Economic Status of Farming in Border Districts of Punjab

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ABSTRACT

The study was intended to find socio-economic characteristics of peasantry in border areas of Punjab which consist of six districts namely, Gurdaspur, Amritsar, Pathankot, Tarn Taran, Fazilka and Ferozepur. By using four stage random sampling technique, a sample of 80 farmers covering four blocks and eight villages of Pathankot and Tarn Taran districts of Punjab was taken for the study. The average family size of the farm household was 5.10 members with the marginal households having smallest families and the large farm-size having the largest families across different farm-size categories. Most of the medium and large farmers were either graduate or post graduate while higher education was seldom pursed by the households in marginal and small farm-size category in the study area. The average annual income earned by the farm households was Rs 9.23 lakh in which on farm sources have around 74 per cent share and off-farm income sources around 26 per cent. The income of the households was Rs 2.15 lakh, Rs 4.91 lakh, Rs 9.32 lakh, Rs 14.98 lakh and Rs 23.76 lakh for marginal, small, semi-medium, medium and large farm-size category households, respectively. However, off-farm activities constituted major income sources in case of the marginal farmers. For irrigation, tube-wells were the most preferred source of irrigation in all farm categories and many farmers in Pathankot district rely on canal water for irrigation. The most common assets which were owned by almost all the farmers include tractor and trolley. Average livestock possession in this area was around 4 animals per household.

Key Words: Farm income, Non-farm income, Farm earners, Family size, Land structure and Farm assets.

INTRODUCTION

It is a well-known fact that about eighty per cent of the income derived primarily by the households in Punjab stems from agriculture activities and other allied activities (Choudhary and Singh, 2019; Saini and Kumar, 2020). Today, most of the inputs used by farmers are purchased from the market. The farmers have certain needs to satisfy that require cash generally for buying of input supplies and to carry out their production operations (Kaur, 2009). Increasing costs coupled with constant or restricted technology and a decline in MSP of wheat and paddy are further worsening the terms of trade (Sajjad and Chauhan, 2012). The decline in production, increase in the cost of production and insufficient increase in minimum support prices has made the agricultural activity unremunerated. It has

posed a serious threat to the economic, social, and political life of India, especially in rural areas. Due to many reasons, especially the lack of finance, the marginal and small farmers visually suffered much to acquire the improved seeds, fertilizers and new techniques. The newly introduced farming system has raised the cost of production, which, in turn, has led to indebtedness and the disturbance of harmony within farmers (Singh and Manisha, 2015). Credit is not only obtained by the small and marginal farmers for survival, but also by the large farmers in order to enhance their income (Rani, 2014). Large farmers have mostly controlled rural financial services, leveraging their substantial endowment base and influence within the local political system to get loans at highly favourable conditions (Sharma, 2009). Despite the tremendous expansion

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of banking network and the growth of institutional credit for agriculture, the severity of agricultural indebtedness persists (Sidhu and Rampal, 2016). The phenomenon of suicide by farmers is especially worrisome for India, as majority of the workforce is dependent upon agriculture for its livelihood (Basu *et al,* 2016).

The important point of departure is regarding the tendency of leasing-in land. The studies primarily show that a loan is taken for the purchase of new land only, while the reality is that small and marginal farmers have to take loan sometimes even to pay the rent on leased-in land. Thus, the present study was an attempt to examine various hitherto unexplored aspects of indebtedness among farmers in the border areas of Punjab. There is extreme poverty in the rural areas of the country. Thus, people living in rural areas are borrowing huge amount of loans for fulfillment of their basic needs and other requirements related to agricultural practices. Hence, the present study analyzed the socio-economic status of farm households across different farm-size categories in the border region of Punjab.

MATERIALS AND METHODS

The study was undertaken to analyse the socio-economic status of peasantry in border districts of Punjab. The data related to socio-economic profile of the farm household which included farm size, family size, farm and non-farm income, education level etc., were collected for the year 2020-21. Primary survey was used to achieve the objectives of the study. Information was collected on a specially designed pre-tested schedule through personal interview method with the head of the family. There are six districts in the state which share international border with Pakistan, namely, Amritsar, Gurdaspur, Tarn Taran, Pathankot, Fazilka and Firozpur. Out of these six districts, two districts namely Pathankot and Tarn Taran were purposely selected representing different agro-climatic zones of the state i.e., sub-mountainous zone and central

zone respectively to have a broader coverage of the study.

Considering the time and resource constraint faced without compromising the quality of the study, a sample of 80 farm household across different farm-size categories was selected. From each village, 10 farmers were selected by probability proportional to size of operational holdings in Punjab. There were 11 marginal farmers, 16 small farmers, 27 semi-medium farmers, 22 medium farmers and 4 large farmers. In present study, the farm income was defined as the income from crops and dairy. Similarly, non-farm income was referred to the income earned from non-farm activities such as business, services, pensions, remittances by the farm family.

RESULTS AND DISCUSSION

Generally, the developing countries have weak infrastructure around the international borders. Road connectivity, electricity, health centers, drinking water, education, economic opportunities are still challenge in the mainland regions, establishing these at border districts is a challenging task. The socio-economic condition of the region can also be explained fairly using the information on socio-economic characteristics of the households in the vicinity. Various socio-economic factors like age, land holdings, dependence on farm activities, education status, family size etc. were recorded.

Family size of different categories of farm households

The families were broadly classified into three categories *i.e.,* less than 5 members, 5-6 members and more than 6 members. Most of the farm households have the 5-6 members in the family (63.75%). Around 25 per cent farm households have less than five members in the family and nearly 15 per cent farm households have more than six members in the family. It was found that most of the large farm-size households have large family size whereas the marginal and small farm-sized households have relatively small family size.

Table 1. Family size of the farm households in border districts of Punjab, 2020-21. (Numbers)

Family size (No.)	Farm size categories					Overall
	Marginal	**Small**	**Semi medium**	**Medium**	**Large**	
<5	4 (36.36)	3 (18.75)	6 (22.22)	4 (18.18)	-	17 (21.25)
5-6	5 (45.45)	12 (75.00)	18 (66.66)	14 (63.63)	2 (50.00)	51 (63.75)
>6	2 (18.18)	1(6.25)	3 (11.11)	4 (22.72)	2 (50.00)	12 (15.00)

Figures in parentheses are percentages to total farmers

Age wise distribution of head of farm household in border areas of Punjab

Age wise distribution helps to understand the decision making and expenditure patterns of farm households. It is assumed that young farmers are more aware of the progress happening in technological aspects of agriculture and the new technologies that boost the process of farming as compared to the older generation. On the contrary, the older farmers believe in traditional ways of farming and are not aware of the new advancements. However, they make more responsible expenditure decisions and properly utilize the income generated from the farming activities. The age of the head of the farm households in border districts of Punjab was given in Table 2. Overall, 43.75 per cent of the farmers belonged to 35-60 yr of age, followed by 32.50 per cent of the farmers who belonged to 60-75 yr of age. Around 13 per cent farmers belonged to 75-90 yr of age group and only 10.00 per cent of the total sampled farmers were young i.e., in the age group of 25-35 yr. Most of the household heads in marginal farm size category were relatively younger than household in other farm-size categories, whereas the farmers in oldest age group *i.e.,* 75-90 yr falls more in large farm-size category (25%).

Education level of the head of farm household

The education level of the head of the farm household reveals the awareness related to various agricultural activities and advancements in procedures, practices of farming activities and technological innovations that help in increasing yield and make the farmer more progressive. The results indicated that most of the farmers were educated up to matric (31.25%) and senior secondary levels (25%), whereas a small proportion of farmers have completed graduation (17.50%) and post-graduation (2.50%) degrees (Table 3). In these areas, 7.50 per cent of the farmers were illiterate, the maximum number of illiterate farmers belonged to the marginal farm-size category (27.27%). Most of the households in marginal farm-size category have studied up to matriculation with majority

Table 2. Age of the head of farm household in border districts of Punjab, 2020-21. (Number)

Age of the head (year)	Farm size categories					Overall
	Marginal	**Small**	**Semi medium**	**Medium**	**Large**	
20-35	1 (9.09)	2 (12.50)	2 (7.41)	3 (13.64)	-	8 (10.00)
35-60	6 (54.55)	6 (37.50)	12 (44.44)	9 (40.91)	2 (50.00)	35 (43.75)
60-75	3 (27.27)	6 (37.50)	10 (37.04)	6 (27.27)	1 (25.00)	26 (32.50)
75-90	1 (9.09)	2 (12.50)	3 (11.11)	4 (18.18)	1 (25.00)	11 (13.75)

Figures in parentheses are percentages to total farmers.

Table 3. Education of the head of the farm household in border districts of Punjab.   (Number)

Education of household's head	Farm size categories					Total
	Marginal	**Small**	**Semi medium**	**Medium**	**Large**	
Illiterate	3 (27.27)	2 (12.50)	-	1 (4.54)	-	6 (7.50)
Primary	1 (9.09)	1 (6.25)	1 (3.71)	-	-	3 (3.75)
Middle	3 (27.27)	-	5 (18.52)	1 (4.54)	1 (25.00)	10 (12.50)
Matric	2 (18.18)	5 (31.25)	9 (33.33)	9 (45.45)	-	25 (31.25)
Senior secondary	2 (18.18)	5 (31.25)	6 (22.22)	7 (31.81)	-	20 (25.00)
Graduation	-	3 (18.75)	6 (22.22)	3 (13.63)	2 (50.00)	14 (17.50)
Post-graduation	-	-	-	1 (4.54)	1 (25.00)	2 (2.50)

Figures in the parentheses are percentage to total farmers

having education up to middle class. Only 18 per cent farm household's heads have studied up to senior secondary and no one has obtained higher education in this farm-size category. There was higher level of education across family heads in larger farm-size categories.

Average earners and dependents among farm households

The average family size of the farm households in border districts was 5.10 members with dependency ratio of 1.24. The family size was 4.01, 4.90, 5.45, 5.10 and 6.56 members for marginal, small, semi-medium, medium and large farm size categories, respectively (Table 4). The dependency ratio was the highest for large farm sized farm households. It was observed that in case of on-farm earners, semi medium farmers were most dominant and in case of off-farm, medium farm size was much more considerable accounting to 15.29 per cent. Explaining the scenario, it was depicted that least of the on-farm earners were large farms accounting up to 21.49 per cent and major on-farm earners existed in small farms *i.e.,* 37.96 per cent. Whereas, the major off-farm earners were medium

farmers accounting at 15.29 per cent which meant that medium farms tend to have diversified income sources, which is preferable as it takes out the risk out of the income scenario. The least of the off-farm earners were semi-medium farms accounting up to 9.36 per cent of the sampled households. The dependency ratio was the highest in large farm size stating at 1.98 and the least in small farm size (1.02). In terms of family size, largest family in the selected areas belonged to large farms having about 7 members followed by semi-medium farms, medium and small farms all with a family size of about 5 members with least family size in the case of marginal farms *i.e.,* 4 members.

Sources-wise income of farm households

A farm household can earn income from agricultural as well as non-agricultural sources depending upon the farm size, number of workers, education level, skill set and availability of economic opportunities. The income earned by the farm households in border districts was Rs 9.73 lakh in which around 74 per cent income from agriculture and remaining 26 per cent from non-agricultural sources (Table 5). The share of farm income in total

Table 4. Average earners and dependents among farmer households.   (Number)

Farm size Category	On-farm earners (a)	Off-farm earners (b)	Total earners (c=a+b)	Dependents (d)	Dependency ratio	Family size (e)
Marginal	1.27(31.67)	0.39(9.73)	1.66(41.40)	2.35(58.60)	1.41	4.01(100.0)
Small	1.86(37.96)	0.57(11.63)	2.43(49.59)	2.47(50.41)	1.02	4.90(100.0)
Semi Medium	1.89(34.68)	0.51(9.36)	2.40(44.04)	3.05(55.96)	1.27	5.45(100.0)
Medium	1.59(31.18)	0.78(15.29)	2.37(46.47)	2.73(53.53)	1.15	5.10(100.0)
Large	1.41(21.49)	0.79(12.04)	2.20(33.54)	4.36(66.46)	1.98	6.56(100.0)
Overall	1.69(33.14)	0.59(11.57)	2.28(44.71)	2.82(55.29)	1.24	5.10(100.0)

Figures in parentheses are percentages of total family size.

Table 5. Source-wise income of farm households in border districts of Punjab, 2020-21 (Rs/annum/household)

Sources of income	Farm-size categories					Overall
	Marginal	Small	Semi medium	Medium	Large	
Farm income	1,83,813 (85.27)	3,38,068 (68.78)	6,49,679 (69.69)	11,53,884 (76.98)	19,17,260 (80.67)	7,25,336 (74.50)
Non farm income	31,753 (14.73)	1,53,452 (31.22)	2,82,562 (30.31)	3,45,056 (23.02)	4,59,411 (19.33)	248,282 (25.50)

Figures in the parentheses are percentage to total

income was 85.27 per cent for marginal farmers. Small farmers accounting up to 68.78 per cent, semi-medium farmers (69.69%), medium farmers (76.98%) and large farmers (80.67%) share in total income. Whereas, non-farm income enumerates up to 14.73 per cent in case of marginal farmers, 31.22 per cent in case of small farmers, 30.31 per cent in semi-medium farmers, 23.02 per cent in medium farmers and 19.33 per cent in case of large farmers.

Land structure of different farm-size categories

The farm size is an important determinant of farm household income (Birthal *et al,* 2014). The average farm size of different farm size categories has been presented in the Table 6. The average farm size in border areas is 3.53 hectares which includes leased-in land (0.66 ha) and excludes leased-out land (0.06 ha). Marginal farmers have 0.07 ha of the operational holdings, small farmers have 1.34

ha, semi-medium have 3.07 ha, medium farmers have 5.62 ha and large farmers have 11.76 ha of operational land holdings. The share of leased-in land is high for semi-medium, medium and large farm-size categories.

Cropping Pattern of different categories of farmers

The predominant cropping pattern of different categories of farmers was paddy in *kharif* and wheat in *rabi* season and the trend was strictly followed by marginal and small farmers. In case of *kharif* crops, paddy was grown by marginal, small, semi-medium, medium and large farm size categories comprising 90.86, 92.22, 84.11, 83.35 and 84.42 per cent of area, respectively (Table 7). The overall area under paddy was 84.60 per cent. Whereas in case of *rabi* season, wheat covered near about same area as under paddy crop in *kharif* season, thus

Table 6. Land structure of different categories of farmers, 2020-21. (hectare)

Land structure	Farm size category					Overall
	Marginal	Small	Semi medium	Medium	Large	
a) Owned land	0.71	1.36	2.47	4.49	10.02	2.94
b) Leased out land	0.01	0.04	-	0.19	0.01	0.06
c) Owned and managed (a-b)	0.7 (100.0)	1.32 (99.07)	2.47 (80.34)	4.3 (76.51)	10.01 (85.10)	2.88 (77.34)
d) Leased in land	-	0.01 (0.93)	0.61 (19.66)	1.32 (28.49)	1.75 (14.89)	0.66 (22.66)
Operational holdings (c+d)	0.7	1.34	3.07	5.62	11.76	3.53

Figures in the parentheses are percentage to total farmers

Table 7. Cropping pattern of different categories of farmers, 2020-21. (hectare)

Crops	Farm size categories					Overall
	Marginal	**Small**	**Semi medium**	**Medium**	**Large**	
Kharif						
Paddy	0.64 (90.86)	1.23 (92.22)	2.58 (84.11)	4.68 (83.35)	9.93 (84.42)	2.99 (84.60)
Fodder	0.04 (5.71)	0.06 (4.79)	0.12 (3.91)	0.17 (3.06)	0.34 (2.93)	0.12 (3.51)
Others*	0.02 (3.43)	0.04 (2.99)	0.37 (11.98)	0.76 (13.59)	1.49 (12.65)	0.42 (11.89)
Rabi						
Wheat	0.64 (90.86)	1.26 (94.61)	2.54 (82.81)	4.64 (82.49)	9.81 (83.40)	2.96 (83.92)
Fodder	0.04 (5.71)	0.07 (5.38)	0.12 (3.91)	0.17 (3.06)	0.34 (2.93)	0.12 (3.51)
Others*	0.02 (3.43)	-	0.41 (13.28)	0.81 (14.45)	1.61 (13.67)	0.44 (12.57)
Operational holdings	0.70	1.34	3.07	5.62	11.76	3.53

*Others include fruits and vegetables

Note: Figures in parentheses are percentages to operational holdings.

showing that there was not much diversification in cropping pattern followed by most of the farmers except semi-medium, medium and large farms.

Others crops grown by the farmers included fruits like litchi, a common fruit grown in Pathankot district and vegetables like peas,

Table 8. Source of Irrigation across different farm-size categories, 2020-21.   (number)

Irrigation structure	Farm-size categories					Total
	Marginal	**Small**	**Semi medium**	**Medium**	**Large**	
Tube-wells	7 (63.64)	13 (81.25)	23 (85.19)	20 (90.90)	3 (75.00)	68 (85.00)
Canals	1 (9.09)	1 (6.25)	-	-	-	2 (2.50)
Both (canals + tube-wells)	3 (27.27)	2 (12.50)	4 (14.81)	2 (9.09)	1 (25.00)	10 (12.50)

Note: Figures in parentheses are percentages to total.

pumpkin, cauliflowers were majorly grown in Tarn Taran district primarily by semi-medium (11.98%), medium (13.59%) and large farm size (12.65%) in *kharif* season.

Irrigation structure on different farm categories

Tube-wells are the most preferred source of irrigation in all farm categories and there were some villages in Pathankot district that used only canal water for irrigation. Irrigation pattern is quite important in increasing crop productivity and water saving. Tube-wells were used mostly by medium farm size (90.90%) followed by semi- medium households (85.19%), small farm size comprising of 81.25 per cent followed by large households at 75 per cent and the least by marginal farm size (63.64%) with an overall of 85 per cent (Table 8). Canal irrigation was the least among this division stating at 9.09 per cent in marginal farm households followed by 6.25 per cent in small farms. Whereas, tube-wells along with canals showed a trend of maximum utility in case of marginal farm size (27.27%) followed by large farm size (25%), 14.81 per cent in semi- medium farm size, 12.50 per cent in small farms and the least in medium farm size (9.09%).

Ownership of different assets across different farm-size categories

The main purpose of defining ownership details

was to have an idea about the investment made by the farmers on different farm assets. Farm assets are considered as indispensable source of utility that offer increased working capacity, lower the manual efforts and save much of the time. The most common assets owned by almost all farmers were tractor and trolley. On the whole, 6.25 per cent of farmers didn't have any tractor which mainly include marginal and small farmers, whereas, as much as 77.50 per cent of farmers have one tractor and 16.25 per cent of farmers have two tractors and these pertained to semi-medium and large farmers category. Similarly in case of possession of trolley, 6.25 per cent of the farmers do not possess trolley and were mainly marginal and small farmers (Table 9). Overall, 81.25per cent of farmers have one trolley and about 10 farmers have two trolleys. About 5 per cent farmers do not have any submersible pump, while a large majority (90%) have one submersible pump and 5 percent had two pumps. Overall, ten percent farmers have combines, 78.75 percent have levelers, whereas rotavators were owned by 41.25 percent households, 71.25 per cent of the farmers have diesel engines, 78.75 per cent have cultivators, 68.75 per cent have disc harrows, 72.50 per cent have seed drill and almost all the farmers owned small tools. Thus, it was evident that the farm tools and assets are the significant part of the various categories of farm households and hold great importance to them.

Table 9. Pattern of farm assets across different farm-size categories, 2020-21.   (number)

Particular	Farm-size categories					Total
	Marginal	**Small**	**Semi medium**	**Medium**	**Large**	
Tractor						
Nil	3 (27.27)	2 (12.50)	-	-	-	5 (6.25)
One	8 (72.73)	14 (87.50)	26 (96.30)	13 (59.10)	1 (25.00)	62 (77.50)
Two	-	-	1 (3.70)	9 (40.90)	3 (75.00)	13 (16.25)
Total	11	16	27	22	4	80
Trolley						
Nil	3 (27.27)	2 (12.50)	-	-	-	5 (6.25)
One	8 (72.73)	14 (87.50)	27 (100.00)	16 (72.72)	-	65 (81.25)
Two	-	-	-	6 (27.28)	4 (100.00)	10 (12.50)
Total	11	16	27	22	4	80
Submersible pump						
Nil	4 (36.37)	-	-	-	-	4 (5.00)
One	7 (63.63)	16 (100.00)	27 (100.00)	20 (90.91)	2 (50.00)	72 (90.00)
Two	-	-	-	2 (9.09)	2 (50.00)	4 (5.00)
Total	11	16	27	22	4	80
Combine	-	-	-	6 (27.27)	2 (50.00)	8 (10.00)
Leveller	2 (18.18)	8 (50.00)	25 (92.60)	22 (100.00)	4 (100.00)	61 (76.25)
Rotavator	-	1 (6.25)	11 (40.74)	17 (77.27)	4 (100.00)	33 (41.25)

Diesel Engine	4 (36.36)	8 (50.00)	19 (70.37)	22 (100.00)	4 (100.00)	57 (71.25)
Cultivator	4 (36.36)	9 (56.25)	24 (88.88)	22 (100.00)	4 (100.00)	61 (76.25)
Disc harrow	- (37.50)	6 (37.50)	23 (85.18)	22 (100.00)	4 (100.00)	55 (68.75)
Seed drill	3 (27.27)	6 (37.50)	23 (85.18)	22 (100.00)	4 (100.00)	58 (72.50)
Small tools	11	16	27	22	4	80

Note: Figures in parentheses are percentages to total.

Ownership of livestock assets

It was seen in the sampled areas of districts Pathankot and Tarn Taran, that marginal category farms have 2 milch animals, small farmers have 3 milch animals; semi medium size have 5 animals, medium farmers have about 6 milch animals and large farmers have 4 animals (Table 10). Out of the total, generally medium farms have the highest number of milch animals i.e., cows and buffaloes (6 animals) and the lowest in case of marginal farms (2 milch animals). It can be said that 91 per cent of marginal farmers owned livestock followed by about 69 per cent, 85 per cent, 73 per cent, 75 per cent, respectively according to the increasing farm size categories. Every farm household have a sufficient number of livestock animals whether it be small and marginal farms.

CONCLUSION

The study concluded that about 44 per cent of the farmers belonged to 35 to 60 yr of age group, followed by about 33 per cent of farmers belonging to 60 to 75 yr of age group and only 10 per cent of the farmers belonged to the age group of 20-35 yr. Majority of the farm households have a family size of 5-6 members (63.75%). The trend seen in case of average earners and dependents among farm households in case of on-farm earners was small households accounting to 37.96 per cent of farmers and least in large farmers (21.49%), whereas most prominent off-farm earners were medium households (15.29%) and least in semi-medium category (9.36%) and maximum dependency ratio seen in large farm households (1.98%) followed by marginal households (1.41%), semi-medium farmers (1.27%), medium households (1.15%) and least in small households (1.02%).

Table 10. Ownership of livestock assets of farm households, 2020-21.

Particulars	Farm size categories					Total
	Marginal	**Small**	**Semi-medium**	**Medium**	**Large**	
Average Animals (No./Farm)	1.98	3.04	5.22	6.21	4.01	4.05
Farmers owning livestock (%)	90.90	68.75	85.19	72.72	75.00	80.00

Note: Figures in parentheses are percentages to total.

The irrigation structure showed that 100 per cent land was irrigated land with about 85 per cent irrigation carried out with deep submersible tube-wells whereas canals contribute to 2.50 per cent and 12.50 per cent used both canals and tube-wells. In case of farm assets and machinery, tractor and trolley were the two most common and major assets owned by the farmers. Especially in case of the tractor owners, 16.25 per cent farmers owned two tractors, 77.50 percent farmers owned one tractor and 6.25 per cent of the farmers do not own any tractor. About 13 per cent of the farmers have two trolleys, 81.25 per cent have one trolley and 6.25 per cent of the farmers do not have any trolley. Livestock ownership asset status of farm households indicates that marginal category has two milch animals, three in small households and five milch animals in semi-medium household, four in medium and six in large households.

REFERENCES

Basu D, Das D, and Misra K (2016). Farmer suicides in India. Trends across major states, 1995–2011. *Econ Pol Weekly* **21**: 61-65.

Birthal, P S, Negi D S, Jha A K, and Singh D (2014). Income sources of farm households in India: Determinants, distributional consequences and policy implications. *Agri Econ Res Rev* **27**: 37-48. https://ageconsearch.umn.edu/record/170255/?ln=en

Choudhary B.B and Singh P (2019). How unequal is rural Punjab? Empirical evidence from spatial income distribution. *Current Sci* **117** (11); 1855-62.

Kaur M, Kingra H S, Singh S and Sharma V K (2009). Growth of institutional credit and indebtedness in Punjab agriculture. *J Agric Dev Pol* **19**:106-16.

Saini R and Kumar R (2020). Income pattern and consumption behaviour of farm households in Punjab. *Agri Res J* **57:** (6), 923-32.

Sajjad H and Chauhan C (2012). Agrarian distress and indebtedness in rural India: Emerging Perspectives and Challenges Ahead. *Geography and Regional Planning* **5**: 397–408.

Sharma N (2009). Nature and extent of household saving and indebtedness among weaker sections in rural areas of Haryana. *Pol Econ J India* **18:** 59-64.

Sidhu J and Rampal V K (2016). causes and consequences of indebtedness: A brief review. *Indian J Econ Develop* **12**: 209–12.

Singh H and Manisha (2015). crisis in agricultural heartland: Farm suicide in Malwa region of Punjab, India. *Inl J Adv Resour Technol* **4**: 107-18