

State of Farmers in Punjab: An Overview

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Introduction

The history of agriculture in India dates back to the early years of Indus valley civilization in the country. Being a civilizational occupation India has always been an agrarian economy with around 60 percent of its population directly or indirectly associated with farming. Although it was as late as 1960s that India improved its agronomic technology and overcame the chronic food deficit after the Green Revolution. The state of Punjab turned to be the undisputed leader in the Green Revolution which made India self-sufficient in this field. The farmers of Punjab got recognition worldwide for the contribution they made not only to make India self-reliant in necessary food grains but also made Punjab as the food basket of the country. Today Punjab contributes the maximum in the food grains production of India. In spite of having less than 2 percent of the area, Punjab is the largest surplus state in India in terms of food grains. The extraordinary growth brought by the Green Revolution improved the economic conditions of the farmers since 1970s. However, there has been a steep fall in these growth patterns. The boom in agriculture has declined in the past decades and the state has been facing decelerating economy and has underperformed in many national economic indicators. The crisis in the Agricultural sector has been depicted by falling productivity, shrinking returns, increasing levels of debts, low profitability etc. All these issues have compelled the farmers in Punjab to leave agriculture or commit suicide.

In this background the paper is a modest attempt to study the state of farmers in Punjab with the help of empirical data. The study discusses variables like socio-economic profile of the farmers, their opinion and awareness about agriculture related schemes, diversification of agriculture, their reasons for liking and disliking farming etc. The paper is divided into three parts, the Part-I gives an introduction to the situation of farmers in Punjab, the Part-II highlights the public opinion of farmers with regard to various variables taken for the study and the Part III concludes the arguments.

Part-I

This part of the study discusses the research objectives, research methodology, and a brief introduction about the problem.

Research Objective

The objective of the study was

1. To analyze the socio-economic Profile of the farmers in Punjab in the current scenario and to envisage the changes that have come over a period of time.
2. To identify the problem areas in the cropping pattern and diversification of the crops among the farmers in Punjab.

3. To study the level of awareness with regard to various Agricultural Schemes and their participation in various farmer organizations’.

Research Methodology

In accordance with the objectives the work uses both primary as well as secondary data. For primary data the State of Farmer Survey-2013 was used conducted by the Centre for the Society of Developing Studies (CSDS) in coordination with the Department of Political Science, Guru Nanak Dev University, Amritsar. This study was conducted in eight villages of four districts in Punjab with a sample size of 151 respondents. The selection of the districts was based on the highest number of agricultural worker in the region. This was decided at the national level by the CSDS team. As far as the secondary data is concerned Census of India 2001 and 2011, data and reports of Economical and Statistical Organization, Punjab Statistical Abstract, and various Newspaper reports on Agricultural crisis in Punjab were used to have an analytical view of the problems in the concerned field.

The following table gives the details of universe of sample and its sample size.

Table 1: State of Indian Farmers (Punjab) : Household Sample details

District	Taluk	Village					Number of Sample
			Agri_work	Agri_totwork	No_HH	TOT_P	
Gurdaspur	Pathankot	Ranipur	595	36.64	880	4874	20
	Batala	Cheema	782	76.37	530	3117	20
Ferozpur	Ferozpur	Sodhi Nagar/ Sultan Khanwala	711	75.48	468	2850	20
	Fazilka	Islamwala	959	82.46	511	2764	20
Bhatinda	Rampura Phul	Jeondan	978	59.53	506	2903	20
	Talawandi Sabo	Kamalu	937	91.50	349	1898	20
Sangrur	Barnala	Jodhpur	918	63.05	485	3031	20
	Sunam	Khetla	673	43.14	643	3584	20
Total							160

Source: CSDS Data Unit.

Agricultural Development in Punjab

Punjab as the name suggest is the land of the five rivers. Naturally it is one of the most fertile regions on earth. “It has been contributing 40 percent of rice and 50-70 percent of wheat for the last two decades. Punjab is not only self-sufficient in producing food grains but also contributes around 60% food grains to the central pool. The Agriculture in Punjab state is highly intensive in terms of land, capital, energy, nutrients, agriculture inputs and water etc. With only 1.5% of geographical area of the country, Punjab has produced about 22% of wheat, 10% of rice and 13% of cotton of the total produce of these crops in the country during 2001-02. The Ferozpur District is the largest producer of wheat and rice in the state. The largest area is

under wheat crop. Other important crops of the state are rice, cotton, sugarcane, pearl millet, maize, barley and fruit” (Government of India, Ministry of Agriculture)

Table 2: Key Indicators of the Punjab

Indicator	Units	Punjab
Geographical Area	‘000 Hectare	5,036
Population	Million	27.70
Population Density	Per Sq. Km	550
Literacy Rate	Percent	76.68
Total Villages	‘000	12.278
Cultivable area	Million Hectare	4.20 (83.4% of total geographical area)
Net area sown	Million Hectare	4.023 (95.7% of Cultivable area)
Net Irrigated area	Million Hectare	4.019 (Canals- 26.2% Tube Wells-72.5% Others-1.3%)
Gross Irrigated Area	Million Hectare	7.442
Total no. of Land Holdings	Lakh	10.93
Marginal Farmers	Lakh	2.04 (18.7%)
Small Farmers	Lakh	1.83 (16.7%)
Farmers with Land above 2 Hectare	Lakh	7.06 (64.6%)

Source: Based on Census of India 2011 and Government of India, Ministry of Agriculture: Punjab Farmer’s Guide, accessed from: <http://farmech.dac.gov.in/FarmerGuide/PB/index1.html>

The table 2 shows that around 83 percent of the total geographical area of Punjab is under cultivation. It is due to this reason that Punjab generates a big amount of agricultural produce. More than half of the population of Punjab still lives in the rural areas and majority of the population is directly or indirectly related to agriculture. However, with time the landholdings have become small and it has put a direct impact on the produce.

Green Revolution Period

Agriculture in Punjab was at a primitive stage at the eve of independence. It was dependent on rain water for irrigation. Home-grown seeds were used which were low in quality and quantity. They used human and bullock power, compost manure, and simple management techniques. The peasants were dependent on moneylender and commercial agents (Arthias) for their monetary needs as well as for marketing the produce. Since, the economy of Punjab was predominantly agricultural, top priority was given to the development of agriculture sector. The two main plans of agriculture policy followed during this time were land reforms and large investments in irrigation infrastructure which resulted into visible acceleration in the growth rate of agriculture (Bhalla and Singh, 2001, p.1).

Land reforms like consolidation of holdings and imposition of land ceiling were introduced. The state sought abolition of intermediaries. Most attention was paid to the expansion of irrigation. Power generation was another important area of investment by the

government. The government took bold steps to develop co-operative credit schemes and initiated community development programs (Singh, 1983, p.307).

The introduction of high yielding varieties of wheat and rice transformed the agricultural production scenario on irrigated lands. Consequently, the production of food grains in the state increased tremendously during this period. Besides high yielding seeds of wheat and rice, higher use of fertilizers, pesticides, insecticides, expansion in irrigated area, farm mechanization, assured commodity prices in the form of minimum support prices, input subsidies on fertilizers and power and institutional credit created an enabling environment to put the agriculture on high growth trajectory in the state (Singh, 2006, p.43).

The strategy of increasing food grains production primarily encompassed four factors. First, it aimed at putting larger cultivated areas under food grains, especially wheat and rice. Secondly, it focused on increasing the cropped area through intensive cropping. Thirdly, it emphasized increasing productivity per unit of land area through intensive use of water and modern inputs, especially fertilizers, insecticides and pesticides. Fourthly, it envisaged increased input use efficiency to reduce the cost of production and raise profit margins (Sidhu and Johl, 2001, p.45). By 1970-71, Punjab had the highest per capital income i.e., Rs.1,070/- and in 1980-81, it increased to Rs. 2,620/- at current prices (Singh, 1983, p.308). During this time the overall growth rate of Punjab agriculture was 5.8 percent as against the all India growth rate of 3.4 percent (Gill, 1983, p.2). On the whole, the Punjab farmers happily succeeded in achieving a major breakthrough in bringing about all round development in agricultural productivity and resource use efficiency. The success of green revolution in the region removed the chronic food scarcity of the country. Punjab came to be known as the most dynamic and prosperous state (Chahal, 2005, p.2).

The State of Farmers in the Post-Green Revolution Period

Although, with the advent of green revolution, the economic position of the big land owners improved a lot but the gains of marginal and small peasantry remained insignificant. The marginal and small farmers were seen to be the step sons of green revolution. Consequently, the disparities in income and wealth increased in rural sector. Limited supply of capital to marginal and small peasants restricted the scope of green revolution. All these factors led to the creation of many sociological problems and tightened the grip of rich farmers over poor ones. Most of the marginal and small peasants were already living at subsistence level; therefore, they could not be expected to limit their consumption for investment purposes in agriculture. The gap between income and expenditure (on account of production or consumption) was seen, this resulted into more borrowing. They borrowed from non-institutional sources at very high rates of interest which pushed them under the burden of indebtedness (Singh, 1983, pp.90-91).

Beginning with early 1980s, the word “crisis” became the dominant mode of representing Punjab (Jodhka, 2006, p.1530). Later this “crisis” turned into a militant movement of Khalistani forces. After 15 long years of turmoil (1978-1993), the movement came to end abruptly leaving a mark of social and economic destruction. There were visible signs that the potential of green revolution and its technology began to be enervated in the mid-1980s. This economic distress led to numerous suicides amongst the farmers in the rural Punjab. Agricultural sector has been

experiencing a decline both in its share of state domestic product (SDP) as well as the share of workforce. This sector accounted for 33.76 percent of the share of the SDP in 1980-81, which declined to 31.17 percent in 1990-91. Cultivators and agricultural laborer were directly dependent on agriculture accounting for 77.93 percent of the total workforce in 1980-81 which declined to 76.01 percent in 1990-91 (Gill, 2005).

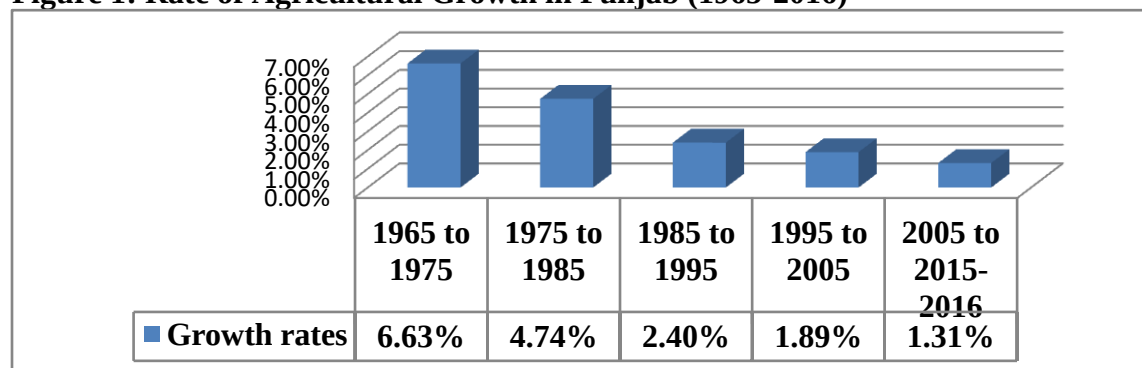
Economic Reforms of 1990s and Agriculture in Punjab

In 1991, Indian state boarded a new structure of economic development. India adopted the policy of Liberalization, Privatization, and Globalization (LPG). Introduction of liberalization and globalization further increased pressure on the agrarian economy. Leaving agricultural sector to the open market did not go well with the marginal and small farmers. Small and marginal farmers are not in the capacity to bargain with the middle men and traders and hence, get exploited at their hands (Bose, 2000, p.3375). In addition to that the production and productivity growth rates of food grains and other principal crops declined in the post-reform period compared to pre-reform decade (Sidhu, 2004, p.47). Along with decreasing income, falling growth of returns has completely shaken majority of the farmers.

Present Scenario of the conditions of farmers in Punjab

As a result of giving priority to agriculture in the planning strategy, the green revolution ushered in India. The advancement in agriculture of Punjab made a way for others states in achieving highest production and productivity in agriculture and in the adoption of new technology. Since then it is contributing maximum of wheat and rice to central pool. However, the growth rate in the agricultural sector declined during the 90s and adverse effect of green revolution are becoming perceptible as shown in the figure 1.

Figure 1: Rate of Agricultural Growth in Punjab (1965-2016)



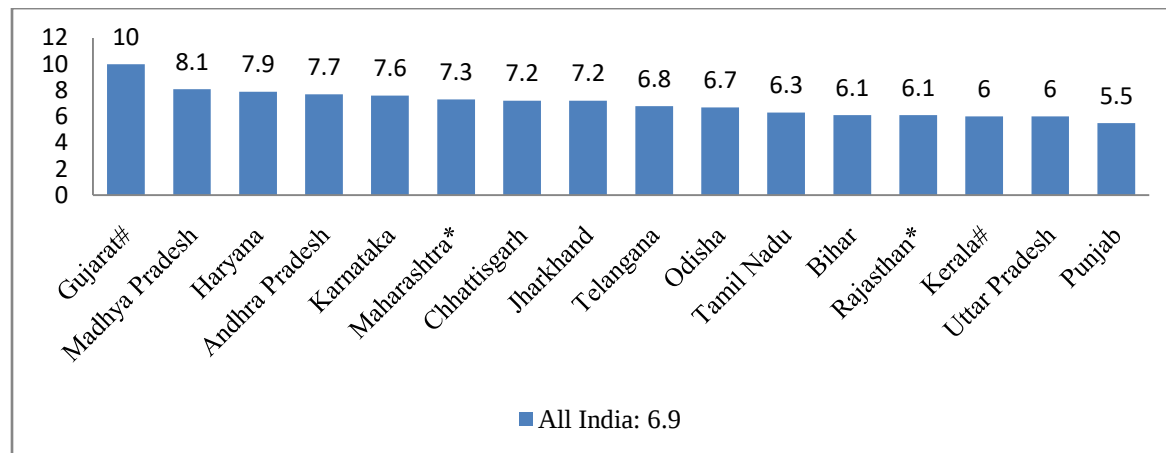
Source: CSDS Data Unit

The state once had highest per capita income for three decades, has now slipped to the fourteenth rank among all the states of India (Ministry of Statistics and Programme Implementation). The average gross SDP growth rate also shows decline since the last decade. The figure 2 shows that Punjab lags behind and with 5.5 percent GSDP rate (less than national average of 6.9 percent) it is ranked at the last on the growth podium out of the major states of India.

The falling water table is also another cause of the declining agriculture in Punjab. Although Punjab is home to five richest rivers of India in terms of water supply but this water is not

actually used by the farmers of Punjab. Under the Indus water treaty Punjab shares water with adjoining country Pakistan therefore, the eastern tributary rivers of Indus that is the Beas, the Ravi and the Sutlej are controlled by India. Whereas, three western rivers that is the Indus, the Chenab and the Jhelum are controlled by the Pakistan (Ministry of External Affairs). Along with this Punjab also shares its river water with other states in the country by diverting the river water by dams and canals. For this reason, the farmer in Punjab is bound to use the ground water. This

Figure 2: Average GSDP growth FY13-FY17 (percent)



Note: *2017 growth is taken from Economic Survey of the given state; #2017 growth derived from state budget speeches and CRISIL estimates. Special states (as per the RBI categorization), Union territories, Goa and West Bengal have not been considered for growth comparison. GDP data for West Bengal (2011-12 series) was not available.

Source: Central Statistics Office.

water is drawn by using around 14 lakh tubewells using electricity/diesel at a very high cost. After the green revolution paddy is cultivated on around 29 lakh hectare of land in Punjab. Overuse of ground water has led to fall in the water table of Punjab. The cost of the submersible pump is around 1-2 lakh depending on the size and area. For a marginal farmer it is a difficult situation.

Part-II

This part of the paper is based on data collected from the survey conducted by the CSDS on the state of farmers in Punjab in 2013. This section deals with a number of variables like caste, level of literacy, family size, source of household income.

The table 3 explains the caste background of the farmers in the state. Majority of the farmers belonged to the Jat Sikh caste (78 percent) as majority of them were Sikhs. They were followed by Rai Sikh and Kamboj Sikhs. The Rai Sikhs now falls in SC category with substantial population in Ferozepur district. Earlier they were part of backward castes.

Table 3: Caste Distribution

S.No.	Caste	Frequency	Percent
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1	Rajput	2	1.3
2	Punjabi Khatri	1	0.7
3	Jat Sikh	118	78.1
4	Lohar (Black Smith)	2	1.3
5	OBC Sikh (Kamboj)	13	8.6
6	Other Sikhs (Rai Sikh)	15	9.9
7	Total	151	100

Source: CSDS Data Unit

Table 4: Levels of Literacy Rate among the Farmers

S.No.	Literacy	Frequency	Percent
1	Non-Literate	56	37.1
2	Up to Primary	20	13.2
3	Up to Middle	23	15.2
4	Up to Matric	28	18.5
5	Up to +2	18	11.9
6	Up to Graduation	5	3.3
7	Up to Post-Graduation	1	0.7
	Total	151	100

Source: CSDS Data Unit

The table 4 shows the level of literacy among the respondent farmers. The percentage of non-literate farmers (37 percent) in Punjab is much higher than that at the national level i.e., 28 percent. Majority of the educated farmers i.e., 18.5 percent, had studied only up to the matric level. This is one of the main reasons for gravity of the crisis in agriculture. With the changing agricultural techniques, growing markets, globalization in the cultivation world the education of the farmer is important not only from the point of view of the occupation but also from the individual perspective. The illiterate farmer is exploited by the middle men or the *adhtiyas*.

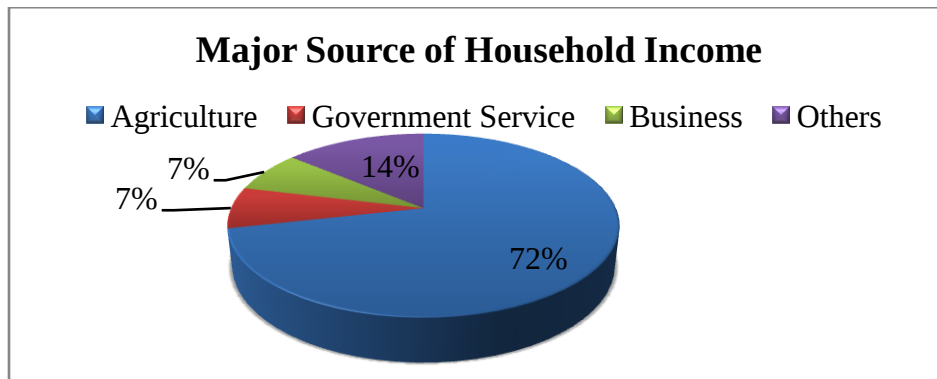
Table 5: Family Size (Adult Members only)

S.No.	Size of Family	Frequency	Percent
1	2-3	44	29.1
2	4-5	65	43.1
3	6-7	32	21.2
4	8 and above	10	6.6
	Total	151	100

Source: CSDS Data Unit

The table 5 highlights the family structure of the respondent farmers by taking into account the number of adult members in the family. In spite of illuminating the children the numbers of the family members are on the higher side. Only 29 percent respondents had 2-3 adult members in their house.

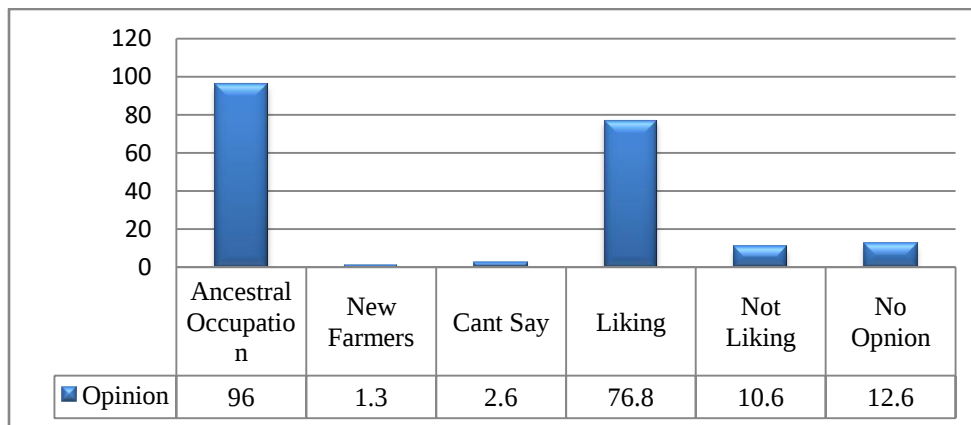
Figure3: Source of Household Income



Source: CSDS Data Unit

The figure3 shows that major source of household income among the respondents was agriculture. However, 14 percent relied on other services other than agriculture, government, or business. Being an agrarian economy not only at the state level but also at the national level majority of the population is directly or indirectly dependent on agriculture.

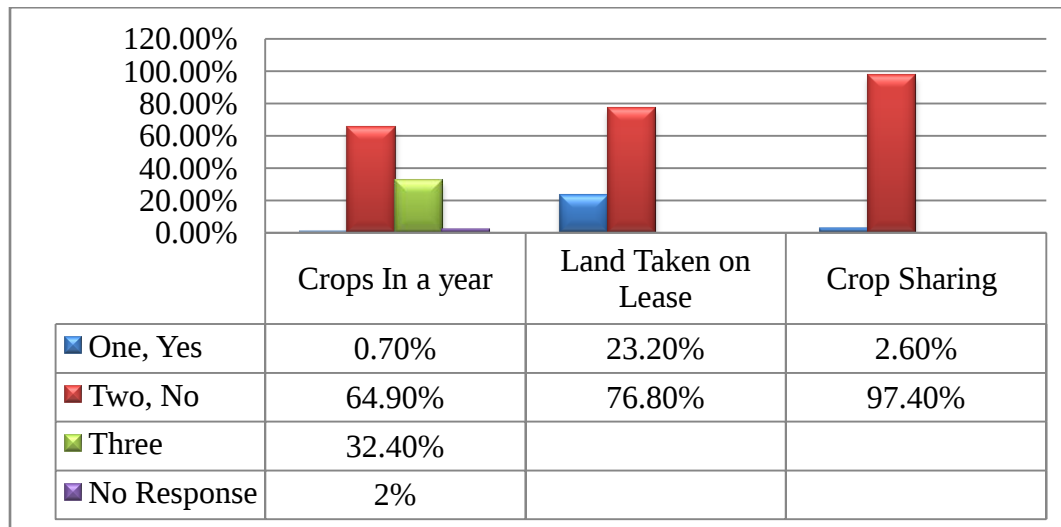
Figure4: Agriculture as an Occupation and Liking/Disliking of Agriculture



Source: CSDS Data Unit

The figure4shows that majority percentage of respondents i.e., 98 percent continue with farming as their ancestral occupation whereas only 1.3 percent respondents had undertaken farming few years ago. As far as the liking or disliking is concerned the 77 percent of respondents liked to continue agriculture as source of livelihood while 11 percent wanted to do away with it. This situation is quite similar to the national trends where 3/4th of the total farmers like cultivation as their occupation.

Figure5: Pattern of Cropping in Punjab



Source: CSDS Data Unit

The figure 5 shows cropping pattern among the farmers in Punjab where only 1/3rd of the farmers (32 percent) grow three crops in a year, majority (65 percent) of the farmers followed two crop (Wheat-Paddy) patterns. Crop pattern also depend on the quality of soil, climatic conditions etc. Further it also shows the land lease and share cropping in Punjab. The percentage of share cropping is found to be quite low (2.6 percent) against land taken on lease (23.2 percent) for cultivation as per the survey.

Table 6: Source of Cultivation (Owned by Farmers)

S.No.	Source	Frequency	Percent
1.	Plough	4	2.6
2.	Tractor	89	58.9
3.	Both	13	8.6
4.	Hire Machinery	39	25.8
5.	No Response	6	4.0
	Total	151	100

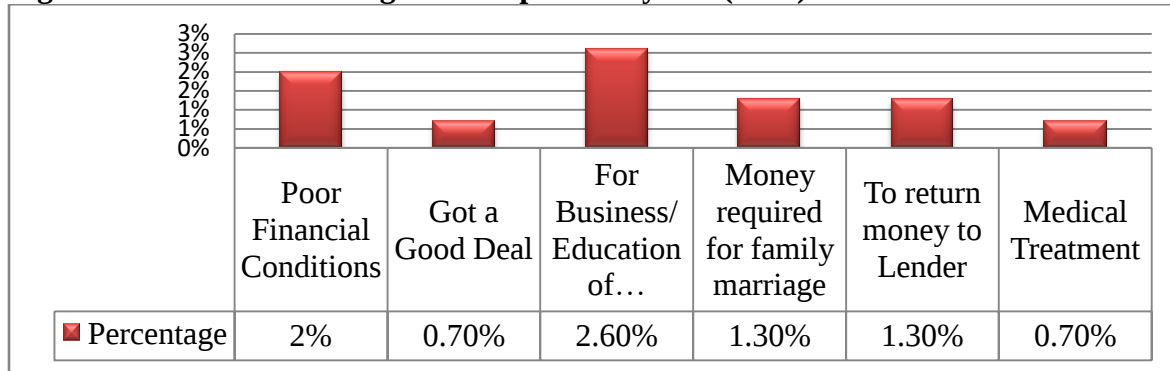
Source: CSDS Data Unit

Due to green revolution the agriculture in Punjab is said to be highly mechanized, the data in the table 6 also reveals that around 60 percent of the farmers owned tractors and around 26 percent used hire machinery for cultivation. As far as the farmers in Punjab are concerned small and marginal farmers are considered to over-invest in their farms. They buy tractors and other machinery by taking loans and this reduces the profitability as they have to pay back loan out of the productivity and it turns out to be an undue burden on the farmers. Earlier the same task was completed by using family labor which was never an economic burden on the farm but by mechanization the family labor has been reduced and the credited machinery take away a huge amount of profit from the farmer. Enhancing the chances of him falling into the debt trap of the *adhtiyas*.

The figure 6 shows the reasons given by the respondents who sold their land mainly hover around for education or business purpose (2.6 percent) and an equal number (i.e. 2 percent) sold

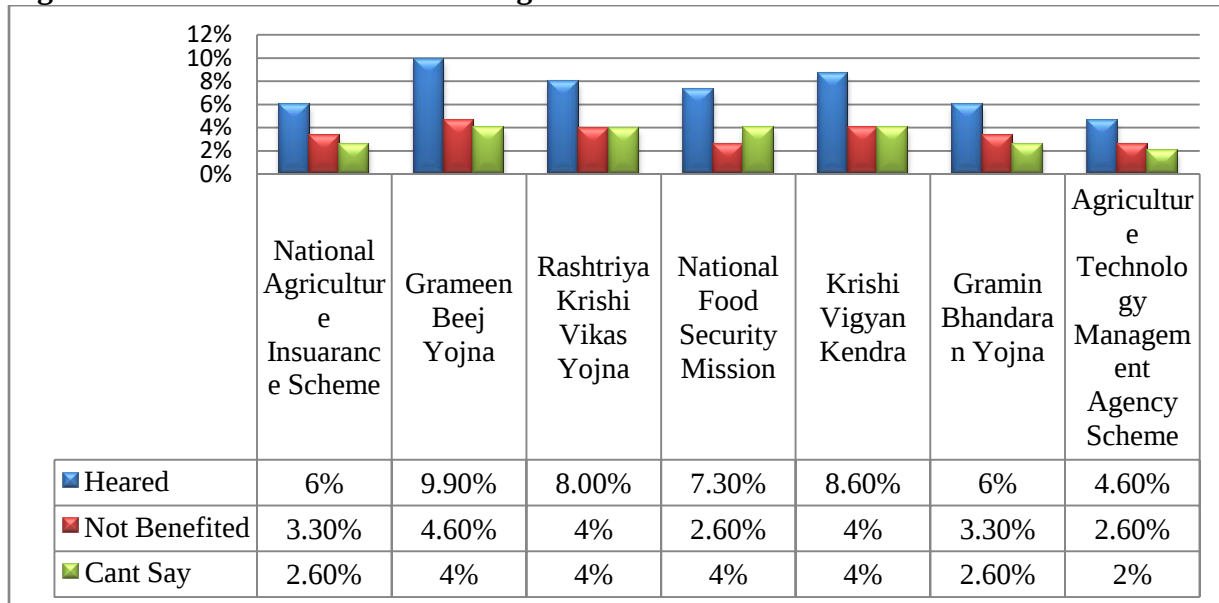
it due to poor financial conditions. In case of Punjab selling land for some marriage function is also quite common hence out of the 9.3 percent who sold land 1.3 percent did it for either to return money back to money lender, for buying farming equipment, or some domestic purposes like marriage of daughter or son, death of family member, building or re-building the house.

Figure6: Reasons for Selling Land in past five years (2013)



Source: CSDS Data Unit

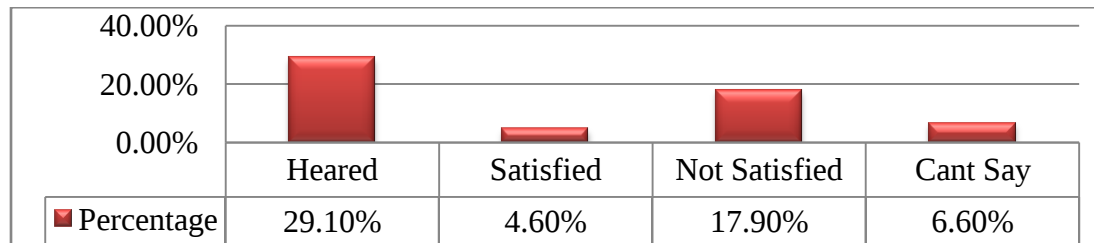
Figure7: Level of Awareness about Agricultural Schemes



Source: CSDS Data Unit

Minimum Support Price (MSP) is the price by which purchases are made from the farmers at the rate declared by the government of India. Every year after the recommendations of Commission for Agricultural Costs and Prices (CACP) the MSP is announced.

Figure8: Awareness and level of Satisfaction with the Minimum Support Price



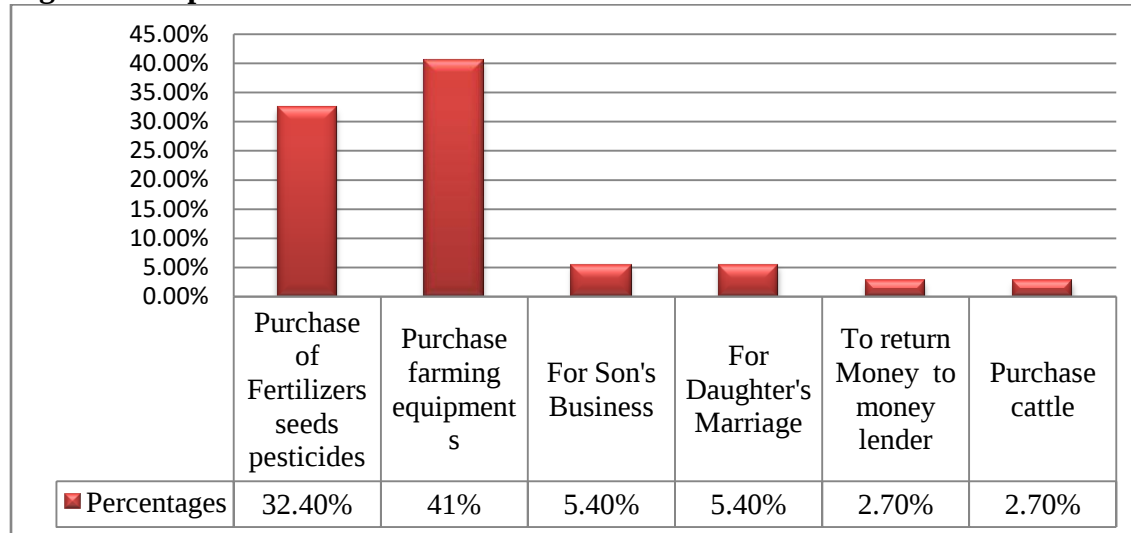
Source: CSDS Data Unit

The figure8 shows that only 29.1 percent of the total farmers in Punjab had heard of the MSP of their produce fixed by the government. The figure also shows that around 18 percent of the total farmers were satisfied with the MSP.

The figure 9 highlights the reason for taking loan include purchase of farming equipment mainly tractors, thrashers, etc., with 41 percent of respondents giving reason for it. Similar loans were taken for buying fertilizers, seeds, pesticides as 32.40 percent reasoned for that. However, son's business and daughter's marriage were other reasons for taking of loan.

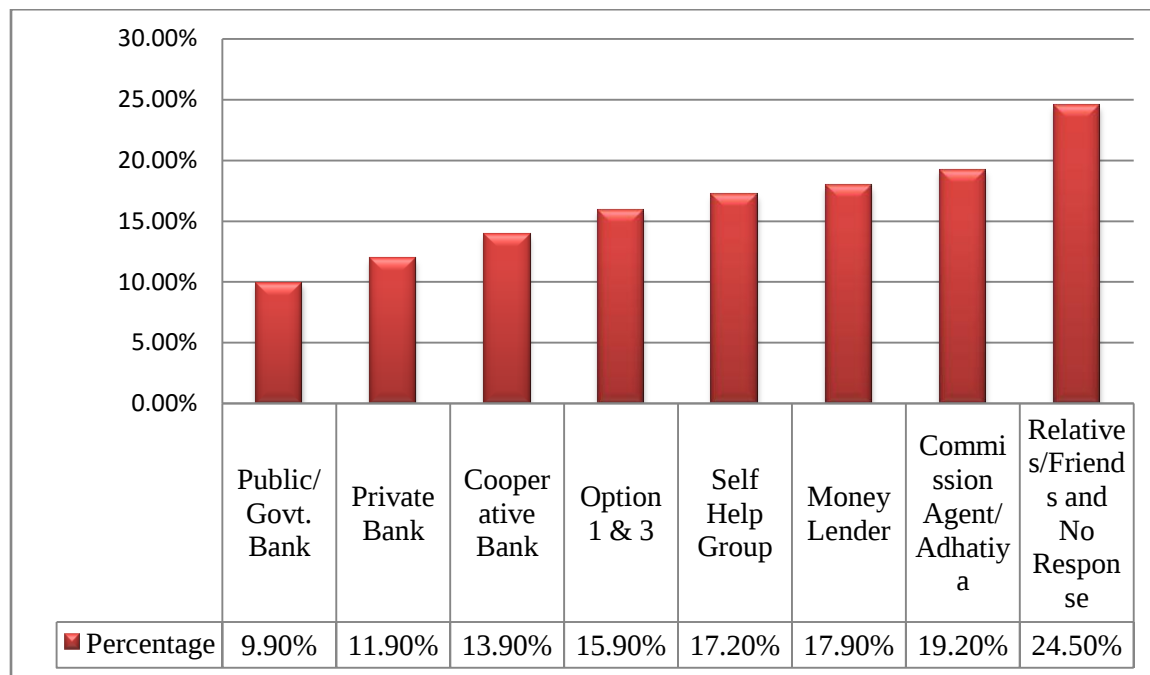
The figure 10 shows that 56.45 percent of total farmers took loan from institutional sources. Commercial banks are the only source among institutional agencies as there is no co-operative society in the village. There is a big gap between the credit supplied by the banks and the credit needs of the farmers. Therefore, peasants' dependent on non-institutional credit sources are at high cost.

Figure9: Purpose of Loan



Source: CSDS Data Unit

Figure 10: Source of Loan



Source: CSDS Data Unit

Part-III

Conclusion

Food grains are the basic necessity of all the human beings on the earth. No country can progress without investing into this field. Hence, it becomes imperative for any government to look into the deepest and minutest details of enhancing the agriculture and agriculturists. However, the state of farmers in India and in particular of Punjab has been into dismal position in the last few decades. The study reveals that not only agriculture is declining as an occupation but also farmers are facing lot of troubles in it. From lack of awareness about the government schemes to increasing suicides the economic condition of farmers is deteriorating day by day. The farmers are taking loans for modernizing agriculture but the result is not economically benefiting them. Also, majority of the loans are from the non-institutional sources hence, the farmers do not get the advantage of governmental wavier. Rather there has been continuous rise in the number of suicides committed by them. Therefore, it is the duty of the government to look into the matter and resolve it by sustainable means and making the occupation of agriculture productive and profitable.

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