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## Agrarian Crisis with Special Reference to Indebtedness Among Punjab Farmers

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The history of economic development of the present day developed countries reveals that agricultural revolutions preceded industrial revolutions. The model of agricultural development may be interpreted to include a set of measures aimed at technological upgradation of the primitive modes of production along with a set of compatible social and institutional changes. Such a package of measures, aimed at transforming the traditional agriculture came to India under the aegis of new technology of agricultural production.

The Punjab state was on the forefront in the adoption of new agricultural technology, which resulted into large increase in the use of current as well as capital inputs to realise the benefits of new production technology. Presently there are 4.41 lakh tractors, 11.5 lakh tube wells, 3 lakh threshers and 8.2 thousand harvesting combines in the state, which have made the agricultural production process capital intensive. The capital intensity of Punjab farms has increased from Rs. 7,572 per hectare in 1982-83 to Rs. 34,089 per hectare in 1994-95 at current prices and from Rs. 6,702 to Rs. 12,701 per hectare respectively at constant 1982-83 (triennium ending) prices (Sidhu et al., 1999). The demand for human labour in the farm sector has decreased significantly since the late 1980s. On the basis of per hectare labour use in the crop sector, demand for human labour in the state is estimated to have fallen from 479 million man-days in 1983-84 to 422 million man-days in 2000-01 (Sidhu and Singh, 2004). There has been a sharp decline in the number of marginal and small holdings in the state. During 1991-92, there were 2.95 lakh marginal and 2.03 lakh small operational holdings, which have declined to 2.04 lakh and 1.83 lakh respectively during 1995-96. It was apprehended that the agrarian sector of the country would undergo a process of rapid capitalistic change during liberalisation leading to concentration of land in few hands and proletarisation and pauperisation of small peasantry (Haque, 1996). The yield of principal crops increased tremendously during 1970s, which led to increase in the net returns of the farmers. Despite the increasing use of agricultural inputs, the returns were almost stagnant during the 1980s and have started declining since the 1990s (Singh, 2000). On the other hand, due to unfavourable nature and structure of industrial sector in the state, the small and marginal farmers released by the agriculture sector were not being absorbed outside

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agriculture (Gill, 1994). Thus, a large chunk of reserve army of labour is prevalent in the economy. According to official estimate's about 30 lakh persons are unemployed in the state, out of which 21 lakh belong to rural areas.

The next issue is related with heavy farm investment and low level of savings in agriculture. Punjab peasantry especially small farmers could not afford farm investment from their own savings to transform traditional agriculture into scientific farming. The loans obtained for investment in machinery, irrigation structure, fertilisers and agrochemicals were partly spent for their bare subsistence and for fulfillment of their social obligations. Consequently, they got fresh loans from noninstitutional agencies at higher rate of interest to pay back the old dues. As a result, the burden of their debt continued to accumulate. Moreover, the commercialisation of agriculture has created cultural links of rural population especially big farmers with cities resulting in the race of maintaining good standard of living. In this race farmers have been caught in the debt trap. The problem of indebtedness of Punjab peasantry was highlighted as early as in 1930 (Darling, 1947). The study observed that nearly four-fifth of the Punjab peasantry was under debt to the tune of 5-6 times their annual income. The total debt of the Punjab farmers was Rs. 175 crores which was 20 per cent of the total debt of the Indian farmers. The interest paid by the farmers of the state amounted to Rs. 50 crores per annum. Being a prosperous business, a large number of persons has entered into the business of money lending in the state. Thus, the number of moneylenders per thousand populations was five times in the rest of the country (Darling, 1947). This class of moneylenders in the shape of commission agents or artisans has still been dominating the rural capital market. Therefore, the economic factors like decreasing productivity, falling profits and the social factors like consumerism, heavy expenditure on social ceremonies have pushed the farmers into debt trap and forced some of them to commit suicide. According to the latest government survey, 2,116 farmers have committed suicide in the state during last fifteen years (Nibber, 2004). But on the other hand farmer organisations like Bhartiya Kisan Union (BKU) claimed that 13,000 farmers of Punjab had committed suicides during last five years (Sumbly, 2005). One may believe or not this figure, but according to BKU (Ekta) the actual number of suicides is manifold than the figure provided by the state government. The organisation revealed that people generally hesitate to disclose the incidence of suicide due to legal harassment, police repression and social stigma. The major reasons behind the suicides in the state were economic hardship, indebtedness and crop failure (AFDR, 2000). The crisis became so severe that three villages of the state were declared as 'villages for sale' by the Gram Panchayats of the villages. The Gram Panchayats in a declaration wrote to the state government to acquire all the resources including land of the village and get rid of debt. Keeping in view the abovesaid turmoil in the rural economy of the state, the present study has been carried out to estimate the extent and magnitude of indebtedness among various farm categories in Punjab. It also tries to identify the social and economic factors affecting the problem of indebtedness and to suggest policy measures to lessen the debt burden.

#### METHODOLOGY

The Punjab state has three well defined agro climatic regions namely, semi-hilly region, central region and south-western region. Keeping in view the differences in productivity level and to avoid geographical contiguity of the sampled districts, it was deemed fit to select Ropar from semi-hilly regions (Region I), Ludhiana from the central region (Region II) and Bathinda from south-western region (Region III). A total number of six villages were selected by selecting two villages from each district. Thus, in all a sample of 55, 120 and 75 farm households were respectively selected from each region. As a result, 52 marginal farmers (<2.5 acres of land), 60 small farmers (2.5 to 5.0 acres of land), 70 semi-medium farmers (5.0 to 10.0 acres of land), 48 medium farmers (10.0 to 25.0 acres of land) and 20 large farmers (>25 acres of land) were selected for the study. A detailed information regarding farm size, sources of income, investment level, sources of credit, rate of interest and purpose of credit was obtained from these sampled households on structured and pre-tested schedule. The data pertained to the agricultural year 2002-03.

#### EXTENT AND MAGNITUDE OF DEBT

The information relating to the number of indebted and unindebted farm households in the study area is shown in Table 1. It was found that 78.40 per cent of the farm households in Punjab state were under debt. There were certain variations through different categories of farm households. The percentage of indebted households was the highest (88.57 per cent) in case of semi-medium farmers while this percentage was the lowest (45 per cent) in the case of large farmers. Further, these proportions were 76.92, 80.00 and 77.08 in the case of marginal, small and medium farmers.

However, there are inter-regional variations in the extent of indebtedness in the state. It is clear that the proportion of indebted farm households was the highest in Region III (86.67 percent) followed by the Region II (79.16 per cent) and Region I (65.45 per cent). The indebted farm households ranged between 40 per cent of large farms of Region I to about 94 per cent of semi-medium farms of Region III. It is interesting to note that all the categories of farm households were highly indebted in Region III, popularly known as the cotton belt of the state.

In Punjab the average amount of debt per sample household was Rs. 92,394 while the same was Rs. 117,849 for an average indebted household in the state (Table 2). The amount of debt per sampled household was the highest (Rs. 175,206) in the case of medium farmers and the lowest in the case of marginal farmers (Rs. 23,602). Due to the large land base with the large farmers (more than 25 acres) the amount of debt was smaller than that of the medium farmers. It has an important implication. The medium farmers have over mechanised their farms and were caught in the severe economic crisis. But the amount of debt per indebted household was directly related

TABLE 1. FREQUENCY DISTRIBUTION OF RESPONDENTS ACCORDING TO INDEBTEDNESS IN PUNJAB, 2002-03

Farm categories	No. of sample households	No. of indebted households	Percentage of indebted households
(1)	(2)	(3)	(4)
Region-I			
Marginal farmers	14	10	71.43
Small farmers	11	8	72.73
Semi-medium farmers	13	9	69.23
Medium farmers	12	7	58.33
Large farmers	5	7 2	40.00
Sub-total-I	55	36	65.45
Region-II			
Marginal farmers	25	18	72.00
Small farmers	26	20	76.92
Semi-medium farmers	40	37	92.50
Medium farmers	20	16	80.00
Large farmers	9	4	44.44
Sub-total-II	120	95	79.16
Region-III	***		
Marginal farmers	13	12	92.30
Small farmers	23	20	86.96
Semi-medium farmers	17	16	94.12
Medium farmers	16	14	81.25
Large farmers	6	3	50.00
Sub-total-III	75	65	86.67
Overall/State			
Marginal farmers	52	40	76.92
Small farmers	60	48	80.00
Semi-medium farmers	70	62	88.57
Medium farmers	48	37	77.08
Large farmers	20	9	45.00
Total	250	196	78.40

to farm size. It was the highest in case of large farms and lower in case of marginal farmers in the state. The average amount of debt per sampled farm household was also the highest (Rs. 125,616) in Region III, followed by Region II (Rs. 85,128) and Region I (Rs. 62,946). The average amount of debt on per acre basis was Rs. 13,123 on Punjab farmers, which was the highest on the small farmers (Rs. 19,406) of the state. Despite the fact that the average farm size in Region III is the largest, but still per acre amount of debt was also the highest. It was Rs. 15,403 in Region III followed by Region II (Rs. 12,055) and Region I (Rs. 11,503). This mainly happened due to the cotton crop failure in the state. It is also worth mentioning that the highest cases of suicides of farmers were reported in this region of the state.

TABLE 2. MAGNITUDE OF DEBT AMONG FARM HOUSEHOLDS IN PUNJAB, 2002-03

				(Rs.)	
_0.000000000000000000000000000000000000		t of debt	Amount of debt (per acre)		
Farm categories	The state of the s	usehold)			
<b></b>	Per sample household	Per indebted household	Per sample household	Per indebted household	
(1)	(2)	(3)	(4)	(5)	
Region I		1000-00000			
Marginal farmers	20,210	28,294	10,156	14,436	
Small farmers	40,331	55,455	10,341	14,517	
Semi-medium farmers	61,312	88,562	7,664	10,934	
Medium farmers	102,949	176,484	5,476	9,805	
Large farmers	140,602	351,505	5,367	13,519	
Sub-total-I	62,946	96,167	6,516	11,503	
Region II					
Marginal farmers	22,100	30,694	10,955	15,347	
Small farmers	56,560	73,528	14,140	17,934	
Semi-medium farmers	88,200	95,351	10,232	11,218	
Medium farmers	162,073	202,591	8,575	10,713	
Large farmers	158,092	355,707	5,470	12,704	
Sub-total-II	85,128	107,530	8,980	12,055	
Region III		1000 1000			
Marginal farmers	30,143	32,655	14,354	15,852	
Small farmers	79,582	91,519	19,365	21,790	
Semi-medium farmers	126,550	134,459	14,187	15,108	
Medium farmers	245,815	280,931	12,931	14,786	
Large farmers	185,760	371,520	5,801	11,794	
Sub-total-III	125,616	144,941	12,243	15,403	
Overall/State	1000	- 35	2337	100000	
Marginal farmers	23,602	30,682	11,627	15,265	
Small farmers	62,410	78,012	15,525	19,406	
Semi-medium farmers	92,520	104,458	10,783	12,217	
Medium farmers	175,206	227,294	9,265	12,109	
Large farmers	162,020	360,044	5,556	12,536	
Total	92,394	117,849	9,476	13,123	

The analysis was further extended to work out the estimates of total debt on farm households in different zones of Punjab state during 2002-03. Table 3 reveals that in the whole state, the farming community was under the debt amounting to Rs. 9,886 crores during the study period. The zone wise estimates worked out to Rs. 1,479, Rs.4,370 and Rs.4,037 crores for Zone I, II and III respectively. This shows that Punjab farmers got severely entrapped in the indebtedness.

TABLE 3. ESTIMATES OF TOTAL DEBT ON FARM HOUSEHOLD IN PUNJAB, 2002-03

Regions	Net sown area ('000 ha)	Debt/ha. (Rs.)	Estimated amount of debt (Rs. crores)
(1)	(2)	(3)	(4)
1	919	16,095	1,479
П	1,970	22,181	4,370
II III	1,335	30,240	4,037
Punjab State	4,240	23,405	9,886

#### SOURCES OF CREDIT

The role of various credit agencies in the study area is analysed and the information is presented in Table 4. It was found that an average farm household in the state has Rs. 53,710 (58.13 per cent) of debt from non-institutional credit agencies while the debt was Rs. 38,684 from institutional sources. The overall debt of an average farm household in the state worked out to be Rs. 92,394. However, there were some variations observed in different categories of farm households in Punjab. The marginal farmers were under a debt of Rs. 23,602, out of which Rs. 17,465 (74 per cent) was from non-institutional agencies and the remaining 26 per cent from institutional agencies. Small farmers and semi-medium farmers were indebted to the extent of Rs. 43,598 (69.86 per cent) and Rs. 55,623 (60.12 per cent) to the noninstitutional agencies, whereas the corresponding figures for medium and larger farmers were Rs. 93,210 (53.20 per cent) and 76,797 (47.40 per cent), respectively. The commission agents were the major source accounting for 50.51 per cent of the total debt. The share of commission agents was higher because they provided loans for consumption and other non-productive credit requirements of the farmers besides meeting their production requirements. Here, the facts are established that farmers are still ignorant about the formalities and procedures to obtain loan from institutional credit agencies. Rather they find it easy to get loans from private agencies, i.e., moneylenders. Even after more than five decades after Independence and more than three decades after nationalisation of banks, the farmers of this agriculturally developed state are still in the clutches of commission agents.

TABLE 4. SOURCES OF CREDIT OF FARM HOUSEHOLD IN PUNJAB, 2002-03

						(Rs.)
Source/	Marginal	Small	Semi-	Medium	Large	AII
Categories	farmers	farmers	medium farmers	farmers	Farmers	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
54 009 - 275 - 579	Company Workship	No	n-institutional	201200000000000000000000000000000000000		
1. Landlords	4,980	9,436	1,878	1,997	27	4,210
	(21.10)	(15.12)	(2.03)	(1.14)		(4.56)
2. Commission	10,021	31,660	49,637	89,355	75,015	46,738
agents	(42.46)	(50.73)	(53.65)	(51.00)	(46.30)	(50.51)
3. Relatives, friends	2,464	2,502	4,108	1,858	1,782	2,762
and others*	(10.44)	(4.01)	(4.44)	(1.06)	(1.10)	(2.99)
Sub-Total	17,465	43,598	55,623	93,210	76,797	53,710
	(74.00)	(69.86)	(60.12)	(53.20)	(47.40)	(58.13)
	12000000000		Institutional			
1. Commercial	4,027	12,607	23,361	59,763	58,587	26,563
banks	(17.06)	(20.20)	(25.25)	(34.11)	(36.16)	(28.75)
2. Co-operative	2,110	6,250	13,536	22,233	26,636	12,121
banks	(8.94)	(9.94)	(14.63)	(12.69)	(16.44)	(13.12)
Sub-Total	6,137	18,812	36,897	81,996	85,223	38,684
	(26.00)	(30.14)	(39.88)	(46.80)	(52.60)	(41.87)
Total	23,602	62,410	92,520	175,206	162,020	92,394
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

<sup>\*</sup>includes petty shopkeepers and serviceman.

### Purpose of Loans

The purpose for which a loan is taken is an important indicator of its potential for repayment. The various purposes for which different farm categories were taking loans are presented in Table 5. An average farm household in the state incurred a debt of Rs. 37,913 (41.03 per cent) and Rs. 54,481 (58.97 per cent) for productive and unproductive purposes respectively. The highest debt was reported on unproductive purposes like marriages, social ceremonies, family maintenance and health care. The same trend has been seen for different categories of farm households. The marginal farmers incurred the highest proportion (71 per cent) of their debt on unproductive purposes, followed by small farmers, medium farmers, semi-medium farmers and large sized farmers. As the farm size increased, the proportion of debt on unproductive purposes decreased except in the case of medium farmers. The small, marginal and semi-medium farmers incurred the highest proportion of their debt on family maintenance, health care and education of their children while medium and large farmers spent the highest proportion of their loan for celebrating the marriages of their children and for purchasing farm machinery. The marginal farmers did not spend any amount of loan on purchasing farm machinery and developing irrigation structure on the farm, because of their small farm size of less than 2.5 acres of land.

TABLE 5. PURPOSE OF LOAN AMONG FARM HOUSEHOLDS IN PUNJAB, 2002-03

						(Rs.)
Purpose / farm categories	Marginal farmers	Small Farmers	Semi- medium farmers	Medium farmers	Large farmers	AII
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Producti	ve purposes			
1. Farm machinery		1,997	11,223	31,572	43,097	13,132
		(3.20)	(12.13)	(18.02)	(26.60)	(14.21)
2. Irrigation structure	-	9,361	9,252	15,769	16,202	9,161
arte a reserving		(15.00)	(10.00)	(9.00)	(10.00)	(9.92)
3. Inputs and repairs	3,564	7,015	13,119	18,397	18,146	11,083
and the	(15.10)	(11.24)	(14.18)	(10.50)	(11.20)	(11.99)
4. Livestock and others*	3,281	3,121	5,570	5,361	6,481	4,537
	(13.90)	(5.00)	(6.02)	(3.06)	(4.00)	(4.91)
Sub-total	6,845	21,494	39,164	71,099	83,926	37,913
	(29.00)	(34.44)	(42.33)	(40.58)	(51.80)	(41.03)
		Unproduc	tive purposes			
<ol> <li>House construction</li> </ol>	2,313	5,205	4,247	11,774	9,786	5,963
	(9.80)	(8.34)	(4.59)	(6.72)	(6.04)	(6.45)
2. Car/Scooter	404.00	3,127	7,217	21,024	22,780	8,630
		(5.01)	(7.80)	(12.00)	(14.06)	(9.34)
<ol><li>Marriages and other</li></ol>	4,720	13,743	20,391	42,102	29,164	20,406
ceremonies	(20.00)	(22.02)	(22.04)	(24.03)	(18.00)	(22.09)
<ol> <li>Family maintenance,</li> </ol>	9,724	18,841	21,501	29,207	16,364	19,482
health care and education	(41.20)	(30.19)	(23.24)	(16.67)	(10.10)	(21.09)
Sub-total	16,757	40,916	53,356	104,107	78,094	54,481
	(71.00)	(65.56)	(57.67)	(59.42)	(48.20)	(58.97)
Total	23,602	62,410	92,520	175,206	162,020	92,394
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

<sup>\*</sup>Household durables and purchase of land.

But the large farmers have mechanised their farms and incurred the highest (26.60 per cent) amount on these items, out of which tractor and its implements were the main components.

## Factors Affecting Indebtedness

The amount of debt at a given point of time is influenced by several economic and non-economic factors. The various economic factors, important as they are in the policy framework, are subjected to analysis. It is hypothesised that indebtedness depends upon farm size, family size, ratio of credit from non-institutional sources to that from institutional sources, subsidiary income, expenditure on unproductive purposes and education level. This objective is met by fitting a number of series of regression functions. Regression function finally selected is based upon the value of coefficient of multiple determination (R<sup>2</sup>), significance of the parameters and sign of the regression coefficients, which are theoretically consistent.

In order to determine and signify the factors influencing indebtedness among farm households in Punjab, multiple regression model was used and the results are presented in Table 6.

TABLE 6. FACTOR DETERMINING PER ACRE INDEBTEDNESS OF PUNJAB FARMERS-RESULTS
OF MULTIPLE REGRESSION ANALYSIS

Sr. No.	Factors	Marginal farmers	Small farmers	Semi-medium farmers	Medium farmers	Large farmers	Overall
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Family size	0.2134**	0.3906**	0.1856**	0.0962	0.1139	0.2801**
	NETVONSTRUCTURE	(2.111)	(2.345)	(2.154)	(1.537)	(1.216)	(2.197)
2.	Ratio of credit from	0.4103*	0.3318*	0.2906*	0.2418**	0.195**	0.3214*
	NIS to IS	(4.621)	(3.926)	(3.4377)	(1.992)	(2.309)	(3.435)
3.	Income from subsidiary	-0.0117	-0.1145	-0.1837	-0.2207*	-0.3164*	-0.2006**
	occupations	(1.001)	(1.249)	(1.467)	(2.937)	(3.114)	(2.135)
4.	Expenditure on unprod-	0.5062**	0.4713**	0.3845**	0.3814**	0.3952*	0.4219**
	uctive purposes	(2.540)	(2.106)	(2.201)	(2.139)	(2.667)	(1.999)
5.	Education level	-0.0209	-0.1059	-0.1935	-0.2124	-0.2958	-0.1863
		(1.102)	(0.981)	(0.824)	(0.396)	(0.411)	(0.767)
6.	Farm size	-0.4559**	-0.5133**	-0.5763*	-0.5523*	-0.6154*	-0.5206*
		(2.111)	(2.426)	(4.167)	(3.922)	(4.807)	(3.117)
7.	Constant	1.1326	0.9267	1.1945	1.3814	0.9855	1.0029
	R <sup>2</sup>	0.7822	0.8113	0.7954	0.8367	0.7413	0.8023
	F-Ratio	26.94	37.95	40.82	35.01	6.21	164.36

Note: Figures in parentheses indicate t-values.

It is evident from the table that in the overall scenario relating to indebtedness in the study area, the coefficient of multiple determination (R<sup>2</sup>) was 0.8023. The contribution of explanatory variables such as family size, ratio of credit from non-institutional to institutional sources, income from subsidiary occupations, expenditure on unproductive purposes and farm size were significant. However, the coefficient for education level was statistically non-significant. As discussed earlier, the

<sup>\*\*</sup> and \* Significant at 1 and 5 per cent level, respectively; NIS = Non-institutional sources. IS = Institutional sources.

proportion of credit from non-institutional sources was higher than that from institutional sources. Therefore, this ratio was greater than unity. The coefficient of this variable was positive and statistically significant at one per cent level of probability. The regression coefficients for income from subsidiary occupations and farm size were found to be negative which implies inverse relationship between these variables and indebtedness.

## Marginal Farmers

In the case of marginal farmers the coefficient of multiple determination (R2) was 0.7822, indicating that the explanatory variables explained 78 per cent variation in the dependent variable. The estimates of regression coefficients suggested that the variations in the magnitude of indebtedness were explained to a large extent by family size, ratio of credit from non-institutional to institutional sources, expenditure for unproductive purposes and farm size. The regression coefficients for income from subsidiary occupations and education level were negative and statistically nonsignificant. The regression coefficients for ratio of credit from non-institutional to that from institutional sources and expenditure on unproductive purposes were positive and statistically significant at 1 and 5 per cent level, respectively, whereas the coefficient for farm size was negative and statistically significant at 5 per cent level of probability. The regression coefficient for family size was of the order of 0.2134 and was significant at 5 per cent level, indicated positive relationship of family size and indebtedness. This could be due to the increased unproductive expenditure on family maintenance, marriages, shelter and other social ceremonies with the increase in family size.

#### Small Farmers

Variations in the magnitude of indebtedness among small farmers were explained by family size, ratio of credit from non-institutional sources to that from institutional sources, income from subsidiary occupations, expenditure on unproductive purposes, educational level and farm size. The coefficient of multiple determination (R²) was 0.8113, revealed that more than 81 per cent variation in the total indebtedness was explained by the explanatory variables included in the model. The coefficients of family size, ratio of credit from non-institutional to institutional sources and expenditure on unproductive purposes were positive and statistically significant while the coefficient for farm size was negative and statistically significant at 5 per cent level. The value of coefficient of farm size indicated that with 1 per cent increase in the farm size, the total debt decreased by 0.51 per cent in the sampled small farm households in the state.

#### Semi-Medium Farmers

e coefficient of multiple determination (R<sup>2</sup>) for semi-medium farmers was 0.7954. It implied that more than 79 per cent variation in the total debt in the study area was influenced by the explanatory variables. The coefficients for family size, ratio of credit from non-institutional to that from institutional sources, expenditure on unproductive purposes were positive and statistically significant while the coefficient for farm size was negative and significant at 5 per cent level of probability. The value of coefficient of farm size indicated that with 1 per cent increase in the farm size, the total debt decreased by 0.57 per cent in the case of semi-medium farmers of the state, which happened due to efficient management of the farm and economies of scale in the agricultural sector.

#### Medium Farmers

The co-efficient of multiple determination (R<sup>2</sup>) for medium farmers was 0.8367 indicating that more than 83 per cent variation in the total debt was explained by the explanatory variables. The coefficients of income from subsidiary occupations and farm size were negative and significant at one per cent level whereas the coefficient of ratio of credit from non-institutional to that from institutional sources and expenditure on unproductive purposes were significant at 5 per cent level. The value of coefficient for income from subsidiary occupations was -0.2207 indicated that with the one per cent increase in income from subsidiary occupations, the total debt decreased by more than 0.22 per cent in case of medium farmers of the state.

## Large Farmers

As shown in Table 6, the coefficient of multiple determination (R<sup>2</sup>) for the large farmers was 0.7413. It implied that more than 74 per cent variation in the total indebtedness in the study area during the period under study was influenced by the explanatory variables included in the model. The coefficients of income from subsidiary occupations, unproductive expenditure and farm size were significant at one per cent level, whereas the coefficient of family size was found significant at five per cent level of probability. Further, the coefficient of ratio of non-institutional and institutional credit was 0.1957 indicated that with the increase in one per cent credit from non-institutional sources, the increase in the debt was more than 0.19 per cent. This happened due to high rate of interest charged by the commission agents in the rural capital market.

## Farmers' Perceptions

The information regarding the reasons for indebtedness given by the respondent farmers in the study area is presented in Table 7.

TABLE 7. FARMERS' PERCEPTIONS REGARDING THE REASONS OF INDEBTEDNESS ON VARIOUS CATEGORIES OF FARMS IN PUNIAB, 2002-03.

						(per cent)
Factors	Marginal farmers	Small farmers	Semi-medium farmers	Medium farmers	Large farmers	Overall
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Low profit margins	50.3555	(difference)	200359	The State of the S	2000	and the
due to Stagnant crop yield and crop failure	47.17	44.54	48.04	47.30	40.98	44.9
Unjustified purchase of tractor		2.97	3.01	3.17		2.34
Excessive expenditure						
on repairing of wells every year	2.67	5.45	5.91	6.79	7.31	6.53
Laziness and lack of hard work	7.50	8.17	8.11	3.02	2.9	4.47
Lack of facilities and						
defective government policies	8.02	6.68	6.90	6.79	8.77	7.24
More domestic expenditure						
(consumption, house construction, ceremonies and	20.10	19.16	21.43	22.17	22.21	21.71
education) High expenditure on litigation, health care and drug addiction	8.56	8.42	8.53	7.69	10.82	8.60

It is evident from the table that in the overall situation, about 45 per cent of the farmers enlisted low profit margins in agriculture as a major cause of indebtedness. Further, more domestic expenditure on self-consumption, house construction, marriages and education was considered as the main reason by 21.71 per cent of the farmers. However, 8.60 per cent of the farmers blamed high expenditure on litigation, illness, accidents, foreign migration and drug addiction for indebtedness. As far as the different categories of the farmers are concerned, the same trend was observed. However, defective government policies and lack of marketing facilities for high value crops were enlisted as the major constraints by 8.02 per cent of the marginal farmers, 6.68 per cent of the small farmers, 6.90 per cent of the semi-medium farmers, 6.79 per cent of the medium farmers and 8.77 per cent of large farmers. On the other hand, laziness and lack of hard work were considered as an important cause by the marginal farmers (7.50 per cent), small farmers (8.17 per cent) and semi-medium farmers (8.11 per cent) in the Punjab state.

#### POLICY IMPLICATIONS

Punjab peasantry is in the clutches of severe indebtedness. To overcome the problem of debt trap, effective measures should be taken by the government, social organisations and farming community. The government should exercise a strong check on the activities of non-institutional credit agencies and provide institutional

credit facilities to the farming community at low rates of interest with easy repayment facilities. The co-operative sector should be developed/strengthened in the state. The sale of agricultural chemicals, fertilisers and quality seeds should be promoted through village level primary agricultural co-operative societies. It will help check diversion of loans as well as use of spurious chemicals purchased from the commission agents.

The crop insurance scheme should be launched in an effective manner so that certain minimum level of income could be ensured to the farmers during the period of crop failure. Easy credit policy followed in the state promoting tractorisation needs to be rationalised on the basis of economic viability of such heavy investments to check further uncalled for growth of heavy farm machinery.

The development of non-farm sector should be given top priority in the state to provide the rural people with diverse employment opportunities at the village level. Dairy is the best alternative, which is the second major contributor towards the income of the farmers and is gradually picking up in increasing employment opportunities in the state. But, institutional support and marketing network must be developed by the government for value addition, processing and export of milk and milk products. A mass campaign should be launched against intoxicants and the conservative social values, the symbol of social status, which imposes unbearable expenditure on unproductive purposes such as marriages and other socio-religious ceremonies. The farmers also need to be educated to manage their living and consumption expenditure within their means. In the given socio-economic and political structure of the Punjab economy, these measures can help improve income and lessen the incidence of indebtedness in rural Punjab.

#### REFERENCES

Association for Democratic Rights (AFDR) (2000), "Suicides in Rural Punjab-A Report" (in Punjabi), Patiala Unit, Punjab.

Chahal, Harpreet Kaur (2000), "Acquisition and Use of Credit in the Punjab Agriculture-- A Case Study of Sangrur District." M.Sc. Thesis, Punjab Agricultural University, Ludhiana.

Darling, M. L. (1947), The Punjab Peasant in Prosperity and Debt, 4th edition, Oxford University Press, London.

Gill,S.S (1994), Economic Development and Structural Changes in Punjab-Some Policy Issues, Principal Iqbal Singh Memorial Lecture, Echo Publishers, Ludhiana.

Haque, T. (1996), Sustainability of Small Holder Agriculture in India, Concept Publishing Company, New Delhi. Nibber(2004), "Over 2000 Farmer's suicides in Punjab in 15 years," Government Report, Hindustan Times,

Chandigarh, Vol. 80, No. 252, October, 22, p-2.

Sain, I. (1997), "Pattern and Performance of Different Credit Agencies in the Farm Sector of the Punjab Economy-An Empirical Investigation.", Indian Journal of Agricultural Economics, Vol. 53.

Shergill, H.S. (1997), Rural Credit and Indebtedness in Punjab, Institute for Development and Communication, Chandigarh.

Sidhu, R.S. and Sukhpal Singh (2004), "Agricultural Wages and Employment in Punjab, Economic and Political Weekly", Vol. 39, No. 37, September 11, pp. 4132-4135.

Sidhu, R.S.; Arjinder Kaur and Mini Goyal (1999), Agricultural Growth in Punjab-District-wise Analysis, Research Project Report, National Bank for Agriculture and Rural Development, Bombay.

Singh, Sukhpal (1996), Dynamics of Rural Poverty, Anmol Publications Pvt. Ltd., New Delhi.

Singh, Sukhpal (2000), "Crisis in Punjab Agriculture", Economic and Political Weekly, Vol. 35, No. 4, June 3, pp. 1889-1892.

Sumbly, V.(2005), "Farmers Organisation Fail to Agree on Common Programe", The Sunday Tribune, Chandigarh, Vol. 125, No. 112, April 24, p. 5.