

Cropping Pattern : A Farm Based Study of Village Patwar, Hissar

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ABSTRACT

India is a tropical country. The country is endowed with multiple climatic conditions and has a diversified agrarian sector. Over the years, in India, the agricultural sector has witnessed a gradual shift in terms of increasing share of livestock in Gross Value Added in agriculture as compared to cropping. The agriculture and allied sector of India has shown tremendous growth over the years. The average decadal growth increased to 3.41% for the decade of 2010-2017. Haryana is often called the "Food Mine" of the country. About 80% of the population of the state is agriculture dependent, directly or indirectly. Multiplicity of cropping system has been one of the main features of India agriculture. Cropping system of a region is decided by infrastructure facilities socio-economic factors, technological factor. Cropping Pattern is dynamic it can't be suitable for all time. The size of Land Holding and fragmentation of fields also have a close bearing on agriculture land use patterns and yield per unit area. In the densely populated areas of the developing countries the size of land holding is generally very small. The main objective of the paper is to present an agricultural pattern of growing crops in Patwar village, Hissar, Haryana.

Key Words : Cropping pattern, Food mine

INTRODUCTION

Haryana is self sufficient in producing food grains and is also a major contributor of food grains in meeting the needs of other states of the country. The world famous Basmati Rice is produced here in abundance. During 2016-17 (PE), the gross sown area in the State increased to 65.7 lakh hectare. The contribution of area under wheat and paddy crops to the total gross sown area in the State was 59.9% during 2016-17 (PE). Cropping system remains dynamic in time and space. Cropping Pattern is an important indicator of farmer decision making ability which witness dynamic over space and time in response to the change in physical and socio- economic factors. Cropping Pattern refers to the proportionate area under different crops during a agriculture year. Simultaneous with the spread of irrigation, its intensification and the use modern farm inputs combined with credit and market network, there was a rise in the degree of cropping intensity. The size of land holding and the size of farm decide the degree of risk that a farm operator may bear.

In general, larger the size of the farm, greater the capacity of the farmer to take risk and vice versa. This, in turn would affect the extent of specialization and also the nature of technology and equipments to be used. The size of land holding and fragmentation of fields have a close bearing on agricultural land use patterns and yields per unit area. In the densely populated area of the developing countries the size of land holding is generally very small. The size of holding and the size of farm decided the degree of risk that a farm operator may bear. This, in turn, would affect the extent of specialization and also the nature of technology and equipment.

Study area:

Petwar is a large village located in Narnaund Tehsil of Hissar district, Haryana with total 1863 families residing. The Petwar village has population of 10011 of which 5384 are males while 4627 are females as per Population Census 2011. In Petwar village population of children with age 0-6 is 1194 which makes up 11.93 % of total population of village. Average Sex Ratio of Petwar

village is 859 which is lower than Haryana state average of 879. Child Sex Ratio for the Petwar as per census is 854, higher than Haryana average of 834. Petwar village has lower literacy rate compared to Haryana. In 2011, literacy rate of Petwar village was 71.69 % compared to 75.55 % of Haryana. Schedule Caste (SC) constitutes 17.98 % of total population in Petwar village. The village Petwar currently doesn't have any Schedule Tribe (ST) population. In Petwar Male literacy stands at 83.29 % while female literacy rate was 58.20 %. In Petwar village out of total population, 4296 were engaged in work activities. 81.40 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 18.60 % were involved in Marginal activity providing livelihood for less than 6 months. Of 4296 workers engaged in Main Work, 2430 were cultivators (owner or co-owner) while 421 were Agricultural labourer.

Objectives:

The present study has been conducted:

1. To study the Cropping Pattern of Village Patwar.
2. To underline the related Problems with growing crops and some suggestions

METHODOLOGY

Study is based on primary data as well as secondary data. Primary data were collected through the Field Survey with the help of Structured Interview Schedule. The data were processed and presented through Tables, Bar diagrams and Map. Information is collected from 100 farmers using purposive sampling.

RESULTS AND DISCUSSION

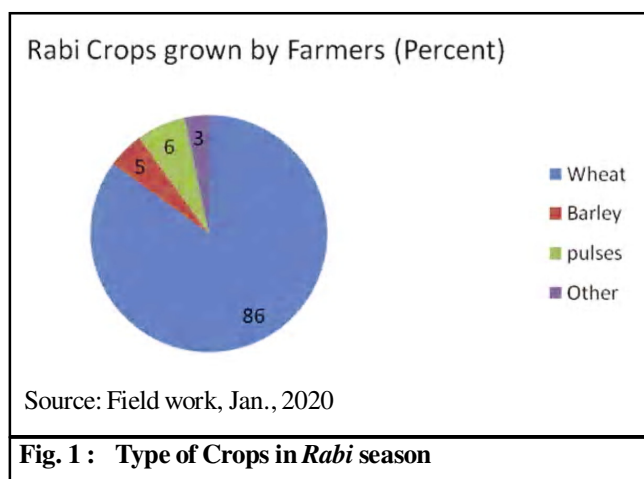
Cropping pattern:

Cropping Pattern means the proportion of area under various crops at a point of time. Cropping pattern is, however, a dynamic concept as it changes over space and time. The prevalent Cropping Pattern in village is the cumulative results of past and present decisions by individuals, communities or governments and their agencies. These decisions are usually based on experience, tradition, expected profit, personal preferences and resources, social and political pressures and so on. Agriculture is the dominant sector in the economy of the village with a majority of workforce engaged in it and it being the major contributor to

Table 1 : Types of crops in Rabi season

Crop type	No. of farmers	Percentage
Wheat	86	86
Barley	54	5
Pulses	6	6
Other	3	3
Total	100	100

Source : Field work, Jan 2020



livelihood.

Cropping pattern in Rabi season:

Total net sown area in Petwar village is 3293 hac. In which irrigated area is 3116 hac. and non irrigate land area is 177hac. In village Rabi season crops include Wheat, Barley, Oats (Cereals), Gram (Pulses), Mustard (Oilseeds) etc. In Village Patwar, major Rabi crops are Wheat, followed by Barley, Pulses are mainly grown by the farmers.

In the season of Rabi, Wheat is most dominant crop among farmers. 86% of farmers grown Wheat as a dominant crop in their field. Percentage of farmers who are growing Barley, Pulses and others are 5%, 6% and 3%, respectively.

Wheat, Barley, Pulses are the main crops which are grown by farmers in village during Rabi season. Along with these crops some other are also grown by farmers. Wheat is one of the dominant crops.

Cropping pattern in Kharif season:

The Kharif crops include Rice, Maize, Sorghum, Pearl Millet/Bajra, Finger Millet/Ragi (Cereals), Arhar (Pulses), Soyabean, Groundnut (Oilseeds), Cotton etc. The Kharif cropping season is from July –October during

Crop type	No. of farmers	Percentage
Rice	93	93
Millets	4	4
Maize	1	1
Others	2	2
Total	100	100

Source : Field work, Jan 2020

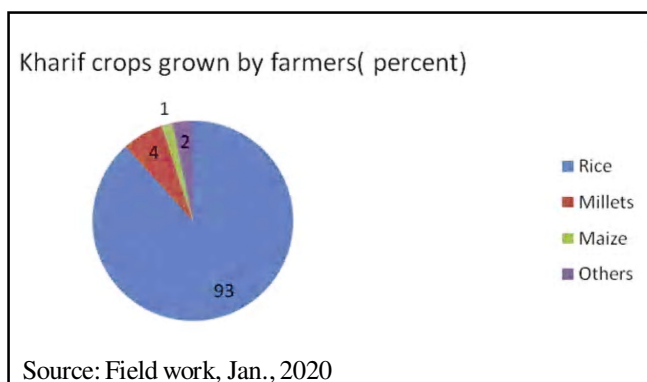


Fig. 2 : Type of crops in Kharif season

Crop type	No. of farmers	Percentage
Jawar	66	66
Vegetables	19	19
Fodder	15	15
Other	0	0
Total	100	100

Source : Field work, Jan 2020

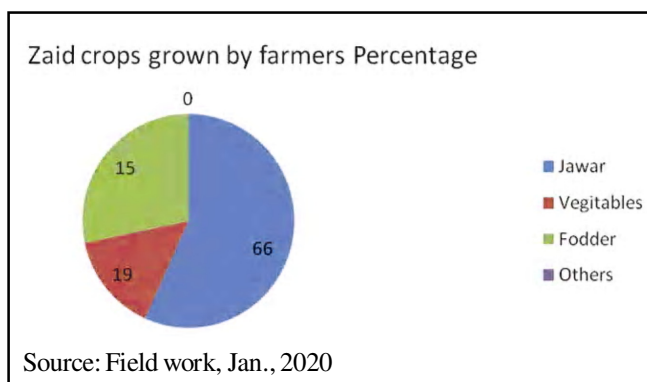


Fig. 3 : Type of crops in Zaid season

the south-west monsoon and the *Rabi* cropping season is from October-March (winter). In Patwar Village mainly Rice, Millets, Maize and some other crops are grown by farmers in their Village.

In *Kharif* season Rice is grown by 93 farmers who constitute 93% of total farmers. Maize is grown by only 1 farmer who constitutes 1%. Millet is grown by 4 farmers who constitute 4%. Other vegetable and fruits are grown by 2 farmers (2%). Rice is the staple food for about 60% of the total population of the country. It is grown under diverse temperature, moisture and soil conditions. After the introduction of HYV, its cultivation has assumed great significance in the cropping structure of Haryana, as we see the data regarding Rice in study area.

Rice is the most dominant crop that farmer grown in field. 93% of total farmers are associated with growing Rice. It clearly represents the dominance of Rice in study area. Millets, Maize and others crops constitute 7% of total crops grown by farmers.

Millets are a group of highly variable small-seeded grasses, widely grown around the world as cereal crops or grains for fodder and human food. Maize also known as corn is a large grain plant.

Cropping pattern in Zaid season:

Crops are grown on irrigated lands which do not have to wait for monsoons, in the short duration between *Rabi* and *Kharif* crop season, mainly from March to June, are called Zaid crops. These crops are grown mainly in the summer season during a period called the "Zaid crop season." They require warm dry weather for major growth period and longer day length for flowering. The main product is seasonal fruits and vegetables.

Jowar in the Zaid season is grown by 66% of total farmers. Vegetables are grown by 19% of farmers. Fodder and other crops are grown by 15% and 0% of total farmers respectively. Fodder is grown for the animals because most of the family in Village keeping animals. For the requirements of their food, farmers grow fodder.

Problems:

There are so many problems which are related with crops and faced by farmers. In the context of Village Patwar followings are the problems which are faced by Farmers.

– Seasonally Variation in the quantity of rainfall is the big problem. During the time of harvesting rain ruin the all crops. So this can be a big loss for a farmer.

- Farmers of Village concentrate upon one or two crop, such as Wheat and Rice. Due to the facilities of irrigation farmers growing Rice that need more water. So, specialization of crops is not good for soil fertility.
- Some of farmers taking seed for the next crop from the current harvest; because of this production of crop is not going good. And another issue is also related with the HYV seeds that's destroy the soil quality and its fertility.
- With the use of fertilizers, pesticides for gain more output, farmers ruin the soil Quality and its capacity; due to this different diseases are taking place in soil.
- Every crop requires certain climatic conditions to give the best yields. Though Rice and Wheat are produced in a large area in Village, certain areas can readily switch to other crops to get better productivity.
- Soil salinity and water logging is also a problem of farmers who's fields are linked with canal.
- When only one crop is grown season after season; it's called Monocropping. The key disadvantage of Monocropping is that it would reduce soil fertility and damage the soil structure. Due to poor soil nutrients, the cultivator is needed to use chemical fertilizers to encourage production. The chemical fertilizers would disrupt the natural makeup of the soil and further aggravate the problem. Mono cropping also allows spread of the pests and diseases. So crop diversification is the solution to these problems. Farmers have to go with Crop Rotation so deal with these problems.

Suggestions:

Several problems such as soil salinity, water logging crop damage are main problems in village. Climatic and seasonal fluctuation affects the cropping pattern and production of crops.

To solve these problems we must have to take some steps forward-

- What with the present pest-and-disease control methods are ecologically practicable?
- What is the perception of farmers about crop diversification?
- Is a farmer ready to use new methods of irrigation such as drop irrigation?

So, the role of government , individuals is very important to solve these problems related to crops.

Conclusion:

Agriculture is the dominant livelihood source of village Patwar. Pattern of practicing has been changed especially after introducing green revolution. before that cotton was also a dominant crop In Village Patwar. Availability of water through canal irrigation boost up the rice cultivation. 3107 hac.land is irrigated through canal irrigation other 9 hact. through tube wells. The prevalent cropping systems are the cumulative results of past and present decisions by individuals, communities or governments and their agencies.

In brief, cropping pattern have undergone a dramatic change after Green Revolution in Patwar. Rice and Wheat has the more share in agriculture crops in Patwar Village. These crops gave more profit to farmers. Inputs such as land, labour, capital, land holding size and technology affect the production of crops. Several problems such as soil salinity, water logging crop damage are main problems in village. Climatic and seasonal fluctuation affects the cropping pattern and production of crops. We conclude that the agriculture pattern of village Patwar is dominate by wheat and rice crop along with millets and barley. canal irrigation from Hansi branch , Patwar distributary which irrigate 3107 hac. land.

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