CHAPTER VII

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

7.1: INTRODUCTION

After independence, Indian agriculture has undergone intermittent phases of growth and stagnation for over six decades now. After the initial complacency till mid-sixties, the performance of agricultural sector improved with the help of the seed-water-fertiliser technology. This was contributed by the vibrant institutional interventions such as formation of Agricultural Prices Commission; Nationalisation of Banks and availability of credit; Massive Agricultural Extension Programme along with Agricultural Teaching and Research. The performance of agricultural sector improved significantly but continued with fluctuations till mid eighties and slowed down thereafter (Dantwala, 1991; Sawant and Achutan, 1983; Acharya and Chaudhury, 2001; Bhalla and Singh, 2009). It was an unusual situation and the stagnation had set both in productivity as well as in the agrarian structure (Bhalla, 2006; Bhalla and Singh, 2009). This is happening even when the use of technological inputs such as fertilizers is on the increase, indicating increasing inefficiency in input use and decreasing profitability in crop production (Nadkarni 1988; Reddy 1991; GOI, 2007) and it is also reflected in the institutions governing agriculture.

Since mid seventies Indian Agriculture is undergoing a period of transformation due to the changes in agrarian structure as a consequence of technological changes and also due to the externalities of the technology. One of the major changes is the polarization between commercial agricultural and subsistence farming (Raj, 1985). Second, the production relations in agriculture were changing very fast both due to the imperfections in land market and economic pressure (Joshi, 1987). Third, land reforms, demographic pressure and the process of income generation in agriculture unleashed a strong process of marginalization of the size of holdings (Rao, 1999) leads to the adoption of ‘small farm’ character of the Indian agriculture (Dantwala, 1991; Vyas, 2004). These processes have not only eroded the production base of the small and marginal farmers, but weaned them away from the market along with significant reduction in their bargaining power (Deshpande 2004). The slow down had already set in by the end of eighties. The initial steps were traced by Dev, 1987; Acharya, 2001; Bhalla & Singh, 2001; Kumar, 2001; that all is not going well in Indian agriculture.
One of the major reasons for the stagnation in Indian agriculture has been the slowdown in capital formation (Dhawan and Yadav, 1995; Dev, 1987; Gualti and Bathla, 2002) and the shortfall in the public investment has not been compensated by an increase in the private investment (GOI, 2007). Another reason cited for the stagnation is the fast reaching optima in the technological front across regions as well as diversification towards commercial crops (Alagh, 2003). The forces of commercialization and marginalization in the size of land holding are changing the production relations in the Indian agriculture. All these factors had their telling effects on the growth performance of the sector, which culminated into severe distress in different parts of the country covering Andhra Pradesh, Maharashtra, Karnataka, Punjab, Tamil Nadu and Eastern India. Therefore, it becomes essential to analyze pragmatically the forces causing stagnation as well as the changing production relation in this context.

Since nineties, the signs of distress were quite visible in agriculture. More concern was attracted by its extreme manifestation in the form of increasing cases of farmers suicides reported from different parts of the country time and again. The existing literature on distress recorded many causes contributing to farm sector distress. These could be broadly classified into economic and non-economic factors. Within economic factors indebtedness is identified as the most important reason for farmers’ distress among others includes market failure, increase in the cost of cultivation due to rising cost of inputs and huge expenses incurred by farmers on developing irrigation facilities by digging wells or bore-wells or deepening the existing wells or bore-wells etc. While, among the non-economic factors—effect of neo-liberal policies on agriculture, technological interventions, cumulative effect of multiple factors, and failure of social institutions to address distress gained prominence (Mishra 2009, Barah and Sirohi, 2011 and Deshpande and Arora 2010, Bhalla and Singh 2012. All these studies sought answers to the causes of distress, but overlooked the long genesis of agrarian distress within its own structural correlates which has been dealt by a few studies (Vasavi 1998; Sarma 2004; Deshpande and Prabhu 2005; Mishra 2006; Reddy and Galab 2006; Shroff 2006; GOI 2007) and give prominent role to indebtedness.

7.2: BRIEF REVIEW OF STUDIES

7.2.1: Agrarian Change

In the seventies and eighties, to analyse the agrarian change process ‘mode of production’ debate was in the centre of academic writings and discussions during and after the technological change of mid sixties. During the period, many Indian scholars tried to identify the dominant mode of production prevailing in agriculture with the support of empirical and theoretical work.
Such an attempt was important as change in the dominance of one mode of production over the other brings associated changes in production conditions and relations under which agriculture operates and has wider social and economic implications. With the use of a few yardsticks there was clear distinction in the way dominant mode of production was identified by scholars such as Capitalism, Pre-capitalism, Semi-feudalism, etc. Yet, no clear consensus emerged among the scholars on the dominant mode of production prevailing in the countryside’s and could not arrive at any consensus. As the study were confined to a given area and wide generalisation based on their findings pose questions to the reliability since different regions were experiencing different levels of agrarian change (Rudra, 1982). Their study were based on the data at a point and agrarian change being a continuous process, were unable to capture the element of ‘change’ fully. Credit and its interlinkages in the production relations got centre space in the arguments of scholars who discussed on semi-feudalistic line. Interestingly, the proponents of capitalistic mode of production neglected the role of credit and its interlinkage in the production relations.

After independence, In India the relations of production in agriculture have undergone profound changes as a result of land reform and changing production technology (Joshi, 1987; Bhalla, 1980). Introduction of seed-water-fertiliser technology and expansion of formal credit market with the nationalization of banks in late sixties, were major move towards making Indian agriculture more capitalistic (Deshpande et al. 2004). Further, with the Indian economy entering in the liberalised phase, agricultural was exposed to new threats and opportunities (Vasavi, 1999). New system of production such as contract farming, which has altered the traditional production relations, is slowly and consistently spreading in rural areas. With the expansion of informal sector employment opportunities, schemes to encourage rural employment such as Mahatma Gandhi Rural Employment Guarantee Act (MNREGA), the agriculture sector is facing shortage of labour supply, therefore, the labour force enjoy better bargaining power in the wage market. Such changes weaken the age-old production relation and labour being submissive to the landowner thereby credit-labour-market inter-linkage is getting weak. Thus, the whole agrarian scenario in change is witnessing the emergence of new types of production conditions and relations need to be carefully defined and interpreted.

Hence, the process of continuous agrarian change and near neglect of Indian agriculture over a period of more than two decades has resulted into deprivation of large section of rural populace. It has also resulted into a highly skewed distribution of land holding pattern. About 86 per cent of the farmers belongs to marginal and small category operate around 43 percent of agricultural land while 14 percent of the medium and large farmers operate around 37 per cent of the land (GOI, 2007). National Sample Survey Data also reveals that around 40 per cent of the farmer
households wants to leave agriculture profession as a source of their livelihood, and 35 per cent of farmers reported that this was because farming was not profitable and too risky (NSSO, 2005). All the evidence led to a strong indication of prevailing distress in agriculture.

7.2.2: Credit Market Functioning and Farmers Indebtedness

After the Nationalisation of major banks and by early nineties, with the opening of the Indian economy and abiding the terms and conditions of the new policy regime, banks underwent another huge change in their policy platform. It resulted into a visible decline in the supply of rural credit through institutional sources. Slowly, in a period of two decades, banks role increasingly confined to cater the needs of large farmers, corporate etc, while credit flow to the rural poor-marginal and small farmers, landless labourers remained low and insufficient. Direct agricultural credit significantly impact on agricultural output and its effect is immediate (Das, et.al. 2009). The growth of direct finance to agriculture and allied activities witnessed a decline in the 1990s (12 per cent) as compared to the 1980s (14 per cent) and 1970s (around 16 per cent). The average share of long-term credit in the total direct finance has not only been much lower but has also decelerated (from over 38 per cent to around 36 per cent). This could weaken the agricultural investment (Kumar et al. 2010) and reduce the farm income.

Bank lends on the basis of asset ownership to avoid risk. This strategy creates vacuum and imperfections in the credit market. It restrain on providing access to credit for small owners and owner’s cum-tenants and farmers adversely affect them and agriculture (Singh and Sagar 2004, Mishra, 2003; Das, et al. 2009; Golait, 2007). Some studies found that 51 per cent of the farmer households do not get formal credit (Dev, 2006) and within this poor and marginal farmer households are less indebted than the rest, indicating these households do not have sufficient access to the credit market and require support for private capital formation (Deshpande, 2006). It is found that formal institutions in a way are biased in favour of the rich farmers and largely responsible in reiterating the power position in the hands of a few. This enhances their investment capacity and income on the contrary a large mass remains in the trap of vicious cycle of low investment, low-income and indebtedness (Bhalla and Singh 2012). A number of studies have well documented that small and marginal farmers lagged in the adoption of technology due to inadequate flow of institutional credit (Parthasarathy and Prasad 1978; Golait, 2007).

With all the overt and covert changes effecting agriculture, the condition of cultivators are deteriorating (Deshpande and Prabhu, 2005). Perpetual indebtedness, become a common phenomenon among the small and marginal farmers usury is deep rooted in the rural
countryside due to the prevalence of the informal credit markets, and access to the market is almost restricted because of low investment capacity primarily due to low income generating capacity of the farmers. Hence large section of farmers rests with no other option than to depend heavily on informal credit institutions to meet various expenditures (GOI, 2007). Thus, there is a need to look into the impact of change in the agrarian relation as well as increase in the dependency on informal credit institutions.

As widely known, credit plays crucial role to meet agricultural expenses and for agricultural growth and affects the livelihood of agrarian population. Credit facilitates investment when farmer runs out of his own money. But, indebtedness (or non-repayment of loan) is evident to the economic problems which farm households are exposed to like high cost of cultivation, low net income, debt burden etc. In the past two decades Indian agriculture is facing crisis and the extreme form of distress is manifested in the form of farmers’ suicides. A large number of studies, while exploring the cause of distress found indebtedness as the major cause besides others. But, these studies failed to understand the ‘multifaceted nature of indebtedness’. Indebtedness, opposed to the commonly held view of a point occurrence, is not so, and often behaves as a process. While doing so it follows a peculiar tendency what may be called ‘cascading effect’, the process of creating fresh loans along with the accumulation of number of previous loans either without paying the principal or interest (or both remains due for different time). The process, also indirectly reveals that the process of agrarian change as a whole is not favorable to the majority of cultivators.

7.3: RESEARCH GAPS, QUESTIONS, OBJECTIVES AND HYPOTHESES

7.3.1: Research Gaps

Earlier studies dealing with “mode of production” debate have overlooked the impact of “change as an outcome of process”, most of the studies were related to a point. The debate per se was confined to “agriculture” but did not take care of the impact of extrinsic change, for example, impact of informal sector employment on the economic condition of farm households. There is a need to understand the new forces under operation, which influences the agrarian structure. For example, earlier studies dealt with the issues on agrarian structure have overlooked the impact of changes in land use at the broader level and within agriculture on agrarian structure, but increasing urbanization and population pressure in the recent decades pose a necessity to explore such changes.
The prevailing literature on commercialisation of agriculture has not much focused on commercialisation pattern specific to irrigated region against rain-fed and its possible impact on the farmers’ income, investment and indebtedness pattern. Moreover, it is necessary to examine the impact of changing agrarian structure on commercialisation. Whether commercialisation has induced change on production condition and relations and its possible impact on farmers’ indebtedness? There are dearth of studies, which tries to bring out the inter-linkages between agrarian change and indebtedness as a process. Hence, the study in the context of prevailing agrarian distress tries to adopt a holistic approach to understand the cause of rising debt burden among farmers within the context of changing agrarian condition. The existing studies on indebtedness have not explored the ‘multifaceted nature of indebtedness’. Indebtedness, opposed to the commonly held view of a point occurrence, is not so, and often behaves as a process which may severe the impact of distress due to indebtedness.

7.3.2: Research Questions

1. What are the crucial changes in agrarian structure?
2. Is the structural relationship between agrarian change and credit market functioning undergoing a change?
3. How the degree of indebtedness varies across different regions (Tamil Nadu and Karnataka), sub-regions, size of land holdings, Social Groups and crops?
4. How indebtedness has become one of the major causes of distress among the farmers?
5. What are the intervention measures under taken by the two states to ameliorate the distress among farmers?
6. How effective are these? What are the institutional failures?

7.3.3: Objectives

- To study, compare and analyze the changes in agrarian structure in the states of Tamil Nadu and Karnataka.
- To locate crucial factors in agrarian change leading to acute indebtedness and failures in credit market.
- To identify the causes of indebtedness and isolate factors behind perpetual indebtedness among the farmers in the two regions of Karnataka and Tamil Nadu.
- To analyze various intervention measures and their relative effectiveness during the liberalization era.
7.3.4: Hypotheses

✓ The emergence and intensity of distress is dictated by the rapid changes in agrarian structure.
✓ Institutional failure is one of the major determinants of agrarian change.
✓ Credit, land, labour and product market inefficiencies are associated with agrarian change.
✓ State interventions have not been effective in dealing with the emerging agrarian situation.

7.4: APPROACH OF THE STUDY

7.4.1: Data and Methodology

Agrarian change is a dynamic concept. The word change signifies a process, which is in operation. To understand the changing nature of agriculture, its interactions with credit market and its impact on increasing indebtedness among farmers, we have used both primary and secondary source of information. The study is presented at three levels namely - macro, meso and micro level. For macro-level study, we selected Tamil Nadu and Karnataka. The macro and meso pictures are reflected upon with the use of secondary data and case study method has been used to capture agrarian change, credit market operations and farmers’ indebtedness at micro level. In secondary data analysis, we have largely used cross sectional and time-series data published by various government sources. These include publications from Directorate of Economics and Statistics; National Sample Survey Organization (NSSO); Central Statistical Organization, RBI reports, etc. The data on various indicators of agrarian change such as land holding pattern, land use, area, production and yield of principal crops, farm harvest price etc., have been used for almost a period of five decades., albeit in some cases we had to restrict our analysis to the periods information made available by above agencies.

The secondary data has its own limitations per se as it does not necessarily help researcher in getting an understanding of the nexus between his or hypothetical relations. For better understanding, some hypotheses demand a bottom-up approach, which not only helps in researcher information at household level, but also ethnographic information related household(s) under observation. To understand the nexus between agrarian change and credit market operations, we have used ‘case study approach’. Ethnographic approach is almost absent in modern economics, it has been forgotten that a large number of village studies conducted by researchers in India have enriched the literature on rural development. Similarly,
the analyses of agrarian issues goes only through the field work tables and equations, which hardly provide the inside windows to the researchers. It is well understood that a number of finer issues get ironed in the process of field study as the process has become more mechanical and the observations converge very fast. This provided us opportunity to have in-depth case studies to understand the process with which the farmers themselves undergo and use their own perception on agrarian change. For the case study purpose, we selected two regions (irrigated and dry) each from two states (Tamil Nadu and Karnataka) followed by two villages from each of the regions. This has done keeping in mind the pointers from earlier studies that highlighted vast difference in the agrarian change (process) of irrigated and dry ecosystems (Athreya, 1990; Epstein, 1998).

7.4.2: Selection of Regions for Study

The selection of the states and districts as also the regions was guided by four step method. Initially, we focused on the states that are contagious and have undergone a similar agrarian history. The states of Tamil Nadu and Karnataka have a similar agrarian history but distinct outcomes. Tamil Nadu as an early entrant in the technological change could take advantage and developed strong irrigation base. The culture of borrowing is also quite strong in Tamil Nadu than that in Karnataka. Therefore, in the interstate comparison of capital formation Tamil Nadu scores over Karnataka. Moreover, despite witnessing (facing) more or less similar changes in agrarian conditions (situations) and farmers’ indebtedness, Karnataka shows extreme form of farm sector distress against Tamil Nadu, which probe one to study these two states. At the second level selected the districts keeping in view the distress felt as also progress of agriculture. The third step was to select villages for the in-depth study and here we resorted to select rainfed as against irrigated villages. This provided juxtaposition of economically well-endowed regions opposed to those, which confront severe constraints. While selecting the districts as well as villages we have also kept in view the outstanding agricultural credit.

7.5: MAJOR FINDINGS, CONCLUSIONS AND POLICY IMPLICATIONS

- The debate on the transition in agrarian structure over the last six decades in India largely pertains to the broader phases of agricultural growth, distinct with factors underlying. In the first phase, scholars in this subject largely focused on the ‘mode of production’ and the credit market operations appeared only incidental in the debate. This was followed by the phase of technological interventions for productivity growth and credit market was called for supporting technological dissemination through provision of additional credit to farm sector. The third phase was dominated by the
bank nationalisation and intensification of agricultural markets. These two simultaneous institutional interventions changed substantially the credit market operations and turned these to adjust with the changing agrarian structure. Finally, the market centric approach forced through liberalisation introduced significant changes in the credit market. These critical debates, the major focus of the discussion largely remain to changing agrarian structure but issues of credit market received separate attention. Even in the recent debate on farm sector distress, indebtedness is reflected to the point of declaring it as a major culprit in the making of agrarian crisis without locating it in the historical specificities of overall agrarian change

- Our land use analysis indicates that both the states have witnessed significant decline in the barren and potential land resources. Though most of potential lands went to the forest and cultivation purposes, the increasing demand for industrialization, urbanization and infrastructure development projects in Tamil Nadu have claimed significant proportion of barren and potential land for non-agricultural uses. In Karnataka, slow pace of industrialization and urbanization did not affect much the land under cultivation. When the size of potential land available for future is considered, Tamil Nadu appears at very vulnerable position. The State is left with very limited area under potential land and the increasing diversion of area under cultivation to non-agricultural uses signals danger. We also noticed that in both states the overall trends in total fallow land are positive and upwardly moving in the recent periods. These, however, show different phases of growth and decline. A high rise in the share of permanent fallow in Tamil Nadu indicates a considerable rise in the share of unviable holdings and rapid pace of urbanisation. Similarly, our analysis of cropping and irrigation intensity also clearly highlights that despite facing constraints on expansion of irrigation, Karnataka has been able to increase cropping intensity by bringing changes in cropping pattern system and promoting multi-cropping and short duration crops in many parts of the state. On the other hand, cropping and irrigation intensity in Tamil Nadu show declining trends over the last five decades. The decline, however, is quite sharp from early 1980s in irrigation intensity (18 percentage points) and from mid 1990s in cropping intensity (6 percentage points). The decline in the latter seems to have significantly influenced by the loss of land under net area sown and increased diversification of area towards long duration crops. In the case of the irrigation intensity, the diversion of area under the net sown area to non-agriculture sector and irrigation sources associated with such land resources seems to be major reasons behind its sharp decline. The intensive use of agricultural land with better farm practices (technologies) remains the only alternative to enhance the farm income in Karnataka,
While, in Tamil Nadu the irrigation intensity, net area sown and gross cropped area show declining trend signifying the declining importance of agriculture in the state.

- In our district-level analysis of land use pattern, it is found that the aggregated trends of land use components at the state level conceal a great amount of variations existing within sub-regions in Karnataka and Tamil Nadu. In case of Karnataka, the area under net sown even though shows a marginal increase, in almost 10 districts of state. In Tamil Nadu, except two districts all the districts, show substantial reductions in net sown area and total cropped area. The changes witnessed in actual land under cultivation (NSA) are well reflected in the area under non-agricultural uses, potential and temporary land resources. Notably, both the states report more or less the same percentage of increase in area under non-agricultural uses, albeit proportionate area continues to remain higher in Tamil Nadu (16.5 percent of total geographical area) than in Karnataka [(7.18 percent). Another important feature of the change is rising in the extent of fallow land in Karnataka (30 percent) and Tamil Nadu (58.5 percent). The rise, in the fallow land, however, is largely influenced by permanent fallow in Tamil Nadu and in current fallow in Karnataka. In Tamil Nadu out of 12 districts, nine reported increasing trends in area under permanent fallow whereas, the same number of districts showed opposite trends in Karnataka.

- Karnataka and Tamil Nadu despite taking several land reform initiatives, inequality in the agrarian structure continues to be severe in both the states and reinforced by an underlying process of marginalization. The agrarian structure in Tamil Nadu has been historically biased towards marginal and small holdings. In case of Karnataka, the process of marginalization appears to be relatively less detrimental as compared to that of Tamil Nadu as the increasing share of land owned by marginal farmers is being compensated by an increase in the area owned by them. The agrarian structure is also marked by a substantial increase in the number of operational holdings in both the states and decline in the area operated particularly in Tamil Nadu over the last three and a half decades. In Karnataka, despite of state’s best effort to minimise structural inequality in land holdings, almost two third of the land is being operated and controlled by capitalist farmers. Undoubtedly, there is a visible decline in the share of operational holdings and area operated by medium and big farmers in the State, but these (8 percent) still hold significant portions of total area (36 percent). Tamil Nadu also exhibits a similar picture.

- The increasing marginalization of land holdings in both states is quite visible. However, there appears a significant difference in the structure of land holdings and area operated across the districts. The extent of marginalization in Tamil Nadu and that
too particularly in Kanyakumari, Pudukottai, Chengelpattu and South Arcot districts is quite high. In these districts, share of marginal holdings ranged from 98.02 percent to 83 percent. In fact, the structural comparison over the two periods (1979-80 and 2005-06) also indicated an intensification of marginalization process. This process is quite strong in The Nilgiris, Dharmapuri, North Arcot, Madurai, Kanyakumari and Salem. In case of Karnataka, the structure of operational holdings across districts and extent of change over periods showed even wider differences as compared to Tamil Nadu. The extent of marginalization in South and Coastal regions was much higher than that of northern districts. It was noticed that the extent of change in marginal holdings ranged from 205 to 310 percent in 7 districts and 100 to 200 percent other seven districts. Interestingly, the changes were quite intensive in some districts. The increasing extent of marginalization across the districts of both the states corresponds to a net reduction in median, semi-medium and large holdings. Moreover, with increasing share of marginal operational holdings, the share of the area operated appears to be declining. This holds true quite strongly in the case of Karnataka and a little weak for Tamil Nadu for both the periods. The inequality in the distribution of the area operated in northern districts of Karnataka, are quite stark. In case Tamil Nadu, however, the difference between the two is less.

- The analysis of land market reveals that overall the extent of leasing-in of land in rural area is losing its relevance and not preferred by poor farmers. Fixed money is gaining prominence against others as far terms of tenancy is concerned, indicating poor returns in agriculture or high risk.

- The analysis of the production of commercial foods in Tamil Nadu suggests technological stagnation, causing decline in the yield of major cereals, sugarcane and pulses in the state. The improvement in production of major cereals until 1970s largely came from the growth in area and yield and afterwards only in growth of the former. Similar trend was noticed for sugarcane. The performance pulses remained poor over the entire five decades. The production of major cereals shows commendable performance in Karnataka over the past five decade. There has been significant rise in the area and production of maize, benefiting farmers growing maize under rain-fed condition. Similarly, with effective use of improved technology, pulses showed remarkable growth the production. The analysis of coarse cereals reveals that majority of poor farmers in rainfed regions do not much choices other than cultivating coarse cereals. The profitability of these crops is not only low but also prone to large fluctuation due to poor marketability and storage facility and natural and climatic constraints. The coarse cereals show a declining importance in the crop economy of
Tamil Nadu. Such decline in huge area under coarse cereals particularly since 1990s indicates influence of market forces on farmers’ decision-making in the state. Within the commercial non-food crops, the performance of oilseed was outstanding during 1980s to mid 1990s in both the states and more particularly in Tamil Nadu. However, since late 1990s decline in the production of oilseeds are evident in both the states due to cheap imports after liberalization of agricultural trade. These situations not only adversely affected the profit of farmers growing oilseeds, but also compelled diversify towards other crops. Similarly, the production of sugarcane shows a decline during the last decade due to frequent droughts and cheap import of sugar.

- The agrarian structure with increasing marginalization has undoubtedly posed a major threat to the economic viability of agriculture. Except few districts, the process has already started showing its signs into farm sector distress across the districts of Tamil Nadu and Karnataka. These are forcing increasingly number of farmers and particularly youth out of agriculture. In addition to these, even though the flow of formal credit to agriculture in the two states was enhanced in the recent years, this has largely gone to urban areas, benefiting corporate and selective traders-cum farmers. Our further analysis into linkage between the extent of commercialization and the flow of formal credit does not provide very encouraging picture. Some of the districts with a high share of area under commercial crops are also showing declining share of the agriculture credit flow. These, however, need to be careful analysed as it may also be outcome of profitable agriculture, diversified household income or increasing role of informal credit sources and this can best be explained through field observations. Despite these, the role of formal credit cannot be undermined considering the increasing technological requirements and cash components of farm operations. The informal credit market is still dominant and exploitative in nature, charging exorbitant rate of interest.

- Our analysis hints towards improvement in the flow of formal credit in the two states in late twenties. But the enhancement in the flow of agricultural credit in late twenties is an outcome of the increasing share of credit to the urban areas against the rural. This implies that, within the reduced share of formal credit to agriculture the major beneficiaries are not necessarily the farmers. Interestingly, we find weak association between the extents of commercialization with the flow of formal credit. In fact, districts with low share of area under commercial crops are the one experiencing improved share of agricultural credit flow and it could be due to the diversification of the area in the districts towards high value crops (horticultural or floriculture). The districts with high CR of commercial crops and a low or declining credit CR, are the
one where the agricultural is facing high risk, because there the farmers are spending more from the loan raised from informal credit market at high interest rate, and there is fluctuations in the total output generated which may severed by fluctuating price.

- Our analysis into the debt burden of cultivator households based on the repayment behavior clearly reveals their increasing dependence on borrowing with higher level of commercialization and decline in the income from agriculture. The borrowings from informal sources at exorbitant interest rate have not only put higher loan burden on them, but also led to deterioration in their financial conditions in both the states. The most affected among these are the poor marginal and small farmers who are increasingly facing difficulties in accessing formal credit due to erosion of their collateral capacity. Moreover, the formal credit flow to agriculture in backward regions show signs of improvement in recent years, a few agriculturally advanced regions continue to control a major share in overall credit supply. Notably, the dependence and debt burden of the poor and vulnerable social groups on informal sources in both the states has enhanced over period of 1991-92 to 2002-03. The large number of households of SCs (71 percent) in Tamil Nadu STs in Karnataka (81 percent) have borrowed loan at above 20 percent interest rate in 2002-03. In addition, the condition of near-landless farmer appears to have got even worse as these could hardly get access to formal credit market.

- The analysis of distribution of land and non-land assets across social groups reveals that the ownership of assets (land and non-land) is lowest among the SCs in the two states. In paradoxical results, the average value of land asset for SCs in Tamil Nadu shows marginal increase, but opposite trend in Karnataka. The results also point out that there has been a significant rise in the value of both land and non-land assets of socially well to do group (other) during this period in the two states. It indicates the role of land asset in creating non-land assets in rural area, reducing risk through income diversification and state’s failure in improving asset position of the deprived sections.

- The increase in the cost of cultivation has severely affected the net income of farmers. This is evident in the decline in share of loan borrowed for farm expenses purpose from formal sources and at the same increasing their dependence on informal borrowings (45 percent) in Tamil Nadu. These indicate that farmers in Tamil Nadu are facing greater difficulties in repaying loan borrowed from formal sources and therefore increasingly turn to informal sources either to pay back interest amount or meet farm or consumption expenses. Such a change in the borrowing pattern could also be indicative of the structural change in the agrarian economy of the state with declining importance of agriculture as a source of livelihood. Unlike Tamil Nadu in Karnataka in 2002-03,
there is a rise in the share and amount of loan borrowed towards farm expenses coupled with decline in loan borrowed to meet unproductive expenses. It clearly indicates that the farmers are spending more to meet expenses in farming and has a greater possibility to repay debt. Borrowings from informal sources have increased in both the states though at a greater degree in Tamil Nadu against Karnataka in 2002-03 against 1991-92. The period witnessed resurrection of professional moneylender as one of the major sources of informal credit to the cultivators in the state against agricultural moneylenders in nineties. The share of persons and amount lend increased from almost 1.2 to 6 percent and 3.5 to 14.6 percent in Karnataka. This indicates the increased participation of poor peasants in the credit or labour linked interlinked markets and a sharp rise in the borrowing at interest above 15 percent (from 26 percent to 45 percent) reflects their greater exposition to vulnerabilities.

- Our analysis of case studies clearly brings out that the villages in irrigated regions of Karnataka continue to be predominantly agricultural economy as income flow is regular and there are not many risky years. There is emergence of allied agricultural activities and these are increasing at a good speed. There seems to be some transition visible between the two separate pictures. On the other side, the villages in irrigated regions of Tamil Nadu have already undergone this phase and turned agriculture as a secondary or residual activity. The allied economic activities are taking a dominant role in these villages of Tamil Nadu. Dry villages of both states have continued with predominant agricultural economy but the out migration of agricultural labour and sub-marginal farmers continues. This phenomenon has changed the agrarian structure and production relations in the villages. The remittances from the family members staying in cities and seasonally migrants continue to push the economy of the villages. This has led to increasingly presence of high age group workforce in agriculture. Wage income now forms significant share of income of marginal farmers, whereas remittances for small and medium farmer households. Besides, increasing cost of cultivation, product and credit market failures are widely present in these regions and continue to pose severe threat to their profitability.

- In changing agrarian conditions, marginalisation comes out to be one of the prominent threats to the economic viability of farming. Similarly, sub-marginalisation or near landlessness is progressing very fast in both irrigated and dry regions and states. This has emerged as one among the important threats to the farming occupation. The indebtedness among selected farmers largely appears to be falling on well-documented reasons of crop failure, and imperfections in product and credit markets. However, the increasing influence of market forces in the decision making of farmers with less
support from formal credit sources seems to have provided such momentum to perpetual indebtedness and reinforced by process, called the Cascading effect. Its manifestation particularly is quite strong among marginal, small and medium farmers of dry regions of both the states.

- Negligence of rain-fed agriculture is the major culprit behind high share of farm indebtedness. Notably, the market forces are being introduced in the region without addressing structural bottlenecks and imperfections in factor and product markets. Farmers are increasingly finding themselves into the clutches of middlemen and adverse policy decisions of the state. Moreover, weak price support and increasing cost of cultivation has severely affected their income from agriculture. The increasing fallow land particularly permanent is an indication of distress farmers facing in Tamil Nadu and Karnataka. These findings call for calibrated strategies to address the issues of rainfed agriculture in liberal policy regimes. Both product and credit market operations needs lots of attention from the state while promoting commercialization in the region. The climatic conditions put severe constraints on development of irrigation especially groundwater. In both states, the groundwater dominates irrigation sector and pose serious threats dwindling water table. Therefore, apart from developing other irrigation through other sources, effective programmes could be formulated to improve their economic conditions through various measures. These include promotion of watershed, precision farming, integrated farming systems, cultivation of drought tolerant crops and varieties, livestock farming, dairying, cultivation of low-moisture and high-value crops such as seasonal flowers, fruits (mangoes) and vegetables (drumsticks).

- The intensive marginalization of holdings is evident in both the states. This has severely affected economic viability of holdings, especially of rainfed agriculture. The consolidation of unviable holdings on cooperative basis though appears to less appealing and full of challenge in Indian socio-economic context, other steps could be taken up minimize cost of inputs, trade margin and bargaining power of farmers. For example, joint sharing of resources such as water, credit, machinery and equipment are among some of the crucial measures in addressing issues of factor markets. Similarly, farmers groups could be formed to increasing bargaining power in procuring inputs and selling outputs in the market.

- The land reform measures and other policy interventions do not appear to have increased the asset holding position of poor and deprived social groups. The incidence of landless labour, poor economic condition, high dependence on informal borrowing is
prominently features among these groups in both the two states. These groups require prominent attention on various socio-economic front to uplift their economic condition.

- The nature of agrarian household is undergoing rapid change in both the states. Farmers as well as other members of family are getting evolved in non-farm activities. Our field survey clearly brings out the phenomenon of out-migration among youth to cities and towns prominently and increasing role of remittances in sustaining agricultural growth (through investment) and rural household economy. This also indicates the crucial role being played by non-farming activities and remittances in shaping income, saving, investment and borrowing and repayment pattern of agrarian households. The concerns over youth leaving farming, however, need immediate policy attention. The situation demands well-crafted strategies towards broader rural development, which address not only growth and development aspirations of youth, but also the income gap between rural and urban geography.

- A uniform credit lending is one of the major flaws of current credit policy. To make a positive dent of formal credit on agricultural performance, heterogeneous nature of (indebted) household needs to be captured while formulating “credit policies”.

- The recent trends on formal credit flow to agriculture are very disturbing and need immediate correction. The formal credit allotted to agriculture is being diverted to urban areas and high value crops. Such biased credit policy adopted by banks would adversely affect the livelihood of farm population, and may pose threat to the food-security concerns.

- The phenomenon of multiple debt burdens is becoming more conspicuous among the farm household with the greater consolidation of commercial agriculture. The NSSO survey on “debt and indebtedness” only takes into account the major source of debt, ignoring altogether very important aspect of indebtedness in India. The issue needs to be address in upcoming survey to bring out the actual burden of indebtedness among Indian farm households.