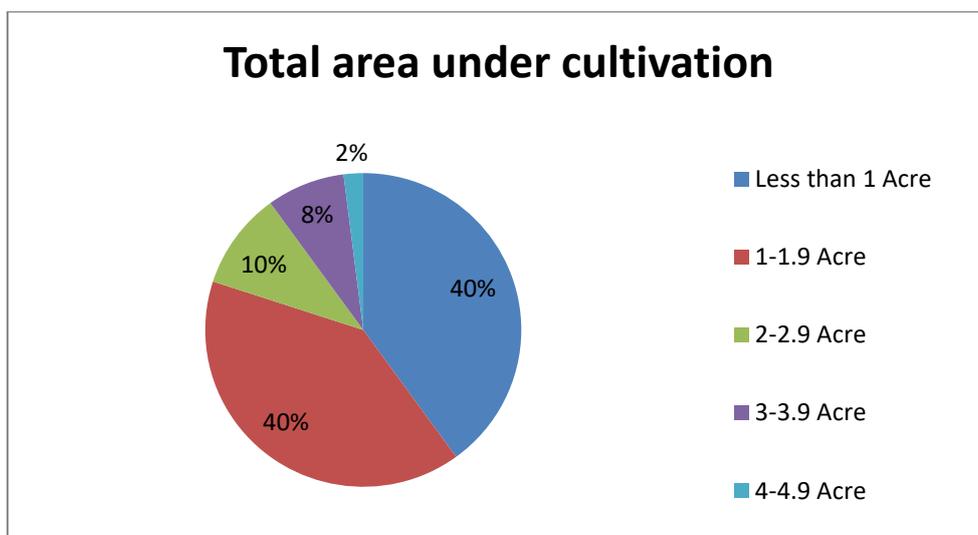


Fig 202: Total area under cultivation

Production of Rice

Figure 203 shows that almost 33% respondents had their production up to 5 tons and 24% between 10.1 and 15 tons. 24% had between 5.1 and 10 tons, 8% had between 15.1 and 20 tons, 6% had their production more than 25 tons and 4% had between 20.1 and 25 tons of production.

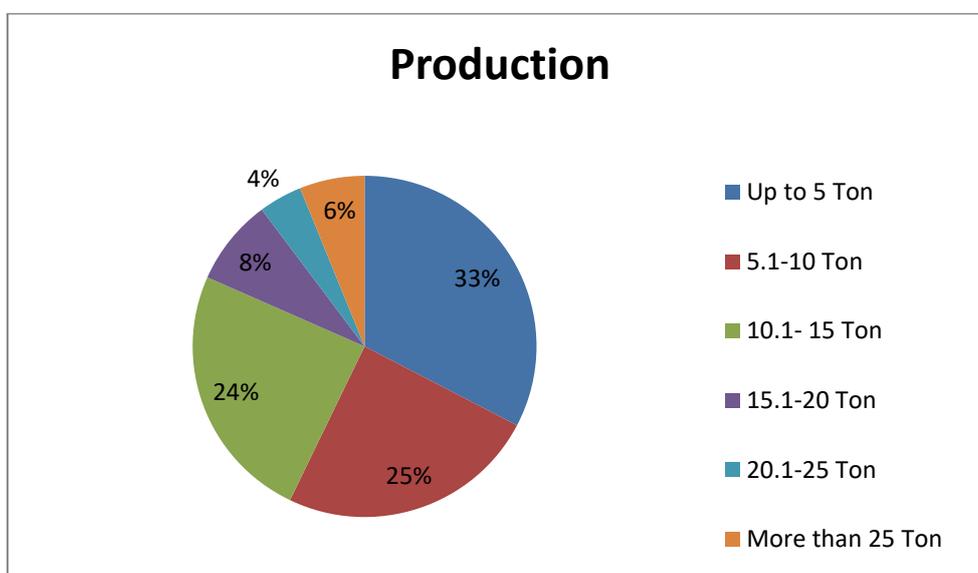


Fig 203: Production

Selling price of Rice

Figure 204 shows that almost 60% respondents sold rice with an SP of Rs 900. 10% sold it for an SP of Rs 850, 12% for an SP of Rs 800, 7% for an SP of Rs 950, 8% for SP of Rs 1000 and 3% for an SP of Rs 1200.

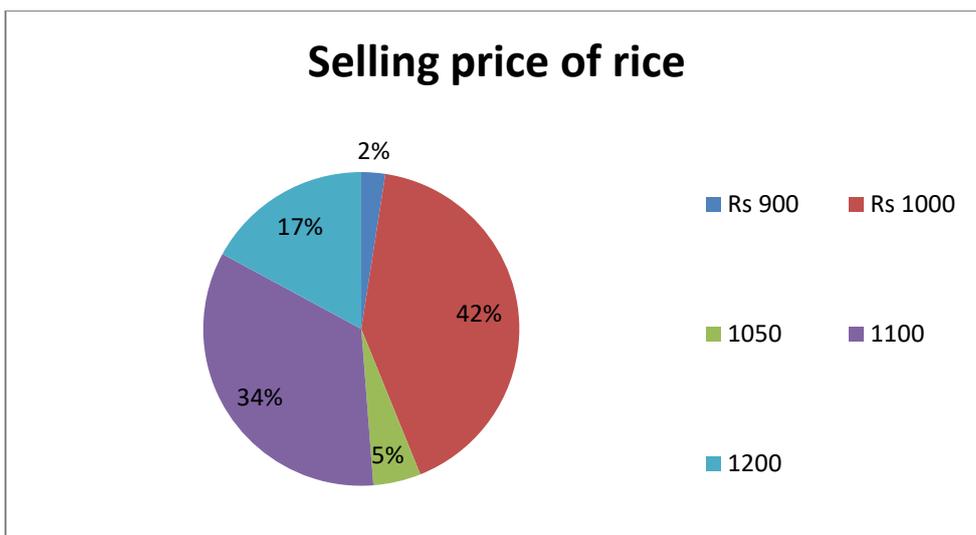


Fig 204: Selling price of rice

Kharif Crop 2018- Other than Rice and Maize

Crops grown in the area other than rice are Sesame, Maize and Red Gram.

Varieties of crop

Figure 205 shows that almost 96% respondents grew Desi variety and only 2% used Shankar.

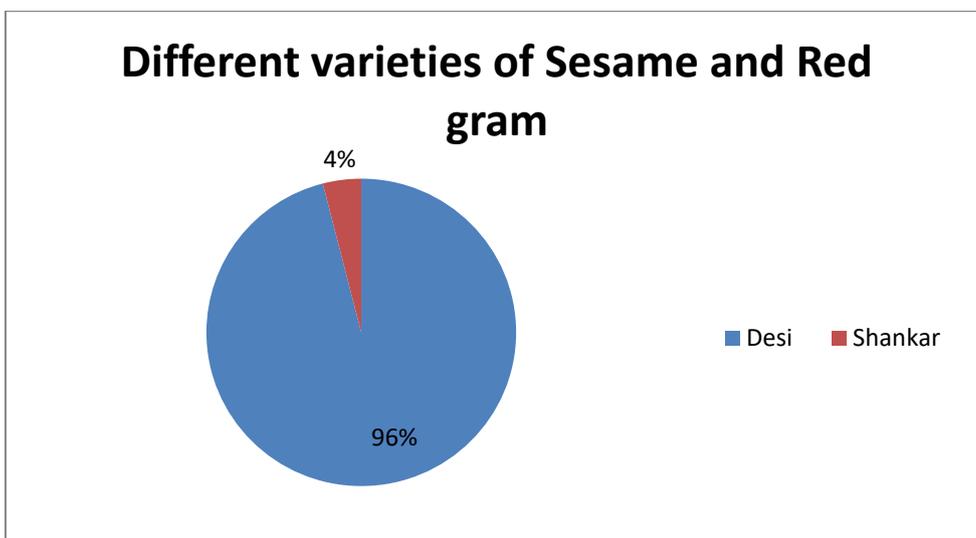


Fig 205: Different varieties of Sesame and Red gram

Total area under cultivation

Figure 206 shows that almost 78% respondents had area less than 1 acre under cultivation. 18% had between 1 and 1.9 acres, 4% had between 2 and 2.9 acres and none more than that.

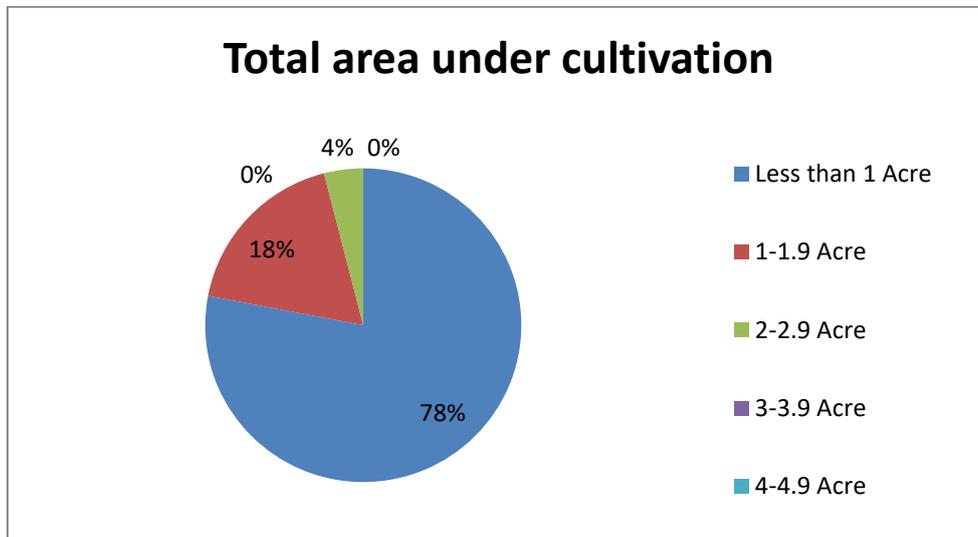


Fig 206: Total area under cultivation

Production of Sesame, Maize & Red gram

Figure 207 shows that almost 69% respondents had their production up to 5 tons and 22% between 5.1 and 10 tons. 5% had their productions more than 25 tons and 2% each between 10.1 and 15 tons and 15.1 and 20 tons.

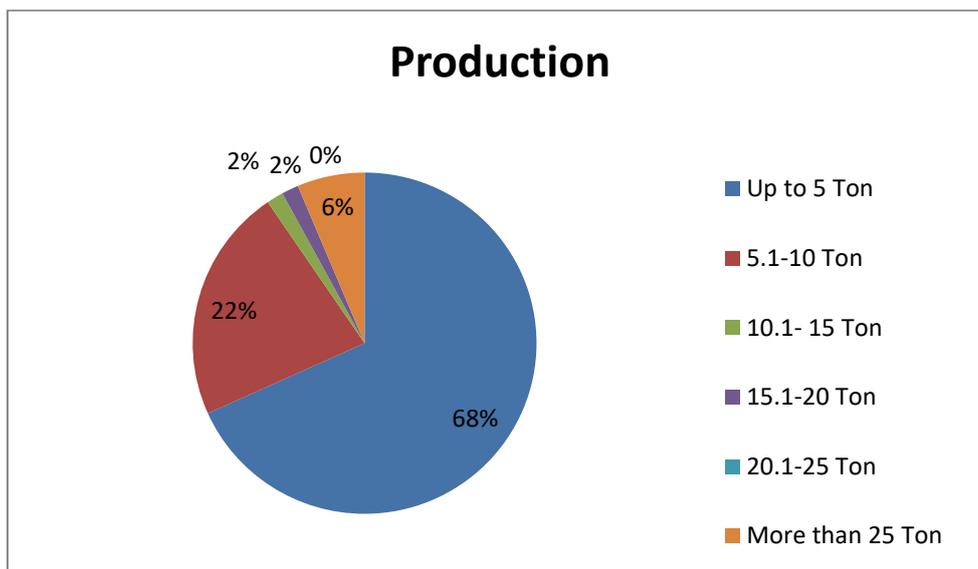


Fig 207: Production of Sesame, Maize & Red gram

Selling Price of Sesame, Maize & Red gram

All the farmers did not sell their products and kept them for their use. **Figure 208** shows that out of the farmers who sold almost 47% respondents sold crops with an SP of less than Rs 100. 25% sold it for an SP of Rs 700, 18% for an SP of Rs 800, 4% for an SP of Rs 4000 and 2% each for Sp of Rs 750, Rs 850 and Rs 3000.

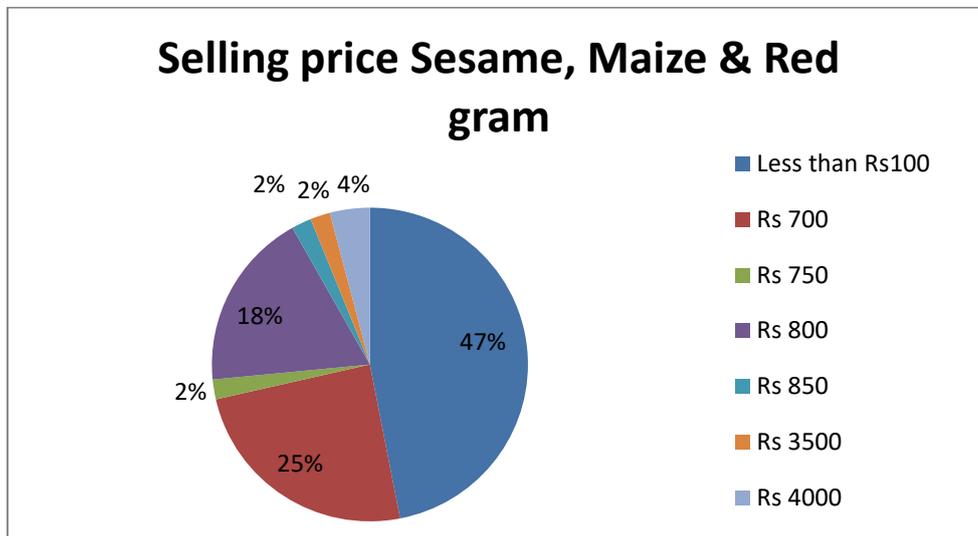


Fig 208: Selling price of Sesame, Maize and Red gram

Kharif Crop 2019- Other than Rice

Crops grown in the area other than rice are Sesame, Maize and Red Gram.

Varieties of Sesame, Maize & Red gram

Figure 209 shows that almost 96% respondents grew Desi variety and only 2% used Shankar.

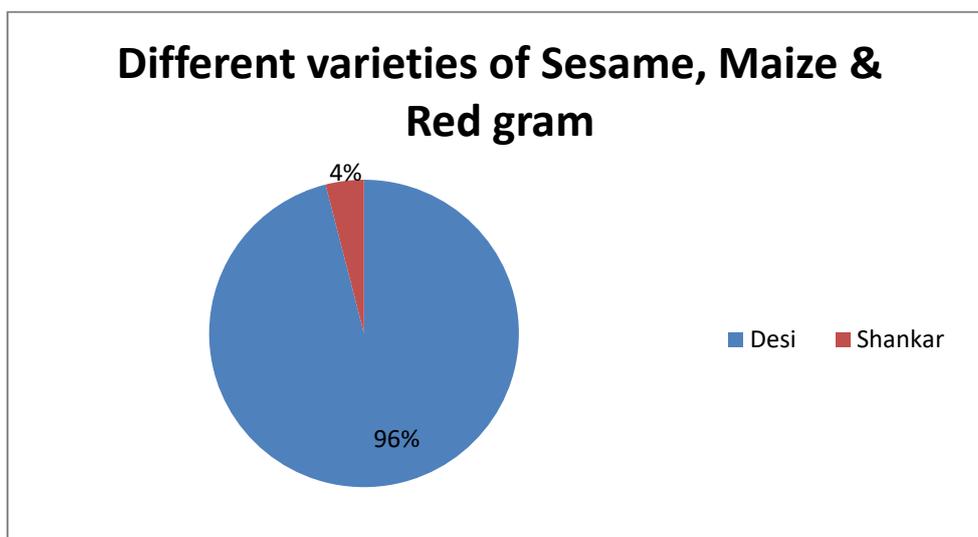


Fig 209: Varieties of Sesame, Maize & Red gram

Total area under cultivation

Figure 210 shows that Almost 78% respondents had area less than 1 acre under cultivation. 18% had between 1 and 1.9 acres, 4% had between 2 and 2.9 acres and none more than that.

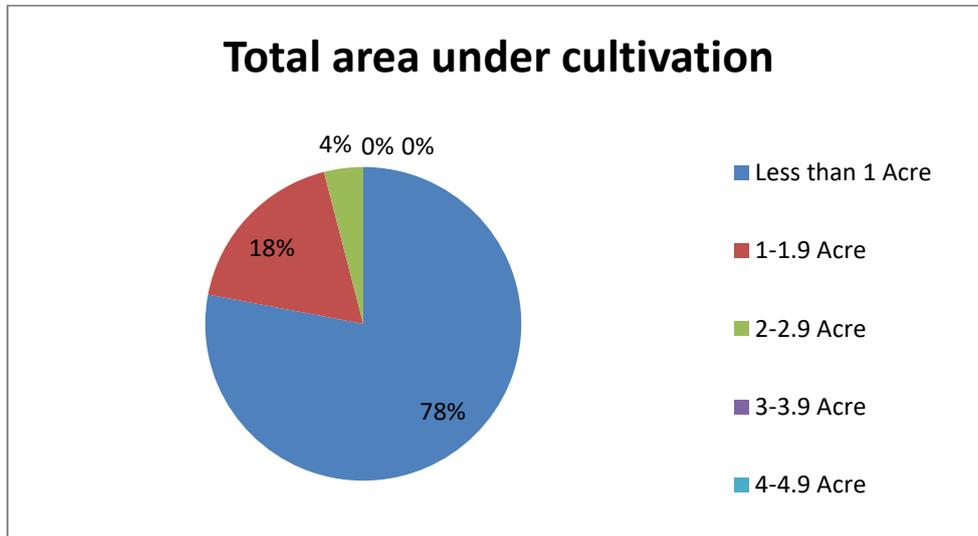


Fig 210: Total area under cultivation

Production of Sesame, Maize & Red gram

Figure 211 shows that almost 82% respondents had their production up to 5 tons and 4% each between 5.1 and 10 tons and 20.1-25 tons. 8% each had their production more than 25 tons and 2% between 10.1 and 15 tons.

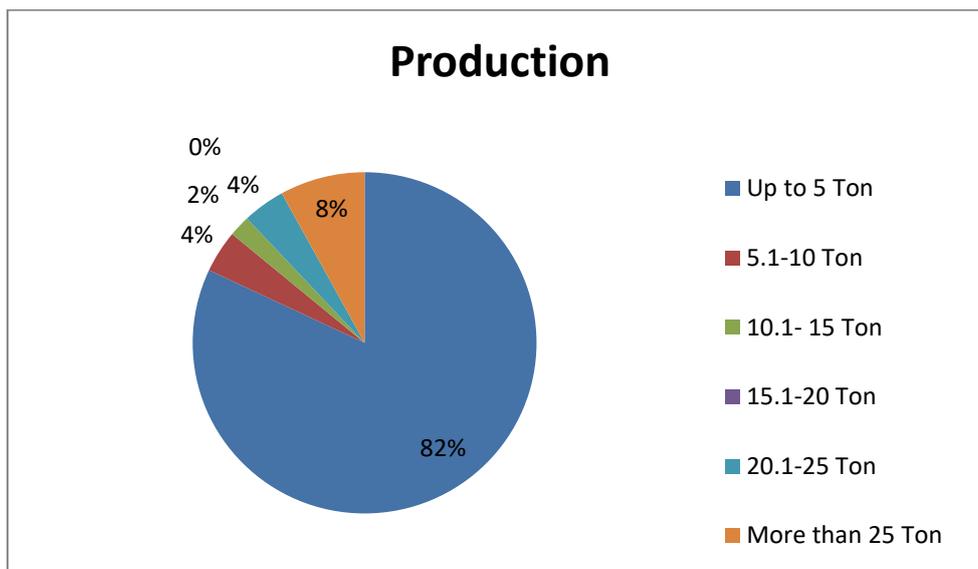


Fig 211: Production of Sesame, Maize & Red gram

Selling Price of Sesame, Maize and Red Gram

All the farmers did not sell their products and kept them for their use. **Figure 212** shows that out of the farmers who sold almost 50% respondents sold crops with an SP of less than Rs 100. 25% sold it for an SP of Rs 800, 18% for an SP of Rs 900, 6% for an SP of Rs 750 and 2% each for SP of Rs 4000, Rs 5000 and Rs 6000.

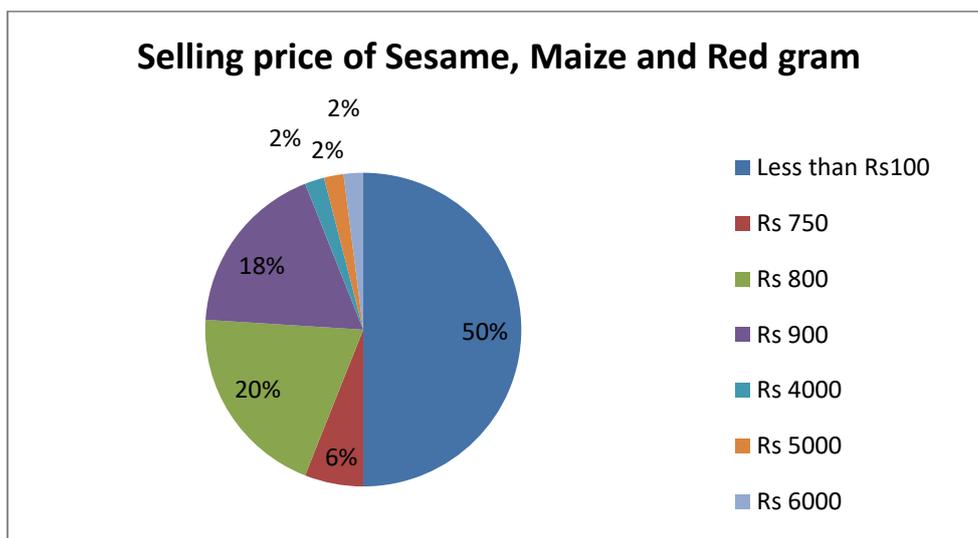


Fig 212: Selling price of Sesame, Maize and Red gram

Kharif Crop 2020- Other than Rice

Crops grown in the area other than rice are Sesame, Maize and Red Gram.

Types of Crops

Figure 213 shows that almost 92% respondents grew Desi variety and only 8% used Shankar.

Different varieties of Sesame, Maize and Red Gram

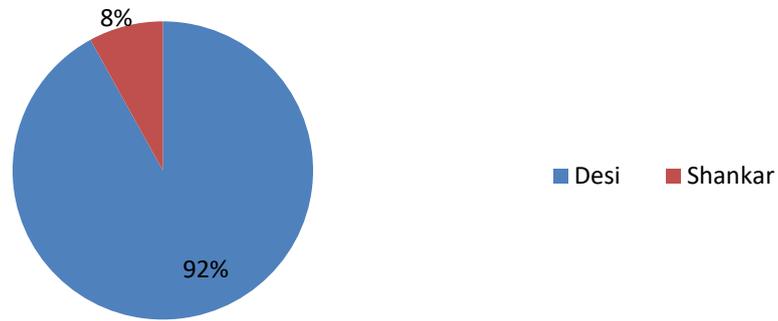


Fig 213: Different Varieties of Sesame, Maize and Red gram

Area under cultivation

Figure 214 shows that almost 80% respondents had area less than 1 acre under cultivation. 16% had between 1 and 1.9 acres, 4% had between 2 and 2.9 acres and none more than that.

Area under cultivation

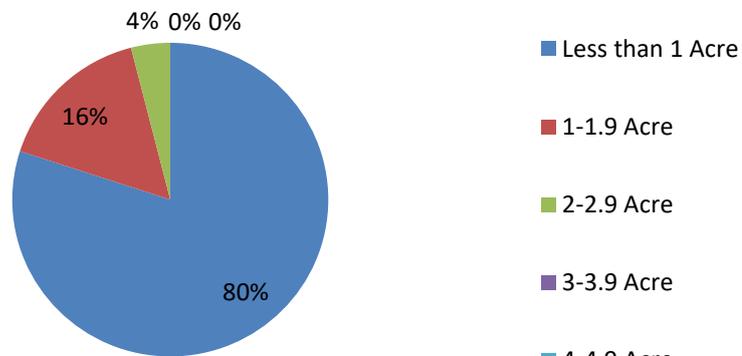


Fig 214: Area under cultivation

Production of Sesame, Maize and Red Gram

Figure 215 shows that almost 82% respondents had their production up to 5 tons and 4% between 20.1 and 25 tons and 2% between 5.1 and 10 tons.

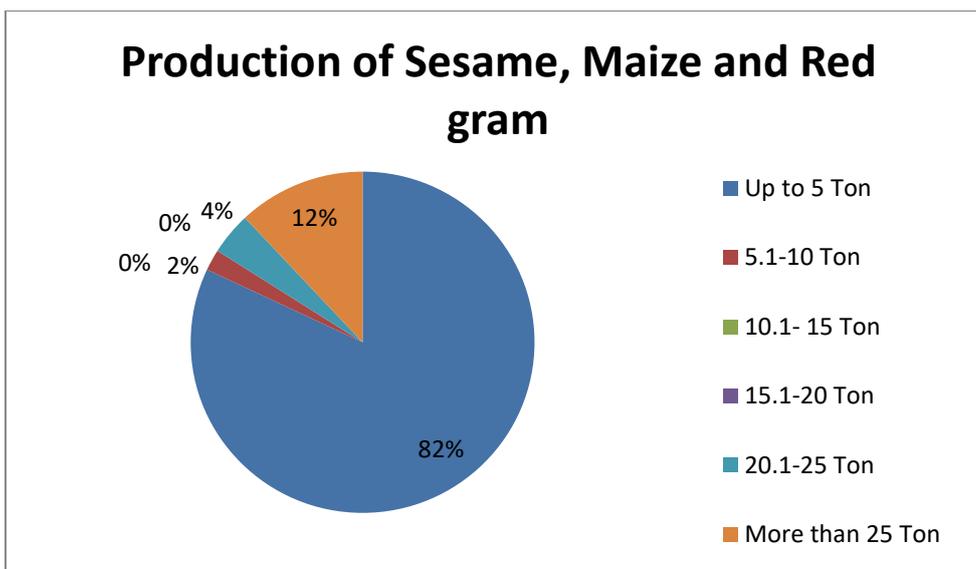


Fig 215: Production of Sesame, Maize and Red gram

Selling Price of Sesame, Maize and Red Gram

All the farmers did not sell their products and kept them for their use. **Figure 216** shows that out of the farmers who sold almost 52% respondents sold crops with an SP Rs 1000. 18% sold it for an SP of Rs 900, 11% for an SP of less than Rs 100, 7% for an SP of Rs 1100 and 4% each for SP of Rs 5000, Rs 6000 and Rs 7000.

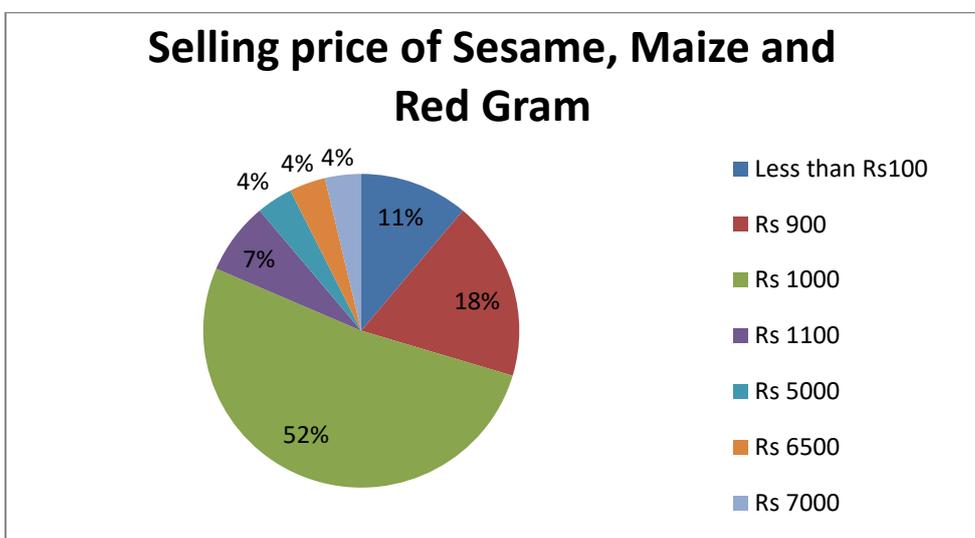


Fig 216: Selling price of Sesame, Maize and Red Gram

Rabi crops (2020)

Main crop grown during Rabi season is Wheat. Apart from that Mustard, Green Gram, Red Gram and vegetables such as potato, tomato and cabbage are also grown. Wheat is grown in an area of approx 34 acres. Even though production is 263.35 quintals, only 48.65 quintals is sold in the market. Most of the produce is kept

for home consumption. Mustard, Green Gram, Red Gram and vegetables such as potato, tomato and cabbage were grown in an area of approximately 8 acres. Total production was 226.75 quintals. Only 5 quintals were sold at an average selling price of Rs 1200 per quintal.

CROP ROTATION (RABI)						
S. No	Crops	Total Area (acre)	Total Production (Q)	Productivity (kg/ha)	Quantity sold (Q)	Price received per quintal (₹)
1	Wheat	34.34	263.35	1894	48.65	1661
2	Mustard, Red gram, Green gram, Potato, Tomato, Cabbage	8	226.75	7020	5	1200

Table 27: Crops grown during the Rabi season in Babhani in 2020

No new crop was cultivated by farmers in the surveyed area. Farmers restricted themselves to cultivating rice and few vegetables.

Rabi Crop 2018 - Wheat

Types of Wheat

Figure 217 shows that almost 94% respondents grew Malviya variety and only 6% grew Desi.

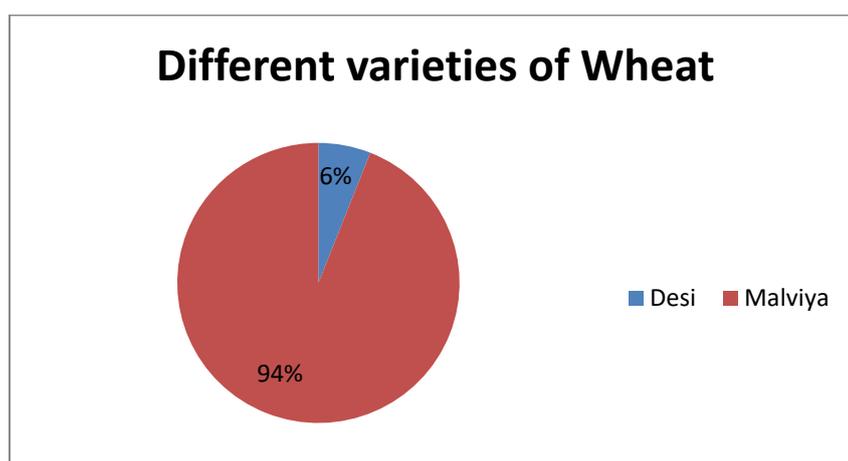


Fig 217: Different varieties of wheat

Area under cultivation

Figure 218 shows that almost 46% respondents had area less than 1 acre under cultivation. 44% had between 1 and 1.9 acres, 8% had between 2 and 2.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

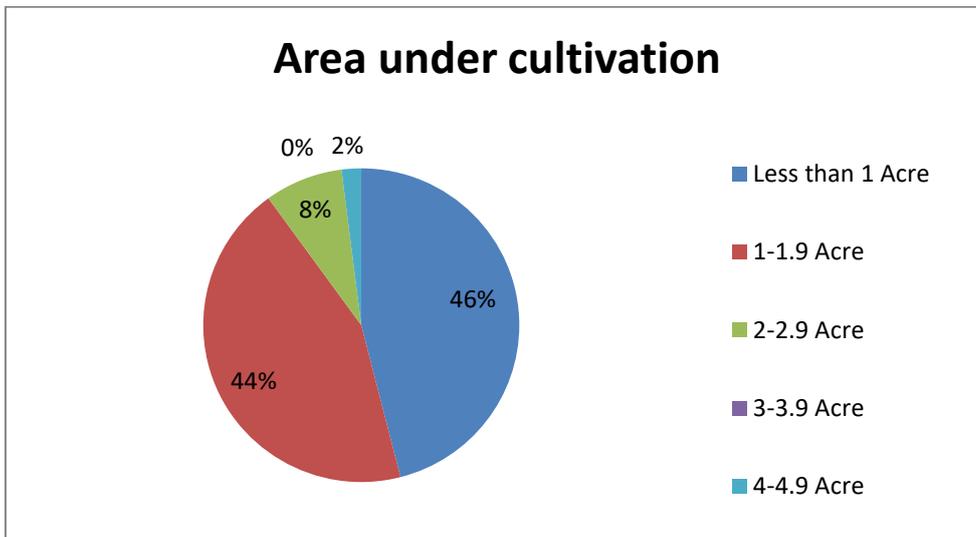


Fig 218: Area under cultivation

Production of Wheat

Figure 219 shows that almost 42% respondents had their production up to 5 tons and between 10.1 and 15 tons. 8% each had between 10.1 and 15 tons and 15.1 and 20 tons.

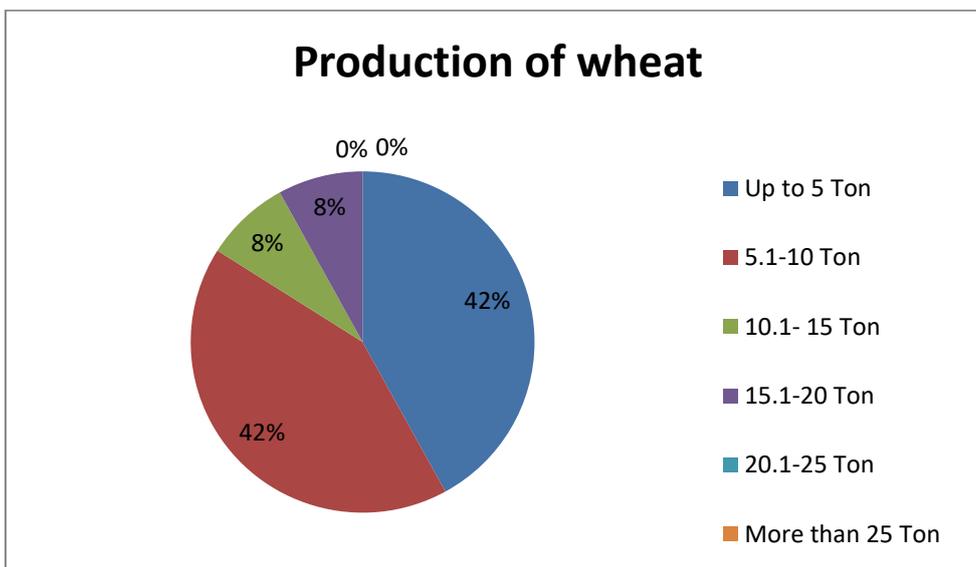


Fig 219: Production of wheat

Selling price of Wheat

All the respondents did not sell their production. **Figure 220** shows that amongst the one who sold it almost 50% respondents sold with an SP of Rs 800. 16% sold it for an SP of Rs 850, 28% for an SP of Rs 900, 8% for an SP of Rs 1000 and 3% each for an SP of Rs 750 and Rs 700.

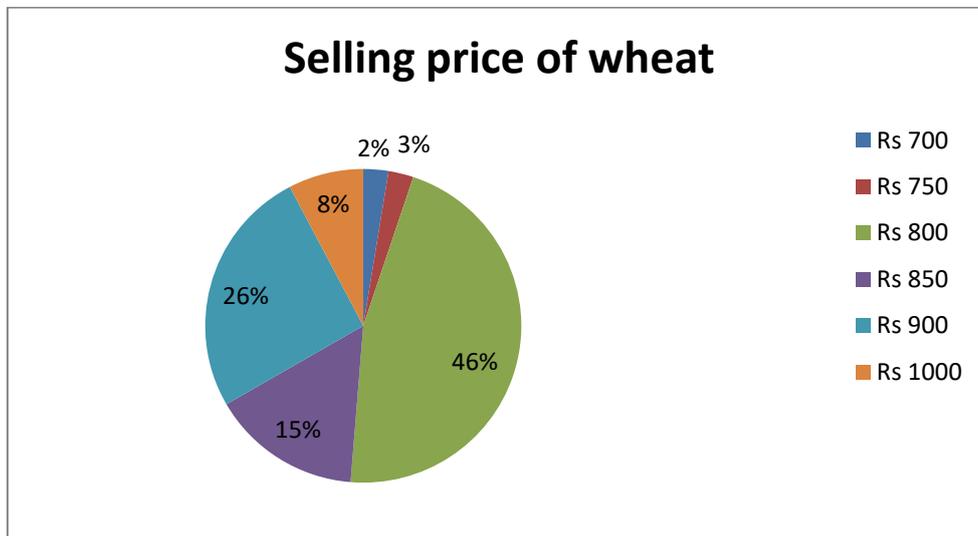


Fig 220: Selling price of wheat

Rabi Crop 2019 - Wheat

Types of Wheat

Figure 221 shows that almost 98% respondents grew Malviya variety and only 2% grew Desi.

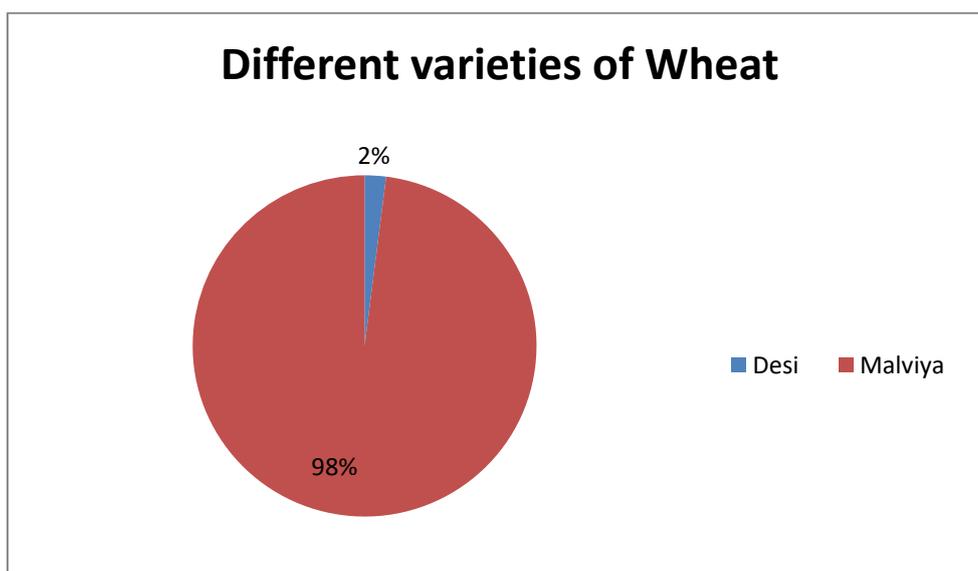


Fig 221: Different varieties of wheat

Area under Cultivation

Figure 222 shows that almost 46% respondents had area less than 1 acre under cultivation. 44% had between 1 and 1.9 acres, 8% had between 2 and 2.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

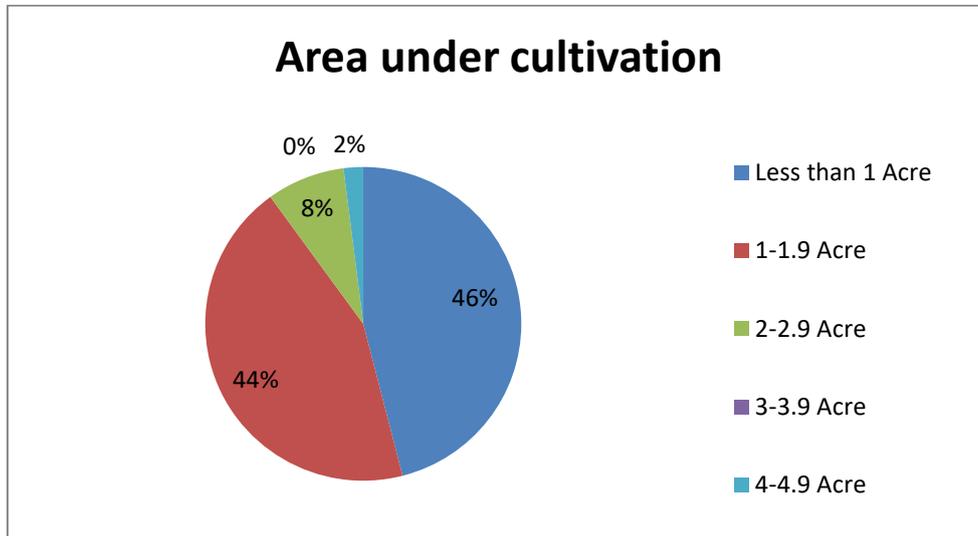


Fig 222: Area under cultivation

Production of Wheat

Figure 223 shows that almost 46% respondents had their production between 5.1 and 10 tons and 36% had up to 5 tons. 10% had between 10.1 and 15 tons, 6% had between 15.1 and 20 tons and only 2% had between 20.1 and 25 tons.

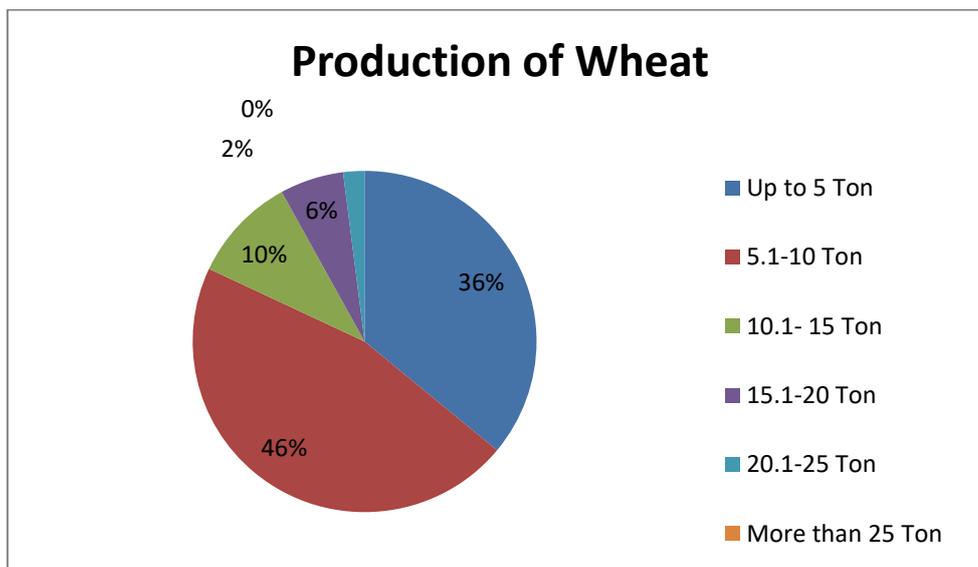


Fig 223: Production of Wheat

Selling price of Wheat

All the respondents did not sell their production. **Figure 224** shows that amongst the one who sold it almost 39% respondents sold with an SP of Rs 900. 27% sold it for an SP of Rs 1000, 14% for an SP of Rs 850, 5% each for an SP of Rs 950, Rs 1100. Rs 1200 and Rs 800.

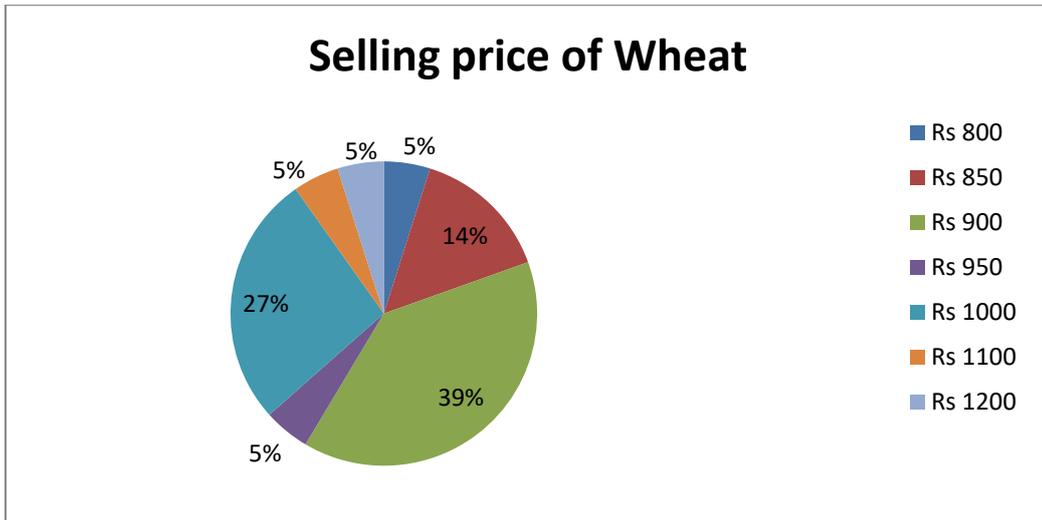


Fig 224: Selling price of Wheat

Rabi Crop 2020 - Wheat

Types of Wheat

Figure 225 shows that Almost 98% respondents grew Malviya variety and only 2% grew Desi.

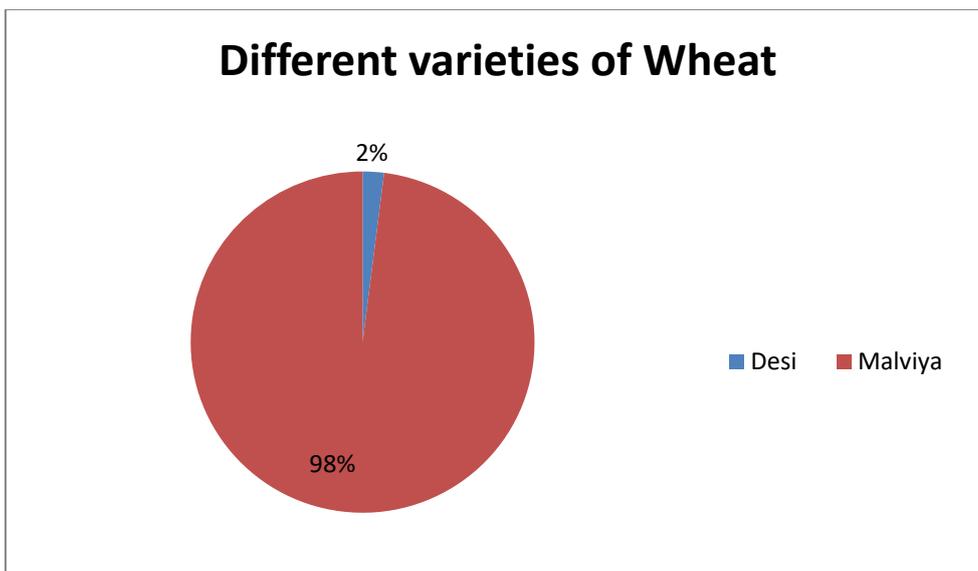


Fig 225: Different varieties of wheat

Area under Cultivation

Figure 226 shows that almost 47% respondents had area less than 1 acre under cultivation. 39% had between 1 and 1.9 acres, 12% had between 2 and 2.9 acres and only 2% had between 4 and 4.9 acres of land under cultivation.

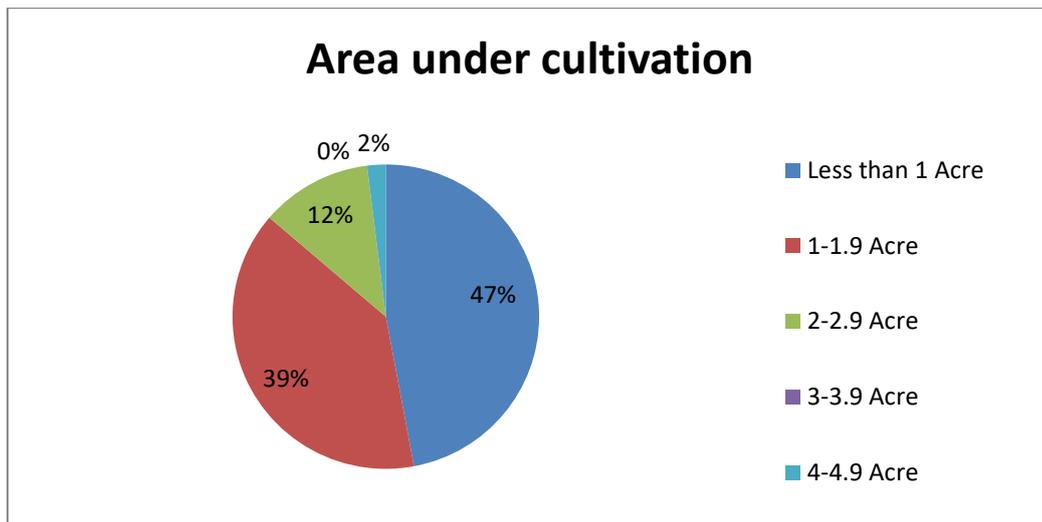


Fig 226: Area under cultivation

Production of Wheat

Figure 227 shows that almost 38% respondents had their production between 5.1 and 10 tons and up to 5 tons. 20% had between 10.1 and 15 tons, 4% had between 20.1 and 25 tons.

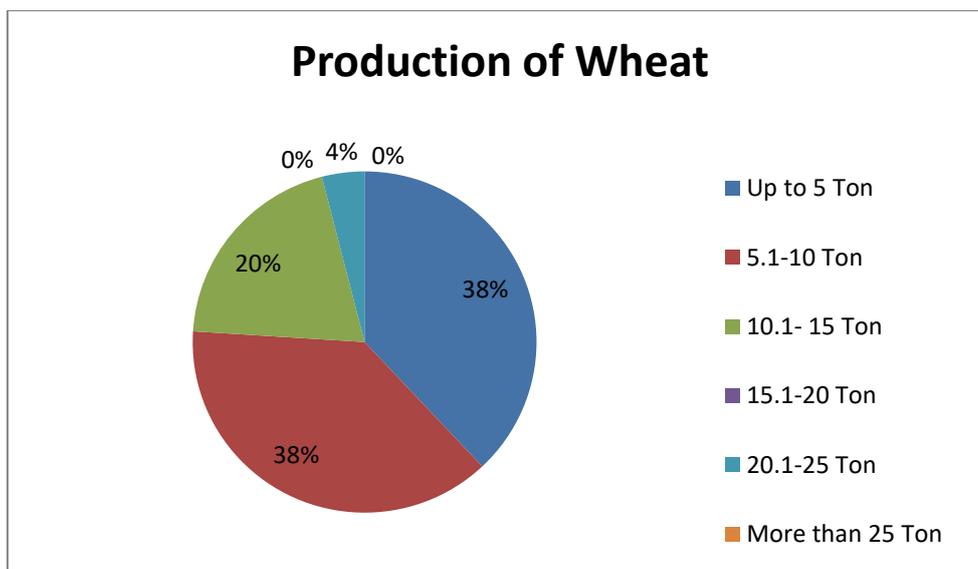


Fig 227: Production of Wheat

Selling price of Wheat

All the respondents did not sell their production. **Figure 228** shows that amongst the one who sold it almost 43% respondents sold with an SP of Rs 1200. 25% sold it for an SP of Rs 1000, 8% for an SP of Rs 1300, 5% each for an SP of Rs 900 Rs 1400. 2% sold it for an SP of Rs 1150.

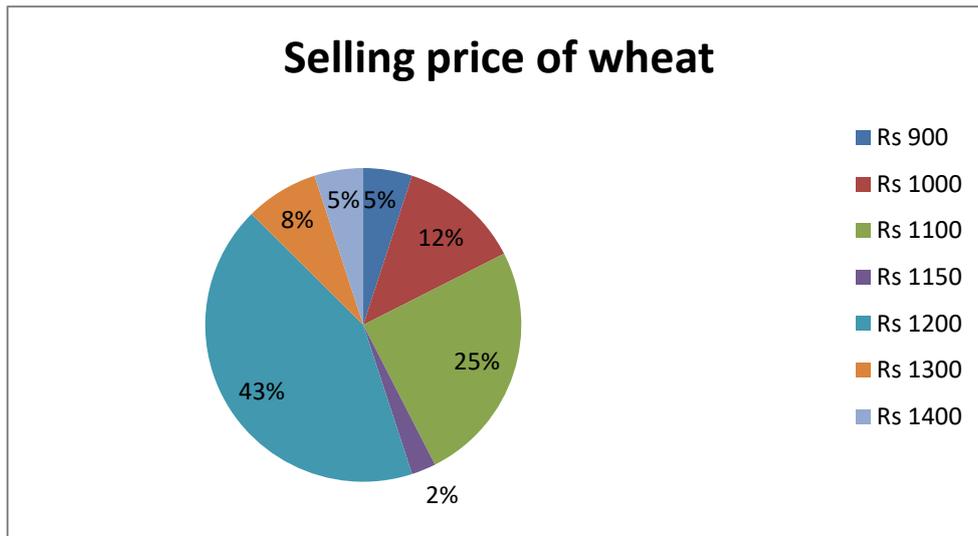


Fig 228: Selling price of wheat

Rabi Crop 2018- Other than Wheat

Crops grown in the area other than Wheat are Mustard, Red gram, green gram, Potato, Tomato and Cabbage.

Types of crop

Figure 229 shows that almost 96% respondents grew *desi* variety and only 2% used Samrat.

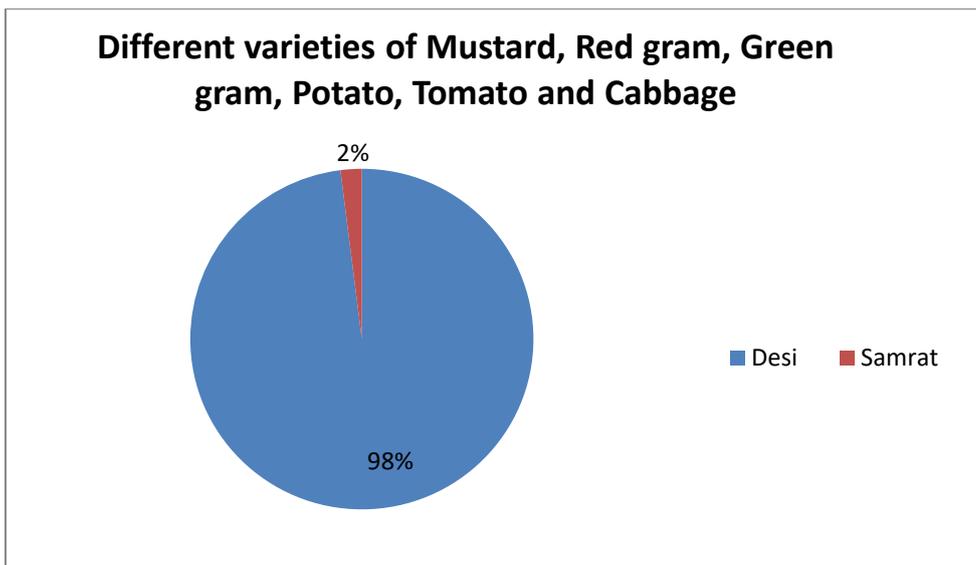


Fig 229: Types of crop

Area under cultivation

Figure 230 shows that almost 98% of the respondents had area less than 1 acre under cultivation. 2% had between 2 and 2.9 acres and none more than that.

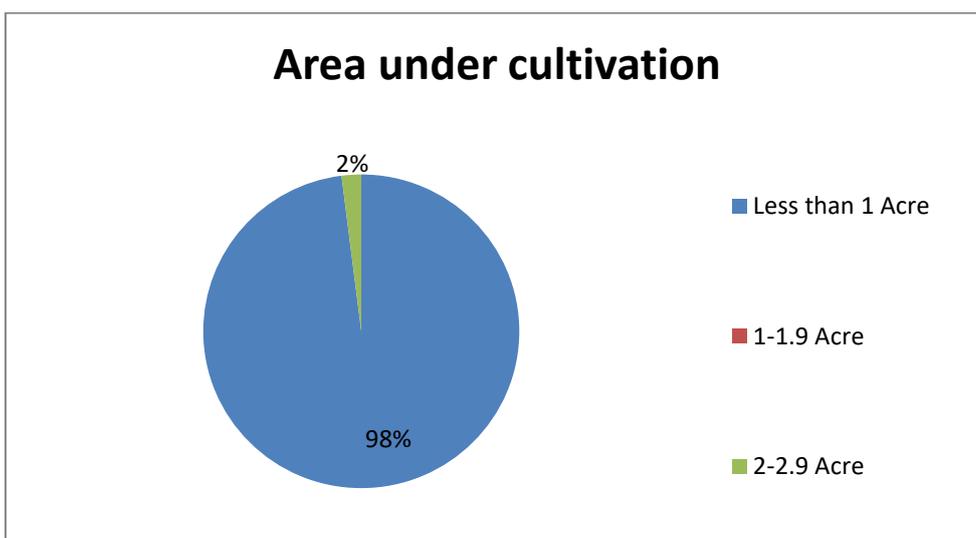


Fig 230: Area under cultivation

Production of Sesame, Maize and Red Gram

Figure 231 shows that almost 70% respondents had their production up to 5 tons and 16% had their productions more than 25 tons. 8% had between 15.1 and 20 tons and 6% had between 5.1 and 10 tons.

Production Sesame, Maize and Red Gram

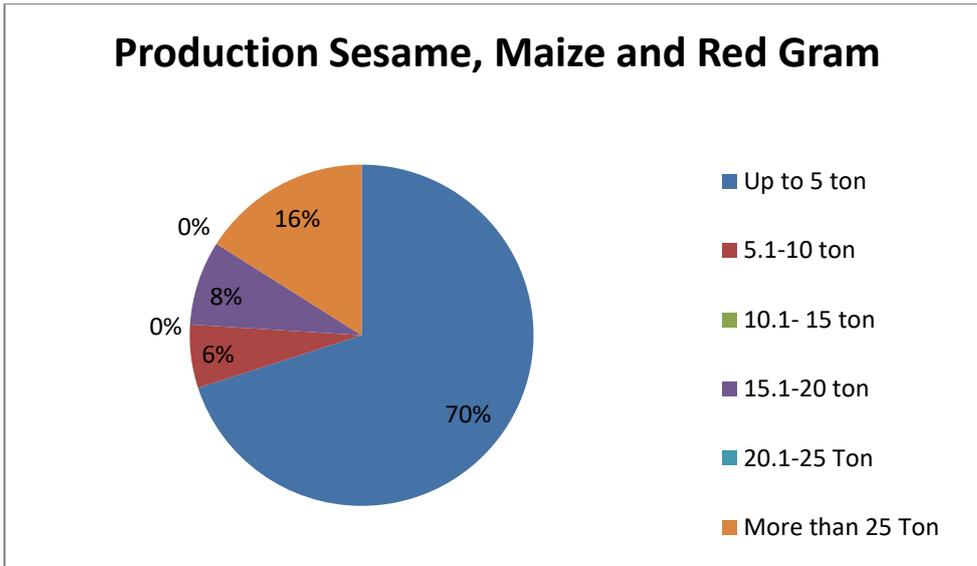


Fig 231: Production Sesame, Maize and Red Gram

Selling Price of Sesame, Maize and Red Gram

All the farmers did not sell their produce and kept them for their use. **Figure 234** shows that out of the farmers who sold it, almost 35% respondents sold crops with an SP of Rs 3500. 12% each sold it for an SP of Rs 4000 and less than Rs 100. 17% sold it for a SP of RS 3000. 6% each sold their produce for a price of Rs 700, Rs 1000 and Rs 2500.

Selling price of Sesame, Maize and Red Gram

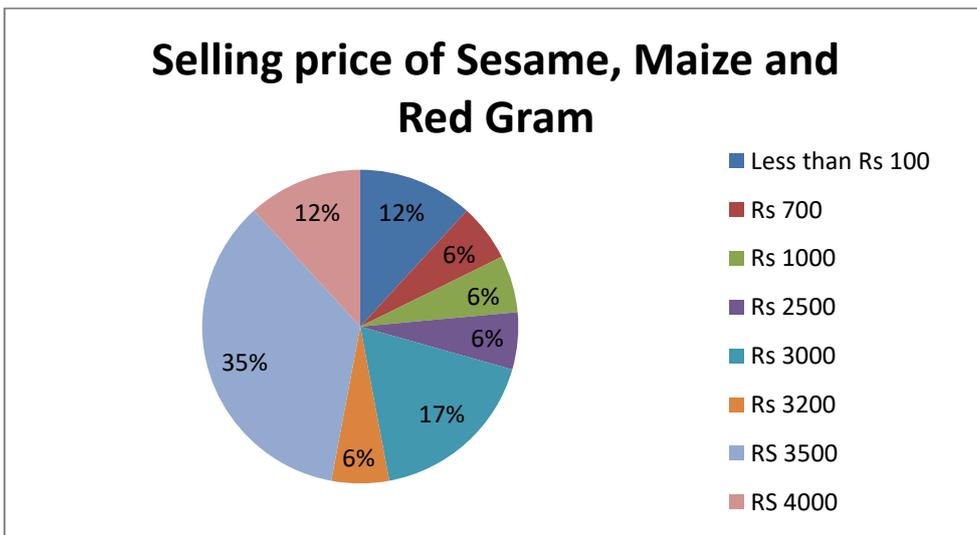


Fig 2341: Selling price of Sesame, Maize and Red Gram

Farming Ecosystem

Agricultural labor used by the farmers

Figure 235 shows that 96% the farmers involved their family members in the agricultural field. This way they could save the cost of labor. Only 4% used hired labour

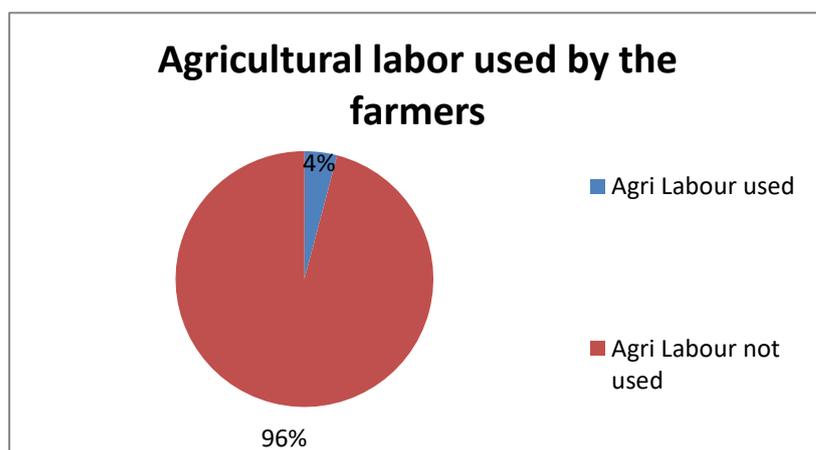


Fig 235: Agricultural labour used by the farmers

Wages of agricultural laborer is ₹100 per day for both male and female laborers.

Source of purchasing seeds

There are various sources from where farmers can purchase seeds. **Figure 236** shows that all the farmers in the surveyed area bought seeds only from retailers.

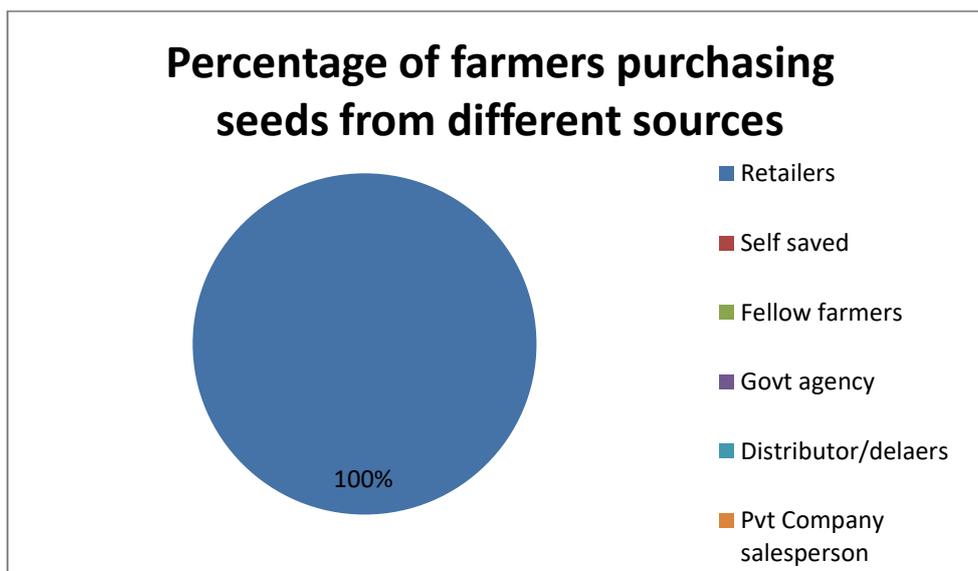


Fig 236: Percentage of farmers purchasing seeds from different sources

Fertilizer dose used in different crops

Table 28 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	Micronutrient	Vermicompost	Others
1. Rice	0	84.2	49.5	0	0	0	170	0
2. Wheat	0	26.04	16	0	0	0	84	0
3. Sesame, Red Gram, Maize	0	1.2	0.5	0	0	0	3	0
4. Mustard, Red gram, Green Gram, Potato, Tomato, Cabbage	0	4.28	3.16	0	0	0	9	0

Table 28: Fertilizer dose applied in different crops by the farmers

Expenses incurred in pesticide spray

Table 29 shows the cost incurred in spray 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 in any other crop than rice.

Expenses on pesticides per acre	
Crops	Cost incurred in spray (in Rs)
1. Rice	51.2
2. Wheat	0
3. Sesame, Red Gram, Maize	0
4. Mustard, Red gram, Green Gram, Potato, Tomato, Cabbage	0

Table 29: Expenses incurred in spraying pesticides

Source of purchasing inputs

Figure 237 shows that 100% of the farmers purchased inputs from retailers.

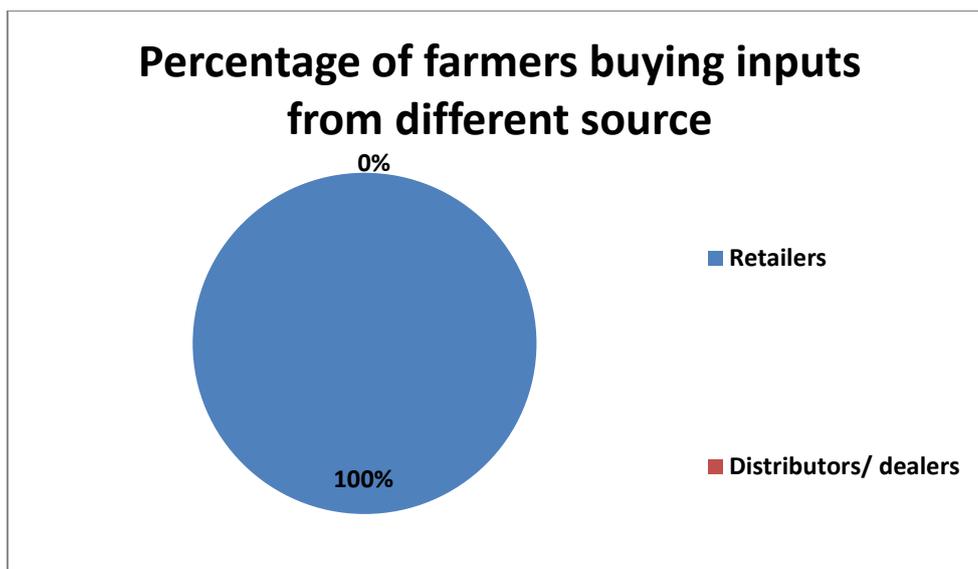


Fig 237: Percentage of farmers buying inputs from different source

Constraints faced by farmers during production process

Farmers face various constraints during the production process. Farmers live in rural area and often do not have access to various inputs and technology. Main constraints faced by the farmers were poor access to necessary technology. Technology might be in the form of new seed varieties, fertilizers, pesticides, machineries. 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 utmost necessary. Third constraints faced by the farmers are unavailability of fertilizers. Other constraints faced by the farmers are lack of irrigation facility, Lack of knowledge about maturity indices, Lack of accessibility to credits, non-availability of agricultural laborers and High pest and disease incidences.

Main constraints	Avg score	Rank
Poor access to necessary technology	69.36	1
Lack of better quality varieties seeds & planting materials	67.16	2
Poor/ Timely availability of fertilizers	59.11	3
Lack of irrigation facility	55.60	4
High pest and disease incidence	50.30	5

Table 30: Constraints faced by farmers during production process

Extension advisories for getting advice regarding crop cultivation

Farmers contact various agencies for their problems related to farm practices and crop diseases. Most of the farmers contact their peer farmers for their problems. **Figure 238** shows that 38% of the farmers of the surveyed area contact their peer farmers for getting advice. 46% of the farmers contact dealers/ distributors for getting advice on farm practices. 6% contacted NGOs. 8% of the farmers contact a help line no for their problems. And 2% contacted State agricultural dept. Usually, KVKs and universities are located far from villages, so farmers are often reluctant to go to these places. Negligible numbers of farmers contact NGOs, State Agricultural Department and dealer/distributors.

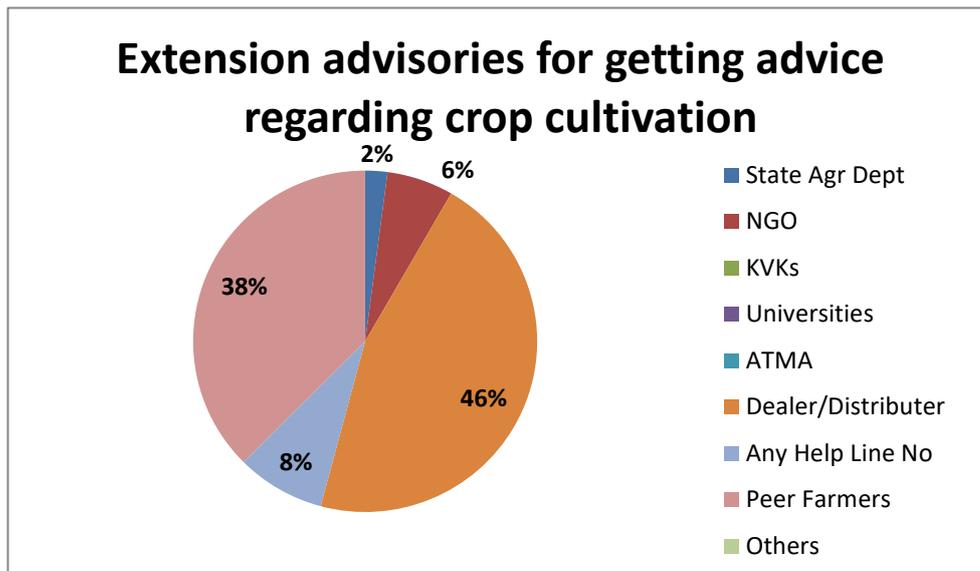


Fig 238: Percentage of farmers contacting different sources for getting advice on farming activities

Figure 239 shows that almost 86% of farmers adopt the advice given to them by the different agencies. Only 14% do not adopt the guidelines of the advice by various agencies.

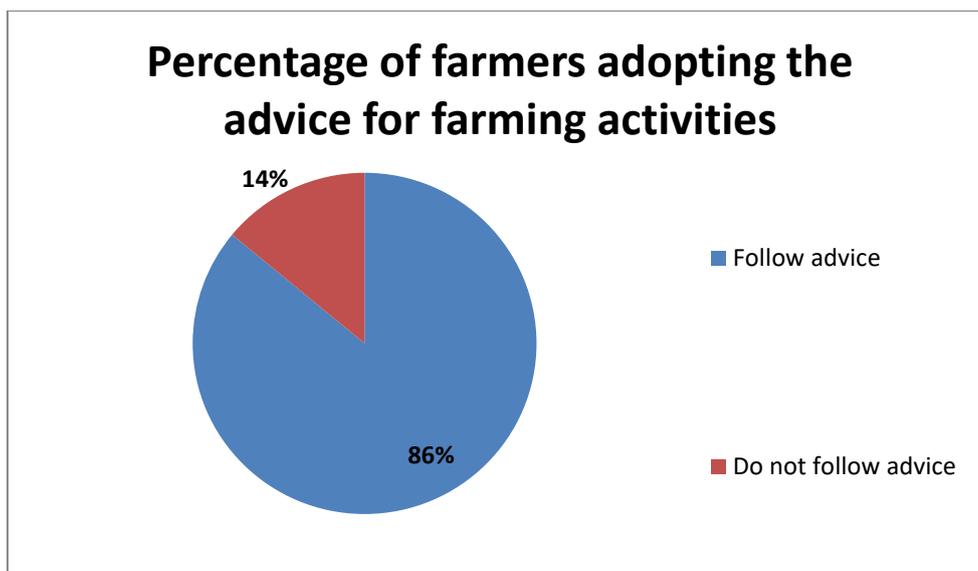


Fig 239: Percentage of farmers adopting the advice for farming activities

Benefits from extension advisories

The various benefits that the farmers get from extension advisories are increase in yield, lesser input usage, increase in income/profit and decrease in cost of cultivation. **Figure 240** shows that 64% of the farmers got the benefit increase in yield and 62% farmers saw an increase in income/profit. 34% saw a decrease in cases of disease/ pest infestation and 26% saw a decrease in input usage. 8% saw a decrease in the overall cost of cultivation after adopting the advice of extension advisories.

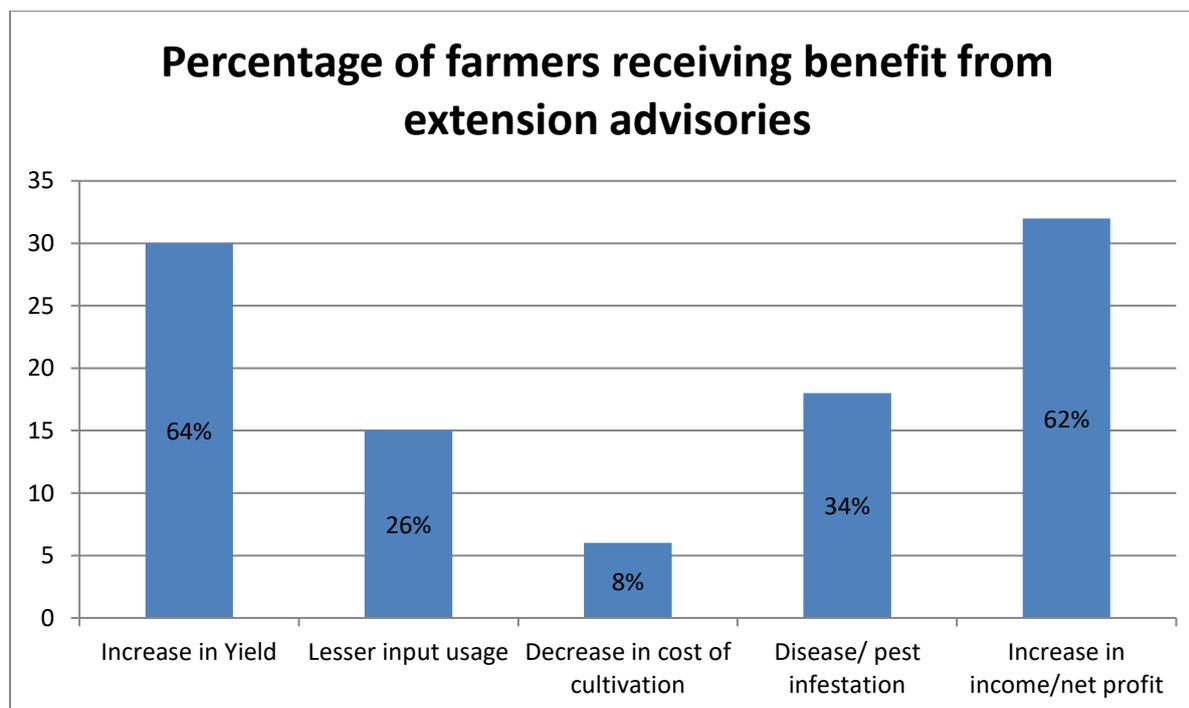


Fig 240: Percentage of farmers receiving benefit from extension advisories

Awareness regarding government schemes

Figure 241 shows that only 39% of the farmers were not aware regarding government schemes. Rests of the farmers were aware regarding the schemes.

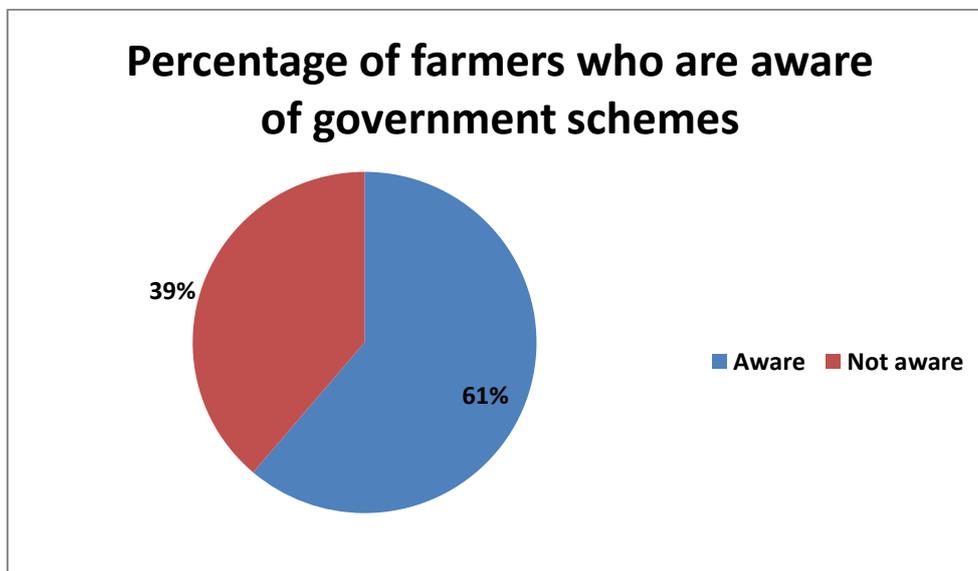


Fig 241: Percentage of farmers aware of government schemes

Accessibility to credit

Figure 242 shows that only 10% of the farmers have taken credit from banks for crop cultivation. There were various constraints that the farmers face while taking credit such as documentation, long distance from village, high rate of interest, etc.

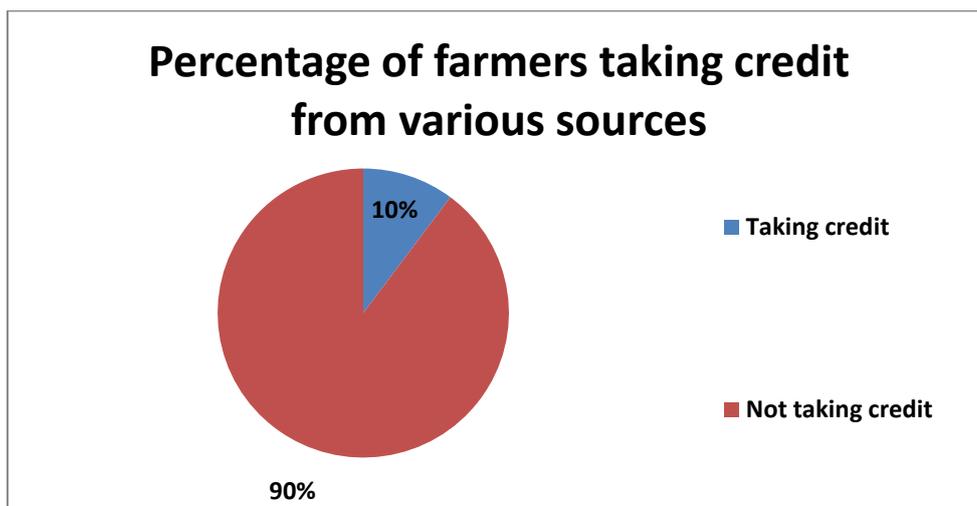


Fig 242: Percentage of farmers taking credit from various sources

Awareness of benefits of FPOs

All the farmers were aware of the benefits of Farmer Producer Organization.

Member of farmer's association/cooperative

None of the farmers were member of farmer's association/cooperative.

Willingness of farmers to form groups

Hundred percent farmers are willing to form groups on basis of crops.

Capacity Building for 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 during post-harvest packaging

Farmers faced many issues in the post-harvest packaging. **Figure 243** shows that 50% however did not face any problems, 34% had the problem with higher wages, 14% faced shortage of skilled labor and 2% faced non availability of packaging material.

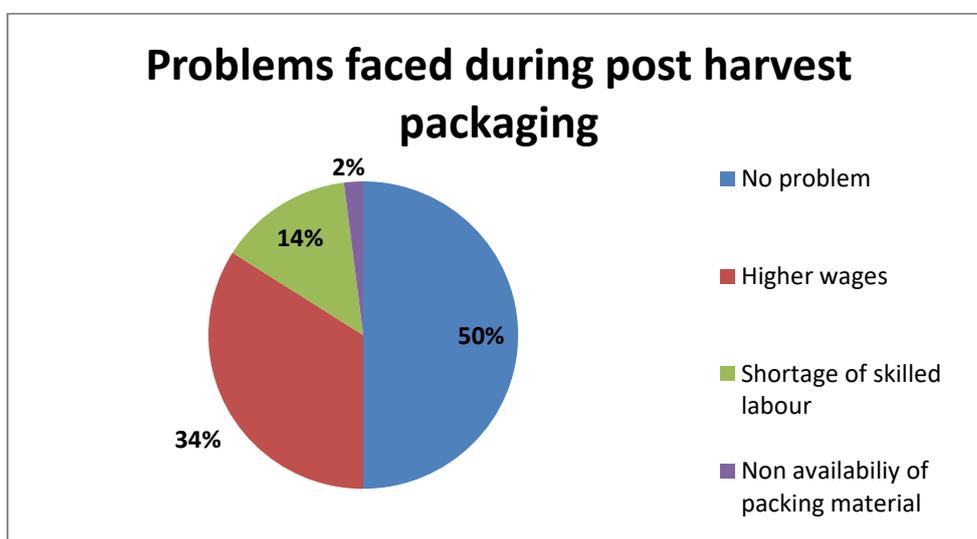


Fig 243: Problems faced during post-harvest packaging

Problems faced during post-harvest transportation

Farmers faced many issues in the post-harvest transportation, and many faced more than one problem. **Figure 244** shows that 47% faced non availability of vehicle, 19% had to pay high transportation charges, 17% feel lack of all-weather roads is a big problem, 10% had to face misleading information and 7% did not face any issues.

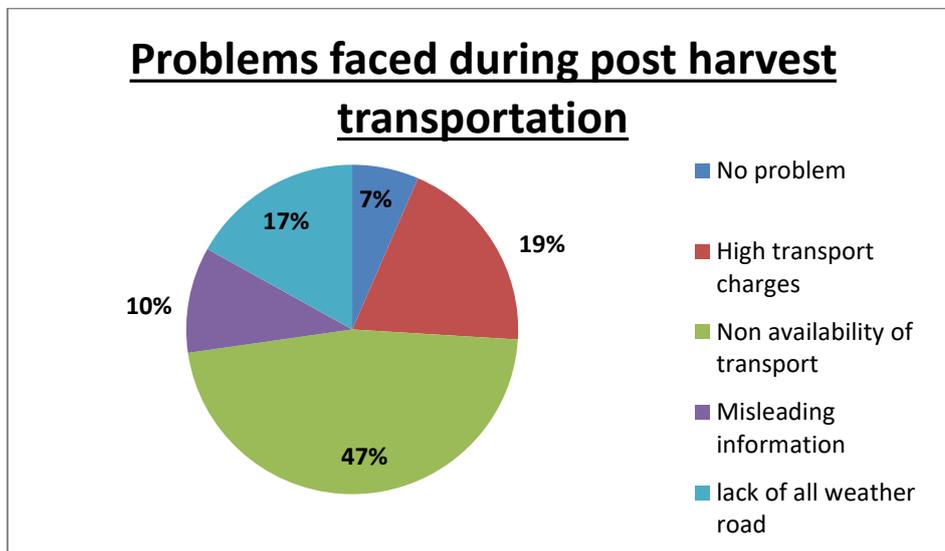


Fig 244: Problems faced during post-harvest transportation

Problems faced during because of malpractices post-harvest

Farmers faced many issues because of the existing malpractices post-harvest, and many faced more than one problem. **Figure 245** shows that 31% had to be content with part payment of their sales proceeds, 37% had to see multiplicity of charges, 7% were quoted lower prices than the prevailing market rates. 25% of farmers however did not face any problems.

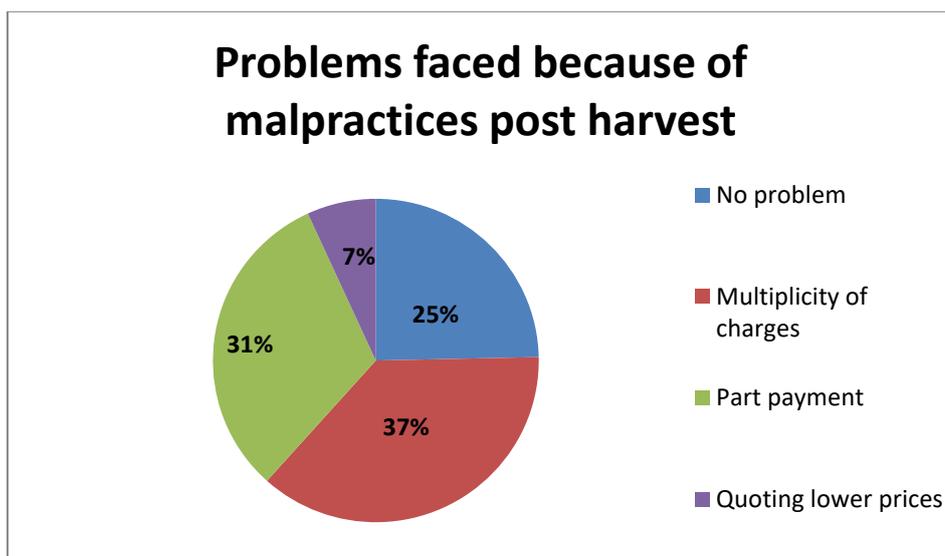


Fig 245: Problems faced because of malpractices post-harvest

Storage post-harvest

100% of farmers had their own storage areas and stored the crop there only post-harvest as there is 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 SP post-harvest

The farmers in the area do not get a good SP for their crops due to factors including unavailability of storage space; lower price offered by local traders/less price realization, lack of availability of market.

RISK ASPECTS OF AGRICULTURE IN SONBHADRA

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 a majorly rainfed area such as Sonbhadra, where the alternative sources of irrigation are unreliable due to power issues, the climate playing truant becomes a matter of life and death for the farmer. In addition, the occasional flooding of some parts of the district, worsen matters.

An exceptionally cold winter which causes fog is enough to cause massive losses to the crops that are sown in Rabi. 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.

In the absence of accurate weather predicting technology, the dependence of the farmer on rainfall at the appropriate time can be dangerous. Add to that the rapid change in climate, has made farming a rather risky proposition. Droughts and floods too cause as much havoc on crops as they do on a farmer's life. Untimely rains, smog and fog can ruin the crops and cause immense loss to the farmer.

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 to 15% 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 is much higher but none of this benefit is passed on to the farmer. The risk of uncertain market prices looms large on the farmers in Sonbhadra too.

Risk of pest infestations

The farmers were weary of a pest called *gunthi* that recurrently afflicted their crops. It caused much damage to the crops and immense monetary loss to the farmers. This compelled the indiscriminate use of pesticides. This brings to light the gap in awareness about the adequate dosage of pesticide and the appropriate selection for the specific pest.

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 OF AGRICULTURE IN SONBHADRA

Indian agriculture is plagued by several problems; some of them are natural and some others are manmade. The farmer's life is replete with challenges and the plight of the farmers of Sonbhadra is no different.

Despite the district's geographical advantage in terms of soil, water and climate, the agricultural performance here is far from satisfactory. A lack of concerted and integrated efforts to boost agricultural growth is the reason for this. Tremendous potential exists in the agricultural sector provided the existing constraints are mitigated.

What is heartening to observe is that the farmers themselves have identified the following list of factors that limit their growth and development:

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

The farmers of Sonbhadra express a need for training and guidance with regard to best practices in agriculture and allied activities. They feel that they will stand to benefit from trainings that increase their awareness about the macro as well as micro agri-environment. This awareness will go a long way in helping them adopt measures to optimize their efforts in farming. Access to such trainings is possible from agencies such as KVKs and other NGOs/NPOs. The nearest KVK is at Mirzapur, which is a prohibitive distance away. 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. A mindset that more is less along with an attitude to ape the adjacent farmer in the use of urea, fertilizer and pesticides too was observed. The fact that fertility and soil health may vary from one patch of land to another, due to several factors, went against the idea of doing what the farmer in the neighboring farmer did.

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.

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. Limited span and lack of apt designs of risk mitigation instruments such as credit and insurance is bound to be a deterrent for farmers. This leaves much to be done for the emerging agricultural insurance and commodity markets. Facilitative lending rules and procedures can help the cause at hand by insulating the farmer from income shocks and by ensuring that the farmer receives his fair share of price.

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 UP. 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. A poor rural road network hampers 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.

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.

In addition to the above, the following are the issues that need to be addressed if the on-ground situation in Sonbhadra has to be improved:

Unavailability of water for timely irrigation

The availability of water in this region is dependent partly 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. The irony, however, lies in the fact that there is a major power shortage in this district, despite it being the 'energy capital of the country' with many operational power plants in the district itself. That makes it impossible to employ any of the secondary sources of irrigation due to their dependence on electricity.

To circumvent this problem of erratic and unreliable power supply, farmers were resorting to the use of diesel pumps (locally known as China pumps) to irrigate their fields. The sudden escalation in diesel prices has made this solution a cost-prohibitive one, in the present times. With no other options in their kitty, the farmers are left high and dry without any reliable source of water to irrigate their farms. This in turn leads to a drought-like situation at times.

Small and fragmented landholdings

The survey findings have clearly indicated at the fact that a majority of farmers own small land-size. This issue is further complicated by the system of inheritance being shared/split between siblings after the demise of the parent. The end-result is more segmented landholdings with each passing generation.

To make matters worse is the wastage of land for raising boundaries to define one's own holding. In addition to wastage, this also leads to loss of fertility and thereby lowered production from the same piece of land.

Owning a fragmented land translates into lowered produce, this also brings the problem of not getting good realisation for one's crop due to lesser volume of saleable produce. This therefore is a constraint to getting better credits as well.

Lack of awareness about agricultural advancements

The lack of awareness in some cases and timely unavailability of High Yielding Variety (HYV) seeds at competitive prices in others is a major bane for the farmers of Sonbhadra. 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 cognisance 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-researches 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.

Absence of any processing facility due to diversified crops

The unusual situation in Sonbhadra with regard to such diversity of crops has led to the absence of interest on the part of industrialists to set-up any processing facility that may help to add value to the crops being produced. The presence of a processing facility, such as a rice mill or a sorting and packaging unit which adds value to the crops helps the cause of better price-realization at the time of sale. Such is not the case in Sonbhadra and proves to be a constraint in improving the situation of the farmers there.

Unreliable and unstable power supply

The issue of erratic and short/unstable power supply is another major constraint that obstructs the development of Sonbhadra District. Power is no longer a luxury commodity but a mandatory need. The unreliability of the same causes much loss owing to lack of irrigation at the time when it is needed. This erraticism explains the absence of industries in this area.

Non-enforcement of the MSP

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.

MARKETING ASPECTS OF AGRICULTURE IN SONBHADRA

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

Arrivals in mandis in all the clusters under survey are much below production levels especially in the case of rice. This indicates weak market linkages between the farm and markets and poor incentives for the farmers to bring their produce to the Agriculture Produce Market Committee (APMC) *mandis*.

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 percent lower than MSP dissuades farmers from selling their produce at the *mandi*, thus lowering arrivals and also depressing farmers' incomes.

There is an immense diversity in the crops being grown in these clusters. This can be utilized to create a diversified market. Also, market linkages to fresh crop chains such as *Safal* will prove to be of immense benefit to the vegetable growing farmers due to the advantage of a large consumer base not only within the state but also in the 4 neighbouring states.

SCOPE FOR INTERVENTIONS

The large number of challenges being faced by the farmers in the Sonbhadra District of Uttar Pradesh have 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:

- a) Enhancing viability and sustainability of FPCs
- b) Enhancing creditworthiness of FPCs
- c) 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 in excess of 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+ 1.35 % Loans above Rs 25.00 lakhs to Rs 1 crore MCLR+ 2.90 %
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	<ul style="list-style-type: none"> ✓ Primary Security: <ul style="list-style-type: none"> - Hypothecation of Stock/Book Debts/plants & machineries. EM on land and Building ✓ Collateral Security: <ul style="list-style-type: none"> - Up to Rs 2 Crore-NIL - Above Rs 2 Crore- 150% of limit
Interest Rate	<ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ SFAC Scheme for FPC - Maximum up to Rs1.00 crores. ✓ SFAC/NABARD/ NCDL Scheme for FPO– Maximum up to Rs 2.00 crores.
Third Party Guarantee	As per bank's existing guidelines.
Margin	<ul style="list-style-type: none"> ✓ Term Loan – Minimum 15 % ✓ Working Capital: Stocks – Minimum 15%. ✓ Book Debts – Minimum 40%. (Cover period – Maximum 90 days)
Security	<ul style="list-style-type: none"> ✓ Primary Security: <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - Not applicable. Guarantee cover from SFAC/NABARD/NCDL is available.
Interest Rate	<ul style="list-style-type: none"> ✓ Crop loan <ul style="list-style-type: none"> ✓ 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 +

	<p>CRP (1.50%)</p> <ul style="list-style-type: none"> ✓ Other than Crop Loan: <ul style="list-style-type: none"> ✓ 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	<p>Term Loan:</p> <p>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</p> <p>Working Capital:</p> <p>Repayable on demand. To be reviewed/ renewed annually.</p>
Bank of Baroda	
Objectives/ Purpose	<p>A loan facility considered for any/few/all the activities depending on the requirement of FPC:</p> <ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ Cash Credit ✓ Term Loan

Eligibility Criteria	<ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ 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 <ul style="list-style-type: none"> ✓ 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	<ul style="list-style-type: none"> ✓ 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
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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