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Indebtedness among Marginal and Small Farmers of Punjab

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Abstract

The present paper, based on a primary survey conducted in the year 2011-12 of 600 marginal and small farmers from various agro-climatic zones of Punjab, focuses on the their situation of indebtedness. The paper highlights the plight of these farmers as the incidence of debt among the marginal and small farmers in the state was found to be about 84 and 81 per cent, respectively. Further, the per hectare debt was found to be Rs 263011 and Rs 166790 respectively. Despite the vast network of banks in the country, still about 55 and 52 per cent of the total marginal and small farmers in the state were borrowing from non-institutional sources of which a major proportion was being used for non-productive purposes. There is a need to create a positive financial environment with ease to borrow from the institutional sources. Also, overall profitability and survival of this section of the Punjab farmers needs special attention.

Keywords: *Indebtedness, Marginal farmers, Small farmers, Incidence of debt, Punjab*

JEL Classification: *Q14, Q12*

Introduction

Majority of the farmers in India belong to the category of marginal and small farmers, and the number and proportion of such farmers have been growing over time. The rapid increase in population, sub-division and fragmentation of land holdings and the changed family system from joint to nuclear families in rural India have made the size of holdings smaller. The marginal and small farmers account for more than 80 per cent of the total operational holdings in the country, cultivating about 36 per cent of the total area. This numerically strong but economically weaker section of the rural community is having average operational holding of 1.16 hectares. The size of the holdings is not only small but also fragmented having 2.7 fragments of each holding. This group is mainly embroiled in the vicious cycle of low savings or dis-savings, low investment and low returns. Besides this, the major problems of this group are surplus family labour, under nutrition or malnutrition and the possession of un-economic size of farm holdings that keep these people below the poverty line (Pandey and Kaushal, 1980). The general notion is that with technological changes in agriculture, the trend of income distribution is widening the gap between the rich and the poor (Noor and Rao, 1987). These farmers face numerous problems both social and economic, and they have nothing to fall back upon except the small piece of land they possess. One of the serious

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and unrelenting problems faced by the Indian farming households has been indebtedness (Vaidyanathan, 2006).

There are many reasons for persistence of indebtedness among the farming households in India. Firstly, the agricultural activities are typically seasonal, which ultimately affect the repaying capacity of the farmers. Secondly, a number of farmers still rely on non-institutional sources of credit where the rate of interest is very high and the terms and conditions of loan are often exploitative. Thirdly, majority of the farmers also take loans for consumption as well as for a variety of social obligations, which are unproductive and do not help to generate income. As the surplus income generated through crop cultivation is not assured and is often inadequate, the farmers are unable to repay the loan in time and the burden of debt goes on increasing. As a result, many farmers commit suicides, and the number of farmer suicides is increasing day by day (Gill and Singh, 2006).

The Punjab state has presented to the world a show case model of agricultural modernization. In the economic context, Punjab is one of the progressive states of India and the agricultural sector influences the pace of growth and development of its economy. However, over a period of time agriculture in the state has become cost in effective due to intensive use of different inputs. The cost of cultivation per unit area of principal crops, i.e., wheat and paddy is the highest in the country. According to Kaur *et al.* (2001) the cost of cultivation on small farms is high due to machinery and others costs as compared to large farms. The plight of small farmers in particular has become vulnerable as there is a lot of literature highlighting that the economic condition of these farmers is in a critical stage. The small farms are not viable unless they are supported with some supplementary income (Chandra, 2001). To overcome the financial crunch the smaller farmers fall prey to the debt trap which forever clings on and makes this section helpless. Empirical studies show that the relative intensity of debt burden was very high among marginal and small farmers as their per hectare debt was 4-5 times than that of medium and large farmers (Singh *et al.,* 2007). Three census based studies conducted by Punjab Agricultural University, Ludhiana, Punjabi University, Patiala and Guru Nanak Dev University, Amritsar revealed that a total number of 6926 farmers and agricultural labourers have committed suicides during the years 2000 to 2011 in Punjab (GoP, 2011). Marginal and small farmers were the main victims of the economic distress. This scenario reveals that marginal and small farmers suffered the most due to agrarian crisis in the state. The benefits of green revolution have not percolated to the marginal and small farmers for improving their living standard. Therefore, the status of marginal and small farmers in the context of the current agrarian crisis needs a detailed examination. The main objective of the present study is to analyse the magnitude and determinants of poverty and indebtedness among marginal and small farmers in different regions of the state.

Data Sources and Methodology

Multistage stratified random sampling technique was adopted for this study. District was selected as the first stage-sampling unit, block as the second stage unit, village the third stage sampling unit and the farmer household as the fourth and ultimate stage sampling unit. There are 22 districts in Punjab, comprising of 4 districts in Sub-mountainous zone (zone I), 12 in Central zone (zone II) and 6 in South-western zone (zone III). One-third of the districts in each zone were selected. In this way, one district namely, Ropar from Zone I, three districts namely Ludhiana, Tarn Taran and Patiala from Zone II and two districts

namely, Bathinda and Mansa from Zone III were selected for the study. Thus, total six districts were selected for the study. Two blocks from each district were randomly selected. Two villages from each selected block, away from the periphery of the main town of the block were selected randomly. A sample of 100 farmers (marginal and small) from zone I, 300 from zone II and 200 from zone III were selected. On the basis of proportion at the state level, marginal farmers (up to 1 hectare) and small farmers (1.01 to 2.00 hectares) were selected in the ratio of 1:1.4. Thus, in all 600 respondents were selected for the purpose of the present study. The primary data were collected on a specially structured questionnaire through personal interview method during the year 2012-13.

Results and Discussion

Indebtedness is taken as the loan outstanding at the end of the agricultural year, 2011-12. The paper focuses on the incidence of debt, amount of debt, source-wise debt and purpose-wise debt on marginal and small farmers. The determinants of indebtedness were also identified by employing regression analysis.

Indebtedness among marginal and small farmers

Debt, though assumed to ease the day to day productive and non-productive consumption of individuals, usually sets in a trap for the down trodden and poor who are not able to break free. The present paper estimates the financial status in terms of indebtedness of the sampled farmers. The indebtedness among marginal and small farmers was estimated in terms of incidence of indebtedness, amount of debt per farm, amount of debt per hectare, source wise debt, purpose wise debt and determinants of indebtedness.

Incidence of indebtedness

In Punjab, as much as 84 per cent of marginal and 81.14 per cent of small farmers were indebted (Table 1). The indebtedness among marginal farmers was estimated to be 69.05 per cent in zone-I, 81.60 per cent in zone-II and 95.18 per cent in zone-III. Similarly, the incidence of indebtedness among small farmers was 63.79 per cent in zone-I, 78.29 per cent in zone-II and 94.02 per cent in zone-III. This clearly portrays that vast majority of marginal and small farmers were reeling under debt. Also, this was one of the plausible reasons for low or negative economic surplus for these categories of farmers. Unlike other regions, the higher incidence of debt in zone III has been a major contribution by the failed cotton crop for the period 1997-2003. The prime crop in this region has been cotton which suffered a major setback during the 1990s due to a pest attack that pulled the farmers in the vicious cycle of poverty and indebtedness as they required funds not only for farming but also for day to day survival.

Table 1. Incidence of debt among marginal and small farmers in different zones of Punjab

Zone	Marginal		Small	
	Number	Percentage	Number	Percentage
I	29	69.05	37	63.79
II	102	81.60	137	78.29
III	79	95.18	110	94.02
State	210	84.00	284	81.14

Amount of debt

Amount of debt was assessed on per household and per hectare basis and the results have been presented in Table 2. The average amount of debt per household was Rs 215669 on marginal farmers and Rs 278539 per household on small farmers of the state. Among marginal farmers, the per household debt was the highest to the tune of Rs 252474 in zone-III, followed by Rs 211741 in zone-II and Rs 154624 in zone-I. Similarly, among small farmers, per household debt was the highest, i.e. Rs 315421 in zone-III, followed by Rs 287114 in zone-II and Rs178264 in zone-I. The analysis shows that the marginal and small farmers were heavily indebted in zone-III and zone-II.

Per hectare debt on marginal and small farmers was Rs 263011 and Rs 166790 respectively at the state level. However among marginal farmers, it was the highest to the tune of Rs 300564 in zone-III, followed by Rs 258221 in zone-II and Rs 195727 in zone-I. Similarly, per hectare debt was the highest to the tune of Rs 183384 in zone-III, followed by Rs 172960 in zone-II and Rs 110723 in zone-I. Per hectare debt was inversely related with the farm size.

Source-wise indebtedness

There are broadly two sources of debt i.e. institutional sources and non-institutional sources. Institutional sources include commercial banks, cooperative banks and other sources like land mortgaged banks, regional rural banks, etc. Non-institutional sources include money lenders/ commission agents, landlords, shopkeepers and relatives/friends. The source-wise distribution of debt on marginal and small farmers is given in Table 3. It can be seen that among marginal farmers, out of total debt of Rs 215669 per household, Rs 96426 (44.71%) was borrowed from institutional sources, while the remaining Rs 119423 (55.29%) was borrowed from non-institutional sources. In case of small farmers, the share of institutional sources in the total debt was Rs 132362 (47.52%) and of non-institutional sources was Rs 146177 (52.48%).

Among institutional sources, commercial banks emerged as the largest source of debt which lent 22.39 per cent of total debt of marginal farmers and 21.78 per cent of the total debt of small farmers, followed by cooperative sector. Among non-institutional sources the largest source of debt was found to be money lenders and commission agents (*arhtiyas*) whose share in total debt was 31.77 per cent in case of marginal farmers and 23.00 per cent in case of small farmers. The analysis reveals that no matter the wide network, low rate of interest and other benefits of the institutional debt, the marginal and small farmers were still heavily dependent on non-institutional sources of loan that charged exorbitant rate of interest and compulsive terms and conditions.

Table 2. Amount of debt on marginal and small farmers in different zones of Punjab

(Rs/household)

Zone	Per household		Per hectare	
	Marginal	Small	Marginal	Small
I	154624	178264	195727	110723
II	211741	287114	258221	172960
III	252474	315421	300564	183384
State	215669	278539	263011	166790

Table 3. Source-wise indebtedness among marginal and small farmers in different zones of Punjab

(Rs/household)

Source	Marginal		Small	
	Amount	%age	Amount	%age
Institutional sources				
Commercial banks	48287	22.39	60668	21.78
Cooperatives	38284	17.75	56009	20.11
Others	9855	4.57	15685	5.63
Total institutional debt	96426	44.71	132362	47.52
Non-institutional sources				
Money lenders/commission agents	68511	31.77	64058	23.00
Landlords	34237	15.87	41649	14.95
Shopkeepers	11141	5.17	18449	6.62
Relatives/friends	5354	2.48	22021	7.91
Total non-institutional debt	119243	55.29	146177	52.48
Total debt	215669	100.00	278539	100.00

Purpose-wise indebtedness

The farmers took loan for both productive and non-productive purposes. Productive purposes include purchase of machinery & equipments, development of irrigation structure, purchase of farm inputs, maintenance & repairs of farm machinery & implements and purchase of livestock. Non-productive purposes include house construction, religious & social ceremonies and consumptive purposes. The detail about various purposes of loan has been given in Table 4.

The table clearly shows that in case of marginal farmers, the loan taken for productive purposes was 43.14 per cent (Rs 93040) of the total loan, while the loan taken for non-productive purposes was 56.86 per cent (Rs 122629). In case of small farmers, the loan taken for productive purposes was Rs 126122 (45.28%) and for non-productive purposes was 54.72 per cent of the total loan. Among productive purposes the highest loan of the order of Rs 21845 was taken for development of irrigation structure which came to be 10.13 per cent on marginal farmers, while the same was Rs 31670 (11.37%) on small farmers.

Among non-productive purposes, the highest loan to the order of Rs 57077 (26.47%) was taken for consumption purposes, followed by Rs 50968 (23.63%) for religious & social ceremonies by marginal farmers. Among the small farmers, the highest loan to the tune of Rs 67323 (24.17%) was taken for religious & social ceremonies followed by Rs 66298 (23.80%) for consumptive purposes. This reveals that consumption purpose and religious & social ceremonies secured the big share of loan taken for various purposes.

Determinants of indebtedness

The determinants of indebtedness were identified and tested through regression

Table 4. Purpose-wise indebtedness among marginal and small farmers in different zones of Punjab

Purpose of Debt	Marginal		Small	
	Amount	%age	Amount	%age
Productive purposes				
Machinery & equipments	17421	8.08	25514	9.16
Irrigation structure	21845	10.13	31670	11.37
Inputs	18376	8.52	23927	8.59
Maintenance & repairs	15712	7.29	22701	8.15
Live-stock	16393	7.60	21475	7.71
Others	3293	1.53	835	0.30
Sub-total: a	93040	43.14	126122	45.28
Non-productive purposes				
House construction	12660	5.87	17019	6.11
Religious & social ceremonies	50968	23.63	67323	24.17
Consumption expenditure	57077	26.47	66298	23.80
Others	1924	0.89	1777	0.64
Sub-total: b	122629	56.86	152417	54.72
Grand total: a+b	215669	100.00	278539	100.00

analysis, where amount of debt was taken as dependent variable and farm income, non-farm income, dependency ratio, educational level and ratio of non-institutional loan to the institutional loan were taken as independent variables.

Marginal farmers

The results of regression analysis presented in Table 5 reveals that at the state level, coefficient of multiple determinations was estimated to be 0.7662 which indicates that 76.62 per cent of the variation in debt amount was explained by the independent variables included in the regression model. This shows that our model was quite powerful to explain the indebtedness among marginal farmers.

The regression coefficients of dependency ratio (0.4158) and ratio of non-institutional loan to institutional loan (0.6248) were significantly positive. This shows that with the increase in dependency ratio and ratio of non-institutional loan to institutional loan, indebtedness increases. On the other hand, the regression coefficient of non-farm income (-0.4112) was significantly negative, which indicates that an increase in non-farm income would lead to a decline in the indebtedness of marginal farmers in Punjab. However, the role of farm income and education came to be non-significant.

In zone-I, the coefficient of multiple determinations was 0.7852, which indicates that 78.52 per cent of the variation in debt amount was explained by the independent variables included in the regression model. The regression coefficient of dependency ratio (0.3789) and ratio of non-institutional loan to institutional loan (0.6123) was significantly positive. This shows that with the increase in dependency ratio and ratio of non-institutional loan to institutional loan, indebtedness increases. On the other hand, the regression

Table 5. Factors affecting indebtedness among marginal farmers in Punjab: Log-linear form regression

Factors	Zone-I		Zone-II		Zone-III		State	
	β	t-value	β	t-value	β	t-value	β	t-value
Constant	2.3157		1.1478		3.1827		2.0974	
Farm income	-0.4662	-1.23	-0.3714**	-2.32	-0.2167	-1.56	-0.1823	-1.37
Non-farm income	-0.5123***	-3.67	-0.4368***	-3.18	-0.4907**	-2.15	-0.4112**	-1.98
Dependency ratio	0.3789*	2.54	0.2897	1.48	0.2957*	2.28	0.4158**	2.29
Education	-0.2964	-1.38	-0.2745	-1.61	-0.2315	-1.17	-0.0874	-0.98
Ratio of non-	0.6123**	2.89	0.5328**	2.47	0.4256*	2.48	0.6248***	3.49
R^2	0.7852		0.7237		0.8114		0.7662	

*Note: * Significant at 10 per cent, **significant at 5 per cent, ***significant at 1 per cent*

coefficient of non-farm income (-0.5123) was significantly negative which points towards the fact that an increase in non-farm income would lead to a decline in the indebtedness of marginal farmers in zone-I. However, the role of farm income and education turned out to be non-significant.

In zone-II, the coefficient of multiple determination was 0.7237, which indicates that 72.37 per cent of the variation in debt amount was explained by the independent variables included in the regression model. The regression coefficient of ratio of non-institutional loan to institutional loan (0.5328) was significantly positive. This shows that with the increase in the ratio of non-institutional loan to institutional loan, the indebtedness increases. On the other hand, the regression coefficients of farm income (-0.3714) and non-farm income (-0.4368) were significantly negative, which indicate that an increase in farm as well as non-farm income would lead to a decline in the indebtedness of marginal farmers in zone-II. However, the role of dependency ratio and education came to be non-significant.

In zone-III, the coefficient of multiple determination was 0.8114, which indicates that 81.14 per cent of the variation in debt amount was explained by the independent variables included in the regression model. The regression coefficients of dependency ratio (0.2957) and ratio of non-institutional loan to institutional loan (0.4256) were significantly positive. This shows that with the increase in the dependency ratio and ratio of non-institutional loan to institutional loan, indebtedness increases. On the other hand, the regression coefficient of non-farm income (-0.4907) was significantly negative that indicates that an increase in non-farm income would lead to a decline in the indebtedness of marginal farmers in zone-III. However, the role of farm income came to be non-significant.

The analysis reveals that dependency ratio and ratio of non-institutional loan to institutional loan were the factors which determine the level of indebtedness among marginal farmers. The increasing farm income as well as non-farm income would help to reduce indebtedness.

Small farmers

The results of regression analysis presented in Table 6 reveal that at the state level,

Table 6. Factors affecting indebtedness among small farmers in Punjab: Log linear form regression

Factors	Zone-I		Zone-II		Zone-III		State	
	β	t-value	β	t-value	β	t-value	β	t-value
Constant	1.6874		2.1167		1.9837		3.2897	
Farm income	0.1827	1.13	-0.3752**	-2.29	0.0987	0.73	-0.1806	1.41
Non-farm income	-0.4987**	-2.37	-0.3418***	-4.37	-1.1328**	-2.45	-0.4852*	-2.39
Dependency ratio	0.1187	1.12	0.0987	0.87	0.1107	0.82	0.2987**	2.14
Education	0.1907	1.09	-0.1627	-1.19	0.1161	1.23	-0.1294	1.169
Ratio of non-institutional to	0.7812***	4.08	0.6258***	3.18	0.4863**	2.37	0.5445***	3.41
R^2	0.7113		0.8219		0.7418		0.8357	

*Note: * Significant at 10 per cent, **significant at 5 per cent, ***significant at 1 per cent*

coefficient of multiple determination came to be 0.8357 which indicates that 83.57 per cent of the variation in debt amount was explained by the independent variables included in the regression model. The regression coefficient of dependency ratio (0.2987) and ratio of non-institutional loan to institutional loan (0.5445) were significantly positive. This shows that with the increase in dependency ratio and ratio of non-institutional loan to institutional loan, indebtedness increases. On the other hand, the regression coefficient of non-farm income (-0.4852) was significantly negative, which indicates that an increase in non-farm income would lead to a decline in the indebtedness of small farmers in Punjab. However, the role of farm income and education came to be non-significant.

Similar results were found in the zone wise analysis. The analysis reveals that dependency ratio and ratio of non-institutional loan to institutional loan were the main factors of indebtedness among marginal and small farmers. The increasing farm as well as non-farm income would help to reduce indebtedness. Overall, it can be recommended that the marginal and small farmers should be disbursed institutional loan at subsidized rate of interest to check their exploitation at the hands of moneylenders and *ahrtiyas,* who charge exorbitant rate of interest on the borrowings. Also, the marginal and small farmers should also be provided gainful employment opportunities in the non-farm sector.

Conclusion and Policy Implications

The agrarian economy of Punjab which showcased tremendous development and progress post green revolution seems to be caught in the stagnation and downturn phase. The rising input costs, scarcity of land, inadequate returns, insufficiency of owned funds, etc. are making farming an unattractive profession. In the worst hit are the marginal and small farmers who under the financial constraints turn towards borrowing loans to make ends meet. The total economic surplus, i.e., income left after deduction of all farm and household expenditure, of the marginal farmers of the state was found to be Rs 18474 per annum, and that for small farmers was Rs 79780 per annum. The incidence of debt among the marginal and small farmers in the state was found to be about 84 and 81 per cent of the total

marginal and small farmers, respectively. Average amount of debt per household was Rs 215669 on marginal farmers and Rs 263011 per household on small farmers of the state. Per hectare debt on marginal and small farmers was Rs 263011 and Rs 166790 respectively at the state level. Per hectare debt was inversely related with the farm size. The biggest fear is not the farmers borrowing loans but they borrowing loans at exorbitant rates and compulsive terms and conditions, and thus get exploited by the dubious money lenders. Despite the vast network of banks in the country, there seems to be some shortfalls as still about 55 and 52 per cent of the total marginal and small farmers in the state were borrowing from non-institutional sources. If loans borrowed for productive purposes, then there is a chance of it getting repaid. The sad situation wherein the farmers borrowed funds and used a major proportion of it for non-productive purposes like house construction, religious & social ceremonies, consumption expenditure, etc. made matters worse. About 57 and 55 per cent of the total marginal and small farmers used their borrowed funds for non-productive purposes. Among various determinants of indebtedness of farmers, dependency ratio, ratio of non-institutional loan to institutional loan exerted a positive impact on indebtedness. On the other hand, increase in non-farm income lead to a decline in the indebtedness of farmers in Punjab. There is a need to mull over the issue of indebtedness as prolonged indebtedness and incapacity to repay often leads to a social menace like suicides. There is a need to create a positive financial environment with ease to borrow from the institutional sources. Also, overall profitability and survival of this section of the Punjab farmers needs special attention.

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