CHAPTER 6
SUMMARY AND CONCLUSION

Development of canals during 1920s brought prosperity at Punjab and adoption of technology in 1960s added colours to its prosperity. But, after that due to opening up of national economy, there was reduction in public investment in agriculture during 1980s and this continued till 1990s. The two decades of 1980s and 1990s had negative impact on agriculture sector. Then, Government of India again showed its concern towards agriculture and took steps for its revival since 2000 onwards.

For thousands of years, farmers have depended on the earth to sustain their families. Now, in the 21st century their survival, prosperity, and well being of their families is being threatened by the menace of indebtedness. This indebtedness is a stumbling block in the way of rural prosperity. This thesis is an attempt to explore this relationship between prosperity and debt. More specifically, the main objectives of the study have been:

1. How far incidence of debt has changed over time?
2. How far the sources of borrowings have undergone a change over different categories of farms/farmers over time?
3. What are the characteristics of indebted farm households?
4. What is the degree of association between prosperity and indebtedness in the Punjab peasantry? Alternatively, how far Darling’s thesis of strong association between prosperity and indebtedness of Punjab peasantry is valid today?

In the context of these objectives, the study empirically tested the following hypotheses:

1. Incidence of indebtedness of cultivators has increased over time.
2. There is a positive association between agricultural prosperity/development and indebtedness of peasantry.
3. Size of the holdings and indebtedness are positively related.
4. Mechanization of farms and indebtedness of peasantry are positively associated.
Farmers having large asset base are more indebted as compared to the farmers having small asset base.

Borrowings from informal sources have increased over time.

To test these hypotheses, study was conducted at two levels: the aggregate level and at the household level. The link between prosperity and debt at the aggregative level is studied by analysing the published sources of data like All-India Rural Credit Survey and All-India Rural Debt and Investment Survey completed by the Reserve Bank of India (RBI) in 1951-52 and in 1961-62 respectively for rural areas only, All-India surveys on Debt and Investment conducted by NSSO decennially since its 26th round (1971-72) in both rural and urban areas. Herein, periodic estimates of debt have been mapped against prosperity level of the state.

The Development Index is a statistical tool designed to measure the level of development across different regional entities. In the study, method of taxonomy has been applied to study the level of development of 20 districts of Punjab (as at that time there were 20 districts in Punjab) by making use of various indicators which are directly related to agriculture and rural development. The development of a region can clearly tell us about the prosperity and poverty of a particular region and that was the main reason behind the selecting the districts based on composite development index which comprises agricultural and rural development indicators. The study covers the period from 1951-2003 along with cross section analysis of field survey which was conducted in year 2012.

The chapter wise summary of the study has been detailed in the succeeding paragraphs.

Chapter I

In chapter I, along with introduction and background of the study, a review of the studies at three different levels has been undertaken to examine the problem of indebtedness. First, different studies have been reviewed which tell us about the problem of indebtedness of a farmer at global level. This shows that the problem of indebtedness is not restricted to one region or one nation. Secondly, those studies have been reviewed which illustrate the problem of indebtedness at national level. This review gives us a glimpse of the overall situation of indebtedness in India at an
aggregative level. Third, the review of those studies have been done which talk about indebtedness at regional level i.e. those studies which are related with indebtedness among Punjab peasantry. All these studies have no doubt examined various dimensions of the problem. However, gaps remain in our knowledge regarding association between prosperity and indebtedness of Punjab peasantry. In reality, two conditions most favourable to debt are insecurity of harvest and prosperity, and of the two, prosperity has a greater effect. During late 20s Darling showed strong association between prosperity and debt. The study examined this relationship and its relevance in the contemporary period in chapter V.

Chapter II

In this chapter, data sources and methodology which was adopted for the selection of districts has been explained. The index values were calculated with the help of 18 different variables. Then, on the basis of these index values two districts were chosen for the survey. After that, the same methodology was adopted for the selection of blocks, villages and households. Then, a step by step procedure was followed to evaluate each and every aspect of the problem in detail. Taxonomic methodology has been explained in this chapter which we had used to select two districts, one among highly developed and the other amongst least developed. The basis of selection of sampled households was the size of land-holdings.

Chapter III

In this chapter, first of all, the relevance of data has been discussed. It has been underlined that in India NSSO conducts multi-subject all India sample surveys as per a well designed cycle extending over a period of ten years. Data reveals that still majority of population lives in rural India and IT depends on agriculture for its survival. But, in comparison to this the share of agriculture in total GDP is very low. The issue of declining size of average land-holding and increase in marginal and small holdings is the area of concern. Report on agricultural census 2005-06 reveals that the small and marginal holdings (below 2.00 ha.) constituted 83.29 % in 2005-06 against 81.80 % in 2000-01 having corresponding operated area as 41.14 % and 38.86 %. According to the latest figures of 2010-2011, it further increased to 84.98%. The semi-medium and medium operational holdings (2.00 ha.- 9.99 ha.) formed 15.86 %
with operated area of around 47.04 % in 2005-06 with respective values of 17.17 % and 47.93 % in 2000-01. The large holdings (10.00 ha. & above) were only 0.85 % of the total number of holdings in 2005-06 with operated area of about 11.82 % as against 1.03 % of total number of holdings with operated area of about 13.21 % in 2000-01. In case of Punjab, a peculiar thing observed is that in this state, the share of large holdings had also increased simultaneously. Thus, inequalities among various categories of farmers are increasing day by day. To curb this menace of inequality, different institutional sources are providing credit to farmers and now farmers are realizing importance of these institutions. According to NSSO survey, out of all the surveyed farmers 48.6 % of farmer households were indebted. It means that nearly half of the farmer households are still in a situation of debt and incidence of debt varies from state to state. All those states which embraced capital intensive and 'cutting edge' technology in the name of boosting production are in debt. Average outstanding debt per farmer household in the state of Punjab is the highest i.e. ₹ 41576 followed by Kerala, Haryana, Andhra Pradesh and Tamil Nadu. Data reveals that incidence of debt is more on the marginal and small farmers as compared to others. The most important thing related with credit is its purpose on which the probability of repaying their debts depends. Data showed that variation is greater in case of expenditure on medical and non-farm expenditure (67%), on marriages and ceremonies (62%), on education (52%) as compared to variation in case of capital and current expenditure in farm business. Another observation the study has made is that those who are wholly dependent on farm income are more in debt as compared to those who are having other alternative sources of income. Positive relationship is observed between farm size and debt on an average, amount of outstanding debt increases with the size of land-holding. As Punjab is considered to be the most agriculturally developed state, debt on a farmer is also higher in this particular state. Regarding sources of borrowings, at an all India level institutional share is more as compared to non-institutional and among institutional sources, share of Commercial Banks is higher and in case of non-institutional, money-lender’s share is higher. In case of Punjab non-institutional share is higher as compared to institutional. This result is in contrast with the results of field survey as majority of farmers were reported taking loans from institutional sources. Even they do agree that money-
lender is a necessary evil but with the help of institutional sources they are capable of managing their needs. But still, demand for opening up of more Co-operatives is there. The major cause of concern in the latest survey round was the increasing share of non-institutional sources. This shows that somehow somewhere Co-operatives and other institutional sources are lacking and steps are required to bring more and more farmers under the Co-operative credit structure.

Chapter IV

In this chapter the relation between prosperity and debt has been analysed through the analysis of field survey. Data reveals that incidence of debt among sampled households is around 66.7% which is slightly higher than the estimates of NSSO. Thus it can be said that still situation of indebtedness remains the same in Punjab as it was in earlier periods. Analysis for the whole of the state of Punjab is done along with the two surveyed districts of SBS Nagar and Gurdaspur. The socio-economic characteristics of the surveyed farm households have been evaluated in detail. In the developed district, large agricultural holdings have been found and farmers enjoy better opportunities due to the location of the district in close proximity to Ludhiana, an agriculturally developed district. Land prices are also very high because of high fertility of land as it gives higher returns. In possession of large holdings, they have an easy access to credit at lower rate of interest from institutional sources. Easy accessibility to credit can satisfy all their wants. But, small farmers’ income has not kept pace with his wants. He has, however, his land available with him and upon its ever increasing value, he can also borrow all the cash he needs. The higher standard of living must be based upon the production than upon the pledging of capital, a position that is apparently unsound. Small holders of SBS Nagar are very industrious and hard working; they toil day and night and send their sons abroad. They are playing a great role to bring back the agricultural prosperity in that region. All through the village there is an atmosphere of developmental activities. Development facilities available are known to general public and machinery available with PACS can be used by farmers. This reduces their cost of machinery and they can just take machinery, e.g. tractor, from Co-operative society and use it accordingly for their purpose. Thus, they save part of their income and can sustain their standard of
living with that increased income. Here, farmers are more innovative also and always search for better alternatives. In this district, farmers follow crop rotation as compared to traditional wheat-paddy cycle. In the developed region, there is more co-operation among families as compared to least developed district. Emigration is the most powerful factor in re-building the economic structure of SBS Nagar. In this district, money poured in from overseas as most of the people in this area are having NRI status. Majority of the families are having their one or two members of family abroad. Due to this reason, there is more liquidity in the hands of people and they enjoy better standard of living. The neighbourhood of a large town, prosperity or caste might be the reasons of extravagant nature of SBS Farmers. Debt is intensified with improvidence and insecurity.

In case of least developed district, majority of farmers are having small holdings. This is a major hurdle in the pathway of their prosperity. As compared to large farmers, they do not have an easy access to credit. So, they fall in the money-lenders trap and it becomes difficult for them to come out from his clutches. In this region, particularly in the village named Got Pokhar, majority of farmers are having a habit of drinking/taking drugs. People are more litigious, extravagant and improvident by nature. They have also not been able to altogether to overcome the hereditary failings that have made their district least developed. Lack of political will has also been mentioned by majority of farmers as a cause of their problems. Large farmers form a much smaller proportion of the community and majority are marginal and small ones. In one particular village of district Gurdaspur, people are not even aware of Co-operatives and they either take loans from Commercial Banks or from money-lenders, whose rate of interest is exorbitantly high. In this district, people mainly are more involved in wheat-paddy cycle. But, even the small farmers can generate a lot income from his small holdings by industry and thrift.

Data reveals that only 46.3% of farmers want to pursue farming as a profession and others want to involve themselves in non-farm sector as it will give them assured income. Among them, majority belongs to marginal and small category. They usually take loans to meet their current expenditure needs as they are left with no other alternative rather than this. Food needs and lubricants take a major share of
their expenditure. Also study has observed positive relationship between land size and income. Due to this fact, gap arises between the incomes of various categories and inequality increases. Only large farmers are able to save out a part of their income. Interestingly, farmers who are having large asset base are heavily indebted. Average land-holding in case of large farmers is multiple times of land possessed by marginal, small, semi-medium and medium farmers. More incidence of debt is observed in case of those who are wholly dependent on farm income. Very strong relationship has been found between farm size and debt. The estimated figures for all the results will be given in points under the heading of findings.

Chapter V

In this chapter, the relevance of the study done by Malcolm Darling has been studied along with its relevance in the contemporary period. In this thesis, the economic life of a peasant had been represented, very vividly. The various causes had been given by the author for the indebtedness of a farmer and we verified the relevance of all those causes in the contemporary situation. Some causes are unproductive use of loan, debt due to extravagant nature of a farmer, insecurity of marketing of output, increase in population, high cost of cultivation, changing attitude of a farmer, money-lender problem etc. Study found that with little difference, all those reasons are still equally relevant to the contemporary debt situation of a farmer. This, study has analysed that three things are necessary for a farmer to be free from debt. First, he must be frugal and industrious. Secondly, he must be ready to diversify and thirdly, he must be having an access to non-farm income. Later on, the study tried to delineate the characteristics of indebted households and characteristics of farmers in both developed and least developed district.

Major Findings

- Among marginal farmers, 40% of the family members are independent, small and semi-medium farmers have only 33% of independent family members. In case of medium farmers, the situation is more austere as only 20% of members are independent and in case of large farmers, 40% are independent. The situation in case of medium farmers is more severe as compared to other categories of farmers.
Category-wise medium farmers and large farmers are having majority of their family members abroad and due to this, they are less dependent on agricultural income as compared to others.

Majority of farmers tried to provide good education to their children especially in private English medium schools and this also resulted in increased consumption expenditure as the fee structure in private schools is much higher as compared to Government model schools.

Majority of the farmers in case of marginal, small, semi-medium and medium category were having secondary level of education and what is interesting is that all the large farmers had graduate degree. Also, the percentage of farmers shows an increasing trend for higher levels of education with the increase in size of land-holding. Another interesting fact is that now even semi-medium and medium farmers are achieving higher level of education i.e. Post Graduation.

Out of all marginal farmers, 44.7% do not want to take any kind of debt and same is the case with small and semi-medium with 43.2% and 28.5%, respectively. In case of medium and large farmers, around 50% of the farmer households prefer to take loan against land. This shows the easy accessibility of medium and large farmers to take loan against land. As they were having more land, so they did not even bother to mortgage a part of it for using that loan amount in other productive uses. So, they generate other resources for income generation. This tells us about the innovative and creative minds of these farmers.

53.7 % of the farmers want to join non-farm activities for their survival rather than adopting agriculture. This is a major area of concern for an agricultural state like Punjab. These figures need to be other way round so that farmers may adopt this occupation with full pride, enthusiastically.

Data reveals that out of all sampled households 31.7 % believe that farming is no more profitable to them. In comparison to it only 5 % consider it to be profitable. 17.3 % feel proud in adopting this occupation as they consider it
better to run their own business as compared to doing work under someone else. 15.7% feel that they are doing it under compulsion and 16.3% stated, they do not have any other option other than agriculture.

- National Crop Insurance scheme is urgently required in the Punjab state and farmers want this to be implemented at the earliest. In case of Co-operatives still 35.7% of farmers cannot avail the services of PACS because of non-membership. Out of all the sampled households, only 37.3% can avail credit services from PACS. What is shocking is that still 60.7% of the farmers used farm saved seeds and majority of them, around 52.3%, replace seeds every alternative year.

- Majority of the farmers borrow money to fulfill their current farm needs. The other purposes together constitute around 21.5%. Government must focus on fulfilling these needs of the farmers during lean season. So that, they may generate their own sources to fulfill these needs of day to day life. Also, large farmers borrow for purposes like investing and small farmers borrow for satisfying their current needs.

- It is clear that according to the size of their holdings, consumption needs of farmers also increase along with their standard of living. The average annual expenditure of marginal farmers is estimated to be ₹ 89352.63, for small it is ₹ 122481.48, for semi-medium it amounts to ₹ 147085.71, for medium it is ₹ 179726.32 and for large farmers it is estimated to be ₹ 337800. Annual expenditure of large farmers is much higher as compared to the annual expenditure of all other categories, around 4 times more than marginal ones.

- Data reveals that with the increase in the size of land-holding, the income also increases. It shows a positive relationship between land and income. Higher the land, higher will be the income. The estimated average annual income of marginal, small, semi-medium, medium and large farmers is ₹ 40675.4, ₹ 48827.7, ₹ 92056.06, ₹ 192202.4 and ₹ 688368 respectively. It is always difficult for marginal, small and semi-medium farmers to meet their consumption expenditure and working capital needs out of their income. This situation forces them to borrow money, either from institutional or non-
institutional sources of credit. Marginal and small farmers fall an easy prey in the hands of money-lenders as they cannot avail credit facilities from Cooperatives due to non membership.

Large farmers are having all the assets. In case of medium farmers, 89.5% are having tractors, 26.3% possess combines, 61.4% are having threshers and above all 100% are having two wheelers and 96.5% having four wheelers. In case of semi-medium, 77.4% are having tractors and 72.6% are having four wheelers. Thus, farming in Punjab is highly capital intensive as majority of the farmers are having tractors in this region. But, these tractors are a financial burden to marginal and small farmers because of uneconomic size of their land-holdings. Moreover, due to the seasonal nature of agriculture, the farm machinery remains idle for much of the time during the year causing rapid depreciation. A peculiar thing in case of small farmers is that more than half of them are having four wheelers and 46.9% are having tractors. And even in case of marginal farmers, 34.2% possess a four wheeler and 25% possesses tractor. Thus, it is clear from the above information that most of the agriculture in Punjab is mechanised. Large farmers always try to have up to date technological equipment for better yields and they spend huge amounts of money on it.

Each and every category operates more land as compared to their land owned. They take land on lease or rent or on sharing basis to get better earnings so that their needs may be satisfied. But, in this case a major cause of concern is the land rent; at present it’s not affecting that much but in future it will show its dark side by affecting economic life of farmers. This is the right time for the Government to take steps to control the issue of mounting land rent.

Out of all the 300 sampled farm households, 33.3 % of farmers were free from any kind of debt obligations. Data reveals that 66.7% of the sampled households are still indebted. It is more or less equivalent to NSSO figures for Punjab. Thus, the comparison of this figure of debt with the NSSO figure reveals that there is an insignificant improvement in the debt situation of a farmer over the years.
Incidence of debt increases along with farm size. In case of marginal farmers, 55.26% are indebted, for small farmers it is around 56.79%, for semi-medium farmers it is 71.43%, in case of medium it is around 87.72% and all the 100% large farmers are indebted. This shows that along with size of land-holding, incidence of debt also increases.

Percentage of farmers involved in other activities along with farm business is the highest in case of marginal farmers and along with increasing size of landholding this percentage decreases. So, in this case we can conclude that marginal and small farmers are now moving towards other occupations rather than agriculture and even in exceptional circumstances they are ready to quit agriculture.

The probability to fall into a situation of indebtedness becomes higher if a farmer household does not have any other alternative source of income. The non-farm income reduces this probability because of fixed income at regular intervals. Farmers want their future generations to be involved in non-farm activity along with farm activity. Table 4.21 shows that out of all the indebted farmers, 71.3% belong to purely farming community i.e. those who do not have any other alternative source of income and 28.7% belongs to non-farm category i.e. along with farm business, they are involved in other income generating activities as well. Those who are wholly dependent on farm income, the incidence of debt is more on them (78.04%) and the other case farmers, who receive earnings from non-farm resources as well are less indebted (38.37%). Out of 300 sampled households 214 farmers fall in farm category and 86 fall in case of non-farm category.

The estimated total outstanding amount on marginal farmers is ₹4489445, for small it is ₹6760898, for semi-medium it amounts to ₹11150835, in case of medium it is the highest among all categories i.e. ₹19085979. Land is considered to be a symbol of prosperity for them. Thus it clarifies that positive relationship exists between debt and prosperity. The case is different for large farmers as they receive more income as compared to their expenditure. They earn income from alternative sources as well and their land
size increases with the passage of time as they start purchasing land of marginal and small farmers. This also poses a threat to the existence of small land holders as well. Steps must be taken by the Government to protect these small land holders.

- Data reveals that average debt on marginal farmers is estimated to be ₹106891.55, in case of small farmers it’s ₹146976.04, for semi-medium it amounts to ₹185847.25, average debt of medium farmers is ₹381719.58 and the highest average debt is in the case of large farmers i.e. ₹636750.00. Thus a very strong relationship is there between size of land-holding and burden of debt.

- In case of incidence of debt, same pattern of relationship among all categories of farmers was observed. Incidence of debt is higher in district SBS Nagar for all the categories. As opposed to it, burden of debt is higher for all categories except large ones in district Gurdaspur. Thus, in some way or the other prosperity and poverty are responsible for the indebtedness of a farmer. This shows that other than size of land-holding, the other characteristics of farm households also matter in determining the debt levels of farmers.

- Debt per acre (owned) in case of marginal farmers is ₹47570.28 which is the highest as compared to all other categories of farmers. The burden of debt per acre (owned) in case of small and medium farmers amounts to ₹25063.57 and ₹25705.02 respectively. If we consider debt per acre (operated), debt amount significantly reduces in case of marginal farmers i.e. from ₹47570.28 to ₹18952.8. Thus, it signifies that marginal farmers take much land on lease to earn higher incomes and to reduce their burden of debt as well. Earlier the burden of debt was higher in case of marginal farmers. But, in case of debt per acre (operated), it significantly declined to lower levels along with other categories of farmers. These results are taking us towards the problem of rising land rent and absentee landlordism\(^1\) in rural areas.

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\(^1\) An individual or entity that rents or leases real estate to another party but does not reside on the premises. An absentee landlord could be anyone from a local investor to an overseas conglomerate. Regardless of the size of their operations, absentee landlords generally seek to generate rental income from their holdings.
Debt per acre (operated) reduces to much lower levels as compared to debt per acre (owned) values. The burden of debt in case of all the categories reduces upto some extent but it reduces significantly in case of marginal farmers. But, even after doing this much of labour their situation still remains at the level of hand to mouth and they have to take fresh loans to repay the earlier ones. The area of concern in this case is the increasing prices of land rent which need to be controlled if we want to save small and marginal farmers from this grave situation. Also the problem of absentee landlordism has a negative impact on fertility of soil as tenants pay less attention towards the maintenance of hired land.

In district SBS Nagar, out of all 150 sampled households 117 are found to be indebted. It means that 78% farmers in this district are indebted. The burden of debt is higher on medium farmers as compared to all the other categories as they operated larger area as compared to all. And in case of district Gurdaspur, 83 out of 150 sampled households are found to be indebted. It means that 53.33% of farmers are indebted. Thus incidence of debt is more in district SBS Nagar as compared to district Gurdaspur.

Category-wise, 72.41% of marginal farmers, 68.57% of small farmers, 77.55% of semi-medium farmers, 91.67% of medium farmers and 100% of large farmers found to be indebted in SBS Nagar. In district Gurdaspur 44.68% of marginal farmers, 47.83% of small farmers, 62.86% of semi-medium farmers, 80.95% of medium farmers and 100% of large farmers are estimated to be indebted. Thus, incidence of debt increases along with farm size. Incidence on each category of farmers is more in developed district as compared to the farmers in least developed district. But, burden of debt is more in case of least developed district as compared to the developed one. Thus, overall average debt per acre (operated) is estimated to be ₹ 25294.68 in case of all the indebted households. This value is higher in case of district Gurdaspur i.e. estimated to be ₹ 37096.353 as compared to district SBS Nagar i.e. ₹ 19065.872.

There is a positive relationship between size of land-holding and indebtedness. In case of poverty, an individual is forced to take loan either from institutional or non-institutional sources. In all the cases, marginal and small farmers face the worst conditions. Thus, steps must be initiated by the Government to bring back prosperity among all the farmers.

The total number of farmers who belong to purely farm sector is 214 (71.33%) and in another category it is around 86 (28.67%) households. Thus, majority of the farmers in this case belong to purely farm category. In case of category I, 167 (78.04%) households are found to be indebted and in category II, 33 (38.37%) are found to be indebted. It is clear that incidence of debt is more in case of category I as compared to Category II households. Average debt is more in case of category I as compared to category II and it becomes even higher if we exclude all those who are free from debt. Thus, debt burden on category I is estimated to be around ₹ 227971.69 and in case of category II it is around ₹ 142105.58. Clearly, burden is more on those who are purely involved in agricultural activities for their livelihood.

The average debt on marginal farmers in case of category I is estimated to be ₹ 105979.57, on small farmers it is around ₹ 156881.36 on semi-medium farmers it is estimated around ₹ 189975.21, on medium farmers it is ₹ 415146.61 and it is highest on large farmers i.e. around ₹ 636750. Thus, as the land size increases, indebtedness does increase along with that. There is a strong association between these two.

Average debt on category I farmers is estimated to be more as compared to category II farmers. In district Gurdaspur, debt is higher as compared to district SBS Nagar. The average debt in SBS Nagar on category I farmers is estimated to be ₹ 20680187 and in district Gurdaspur it is around ₹ 17391085. In case of category II farmers in district SBS Nagar, the estimated average debt is ₹ 83240 and in district Gurdaspur it is around ₹ 152613.75. In both the districts, the relationship of size of landholding and debt do exist in case of category I farmers, except only for larger ones of district Gurdaspur. In case of category II, incidence of debt is more in case of district Gurdaspur as more
farmers are involved in non-farm activities in this district as compared to district SBS Nagar. In district Gurdaspur, majority of them are having profligate behavior towards life.

- The Tobit estimates of debt amount outstanding show positive significant effects for variables like household size, age square, possession of physical assets like land, tubewell, luxuries like two wheelers, four wheelers, having education secondary or above, rate of interest, yield per hectare, information accessed from Krishi Vigyan Kendra and television. We expect each of these factors to increase the probability of a farmer to become indebted. Only a physical asset like tractor, family member involved in non-farm activities, distance of nearest town results in a decline in indebtedness. Thus, we can say that policy makers must pay their attention to provide non-farm employment to indebted farmers to free them from burden of debt.

Policy Implications

- Revival of Co-operative credit structure is the need of the hour as Co-operatives play a significant role in the life of a farmer and this helps to keep them out of money-lender’s grab. Even the estimated results favour this argument that those who take loans from Co-operatives are less indebted. Each and every Co-operative society must work properly so that the regional inhabitants can avail all those services which are provided by PACS for them. Also, there is need to increase the branches of Co-operative for achieving the objective of financial inclusion. Different branches must be there for small and marginal land holders so that they may come out from money-lenders grab.

- Insurance is one of the possible solutions of farm problems, both for crop as well as for animal. Insurance cover must be provided to farmers as security. The size of land must be taken into consideration before providing this facility to farmers in Punjab, as there is huge income gap between the five categories of farmers. Thus, different policies must be formulated for different categories of farmers.

- Though facility of mobile vans for soil testing has been available to farmers for few years back, but still its coverage is not very wide. Majority of the...
farmers are not able to reap the benefits of this facility. Steps must be taken to increase its coverage so that more and more farmers may avail benefits of this facility.

- Check must be there on money-lenders to curb the menace of informal money lending. Government can make some rules regarding this. For example:- for two months they should charge lower interest and after that they may be allowed to charge higher interest. Also, along with this interest credit limits must be fixed, thereby giving no chance to money-lenders to exploit farmers. Statement of accounts must be given to farmers by the money-lenders or by bank officials, every three months.

- Provisions must be made for creating financial awareness among farmers in premises od Co-operatives itself. More employees must be employed by Co-operative department so that they may go into the field to work and discuss issues with the farmers, and also to provide possible solutions to their problems in the field itself.

- Necessary phone numbers must be displayed at one common place in all the villages so that farmers can approach officials without any delay. That common place can be a Co-operative society because there is a possibility that farmer may visit Co-operative society every three or four days for some kind of information. The most common place can be a Gurudwara where farmers visit frequently.

- Precision agriculture\(^2\) identifies critical factors where yield is limited by controllable factors and determines intrinsic variability. Precision farming is essential in order to address problems like food security, poverty alleviation, distress situation of farmers, enhance quality of life etc. Farmers are able to reduce their negative impact on the environment by merging organic farming

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\(^2\) A typical arable farm would vary in terms of soil, topography and growth stage of the crop. Precision agriculture observes such intra-field variations and responds to these variations in terms of the application of nutrients, pesticides and other inputs to increase the yields and decrease the excessive use of the agricultural inputs. This is done with the help of technologies like satellite technologies Global Positioning System (GPS), Differential Global Positioning System (DGPS), Global Navigation Satellite System (GNSS), Geographic Information System (GIS) and telemetry; information technologies like mobile devices, wireless sensing and transmission systems, geo-spatial tools and modern agricultural machinery (ARECA, 2010).
and industrialization. Thus, in Punjab there is a dire need to follow this type of farming and Government must initiate steps to promote it.

- Agro industrial development is one of the pre-requisites to bring back the prosperity levels of this particular state. If this is done, a lot many employment opportunities will be there for the unemployed youth in Punjab. This will help in improving the living standards of the people as well.

- Recognising the importance of dairy farming in the lives of a farmer and its potential impact on household incomes, particularly in case of small land holders, needs to be developed more so that farmers may have additional sources of income all through the year. Then they needn’t depend on any formal or informal sources of credit.

- Population must be controlled because it has a huge negative impact on the productivity and production levels of a country. The pressure of population on land is increasing and per capita availability of resources is also declining. Problem of small land-holdings has arisen because of this increase and huge fragmentation of land-holdings has taken place in the past few years. If we want to give better and sustainable life to our future generations, then somehow we have to control this problem of growing population. There is need to generate awareness among farmers related to this as this is one of the main reasons for fragmentation of their land-holdings.

- Efficient and cheaper technology must be introduced so that even small and marginal category of farmers may avail the benefits of applying advanced technology on their fields. As technology has a potential to increase yields of the farm and subsequently farmers’ incomes so it must be approachable and affordable to small and medium farmers as well so that they can have better incomes from agriculture.

- There must be provisions of providing inputs for farmers on proper time when it is required. Most of the farmers reported that large farmers easily grab these input because of their links with higher officials and they receive messages and calls from them regarding the availability of inputs in agriculture.
department and Co-operatives of that particular region. Inputs must be available for all at proper time to remove delays in their use in the fields. This step can prove very helpful for farmers, basically for small and marginal ones.

- Sending letters to farmers in their regional language about any important information will be the easiest mode of communication without any delay or else make calls to them regarding latest developments, innovations and better techniques of cultivation for getting better yields. No doubt, Government is providing services like kisan melas, KVK’s but yet these are still out of reach of an ordinary farmer. Farmers do not get time to go overthere and also these things are at far off places rather than at their village.

- Farmers must be aware of their rights. Farmers Rights are a prerequisite for the maintenance of their well-being, which is the basis of all food and agriculture production in the world. Realizing Farmers Rights basically means enabling farmers to maintain and develop crop genetic resources as they have done since the dawn of agriculture, and rewarding and recognizing them for this indispensable contribution to the global pool of genetic resources.

- At the village level the most important role always has been played by panchayats. So there is need to strengthen the panchayats because the first institution available in the village for a farmer is panchayat and also this is within their reach. Panchayats can do wonders if they work well. They can make agricultural associations at village level with the help of a group of villagers, they can provide agricultural education to them in the village itself and they can enable farmers to share their experiences. Different courts for farm grievances must be set up on fixed days of a week. License of money-lenders must be verified by panchayats etc.

- The time of visit of agricultural officials must be fixed so that farmers may manage their time according to that. Many officials do visit the villages to make the farmers aware, regarding latest technologies, but their time is not

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3 Farmers Rights consist of the customary rights of farmers to save, use, exchange and sell farm-saved seed and propagating material, their rights to be recognized, rewarded and supported for their contribution to the global pool of genetic resources as well as to the development of commercial varieties of plants, and to participate in decision making on issues related to crop genetic resources. Source: http://www.farmersrights.org/about/index.html

4 But there must be proper check on them so that they cannot get a chance to misuse their power.
fixed. Farmers are eager to learn new things. Many improvements are required in this context to make them more aware.

- Agricultural education must be provided in schools to keep future generation of farmers in touch with their land. This can have a multi-dimensional impact on their lives as they will be learning about new things related with agriculture right from childhood and they can even guide and help their parents in this. Along with this financial education must also be provided to them for their better future.

- Receipts for purchase of inputs must be provided to farmers. Farmers themselves want receipts of their purchase, but private input dealers never provide them with these, because this will make them responsible for selling quality product to farmers. Along with this, tax collection can be increased by making it compulsory for a dealer to provide them bills for every purchase. What Government can do is that it can reduce some taxable amount in case of purchase of agricultural inputs.

- Additional benefits other than lower rate of interest must be there for all those farmers who repay their debt on time.

**Conclusion**

Everything is within the reach of a Punjabi farmer if he organizes his resources well with industry, intelligence and scientific knowledge. Debt is allied to prosperity and poverty alike. While its existence is due to poverty, its volume is due to prosperity and the link between them is the money-lender. He exploits farmer when he is prosperous and enslaving him when he is poor. To be prosperous is a skill and those having industrious traits are only out of debt. Punjab’s land is divided into small holdings and it does not matter really whether farmer is holding small or large tracks of land. Those who utilize their resources cautiously are benefitted and farmers holding small proportion of land must have other sources for survival. The prosperity of Punjab is now not because of agriculture, it’s mainly because the emigration of its youth to foreign countries. The only way to avoid debt under any circumstances in the agricultural sector is to go off and find work elsewhere and this is what is being done by thousands of them every year except when there is a good bumper harvest. 95%
farmers believed that prosperous is he who does work manually and is not dependent on hired labour for its work. They argue that only those are free from debt who work with their own hands. Also those who are having land more than 10 acres of land are in a better position. Only they can save something out of their income after making all necessary expenditures. Diversification, which plays another important role in making the farmer prosperous, is possible only in that case where farmers are having large holdings. Debt is almost invariably high where there is great insecurity of harvest. Indian harvest is still a gamble with monsoon. Uncertainty leads to larger debts. Thus, in one case prosperity, and in other poverty, is the cause of debt. Some kind of direct subsidy must be provided to farmers so that they can get some relief. Prosperity will stay only if it is achieved by making the people work and by developing the country. Increasing trade with the neighbouring nations will be one of the best possible solutions to make the life of farmer better or inter-state trade may be allowed. According to Professor Max Sering, the ideal condition for agricultural progress is to have the large and small landholder side by side, the former for making experiments and the later for applying them, as small farmers will not take the risk of experimentation or change.