Extent, Magnitude and Determinants of Indebtedness Among Agricultural Labour Households in Punjab

Kulwinder Singh, Manjeet Kaur and H S Kingra

Department of Economics and Sociology, Punjab Agricultural University, Ludhiana, Punjab, India

Abstract

The present study was undertaken in Punjab with the objective to estimate the extent, magnitude and indebtedness among agricultural labour households. The Sangrur district of the state was selected purposively as the district have the highest number of suicides due to indebtedness and number of agricultural labourers are also higher in this district. The sample size consisted of 120 agricultural labour households selected randomly using multistage random sampling technique. The data were collected for the year 2017-18. The average annual income was Rs. 153558 per household. It was found that about 80.83 per cent agricultural labour households were indebted. The average amount of debt per sampled household was Rs.41408, while the average amount of debt per indebted household was Rs.51228. On an average 66 per cent loan borrowed by agricultural labour households was from institutional sources particularly from micro finance companies (57%), private commercial bank (9%) and 34 per cent from non- institutional sources namely employers (6%), moneylenders (7%) and relatives (21%). The main purpose of borrowing loan was for unproductive purpose (80% of the total debt) that too dominated by domestic needs (23%), health care (14%) and social ceremonies (12%). The results of the functional analysis exhibited that the family income, education of family head and number of earning members were inversely related whereas loan for unproductive purpose and family size were directly related to magnitude of indebtedness.

Introduction

Agricultural labour is one of the most important segment of rural economy. It is a socially and economically poorest section of the society. Agricultural labour households constitute the historically deprived social groups, displaced handicrafts men and dispossessed peasantry who are the least organized, most vulnerable, economically disadvantaged and highly impoverished. Agricultural labour forms the second largest category of workers in Punjab. According

Corresponding Author email: kulwindersidhu29@gmail.com

to Agriculture Census 2011, the number of total workers in Punjab is 9.90 million, out of these 3.52 million (35.59 %) are agricultural workers cultivators and agricultural labours. There were 1.5 million are agricultural labourers. In Sangrur district the total numbers of agricultural labourers are 249 thousands, which is second highest in Punjab (Anonymous 2016).

Mainly there are two types of agricultural labour in Punjab. One is attached labour and the other is casual labour. Attached labour generally works on annual basis on certain terms and conditions decided jointly by the employer and labourer in the beginning of the year. Casual labour works depending on the availability of work during the peak as well as lean period. Their employment is temporary and they are also paid weekly or daily at the prevailing wage rate. Agricultural workers constitute the most neglected class in Indian rural structure. Their income is low and employment is irregular. Due to lack of any skill training, they have no alternative employment opportunities either. Socially, a large proportion of agricultural labour belongs to backward class. Indebtedness is an age old malady among the rural households in India in general and agricultural labour households in particulars . In addition to meeting their basic needs of food, shelter and health care they need to meet the socio religious obligation too. However, they have to resorts to external borrowing due to their low earnings. Much of such borrowed funds incurred for unproductive purposes which do not enhance their productive and repaying capacity making the loans sticky. These households are thus caught up in the vicious circle of low earning, poverty and indebtedness (Bal and Singh 1979). The problems of the agricultural

labour families included landlessness and small land holding, less wages, under employment, low income, indebtedness and lack of subsidiary occupation besides many other social problems (Chitodkar 1992).

Most of the studies on prevalence of indebtedness in agricultural households of Punjab mainly deal with the farmers, but very few touched the severity of the same among the agricultural labour households who are economically more vulnerable. By taking all the above factors into consideration, the present study was planned to analyse the indebtedness among agricultural labour households in Punjab. The specific objectives of the study were to examine the extent and magnitude of indebtedness among agricultural labour households and source and purpose of borrowing of loans. The determinants of indebtedness were also examined.

Data Sources and Methodology
Sample size

The study was based on primary data. Multistage sampling technique was used for selection of sample households. At first stage Sangrur district was purposively selected for the study. As per the census survey report on "Farmers and Agricultural Labourers Suicides in Moga, Ludhiana, Barnala, Bathinda, Mansa and Sangrur districts of Punjab", of Department of Economics and Sociology, PAU, Ludhiana (Singh Sukhpal *et al,* 2017) the total number of suicides of agricultural labourers in these districts were 6373 during the period 2000-2015. In Sangrur district 1645(25.81%) agricultural labourers committed suicide which was the highest among these districts and further 80.67 per cent suicides (1327) were due to the burden of debt. This clearly indicate the plight of

agricultural labour households in Punjab in general and Sangrur district in particular. At second stage, out of total 10 development blocks five blocks were selected randomly from the district. At third stage, the two villages were randomly selected from each selected block. At last stage, 12 agricultural labour households were selected from each village. Thus total sample of 120 agricultural labour households was selected for study. The data were collected for the year 2017-18.

Analytical techniques

Descriptive statistics such as arithmetic mean and percentages were used to analyse the data. Multiple linear regression analysis was carried out to identify the factors affecting indebtedness among agriculture labour households.

Regression Model for Indebtedness:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$$

Where, Y= debt (Rs./hh)

a= Constant term

X_1= Money borrowed for non-productive/consumption purpose (Rs.)

X_2 = Annual income (Rs./hh)

X_3 =Family size (No.)

X_4 = Education level of head of family (Illiterate=0, Primary=1, Middle=2, Matric=3, +2 or above=4)

X_5= Earning members (No.)

X_6= Dummy variables presenting female participation as casual agricultural labour

(Yes= 1,No= 0)

b_1, b_2, b_3, b_4, b_5 and b_6 are regression coefficients of X_1 to X_6 variables

Multicollinearity among explanatory variables was tested by estimating Variance Inflation Factors (VIF) of β coefficients and Correlation matrix.

Results and Discussion

Socio-economic condition

Socio economic characteristics such as education level, average income of household, caste category, housing condition of the sample households have been depicted in Table 1. The average family size of sampled households was 5.16 members; out of this 46.12 per cent were earning members (30.22 % males and 15.90 % females). Majority of the households belong to Scheduled Castes (95.84 %) category. Majority of the household head were in the age group of 35 to 50 years. Education level of the head was low (62% illiterate). On an average, the agriculture labour households earned Rs.153558 annually, (62% from agriculture sector and 38% from non-agriculture sector).

The housing condition of agricultural labour households were not good. More than one third families were residing in one room whereas more than 50 per cent were having two rooms. About 69 per cent households have semi pucca house and only 46 per cent households have separate kitchen.

Indebtedness among agricultural labour households in Punjab

In this section extent, magnitude and determinants of indebtedness among agricultural labour households has been discussed.

Extent and magnitude

The data given in Table 2 shows the extent of indebtedness among agricultural labour households. The income of agricultural labour households was not sufficient to meet the day

Table 1: Socio-economic condition among agricultural labour households in Punjab, 2017-18

Particulars	Numbers	Percentage
Average family size (no.)	5.16	_
No. of earners per household	2.38	46.12
Male	1.56	30.22
Female	0.82	15.90
Caste category	2.78	53.88
SC	115	95.84
BC	2	1.66
General	3	2.50
Average age of family head		
Upto 35 years	23	19.17
35-50 years	43	35.83
50-65 years	43	35.83
> 65 years	11	9.17
Education level of family head		
Illiterate	74	61.66
Upto matric	45	37.50
10+2	1	0.84
Average annual income per household		
Agriculture sector	Rs. 95744	62.35
Non-agriculture sector	Rs. 57814	37.65
Housing condition		
Having one room	41	34.16
Having two rooms	63	52.50
More than two	16	13.34
Pucca house	37	30.84
Semi Pucca house	83	69.16
Separate kitchen	55	45.83
Toilet facilities	120	100.00

Table 2: Extent and magnitude of indebtedness among agricultural labourers, Punjab, 2017-18

Particulars	Units	Sangrur
Sampled households	Number	120
Indebted households	Number	97
Indebted households	Percentage	80.83
Average debt per sampled households	(Rs./household)	41408
Average debt per indebted households	(Rs./household)	51228

to day expenses. So, the agricultural labour households borrow the loans from various institutional and non-institutional agencies.

More than 80 per cent agricultural labour households were under the burden of debt. The average amount of outstanding debt per sampled household was estimated Rs. 41408, while the average amount of debt per indebted household was Rs.51228 during the period of study. The main reason for debt on sampled households was low income as compared to their domestic needs, health issues, and social obligation etc. The average amount of debt per indebted household was Rs.29214, while the average amount of debt per sampled household was Rs.22866. Similar observation was revealed by Singh (2015) that more than three-fourths (78.27 %) of the agricultural labour households in Punjab were under debt.

Source wise credit

A perusal of Table 3 revealed sources of loan of agricultural labour households and source wise rate of interest paid has been incorporated in Table 4. About 66 per cent of loans was borrowed from institutional agencies i.e. private commercial banks, micro finance companies, out of this about nine per cent money was borrowed from private commercial banks and 57 per cent from micro finance companies (MFCs) It is important to mention that MFCs are working under different titles like encouraging small entrepreneurs, creating new means of income, giving loans without any surety, self help group etc. About 34 per cent loan was obtained from non-institutional sources which included employers (5.59%), landlord/money lenders (6.55%) and relative/friends (21.43%). The findings were in contrast to the study by Singh (2017) that the agricultural labour households have incurred about eight per cent of the total debt from institutional sources particularly banks and private agencies and remaining 91 per cent from non-institutional sources namely friends, moneylenders and employers. In the present study it was observed that micro finance companies have emerged as preferred sources of credit among the agricultural labour

Table 3: Source wise distribution of credit for agricultural labourers, Punjab, 2017-18

(Rs. / households)

Particulars	Number	Per sampled household	Per indebted household	%age
Institutional sources				
Private commercial banks	15	3883	4804	9.38
Micro Finance Companies	82	23625	29228	57.05
Sub total (A)	97	27508	34032	66.43
Non-Institutional sources				
Employers	15	2317	2868	5.59
Landlords/Money lenders	8	2708	3349	6.55
Relative/Friends	39	8875	10979	21.43
Sub total (B)	62	13900	17196	33.57
Total (A+B)	**159**	**41408**	**51228**	**100**

Table 4: Distribution of Amount of loan taken by sampled households as per rate of interest in Punjab, 2017-18   (Rs. / households)

Rate of Interest % per annum	Employer	Landlords	Relatives/ Friends	Commercial banks	Micro finance companies	Total
Zero	2317 (5.60)		3083 (7.44)	-	-	5400 (13.04)
12		608 (1.47)	1292 (3.11)	-	-	1900 (4.59)
15		1092 (2.63)	2416 (5.83)	-	708 (1.71)	4216 (10.19)
18-24		1008 (2.43)	2083 (5.03)	3883 (9.38)	22918 (55.34)	29892 (72.20)
Total	**2317** (5.60)	**2708** (6.53)	**8874** (21.43)	**3883** (9.38)	**23626** (57.05)	**41408** (100)

Note: Figures in the parentheses are percentages of total

households. Similar observations were given by the study, "A survey of the indebtedness amongst agricultural workers in Punjab" conducted by Punjab Khet Mazdoor Union (Anonymous, 2017). The report showed the biggest share by micro finance companies to the tune of 23.1 per cent in total borrowing of agricultural labour households. The higher preference to micro finance companies was due to more flexible repayment plans and lesser formalities to borrow loans. The interest charged by different lending agencies varied between nil to 24 per cent per annum. Institutional sources such as commercial banks and MFCs charged 15 to 24 per cent rate of interest. The relatives/friends and employer charged no interest.

Purpose wise credit

The information given in Table 5 shows the purpose wise distribution of loan obtained by agricultural labour households. The

agriculture labour households borrowed the loan for different purposes, which were grouped into productive purpose and non-productive/consumption purpose. The money borrowed for purchase of dairy animals/ poultry birds, investment on petty business such as shops, purchase of plots/land for investment purpose were included under productive purpose. The agriculture labour households borrowed about 20 per cent of the total debt for the productive purposes comprising dairy and poultry (6.80 %), petty business (8.81 %) and purchase of land/ plots (4.02 %).

The unproductive purposes includes loans mainly for marriage, social and religious ceremonies, house repair, health care, education, repayment of old debt, domestic needs, education purpose, sending children aboard etc. The loan obtained for the purpose of education of children and sending the

Table 5: Purpose wise distribution of credit for agricultural labourers in Punjab, 2017-18
(Rs./household)

Particulars	Average Amount	%age	Max.(Rs)	Min.(Rs)
Productive purpose				
Dairy and Poultry	2817	6.80	40000	25000
Small/patty business	3650	8.81	50000	20000
Investment in property	1668	4.02	55000	35000
Sub- total(A)	8133	19.64	55000	35000
Consumption/unproductive purpose				
Marriage and other social ceremonies	4883	11.79	50000	10000
House construction/ repair	2676	6.46	40000	15000
Health care	5814	14.04	50000	10000
Education	2217	5.35	40000	20000
Repayment of old debt	4642	11.21	50000	15000
Domestic needs	9569	23.11	30000	10000
Sending children aboard	1350	3.26	70000	30000
Litigation	2125	5.13	55000	25000
Sub total (B)	33275	80.36	70000	30000
Total (A+B)	**41408**	**100.00**	**70000**	**35000**

wards abroad which might yield income in the long run but presently considered under consumption/unproductive purpose. about 80 per cent of loan was borrowed for unproductive purpose. The major part of the unproductive loan was used for domestic needs (23.11%), health care (14.04%), marriage, social and other ceremonies (11.79%). It can be inferred from the above discussion that the major portion of total debt was used for unproductive purposes to meet the domestic needs and social obligations, health care etc.

Factors affecting indebtedness

The magnitude of money borrowed by a household is influenced by several economic and non-economic factors that affect directly or indirectly. It was hypothesized that indebtedness depends upon the use of loan for consumption/unproductive purpose annual income of the household, family size, education of family head and number of earning members in a family, female participation as casual agricultural worker was included as a dummy variable. The explanatory variables included in the regression analysis were tested for the presence of multicollinearity. To determine and signify the factors affecting indebtedness among agricultural labour households, a linear regression model was used and regression coefficients are presented in Table 6. Variance Inflation Factors (VIF) of the β coefficients were < 10 and low partial correlation coefficients (<0.7) among variables ruled out the presence of any linear relationship among the predictors included in the regression to determine indebtedness among the agricultural labour households

(Appendix). Explanatory variables explained 83.16 per cent variation in the magnitude of indebtedness among the agricultural labour households. Loans for consumption purpose and family size has positive and significant relationship between magnitude of debt , indicating increase in consumption expenditure and family size increase the size of debt among the labour households. However significant inverse relationship was found between annual household income, education level of the head of the family and number of earning members with magnitude of debt; signify that increase in the level of these variables will decrease the level of indebtedness among the agricultural labour households. Working of women along with their male counterparts as a agricultural labourer increases the income and reduces the debt burden of the family as the dummy coefficient bore negative sign though non-significant.

Conclusion and Policy Implications

The study revealed that majority of agricultural labour households in Punjab belonged to Schedule Cast category. Their living conditions and annual income was low. Majority of household head were illiterate. About 80 per cent households were indebted and average debt per household was Rs. 53558. On an average 66 per cent of loan borrowed by the households was from institutional sources particularly micro finance companies. The main purpose of borrowing was for unproductive/consumption purpose (80% of the total debt) that too dominated by domestic needs, health care and social ceremonies. The results of the functional analysis exhibited inverse relationship of indebtedness with family income, education of family head and number of earning members and direct relationship with loans for unproductive/consumption purpose and family size. In order to improve the socio condition of agriculture labour households, the government should provide emphasis on effective implementation of programs like MGNREGA, creation of non-agriculture employment opportunities through skill development training programs and subsidized health care and education facilities to increase the income and to decrease the debt burden of agricultural labour households.

Table 6. Factors affecting indebtedness among agricultural labour households, Punjab

Factors	Coefficients	t-values	VIF
Intercept	23007***	4.45	-
Loan for consumption/unproductive purpose	0.88***	18.35	1.07
Household income	-0.064**	-2.54	1.06
Family size	1549.31*	1.73	1.17
Education level (Head)	-2577.71**	-2.08	1.00
Earning members	-3073.95*	-1.70	1.36
Dummy variable (Female participation as casual labour)	-1722.55	-0.54	1.05
R square	0.83***		

*Notes: *** Significant at 1% level, ** at 5% level, * at 10% level*
VIF=1 indicate no correlation; 1-5 indicate moderate correlation; >5 represent critical level of multicollinearity

References

Anonymous 2016. *Statistical Abstracts of Punjab* 2015-16. Economic and Statistical Organization, Punjab, Chandigarh. 384-94.

Anonymous 2017. The burden of debt on agricultural labour in Punjab: New survey by Punjab Khet Mazdoor Union (PKMU).

Bal H S and Singh B 1979. Indebtedness among agricultural labourers in Ludhiana district of Punjab. *Agricultural Situation in India* **34**: 431-34.

Chitodkar S S 1998. *A Study of Pattern of Employment, Income and Indebtness of Agricultural Labourers in Dhule District.* M.Sc. Thesis, submitted to Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra.

Sidhu R S and Gill S S 2006. Agricultural credit and indebtedness in India: Some issue. *Indian Journal of Agricultural Economics* **61**: 85-89.

Singh G, Anupama, Kaur G, Kaur R and Kaur S 2017. Indebtedness among farmers and agricultural labourers in rural Punjab. *Economic and Political weekly* **52**: 51-58.

Singh S, Kaur M, Kingra H S 2017. Farmers and agricultural labourers suicides in Punjab state. Research Report, Department of Economics and sociology, Punjab Agricultural University, Ludhiana.

Singh K 2015. Deplorable conditions of agricultural labourers in rural Punjab. *Journal of Economic and Social Development* **11**: 41-55.

Thorat Y S P 2006. Rural credit in India: Issue and concerns. *Indian Journal of Agricultural Economics* **61**:112-18.

Appendix
Correlation Matrix of Independent Variables

Variables	X1	X2	X3	X4	X5	X6
X1	1					
X2	-0.33962	1				
X3	0.268892	0.157419	1			
X4	0.149513	-0.05783	-0.05425	1		
X5	-0.1653	0.425544	0.46552	-0.26979	1	
X6	-0.08208	0.1747	-0.00521	-0.14011	0.419988	1

X1: Loan for consumption/unproductive purpose (Rs/hh)
X2: Household income (Rs/annum/hh)
X3: Family size (number)
X4: Education level of the head of the family (Scale)
X5: Earning members (number)
X6: Dummy variable (Female participation as casual labour)