INTRODUCTION

1.1 The Problem:

Agriculture forms the basis for a way of life for possibly two thirds of world’s population. Agriculture is the function of physical, socio-institutional, techno-economic factors which are dynamic in nature and keeps on changing with the basic objective of increasing production of foodgrains surplus. There is an extensive array of writings, establishing the role of agriculture in pro-poor growth of developing countries (Tendulkar, 1990; Hazell and Ramaswami, 1991; Dorward et al., 2004; Diao, 2006). Beginning in the 1960s, a major revision in development thinking argued for a central role of agriculture as a driver of growth, especially in the early stages of industrialisation (Johnston and Mellor 1961; Schultz 1964). Agriculture has revealed the role of structural transformation in many Asian countries through the green revolution, which began in the 1960s and spread rapidly throughout the region in the 1970s and 1980s, especially in densely populated and irrigated areas. The unprecedented fall in global poverty in Asia in recent decades reflects a large contribution from this successful agricultural transformation (Datt and Ravallion1998; Ravallion and Chen 2004). As agriculture constitutes large share of national output and employment in the early stages of development, this sector is explicitly treated in most theories of economic development (Timmer, 1988). Various theories have evolved over time, but commonly these can be divided between the classical views in the 1950s and 1960s of agriculture as a passive contributor to economic growth, and the agricultural-led industrialisation school of thought of the 1970s and 1980s.

By and large, agriculture’s role seems to evolve through four basic stages: the early ‘Mosher’ stage when ‘getting agriculture moving’ is the main policy objective (Mosher, 1966); the ‘Johnston-Mellor’ stage when agriculture contributes to economic growth through a variety of linkages (Johnston and Mellor, 1961); the ‘T.W. Schultz’ stage when rising agricultural incomes fall behind those of a rapidly growing non-agricultural economy, inducing serious political tension (Schultz, 1978); and the ‘D. Gale Johnson’ stage where labour and financial markets fully integrate the agricultural economy into the rest of the economy (Johnson, 1997 and Gardner, 2002).
In India, agriculture counts for almost one fifth of the national income and more than two thirds of the total work force is engaged in agriculture. Around 75 percent of the people in India live in rural areas and strongly rely on agricultural outputs for their livelihoods. In India, high rates of economic growth were observed whenever the agricultural sector performed well (Ninan, 2000), especially from the second period of the green revolution between 1969-70 to 1986-87. Agriculture is the backbone of the Indian economy. Besides a major source of livelihood and employment, it provides raw materials to our industries. Indian agriculture is known for its multi-functionalities of providing employment, livelihood, food, nutritional and ecological securities.

Despite of being an important source of living, its performance has been decimal at around 2 to 2.8 percent per year. Inadequate investment and low productivity have offered the poor performance of agriculture sector. The Indian agriculture is facing the problem of vicious circle which prevails in it through low investment caused by low farm income which in turn brings about low farm productivity. It is therefore, necessary to increase capital investment in agriculture to break up the vicious circle. The emphasis has always been on ‘big push’ as argued by Rosenstein-Rodan, ‘critical minimum effort’ by Leibenstein, ‘bottle-neck breaking’ by Ragner Nurkse and ‘linkage effect’ by Hirschman. The theories of development have focussed on the capital investment in agriculture.

Since the introduction of green revolution in India, there has been a growing tendency among the farmers to replace the traditional farming with scientific and modern techniques which includes the use of improved seeds, fertilizers and irrigation facilities. These inputs involve heavy financial investment which the majority of farmers cannot afford from their own savings. In the initial stages, agricultural credit was being provided by non-institutional sources like moneylenders, traders, relatives etc.. Due to exploitative nature of non-intuitional sources, the formal banking system was encouraged and entered the rural market. Among many inputs, credit is considered as an important input for the development of agriculture. The role of credit in agriculture has been pointed by many economists. Lewis (1955) pointed out, “farmers need much more capital than they can afford to save”. Higgins (1959) marked, “credit may be necessary for expansion in some areas, especially small
agriculture and small industry”. Leibenstein (1957)\textsuperscript{18} observed that, “if capital and labour, entrepreneurial facilities, technical knowledge, and credit facilities increases, the income per head will rise”. Thus, among the various factors that govern the pace of agricultural development, credit is one of them. Credit is assumed to be helpful for changing the composition and distribution of production in favour of deficit producers. Improved access to formal credit is supposed to shift rural borrowings from informal market to formal institutions, increasing the use of improved inputs and technology, leading to increased production and higher income for the rural poor (Donald, 1976)\textsuperscript{19}.

However, the limited role of credit in development of agriculture has arisen due to extreme uncertainty associated with agricultural production and marketing of its produce. By and large the issue has been settled by making distinction between traditional and modern agriculture. There are fundamental structural differences which have been found in the nature of agriculture of developed and developing countries. In the developed countries, the farmers are becoming more and more entrepreneurs and their approach to production does not essentially differ from that of industrialist (FAO, 1975)\textsuperscript{20}. Their approach to agriculture is totally profit-oriented. But the nature of agriculture in developing countries is more or less traditional. Traditional agriculture is characterised by subsistence farming in which the extended agriculture family provides as much as possible for its direct needs of food and in particular for foodgrains. Since the entire energy of farming community is diverted for the production of foodgrains, it is a logical that farmers are less market-oriented and lack of enthusiasm to raise cash crops. Thus, it can be said that agriculture is a way of life in developing countries.

The traditional system of farming is in the process of transformation to modern agriculture which itself is undergoing through rapid changes. It has added a new dimension to agriculture. The role of credit in traditional agriculture is quite different from its role in modern agriculture. Therefore, there is a need to understand the characteristics of traditional agriculture. The traditional agriculture is defined as subsistence farming in which production activities take place for their own consumption. Regarding the nature of subsistence agriculture, Food and Agriculture Organisation observed that the traditional agricultural practices were the result of social factors which were established over centuries. According to FAO, “agricultural production is the variable factor determined by family needs which in turn depends on
the tradition and the varying extent of composition of family” (FAO, 1975)\textsuperscript{21}. Thus FAO focusses on the social characteristics of traditional agriculture. On the other hand, Prof. Schultz (1970)\textsuperscript{22} explained that the production behaviour of farmers bound by the traditional agriculture. He observed that farmers are efficient but the marginal rate of return to investment in traditional inputs is so slow that they have little incentive to save and invest or work hard. The traditional agriculture can also be characterised in terms of production relation. It is pre-capitalist because of very nature of the production. The main features of the capitalist production are: i) surplus extracted through extra economic pressure of unfree labour; ii) surplus appropriated directly without intervention of any market; iii) surplus dissipated in luxury consumption and different unproductive investment, leaving the stock of productive capital unchanged and production in a cycle of simple reproduction; iv) technology remains unchanged (Rudra, 1982)\textsuperscript{23}.

There are three groups of economists who have elaborated the characteristics of traditional agriculture. The first group of economists explain the cultural characteristics of traditional agriculture. Prof. Hansen is of the view that in case of India “agriculture practices are controlled by custom and tradition” (Swain, 1989)\textsuperscript{24}. It can be said that the traditional cultural values existing in the farming community dominates agriculture. The second group of economists explain economic interpretation of traditional agriculture. It is based on Schultzian model of “efficient but poor economy” which propounded that in traditional agriculture, capital is not significant constraint on the output of small farmers. To Schultz, resource allocation in this type of agriculture is efficient with the existing state of art. According to this “efficient but poor” hypothesis, the community is poor because the factor on which the economy is dependent is incapable of producing more under existing circumstances is valid. It is argued that, farmers have been gradually involved in the efficient organisation with comparatively inactive levels of technology, physical conditions and resource costs (Mellor, 1976)\textsuperscript{25}. In the absence of new technology, there will be no motivation for new investment or agricultural credit in traditional agriculture. The third group of economists focussed on the “relation of the production”. According to them, it is the indebtedness among the farming community which led to the technologically motionless and non-credit enthusiasm in agriculture. The third group of economists explain semi-feudal or pre-capitalist characteristics of traditional agriculture which act
as stumbling block to the release of productive factors and to the development of agriculture on capitalist lines. In the mid-fifties it was observed that the semi-feudal mode of production in India acted as the ‘built-in depressor’ that inhibited technical change and growth in agriculture (Patnaik, 1981). To make productive investment on capitalist lines, the productivity raising new technologies should be introduced that will bring quantum jump in the yield and surplus per unit of area and overcome the rent barrier. Thus, what is required is not state sponsored expansion of rural credit, but a land augmenting technological progress associated with fertilizer-fed hybrid seeds and controlled irrigation facilities to increase productivity per unit of area. Once new technology has been introduced and new inputs are made available to the market, credit will play a significant role in increasing agricultural productivity. On the other hand, the lack of market for farm products leads to involuntary exchange. Non-legalised share cropping is also a major constraint in transforming traditional agriculture into modern one. Thus, traditional agriculture is basically a technologically motionless phase in which attempted changes usually produced small increase in the production. In the absence of the new technique, any injection of credit will be used primarily to finance non-productive expenditure.

In the modern agriculture, agricultural sector becomes fully commercialised and the farmer produces for the market with profit motive. It is the new technology and availability of new inputs that can transform traditional agriculture into modernised one. The new technology may be divided into two categories. One is depending on the chemical sources of energy and other one on mechanical sources of energy. Biochemical technology is “land augmenting” and “labour absorbing” in nature. It is based on the traditional element along with sufficient use of irrigation, fertilizers and HYV seeds. It is appropriate for labour surplus country like India as it absorbs more human labour. Mechanical technology is labour displacing in nature, displaces human and animal labour and make use of machines like tractors, threshers etc.. Thus, the land augmenting technique has no size bias whereas mechanical technology has a size bias.

To adopt any one of them, the farmers will be needed sufficient amount of cash. With the existence of narrow resource base and saving potential in the farming community, the supply of outside finance becomes absolutely essential. A majority of
the cultivators find borrowings necessary as their own farm savings are inadequate to finance various agricultural development activities. It has been argued that credit provides command over resources and facilitates the needed liquidity to the farmers (Lipton, 1976). In such situation the credit institution can play a dynamic role in modernising agriculture and increasing productivity. Agricultural credit shows a dynamic character when major portion of it is utilised for financing technological package. For the successful implementation of any agricultural credit projects, certain condition must be fulfilled such as the provisions of remunerative prices, proper marketing facilities, creation of infrastructure, availability of new inputs, proper economic planning and extensive services, and proper system of land tenure. Credit programmes would be failure even under the new technology where farmers have no security of tenure. Finally, land reforms are necessary not for increasing productivity but for equity consideration. In the absence of requisite land reforms, a government supported credit program will help in subsidising big land owners at the expense of small farmers.

In India, institutional credit for agriculture was viewed from the angle of protecting farmers from the grip of moneylenders. It was hardly considered as an instrument of production enhancement. Traditionally the role of agricultural credit was of giving push to development process. It is the lubricant that keeps the wheels of development moving. The introduction of the green revolution in 1966 is being considered as transformation of Indian agriculture from traditional to modern one. Indian agriculture has witnessed a major technological break-through and progressive commercialisation. With the modernisation of agriculture in the mid-1960s, the demand for short term and long term agricultural credit started rising at a rapid rate as the farmer has to purchase costly inputs like fertilizers, HYV seeds, pesticides, etc. from the market. Capital, together with scientific knowledge, played a very significant role in increasing the productivity of agriculture. This had shifted the government attention from co-operative based approach to state-owned banks to create an alternative source of finance to free the farmers from the grip of moneylenders.

Taking the above into account, many committees recommended improvement in the outreach of the formal financial institutions in favour of rural areas, and small and marginal farmers. The nationalisation of banks in 1969, various policies aimed at
social banking and the establishment of Regional Rural Banks in 1975 resulted in an increase in the number of bank branches in rural areas. During the mid-1980s, the mandatory priority sector lending was introduced to ensure adequate credit flow to hitherto neglected sectors such as agriculture and alike. Undeniably, these resulted in a vast network of rural financial institutions, and a rapid growth of lending to all sectors including agriculture.

However, the inequalities in the banking system across the regions and social classes persisted because of the insistence on collateral, which could not be provided by the poor, complicated administration procedures, long distances from the villages to the branches, the cultural gap between bank officials and the poor, political interference, lack of provision for consumption credit and a widespread belief that the poor were non-bankable (Sarap, 1991). Moreover, some of the rural poor obtained credit from the financial institutions but they found that the credit was neither timely nor adequate for their needs (Rajasekhar and Vyasulu, 1990). On the other hand, the banking system began to face problems of higher transaction costs because of lending small amounts to large numbers of borrowers and recurring losses in the late 1980s. The managerial inadequacies within the banking system also caused problems (Vyasulu and Rajasekhar, 1993). These problems resulted in an alarming growth in overdue payments. This, in turn, adversely affected the recycling of credit, and led to lower profit margins (Singh, 1991). Many commercial banks, regional rural banks and co-operatives were consequently incurring losses. Thus, the rural banking system in India made tremendous quantitative achievement by neglecting the qualitative aspects of the credit delivery system (Shivamaggi, 2000).

Notwithstanding the impressive geographical spread, functional reach and consequent decline in the influence of informal sources of credit, rural financial institutions were characterised by several weaknesses, viz., decline in productivity and efficiency; erosion of repayment ethics and profitability (Mohan, 2004). Several committees/working groups/task forces had been formed to go through financial aspects of rural financial institutions. The Government of India appointed the Narasimham Committee in 1991, which recommended measures to improve efficiency, profitability and viability of the banking sector. Others which were looked at the above issues were “The High-Level Committee on Agricultural Credit through
Commercial Banks” (Chairman, R.V. Gupta, 1998), “Task Force to Study the Functions of Co-operative Credit System and to Suggest Measures for its Strengthening” (Chairman, Jagdish Capoor, 1999), “Expert Committee on Rural Credit” (Chairman, V.S. Vyas, 2001), and “The Working Group to Suggest Amendments in the Regional Rural Banks Act, 1976” (Chairman, M.V.S. Chalapathi Rao, 2002) etc. These committees/working groups/task forces made far-reaching recommendations having a bearing on agricultural credit.

The Narasimham Committee brought about various measures in the area of agricultural credit such as deregulation of interest rates, abolition of branch licensing, gradual phasing out of directed credit programmes, closing down of loss-making bank branches and so on. The committee was of the view that easy and timely access to credit was far more important than its cost. Gradual reduction of the cash reserve ratio (CRR) and statutory liquidity ratio (SLR) to enable the banks to have larger quantum of loanable funds was also recommended. Introduction of prudential accounting norms and provisioning requirements for all rural credit agencies etc.. It can, therefore, be indicated that the banking sector reforms may have positive as well as negative impact on the credit flow to agriculture.

In order to find out the changes in banking practices associated with agricultural credit and their influences, there is a need to go through the literature related to the agricultural credit as well as banking developments. The present study comes across the studies and reports which are focussed on various aspects of agricultural credit. Some of these studies deal with the relationship of credit and agriculture growth while the others discuss banking reforms in India and its impact on credit flow to agriculture.

1.2 Review of Literature:

This part of the chapter deals with the review of available literature on the topic chosen for research. It enables us to gain insight into the problems and guides us to minimise duplication of research efforts. The review covers all the aspects related to the theoretical understanding of the subject and it takes up the roles of bank’s financing in agricultural progress, its requirement, accessibility and supply, improvement in credit delivery, repayment and overdues and utilisation and impact of
credit and on the other part it also takes into consideration the studies related to banking status, banking developments, and banking reforms and its impact on agricultural credit lending.

Dinesh (1971)\textsuperscript{34} observed that the multi-agency approach advocated by the government in the field of agricultural finance has thrown-up many conflicts at the point of dispersing the agricultural finance. According to him, the conflicts were more pronounced between the long-term financing agencies and the commercial banks. The long term financing programme so far undertaken by the land development banks has confined itself to the specific areas of agricultural development. For the country as a whole, more than 90 percent of the long-term loans were distributed for three main purposes, namely, digging of new wells and repair of old ones, purchasing of machinery and land improvement.

Sharma and Prasad (1971)\textsuperscript{35} studied the credit needs, farm size-wise and region-wise at different stages of economic development in agriculture. They have used linear programming technique to estimate credit requirements and its impact on cropping patterns and incomes. The study revealed that irrigated farms and improved technology would call for more credit. Adequate credit increased income substantially even at the existing level of technology.

Krishnaswami (1972)\textsuperscript{36} highlighted the progress of co-operative movement in rural India since independence till the 1970s. According to him, the co-operative credit movement has made great strides since 1950-51. The number of these societies went up from 1.05 lacs in 1950-51 to 2.12 lacs in 1960-66 and the subsequent efforts at reorganisation including amalgamation with a view to forming viable societies, have brought down the number to 1.62 lacs by the end of 1970-71.

Nakkiran (1972)\textsuperscript{37} has highlighted on prevailing problems in agricultural credit. He pointed out that till recently the emphasis was laid on the provision of cheaper credit at a low rate of interest. However, increased rate of interest was favoured by many committees. According to the author, a planned organisation of new non-credit societies and coordination among the credit, marketing, processing and consumer co-operatives can be arranged to make the entire agricultural operation and credit programme a successful one. The one way channel of pouring credit to the agricultural sector must be discouraged. The co-operatives must be able to stand on their own legs.
with minimum external help. The co-operatives must boost the deposit mobilisation programme very vigorously.

Dasgupta and Dutta (1976) were of the view that small farmers were generally accepted as non-credit worthy by all the lending agencies. In their study, they had analysed three types of villages, viz. partially irrigated village, unirrigated village and village with relatively greater emphasis on mixed farming of Dhenkanal district where Small Farmers Development Agency had started functioning. With the present level of consumption and development expenditure, no balance was found to be left out of their present total income in all the sample holdings of the three categories of villages. The situation completely changed, when higher farm business was generated by the adoption of new technology, greater diversification and inclusion of commercial crops and animal husbandry programme in the production plans.

Kurup’s paper (1976), based on a pilot survey in Trivandrum taluk, sought to bring out certain less known but crucial aspects of the rural credit market in Kerala. The study has found that non-institutional agencies account for an overwhelming proportion of the credit supply in Kerala and the average rate of interest is much higher than the average indicated by the Reserve Bank’s All India Debt and Investment Survey. The bulk of the institutional credit is appropriated by a relatively small proportion of households belonging to the upper stratum of families.

Avadhani’s study (1979) has explained the adverse effect of institutional credit. According to him, most of the bank’s loan was used for consumption and this has contributed to increase in inequalities. He observed that there are certain weaknesses, which are inbuilt in the operation of credit, are the causes for it. The institutional credit has only marginal positive impact on rural incomes, employment and productivity.

Basu (1979) in his study established that the share of agriculture in total outstanding credit of the commercial banks has increased several times, but these banks have failed to maintain a minimum degree of uniformity in the regional distribution of agricultural outstanding credit. The commercial banks have successfully avoided agricultural credit in areas where land concentration was high, but at the same time, credit was mopped up by areas with high degree of concentration of assets. It was
found that intensity of cultivation has a significant and positive impact on agricultural credit provided by commercial banks.

The CRAFICARD Report (1981)\textsuperscript{42} characterised the problem of overdues as wilful which arise from the lack of will and discipline on the part of the cultivators. According to the Report, the excessive politicisation and bureaucratisation have been responsible for overdues.

The study of Angadi (1983)\textsuperscript{43} showed the extent of concentration of priority sector advances in general and agricultural advances in particular, in some selected states of India. A multiple regression technique based on OLS (ordinary least square) method was employed to assess the extent of the impact of explanatory variables on agricultural advances. The study revealed that degree of concentration both with respect to priority sector advances and agricultural advances in the selected states was less in 1979 as compared to those in the year 1969-70. The empirical evidence demonstrated that uneven banking facilities, total cropped area and certain other socio-economic factors like extent of irrigated and dry farms, size of the farms, area under high yielding varieties, cash and non-cash crops, mechanised and non-mechanised farms, use of chemicals and fertilizers have been the major factors responsible for unequal distribution of agricultural advances.

Mohanan (1983)\textsuperscript{44} in his study on “Integrated Credit and Small Farmers: A Kerala Study” found that credit is an important integrated factor to sustain progress. It is contented that investment credit when blended with production credit stimulates agricultural growth. Investment credit to small farmers is strategic because it accelerates the pace of modernisation in agriculture. The flow of integrated credit and farm services are essential ingredients to attain progress in farm business enterprise. He observed that the average income level of farmers assisted under Small Farmers Development Agency (SFDA) scheme was higher than the non-beneficiaries. The flow of integrated credit seems to have helped the SFDA beneficiaries to attain higher income level compared to non-integrated credit group.

Murali (1983)\textsuperscript{45} opined that under the Lead Bank Schemes, the lead banks are required to prepare district credit plans and annual action plans which encompass the resources and potential for banking development in the district and also provide suitable banking schemes. Thus, the lead bank acts as a consortium leader for banking
development in the district. Further, the scheme has become the most important device
for proper implementation of socio-economic programmes designed to help the
minorities and weaker sections of the society. Despite many efforts the scheme was not
completely successful. However, it gained much significance in the development of the
discarded areas and neglected sections of the society.

Pawar and Deole (1983)\(^{46}\) in their study emphasised that the plans for
agricultural development would be incomplete, if attempts to solve the problems of
small farmers such as absence of timely credit, proper guidance and essential supplies
of seed etc. are not considered. Efforts in this area need to be intensified in order to
have a better perspective of the socio-economic problems of these farmers. They also
indicated that the credit requirements on irrigated farms were double than that of
rainfed farms.

Bandyopadhyay (1984)\(^{47}\) observed that in the informal loan market, the loan
contracts that do not explicitly mention the rate of interest carry much higher implicit
rates than those which do mention the rate. It is found that the average rate of interest
on the fully repaid loans comes to about 100 percent, but the rate charged from the
landowning cultivators comes to about 60 percent per annum. The high rate of interest
is an obstacle to economic development. The monopoly element in the rate of interest
can be reduced by expanding and strengthening the organised sector. The inability of
the small farmers to avail the institutional credit facilities as against the availability of
such facilities to the large farmers not only contributes to the perpetuation of the
monopolistic position of moneylenders but also leads to the perpetuation of the
prevailing income disparity between the small and the large farmers.

Ghosh working group (1984)\(^{48}\) indicated that the commercial banks are
required to lend at least two-third of differential rate of interest advances to the weaker
sections in the rural areas to ensure maximum benefit to the neglected classes of the
society. It is further stipulated that 40 percent of the advances should go to the
beneficiaries belonging to scheduled castes and scheduled tribes communities.

The study of Singha and Upadhyya (1984)\(^{49}\) pointed to the recoveries in regional
rural banks (RRBs) operating in Bihar and reported that the loan recoveries in RRBs
declined continuously during the period 1978-80. The reasons for declining or low
loan recoveries were- inadequate arrangement for recovery in bank branches and the
shortage of funds with the borrowers to repay the loans either due to crop failure or due to expenditure on marriage ceremonies or other social functions or illness of family members. Inadequate follow-up by banks for repayment and wilful default were also important reasons for declining loan recoveries in RRBs.

The Government of India (1985)\textsuperscript{50} conducted a study which covered 16 states and 33 districts all over India. The study observed that there was inequality in the distribution of the meagre credit among the farmers. Accessibility of credit for small and marginal farmers was low and even zero some times. The study observed the presence of inaccessibility of credit, delay in credit distribution and inconvenience due to distantly located branches.

Panda (1985)\textsuperscript{51} has found that the farmers of irrigated area were borrowing larger sum from institutional agencies on a lower rate of interest in comparison to farmers of non-irrigated region. The medium and large farmers are taking more loans on lower rate of interest as compared to small farmers. The farmers belonging to non-irrigated region divert a higher proportion of credit to non-productive purposes than the farmers of irrigated region. The medium and the large farmers are diverting more loans for non-productive purposes as compared to small farmers. Regarding overdues, it is concluded that the percentage of defaulters to borrowers in the case of farmers of irrigated region is lower than that of non-irrigated region.

Dadibhavi (1988)\textsuperscript{52} attempted to analyse the regional disparities in the distribution of institutional agriculture credit between 1972 and 1985. He further examined whether the commercial banks have gone into the fertile land of co-operatives. The study captured that there is increasing concentration of institutional credit to agriculture in a few regions/ states between 1972 and 1985. There is also uneven distribution of credit among the small and large holders. Small holders rather than large holders should get more attention from bank policy makers, as this class of borrowers is already in a vulnerable position. The identification of credit deficit states may serve as a guide for branch expansion policy of commercial banks in future. The paper also found that the commercial banks have worked on the fertile land of co-operatives.

Giri and Gupta (1988)\textsuperscript{53} found large inter-state and intra-state variation in the distribution of institutional credit from the Primary Agriculture Credit Societies. In the
agriculturally backward regions, the amount of loan per borrowers was lower while it was higher in some of the agriculturally developed region and in regions with strong co-operative movements. Loans from commercial banks and RRBs helped to balance the regional disparity in the flow of credit arising out of unequal growth of co-operative movement. They suggested that the distribution of loan should be made according to their relative weightage in total borrowing members and on the basis of medium and long term loans covered by the state. Fixing of credit limit at variable proportion among different size groups of farmers will help to eliminate inter-state and intra-farm differences in the distribution of agriculture credit. There should be extension of activities of commercial banks and regional rural banks.

Haque and Verma (1988)\(^{54}\) in their study found the domination of private agencies including agriculture and professional moneylenders in the agriculture credit market in many regions. Moreover, the highly skewed distribution of institutional credit in favour of relatively progressive regions and better-off section of agriculture population was likely to generate strong backwash effects, thereby retarding the overall pace of agriculture development. Their concluding remarks suggested a need of more egalitarian credit plan to be made and maintained for rapid and balanced agriculture development of the country.

The paper of Parihar and Singh (1988)\(^{55}\) revealed that the majority of small farmer-borrowers are still dependent on the non-institutional credit such as commission agents, moneylenders, traders etc.. Moreover, the medium and large size farmers obtained a higher quantum of advances for short and medium term loans as compared to the small size of the farmers. The share of institutional credit in total investment in farms is being affected by fixed cost per hectare, per capita consumption expenditure, share of institutional credit in total investment.

Dandekar and Wadia (1989)\(^{56}\) concluded that the small farmers continue to be inadequately attended. New institutions have not helped satisfactorily the small farmers, the marginal farmers and the landless labourers for whom these were primarily set up. The small and the marginal cultivators continue to depend on the moneylenders to a greater extent.

Rath (1989)\(^{57}\) has analysed the regional disparities in agricultural credit disbursement. He found that there was a wide regional disparity in crop loan (short
term) disbursement to agriculture compared to the share of different regions in the total gross cropped area of the country. There appeared to have been no improvement in the supply of credit in traditionally underdeveloped agricultural regions. The regional pattern of distribution of credit provided by the commercial banks was not significantly different from other financial institutions, except that its concentration is somewhat greater in the four southern states namely Kerala, Tamil Nadu, Andhra Pradesh, and Karnataka. He concluded that with these new credit institutions the unequal regional distribution of credit has become worse. Rath further observed that it is indicated by the data published by NABARD that while the larger size cultivator-borrowers borrowed more than the smaller ones in all the states, this was not the case with crop loans per hectare of land under cultivation with the borrowers. Indeed, the smallest size farms had the highest crop loan per hectare; the amount becoming smaller as the size of holding increases. Amongst the borrowers from credit institutions, the larger the farmer the greater is his dependence on sources other than credit institutions for financing his current farming requirements.

The Agricultural Credit Review Committee Report (1989) of RBI under the chairmanship of A.M. Khusro raised the problems and issues relating to the rural financial system. The Committee emphasised the two broad objectives. Firstly, the financial viability of the lending agencies in rural areas must be maintained in order to improve and enlarge the flow of credit to the rural sector. Secondly, the rural credit system should be strengthened.

Kahlon (1991) opined that defaults in loan repayment in many cases are involuntary or non-wilful, arising from inflexible procedures or from banks' imperfect perception of farmer's repaying capacity. Further, he vouched with empirical evidence that under-financing and unrealistically tight repayment schedules are common errors, which contribute to involuntary default of borrowers.

Rajasekhar and Suvarchala (1991) studied the problem of overdues in institutional credit flow to agriculture and argued that the main factor contributing to the problem of overdues in the late eighties was political intervention in the functioning of credit delivery system.

Rajasekhar and Vyasulu (1991) in their study on overdues added that the factors contributing to overdues are managerial as well as structural ones.
Anandteerth and Basanna (1992)\textsuperscript{62} reviewed 20 micro-level studies conducted in various parts of India during 1967 to 1991 on defaults of institutional farm loans. They concluded that institutional loans to agriculture had been defaulted by all categories of farmers, both wilfully and non-wilfully. The main reason for non-wilful default was found as the failure of the institutional loans to generate income. The main reason for wilful default was found to be the lack of suppression on the part of the officials of the financial institutions. On the other hand, in the context of role of banks they opined that banks have played a major role in the development of agriculture for the last three decades by providing the much needed critical input i.e. money. The credit facilities for production have resulted in; increasing the area under cultivation, increasing the productivity of crops, increasing labour employment opportunities in rural areas, and, increasing the income level of farmers.

Kahlon and Singh (1992)\textsuperscript{63} observed that the success of credit system depends not only on the organisational efficiency, but the factors such as administrative, economic, social, lending targets, grant of subsidies, borrower's ability and willingness to pay are also important. There is a need to reorient the present system in a manner which not only serves the developmental needs of the area but is also more cost effective. The farmers should be educated by the appropriate extension agency about credit. The impression still persists in many quarters that co-operatives can perform social functions without becoming economically viable. The sustained growth and development of co-operative institutions depend on reorientation of educational and training programmes regarding co-operative institutions to meet the job requirements. The rural credit in India has been basically an individualistic lending. This kind of lending does not provide the necessary backward and forward linkages. For the backward and forward linkages, project approach should be adopted. The main advantage of this approach is that the credit productivity will be improved.

According to Binswanger et al. (1993)\textsuperscript{64}, the expansion in the credit institutions increased the use of input and asset creation. Their findings showed that development of infrastructure enhanced the liquidity position of the farmers and reduced transaction costs of both the bank and the farmers. Interest rates do not have any effect on either demand for fertilizer or aggregate output.
Hooda and Turan (1993)\textsuperscript{65} noted that the average indebtedness continuously increasing with the increase in the size of land holdings. The agriculturists were under higher average total indebtedness as compared to what it was at the over-all level. The average production indebtedness was lower in case of marginal, small and medium farmers and higher in big and very big farmers. Crop loans accounted for the highest proportion of agricultural indebtedness for working capital, followed by purchase of fertilizers. Among agriculturists, the proportion of average non-productive loan overdues was higher than the productive loan overdues for all the farmers except small ones. The large proportion of indebtedness had been financed by the organised sources. The commercial banks have financed the highest proportion of indebtedness in the general castes, whereas in the scheduled castes the co-operative had made the maximum debt financing. The suggestions made in the study are: (a) the information regarding total debt liability, total income from all sources, and current value of entire asset base of every claimant should be collected before undertaking any debt relief for rural population; (b) the debt relief programme should be followed by an appropriate and viable long-run package plan through which the overall economic well-being of the chronically indebted household is improved; and (c) the diversion of funds to unspecified purposes should be checked through appropriate follow up action.

Dandekar (1994)\textsuperscript{66} has traced the development of agricultural credit in India during the 19th and 20th centuries. The development of co-operative finance and supply of agricultural credit by commercial banks and RRBs has been evaluated for the purpose. The finances at the time of Independence were available to agriculturists from the government departments, co-operatives, and, to a small extent, from the commercial banks. However, the most important source was the moneylenders. Committee after committee has mentioned about the poor health of agricultural credit institutions. These committees ended up recommending bypasses to let the credit flow around the overdues. Overdues were mounting in agricultural credit. The new and fresh thinking about agricultural credit was contained in the Reports of the Credit Review Committee (1989) and the Committee on Financial Systems (Narasimham Committee Report, 1991). But both the Committees failed to consider how to reorganise the structure of rural credit. Committees noted the weak base (the primary credit societies) of the entire co-operative credit structure. But these committees did not realise that the primary societies are weak because their lending business is
essentially non-viable. The author suggested various means and concluded that due to present day complexities, no single bank can serve all the sectors, so each bank, at least nationalised banks should be asked to specialise in one or more areas and withdraw from the rest.

Gupta (1994)\textsuperscript{67} in his study on “Possibilities of Agricultural Development through Co-operative Finance” in Chhattisgarh region denoted that farm economy in this region is characterised by existence of large number of small and marginal farmers, lower agricultural productivity and extremely low level of investment in agriculture. Despite the fertile and arable land, good rainfall and suitable topographic conditions, agricultural productivity is low in this region due to poor facility of irrigation. The area is mono-cropped and the economy of the region depends completely on paddy. In this case, financial institutions may play a vital role to provide short term, medium term and long term credit to farmers of this region for their agricultural development. In this context, the study stated that the use of short-term loan was decreasing as size of holding increased, whereas medium term loan had a positive relation. The utilisation of short-term and medium-term loan was observed to be 57.15 and 42.85 percent respectively.

Rao (1994)\textsuperscript{68} observed that the asset position of a borrower and the rate of interest at which he gets a loan are inversely related. The dependence of the asset less or the asset-poor sections of the rural population is still on informal sources of credit. Further Rao highlighted the growth and expansion of institutional credit, particularly through commercial banking. He raised the policy issues relating to the viability of credit institutions, equitable access to credit, redefinition of priority sector, and enhanced role of rural banking institutions to cope with the emerging challenges. He suggested that it is necessary for the developmental role of institutional credit that the institutional credit should be complemented by infrastructure and technology. In the credit plans more emphasis should be on non-farm and allied-agricultural activities.

Joshi and Little (1996)\textsuperscript{69} observed that on the eve of banking reforms Indian banking sector was financially unsound, unprofitable and inefficient. They made a critical examination of the changes that have taken place in the banking sector after reforms. Further, what remains to be done with respect of pre-emption of bank resources, directed credit, deregulation of interest rates, etc. in the field of banking sector were also elaborately discussed.
The focal point of the study made by Kumaran (1997) on “Self Help Groups an Alternative to Institutional Credit to the Poor” in Andhra Pradesh was that lack of institutional credit has been considered as one of the major constraints to the poor to come out of the vicious circle of poverty. There is no proper banking system to meet the credit needs of the poor. At the government level attempts like introduction of co-operatives, followed by nationalisation of commercial banks and opening of regional rural banks were made with a view to reach the institutional credit to the weaker sections, particularly the poor. All these efforts hardly helped the poor to have better access to institutional credit as the credit needs of the rural poor are small and urgent. However, the bankers do not take much interest in banking with the poor as this type of transaction does not provide them any decent profit. Moreover, these formal credit institutions are imposed from above with the excessive intervention by bureaucrats and politicians. Apart from the formal rules and regulations, lack of traditional culture of credit management also keeps the poor away from the formal credit institutions.

Sadakkadullah (1997) stressed on institutional credit as important vehicle for poverty alleviation in all the developing countries including India. According to him, while there is a vicious circle of lower use of capital, low productivity, low income, low savings and consequently low capital formation perpetuating poverty operation in the rural areas, bank credit is perceived as an instrument, which can break this vicious circle. He stressed further that throughout the world credit is recognised as an important intervention to uplift the standard of living of the poor. However, better methods of reaching credit to the targeted clientele are to be evolved. In this respect, the tools such as regional development maps for better targeting of regions and “credit rating scale” for better targeting of beneficiaries, if effectively dovetailed and made use of, can solve the twin problem of targeting credit to the right people in the appropriate region.

Shivpuje and Kaveri (1997) in their study, has identified the influencing factors of NPAs, and suggested measures that would prevent the growth of NPAs and affect their speedy recovery. The emphasis was laid on internal factors over which banks and financial institutions have direct control. They concluded that NPA problems could be solved if proper care of internal factor is taken or in other words recovery from NPAs is possible if efforts of the banks and financial institutions are
strengthened. They observed that though the branch managers were quite clear about the RBI guidelines on the classification of advances, they varied the actual classification of advances made by them based on their personal experience with different borrowers. This trend, in particular, was observed in trading accounts with persisting irregularity in cash credit account for long time.

The study of Shajahan (1998)\textsuperscript{73} pointed out a standstill in priority sector credit since the beginning of banking sector reforms in 1990s. It is mainly on account of the failing share of the poorer states in total credit deployment, that the overall priority sector bank credit appears to have deteriorated. The manner, in which priority sector is targeted by linking it to total bank credit rather to bank deposits, the position of the poorer states with respect to priority sector bank credit seemed to have worsened.

Shergill (1998)\textsuperscript{74} established that majority of the farmers were taking loans from commission agents. The amount of short term loans per operated acre was the highest among small farmers and the lowest among large farmers. As the farm size increased, the amount borrowed per acre declined. Amount of long term loans per operated acre was the highest among semi-medium farmers but the lowest among large farmers. The incidence of mortgage debt was very low and was negligible among semi-medium and medium farmers.

Narayana D. (2000)\textsuperscript{75} analysed the trends in commercial bank’s credit deployment by industry, by bank group, by rural and urban areas, and by states over the recent period after banking sector reforms. The study showed that post-reform banking trends are slowly reversing the trends of the two decades since nationalisation. The liberalisation of banking has aggravated the imperfections in the credit market. The natural bias of banks has come to the forefront and they are increasingly withdrawing from lending to agriculture, small enterprise and such activities. Branch expansion into rural and non-banked areas has also stopped. The new private banks and the already existing ones are competing to expand in South and North West India attracted by the growing credit business in a milieu with strong banking habits. This has resulted in a drastic reallocation of total commercial credit from the poorer agricultural states to Delhi, Maharashtra and Tamil Nadu. Such withdrawal would have an adverse impact on the investment and output in agriculture and small industry.
According to Ramachandra Reddy, Vijayulu Reddy and Sakunthala (2001), with the introduction of international norms of income recognition, asset classification and provisioning in the banking sector, NPAs management has become a major challenge for the public sector banks. They felt that total elimination of NPAs is not possible in the banking business owing to externalities but their incidence can be minimised. To reduce the seriousness of the problem, they suggested that the banks should adopt proper policy for appraisal, supervision and follow-up of advances; special recovery cells may be set up at regional/ zonal levels; Recovery Offices should be appointed at branches having sizeable NPAs and their recovery progress may be monitored on monthly basis. They further suggested that the RBI has to publish the names of the defaulters of big loans and advances of banks. The NPAs can be recovered only if the willful defaulters are compelled to do so with the threat of social exposure, confiscation of properties and imprisonment.

Satyasi and Badatya (2000), this paper argues for a total revamping of the rural credit system and not cosmetic changes. The aim should be the satisfaction of the ultimate borrower at minimum cost. Cost reduction per unit of business can be achieved by integration of short and long-term wings, rationalisation of co-operative structure by removing one of the tiers, exploiting scope and scale economies available in rural lending. The limitations of the co-operative system such as inability to offer all types of financial services that commercial banks/RRBs do such as money transfer, restricted area of operation and activities, inability to cater to credit needs for all purposes front a single outlet, low level of professionalisation, etc., have to be overcome. Real success comes when co-operatives take full advantage of their ability to have close interface with the clientele. This ability almost matches similar ability of non-institutional rural lenders and can never, possibly, be acquired by other institutional agencies.

Das (2002) has made the critical evaluation of the lead bank scheme in the light of banking sector reforms. Das in his book observed that high level of NPAs, large number of un-remunerative branches, low productivity, overstaff and archaic methods of operations have affected the profitability of public sector banks. Das sincerely felt that the whole banking sector in India is to be revolutionised to cope with the changing dimensions of satellite one world. Further he felt that the backward areas should be given more funds for investment in priority sectors and more and more
people should be brought under its coverage and the procedures of extending credit should be simplified and there should be least hassle cost.

Gulati and Bathla (2002)\textsuperscript{79} intended to explore the issues related to defaults in institutional agricultural finance by first analysing the temporal behaviour of deposits, loan outstandings and overdues in each of the rural financial institutions (RFIs) viz., co-operatives (both short term and long term), commercial banks and regional rural banks for a time period of 1980 to 1997. The study is focused on three issues—the magnitude of bad debts or defaults in Indian agriculture, the major factors behind mounting defaults and the policy and institutional measures that have been taken or proposed to be taken to reduce defaults and overall revitalisation of RFIs. It has also evaluated Bank-SHGs linkage programme of NABARD. The analysis revealed that although deposits and loans outstanding of RFIs have increased manifold in the rural areas, overdues have also gone up significantly. From 1980 to 1998, the recovery of loans in co-operatives, regional rural banks and commercial banks has varied between 39-66 percent. A higher level of recovery is observed only after 1995. The study, finally, proposes two models of agricultural finance that can be instituted by NABARD and adopted by the RFIs. The first model of agricultural finance entails involvement of non-banking financial institutions such as BASIX and SHARE, input suppliers, output dealers, traders and moneylenders. The second model envisages a 'super market' for the farmers whereby all the key players in the agricultural sector will be identified and are brought in at one place for easy and timely transactions.

The focus of the study made by Niranjana and Ambumaini (2002)\textsuperscript{80} was to analyse the likely impact of social objectives and priority sector lending on profitability of banks. They observed that as the target set for priority sector lending increased from 24.04 percent in 1969 to 46.15 percent in 1984, the profit declined from 1.2 percent to 0.30 percent. When the target set was reduced to 41.93 percent during 1889-90, the profit percentage increased to 0.60 percent. Also, the profitability of banks declined consistently from 0.17 percent in 1969 to 0.08 percent in 1984 but rose to a level of 0.13 percent in 1989-90. Hence, an adverse impact of priority sector lending on profits and profitability was observed. The interest income loss to public sector banks due to priority sector advances was Rs. 34.13 crores in 1974, which rose to the maximum of Rs. 973.25 crores in 1990-91 and then decreased to Rs. 532.08
crores in 1991-92. During 1969-1993, the total quantum of loss was Rs. 6483.01 crores, of which 91 percent of the income loss was on account of agriculture, export and small scale industries.

Shete (2002)\(^{81}\) studied the priority sector advances of public sector banks, private sector banks and foreign banks in post-reform period. The study found that the process of financial sector reforms have by-passed the agricultural sector in general and weaker sector in particular. Available data on lending to priority sector by banks, both in terms of amount and number of borrowers, gave an impression that the flow of credit to this sector has come down despite expansion of scope/areas of priority sector definition. A large number of PSBs are not able to reach the prescribed target of lending to agriculture and weaker section. The small and marginal farmers continued to be both credit and demand constrained.

Shirai Sayuri (2002)\(^{82}\) in his paper has assessed the impact of banking reforms on the performance of the banking sector. It was found that the performance of public sector banks has improved in the second half of the 1990s. Profitability as measured by return on assets of nationalised banks turned positive during 1997-2000 and that of SBI was superior during 1996-2000. Further, nationalised and SBI have steadily improved their cost efficiency as measured by operating costs divided by operating income, over the reform period. Even though foreign banks and private sector banks generally performed better than public sector banks in terms of profitability, earnings efficiency and cost efficiency in the initial stage, such differences have diminished as public sector banks have improved profitability and cost efficiency. This suggests that the banking sector reforms since 1991 have exerted increased pressure and, thus, had a positive impact on the performance of public sector banks. However, this does not imply that the reforms have had wholly satisfactory results, reforms have broadened the coverage of priority sector lending, advances to priority sectors have exerted a positive effect on earnings efficiency and cost efficiency on the whole banking sector. But, it has lowered profitability of public sector banks and contributed to the accumulation of NPAs.

Nasir (2003)\(^{83}\) discussed the importance of institutional credit for faster agriculture growth and identified the factors that are affecting agriculture credit in Bihar. Using the techniques of the deflation index, diversification index and
infrastructure development index, it was found that the decline in the quantum of the agriculture credit accompanied with an increase in input price had made the quantum of agriculture credit inadequate in Bihar, particularly during the early 1990s. Further the paper identified three major factors i.e. fertilizer consumption, dairy co-operatives and bank branches that are influencing agriculture credit significantly. Hence it may be concluded that efforts to improve the adoption level of modern crop production technology and expansion of the network of rural institution will help in increasing agriculture credit flow in Bihar.

Kulandaiswamy and Murugesan (2004)\textsuperscript{84} made an attempt to evaluate the performance of PACS in its various dimensions using a comprehensive yardstick of performance. They have studied 30 primary agricultural co-operative societies (PACS) for ten years period using thirteen performance parameters in the selected development blocks of western Tamil Nadu using field survey data. Kulandaiswamy and Murugesan employ scoring procedure validated by parametric (Analysis of Variance - one way) and Non-parametric (Kruskalwalli) tests to classify PACS into three performance categories viz, poor, moderate and good. Their study found that working capital, total loans outstanding, total business turnover, overdues, net worth and loans to weaker sections as relevant and valid performance indicators for PACS. Based on their study, they have advocated measures such as re-capitalisation, amalgamation, bringing down overdues and improving the overall efficiency of PACS.

Sahu and Rajshekar (2005)\textsuperscript{85} have analysed the state and direction of agricultural credit of SCBs, for the period 1981 to 2000. They found that the share of agriculture credit in total net bank credit had significantly eroded from 13.84 percent in 1990 to 8.38 percent in 2000 after the introduction of banking sector reforms in India. In the case of co-operatives as well, the situation has been nothing better. As revealed by the study the share of those farmers, borrowings less than Rs 25,000, declined in both the total number of loan accounts and total loan amounts during the reform period. The analysis also showed that SCBs provided larger quantum of funds to activities earning higher interest income. Further, the study revealed that the credit flow to agriculture was negatively associated with investment in government securities, credit subsidy and proportion of credit provided by the co-operatives positively associated with the incidence of rural bank branches; thus emphasising on
the need to reconsider the policy of closing loss making rural bank branches. The analysis showed that an increasing lending rate reduces the credit disbursed to agriculture by SCBs. Hence, it pointed out that it may not be sound to increase the interest rate. Another observation of the writers was that the credit subsidy adversely affected the supply of agricultural credit. They also noticed that increasing lending rate may not be an appropriate measure to reduce the credit subsidy, since it adversely affected the supply of agricultural credit as well as lender’s loan portfolio. Thus, the study suggested that reduction in the cost of lending in terms of either financial cost or transaction cost or risk cost or by any combination of these three should be the prime objective of the financial institutions to reduce the burden of credit subsidy. For this purpose, the writers laid emphasis on strengthening the quality of the credit delivery system through timely and adequate supply and ensuring prompt repayment of loans.

Mathur and Das (2006)\textsuperscript{86} analysed the determinants of agricultural growth at all India level for the period 1990-91 to 2003-04 and concluded that the investment of government in agricultural sector, subsidy, agriculture prices and usage of electricity are the significant factors that decide the production flow of Indian agriculture.

Misra (2006)\textsuperscript{87} made an attempt to examine whether the problems associated with the RRBs are specific to certain sponsor banks or states in which they operate. This study followed a deductive approach. First the extent of the problem of the loss making RRBs has been studied to analyse if the problem is confined to some particular sponsor banks or states. Subsequently, an attempt has been made to enquire as to factors that influence the performance of the RRBs and the role-played by the sponsor banks. The empirical analysis has been couched in terms of profit and loss making RRBs for a 10-year period to draw robust policy inferences. In the study all the RRBs were categorised either as profit making or loss making ones. RRB earning profits consecutively for the past three years from the terminal year of the study have been classified as profit making and the rest as loss making. The classification led to 150 RRBs falling in the profit making category and rest 46 as loss making. The exploratory analysis revealed that the problem of the loss making RRBs is neither confined to some specific states nor to a group of sponsor banks. In the absence of any strong systematic pattern so as to suggest that the performance of RRBs is driven by the peculiarities of any particular sponsor bank or a specific state in which they operate,
the author has employed econometric estimation so as to decipher the factors that contribute to their financial health. This study has approached the issue primarily from the asset side of the RRBs balance sheet based on the balance sheet information on individual RRBs for the past ten years. The study has also inferred whether or not the umbilical cord hypothesis is operational based on the linkage between the RRBs and their sponsor bank. Both fixed effect and panel GMM estimations were carried out in this study. The more appropriate GMM estimation results indicated that the loan portfolio management for the profit making RRBs is an area of concern. Investments contribute positively to the financial performance of the profit making RRBs. The sponsor bank contributes positively to the financial health of the profit making RRBs. For the loss making RRBs, the sponsor bank acts as a drag on their performance. The income from investments coupled with synergy from the sponsor bank’s association could mitigate the negative impact flowing from the loan portfolio for the profit making RRBs. The loss making RRBs on the other hand, could have done better if the sponsor banks played a proactive role, especially in their investment portfolio management. The author suggested that the loss making RRBs need focussed attention of the all the stake holders, in general, and of the sponsor bank, in particular, so as to transform them into profitable ventures. In view of the intricacies involved, some critical thinking is called for at the policy level in restructuring the loss making RRBs are concerned. The sponsor bank for the loss making RRBs could be given a time frame and if within this period, significant improvement is not made; the possibility of changing the sponsor bank as suggested by the Sardesai Committee may be a worthwhile option.

Mohan (2006)\textsuperscript{88} has examined the agricultural credit status from its early evolution till 2005-06. He has assessed the progress in agricultural credit and found that agricultural credit has been rising in recent years as a share of both the value of inputs and the value of output. Moreover, long-term credit as a share of private investment has also been rising in the 1990s. A review of the performance of agricultural credit in India revealed that though the overall flow of institutional credit has increased over the years, there are several gaps in the system like inadequate provision of credit to small and marginal farmers, paucity of medium and long-term lending and limited deposit mobilisation and heavy dependence on borrowed funds by major agricultural credit purveyors.
Satish (2006)\textsuperscript{89} took the review of institutional credit, indebtedness and suicides in Punjab and found that the share of co-operative credit declined from 65.05 to 47.92 percent and the share of commercial bank rose from 34.91 to 52.08 percent during the period 1990-91 to 2002-03. He also found that the indebtedness is not due to the lack of institutional credit supply but it is an outcome of the excessive consumption expenditure and declined returns from the agriculture.

Shriram (2006)\textsuperscript{90} analysed the recommendations of task force on the revival of rural co-operative credit institutions with his comments. He opined that the state will not agree to clean up co-operatives due the vested interest and political reasons.

Golait (2007)\textsuperscript{91} has attempted to analyse the issues in agricultural credit in India. The analysis revealed that the credit delivery to the agriculture sector continues to be inadequate. The banking system is still hesitant on various grounds to purvey credit to small and marginal farmers. The situation calls for concerted efforts to augment the flow of credit to agriculture, alongside exploring new innovations in product design and methods of delivery, through better use of technology and related processes. Facilitating credit through processors, input dealers, NGOs, etc., that are vertically integrated with the farmers, including through contract farming, for providing them critical inputs or processing their produce, could increase the credit flow to agriculture significantly.

Khan, Tewari and Shukla (2007)\textsuperscript{92}, examined (i) the nature and extent of inter-state disparities in per hectare flow of short-term institutional credit to agriculture, and (ii) its relationship with average cost of cultivation across states. It has covered all the six regions of the country comprising seventeen agriculturally most important states having about 96 percent agricultural land in the country. It has revealed that inter-regional disparities in per hectare flow of institutional credit as measured through coefficient of variation (CV) had increased during the pre-liberalisation period between 1980-81 and 1990-91. During the post-liberalisation period (1991-92 to 2001-02), the inter-regional disparities have reduced. The per hectare institutional credit flow has shown that in most of the states across the country the coverage has increased though in different degrees during the post-liberalisation stage over the pre-liberalisation period. But, the coverage has still remained very low (below 20 percent.
of cost of cultivation), except in the four states of southern region and Punjab and Himachal Pradesh in the northern region in 2001-02.

Ramakumar, and Chavan (2007)\textsuperscript{93} in their paper examined credit to agriculture provided by the commercial banks, including regional rural banks, and find that contrary to the general perception that the credit revival began in 2004, the actual revival started after 2000. The growth rate of credit flow to agriculture from commercial banks in the period 2000 to 2006 was 20.5 percent per annum, which was significantly higher than the corresponding growth rate in between 1990 and 2000. The increase in credit was to a large extent the result of a growing share of indirect finance. About one-third of the increase in credit flow to agriculture between 2000 and 2006 was on account of the increase in indirect finance, which, in turn, has been broadened in scope to cover many new kinds of farm lending. In the year 2000, indirect finance with credit limit above Rs. 25 crores accounted for less than one-third of the total indirect advances to agriculture. However, in 2006, indirect finance with credit limit above Rs. 25 crores accounted for about 54 percent of the total indirect advances to agriculture. Moreover, even as direct lending to agriculture has also grown, there has been a sharp increase in the share of large-sized advances for financing agri-business oriented enterprises, rather than for the small and marginal farmers.

Satyasai (2008)\textsuperscript{94} has examined few structural constraints that hamper the credit delivery and has discussed some of the measures taken to improve the situation. The public policy on rural credit in India has been focussed on institutionalisation as a means of providing cheaper credit to farmers. As a result, the share of private moneylenders has decreased substantially from 93 percent in early-1950s to 31 percent by 1991. Disturbingly enough, they have emerged as an important source, more so for the resource-poor with a share of 39 percent by 2002. The multi-agency system onset for giving a wide choice to farmers has turned out to be ineffective due to deficiencies of design and architecture. Also, ailing co-operatives, back tracked RRBs and commercial banks with waning interest in rural credit have contributed to the ineffectiveness of the multi-agency system, hampering the credit delivery. Several measures have been taken to revitalise the system from time to time. Co-operatives are being given package assistance for revival following the Vaidyanathan Committee Report. RRBs have been amalgamated and are being given capital to cleanse up their
balance sheets. Commercial banks have been successfully involved in ‘Farm Credit Package’ for doubling the credit and other initiatives of Government of India. The SHG-bank linkage has been promoted on a large scale to supplement rural credit delivery. But, its high transaction costs make it a costly alternative, especially when the business is handled solely by NGOs/MFIs. A thorough overhauling of the rural credit system and its restructuring is the need of the hour. However, it cannot be effective if done alone in isolation without revitalising the Indian agriculture itself.

Sinha (2008) attempted to compare selected public and private sector commercial banks in respect of priority sector lending for the period 2000-01 to 2004-05. He used three indicators, technical efficiency, scale efficiency and Malmquist Total Factor Productivity Index for the purpose of comparison. The result obtained from the study indicated substantial fluctuations in mean efficiency scores for observed years. In particular, the mean technical efficiency scores have declined during 2004-05. The mean technical efficiency scores of the observed public sector commercial banks is however, marginally higher than the observed private sector banks. Under the constant returns to scale, the overall mean technical efficiency score of the observed private sector banks is about 95 percent of the observed public sector banks. Under variable returns to scale, the figure is about 98 percent. The mean scale efficiency of the observed private sector commercial banks is about 97 percent of the observed public sector commercial banks. In so far as total factor productivity growth is concerned, the private sector commercial banks exhibited marginally higher Malmquist TFP Index than the observed public sector banks. All the observed commercial banks registered positive total factor productivity growth during the period. The results from the study revealed the fact that most of the observed larger public sector commercial banks and some of the private sector commercial banks exhibited decreasing returns to scale during the period under consideration, i.e. they devoted lesser proportion of their resources to the priority sector.

Kumar, Singh, and Sinha’s paper (2010) has examined the performance of agricultural credit flow and has identified the determinants of increased use of institutional credit at the farm household level in India. The study was based on the secondary data compiled from several sources, and revealed that the institutional credit to agriculture in real terms has increased tremendously during the past four decades.
However, different patterns in the growth of agricultural credit have been observed during different sub-periods. The structure of credit outlets has witnessed a significant change and commercial banks have emerged as the major source of institutional credit in recent years. Further, the portfolio of institutional credit to agriculture has also changed and the share of investment credit in total credit has declined over time, which may constrain the agricultural sector to realise its full potential. The authors further found that, the quantum of institutional credit availed by the farming households is affected by a number of socio-demographic factors which include education, farm size, family size, caste, gender, occupation of household, etc. The study has suggested simplification of the procedure for a better access to agricultural credit of smallholders and less-educated/illiterate farmers.

1.3 Objectives of the Study:

One of the key drivers for the progress of any sector is the availability of credit. In the case of agriculture, it is not only the availability of credit but also the access to adequate institutional credit that matters, since most of agriculturists belong to small and marginal farmer categories. Farmers need much more capital than they can afford to save. Credit is a condition that enables a person to extend his or her control over ownership of resources. It represents mobilisation of the savings by intermediaries or government from the people and through such credit operations financial savings are transformed into capital. However credit is not capital, the money obtained from credit provides a command over enough funds to exploit opportunities. Credit is an important input in the development. It plays the role of an accelerator in the agricultural development provided it is adequate in quantity, cheap and development-oriented.

It is, therefore, necessary that growth of agriculture sector should be supported by matching credit both in quantity as well as cost. As we know that credit is an important input, acting as catalytic agent for accelerating the growth of agricultural sector but it has to be supported by other inputs such as technology, seeds, fertilizers, pesticides, irrigation water, extensive support and motivation from the government agencies and marketing support with a view to its effective and productive use.

The agricultural credit institutions have undergone qualitative and quantitative changes since the nationalisation of banks took place. It was being expected that the
role of institutional credit will improve the situation of the farmers. Despite of large finance flooded in rural credit market, the situation of farmers could not improve to that extent. However, it is often said that the benefits of institutional credit facilities have been greatly shared by upper-strata of the society. It is happened mainly due to emergence of new type of moneylenders. Because of high transaction cost to reach in rural areas, the credit institutions have promoted conventional lending. They have given loans to the traders, moneylenders, MFIs to avoid high transaction cost. Ultimately farmers have been further exploited. Thus our long cherished, albeit planned goal of liberating the poverty stricken farmers from the clutches of exploitative moneylenders and traders is stated to remain unfulfilled.

In the light of these issues, the present study entitled “Banking Reforms and Agricultural Credit in India” has following objectives:

- To review the agricultural credit system prevailing in India during pre and post-reform periods.
- To explore the policy measures of banking sector reforms towards agricultural credit in India.
- To examine the performance of scheduled commercial banks, regional rural banks and co-operatives in dealing with agriculture credit during pre and post-reform periods.
- To examine the extent of state level variations in the distribution of agricultural credit by commercial banks, regional rural banks and co-operatives from 1981 to 2008.
- To determine the extent of problems and challenges of agricultural credit in the country.
- To ascertain the policies that have been suggested and implemented by several Committees and Task Forces of the government to minimise defaults and revamp rural financial institutions.
- To suggest measures for improving the scope of institutional sources of agricultural credit.
1.4 Hypotheses of the Study:

- The flow and pattern of institutional credit have not changed from 1980-81 to 2009-10.
- There are no variations in the state level credit distributed by the scheduled commercial banks (SCBs), regional rural banks (RRBs) and co-operatives.

1.5 Sources of Data and Methodology Used:

Research as defined by Redman and Mory (1923) is “a systematised effort to find out the solution of the problem”. These efforts require certain procedures to be followed properly. Methodology is a total sum of these procedures or steps carried out by researchers in order to find out the real dynamics operating for any problem. The importance of a study to a great extent depends on the methods followed in selection of area, collection of data and methods adopted for their analysis. While deciding the validity of the results of a study, consideration of the sources of data and the method followed in the study is necessary. The sources of data and methods of analysis adopted in the study have been explained below:

The study is exclusively based on the secondary data. The relevant data have been collected from various issues of Report on Currency and Finance (RBI), Banking Statistics (RBI), Report on Trends and Progress in Banking in India (RBI), RBI Bulletin (RBI), Centre for Monitoring Indian Economy (CMIE), Statistical Outline of India (Tata Services Ltd.), and Economic Survey (Government of India). Data have also been collected from Handbook of Statistics (RBI), Economic and Political Weekly, and various websites such as www.rbi.org.in, www.iba.org.in, www.iibf.org.in, www.nabard.org, and Indiastat.com.

Data related to agriculture are collected from Fertiliser Statistics (The Fertiliser Association of India), Indian Agricultural Statistics (Ministry of Agriculture, Government of India) and Statistical Abstract (Central Statistical Organisation, Department of Statistics and Programme Implementation, Government of India). The data related to Co-operative Credit Societies and RRBs have been obtained from the Statistical Statement Relating to Co-operative Movement (NABARD). In order to study the relative contribution the institutional and non-institutional sources of credit,
state-wise and source-wise data on cash loans have been collected from the Reports on 37th, 48th and 59th Rounds of the National Sample Survey (NSS) pertaining to the year of 1981, 1991 and 2002.

Based on the availability of data, the statistical and econometric tools are applied for analysing the data and getting the results to derive logical conclusion. Besides simple statistics like mean, standard deviation, and correlation coefficients, the study also uses t-statistics to test statistical significance. ANOVA is used to test whether there is any significant difference between the variables over different periods. Student t-test has been applied accordingly to test the hypothesis as to whether there is any significant difference within the variables under study before the banking sector reforms and after the reforms. Generally, ANOVA is used to test the formulated hypothesis based on the analysis of significant difference between the means of the two samples. Thus, the null hypothesis is formulated as if there is no significant difference between the variables and the alternate hypothesis is that there is a significant difference between the variables. In this study the hypotheses are tested under 5% level of significance.

Further it is found that there is glaring increase in the data for various variables under study over the period of time. To normalise these scattered absolute data, percentage change has been used for each variable over the given time period and accordingly ANOVA and other tests have been used. Certainly mean here applies that the mean of rate of change over time (average rate of change for a given time period).

If the $p$ value is greater than 0.05 we fail to reject the null hypothesis and if the $p$ value is less than 0.05 we accept the alternate hypothesis. The $P$ value is the probability of attaining a test statistics to establish that the hypothesis being tested is true. If significance value ($p$-value) of F is less than 0.05, then it can be said that there is significant difference between the mean of any two or more groups at 95% confidence level and if p-value is less than 0.01, in that case the significance level will be at 99% confidence level, otherwise $p$-value greater than 0.05 means difference is not significant. Generally $p$ value of 0.05 is taken as the critical level for the rejection of the hypothesis. This level of significance is a measure of the degree of risk that a researcher makes while interpreting results. As it is the null hypothesis that is generally
being tested we are always looking for low *p values* to reject this hypothesis. The smaller the *p value* the more assured be the conclusion drawn from it.

The study applied ANOVA has been used to test the hypothesis as to whether there is any significant difference between the three periods as well as to open the arena for further application of t-test and post-hoc test to understand the period wise difference in sample mean of each variable for each time period. Wherein, the first period relates to the period before the Narasimham Committee (I) recommendations, that is, from 1980-81 to 1991-92, second period is between the first Narasimham Committee recommendations and the second Narasimham Committee recommendations that is from 1992-93 to 1998-99 and the third period relates to the Post-Narasimham Committee (II) recommendations, that is, after 1999-00 to 2007-08.

If *p-value* of F in ANOVA table is less than 0.05, in that case we need to see the *p-value* in post-hoc test table to know the significance between the pair of groups. Further, to examine the significant change in mean between two groups between the two time periods post-hoc test is being used. To determine the use of method in post-hoc test it is necessary to know the nature of data, if the data is homogenous “Least significant difference” (LSD) method will be used in post-hoc to see the significant changes between the two time periods and for heterogeneous data Dunnett T3 test may be used. The test of homogeneity of variances i.e. the Levene statistic is used to find if the data is homogeneous or heterogeneous. Significance value <0.05 shows the heterogeneity of the data and significance value >0.05 shows homogeneity in the data.

For Comparison of the states on the grounds of agricultural credit per hectare of net sown area (NSA) is selected as in absolute terms it may not be fully justifiable because agricultural activities and thereby credit requirements may vary from state to state. Hence, scaling problem may arise. A comparison is possible if and only if the agricultural credit can be standardised or made uniform.

In addition the analysis makes use of following techniques:

*(i) Co-efficient of Variation (CV):*

To examine the extent of dissimilarity in the variables, statistical technique coefficient of variation is used. The coefficient of variation represents the ratio of the standard deviation to the mean; it is a useful statistic for comparing the degree of variation from
one data series to another even if the means are drastically different from each other. It is a statistical measure of the dispersion of data points in a data series around the mean. It is expressed in the following form: -

**Co-efficient of Variation (CV) = Standard Deviation (SD)/Mean.**

The coefficient of variation describes the magnitude of sample values and the variation within them.

(ii) **Compound Annual Growth rate (CAGR):**

In order to study the year-wise growth in the variables percentage growth rates and compound annual growth rates (CAGR) have been calculated. It is a simple measure to find out the year-wise increase and decrease in the variables under study. The compound annual growth rate is a number that represents a steady level of growth from the initial value to an ending value as it determines the average of year to year growth rate for time series data. The percentage compound annual growth rate in a variable has been calculated by firstly regressing the natural logarithm of the variable on time which is called the semi-log model is used in the following form:-

\[ \ln Y_t = \beta_1 + \beta_2 t + u_t \]

Where, \( Y_t \) is the value of the variable in \( t^{th} \) time whose annual compound growth rate is to be found out, and \( t \) is the time period. The years have been coded as 0, 1, 2, 3 and so on. \( \beta_1 \) and \( \beta_2 \) are parameters, and \( u_t \) is the disturbance term. After estimating the above regression model, the following formula has been used for getting compound annual growth rate:-

\[ r = [\text{anti} \ln (\beta_2)-1] \times 100 \]

Where, \( r = \) compound annual growth rate (\%).

(iii) **Average Annual Exponential Growth Rate (AAGR):**

The following formula has been used to calculate the average annual exponential growth rate during a period of time.

\[ G = (1/n) \ln (Y_1/Y_0) \]

Where, \( G = \) average annual exponential growth rate (\%)

\( Y_1 = \) value in the final year of the period

\( Y_0 = \) value in the initial year of the period
1.6 Scope and Limitations of the Study:

On a wider perspective, the study explores the variables at the all India level, while at the state level, the study is based on the seventeen major states comprising Andhra Pradesh, Assam, Bihar (undivided), Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh (undivided), Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh (undivided), West Bengal, Jammu & Kashmir and Himachal Pradesh. The rationale for the selection of these states lies in the fact that they account for more than 95 percent of the population and 93 percent of the net domestic product (NDP) in the country (Quah, 1997; Rao, 1999; Bandyapadhyaya, 2006). In addition, these states have been contributing, on average, 90 percent of the total deposits in the country through scheduled commercial banks (SCBs) including RRB for the last twenty years. Out of the total agricultural credit provided through SCBs and RRBs, on an average, 96 percent of it goes to these states (RBI, various years).

The study is limited for the period from 1980-81 to 2009-10. The study period has been divided into three sub-periods namely:

First Phase (P1) - 1980-81 to 1991-92 (Prior Reforms Period);
Second Phase (P2) - 1992-93 to 1998-99 (First Reforms Period);
Third Phase (P3) - 1999-00 to 2009-10 (Second Reforms Period).

The data on indirect loans outstanding through RRBs is not available after 1999-2000, so the analysis has been carried out till that year. Due to non-availability of data, the analysis in the third phase in some cases has not been carried out till 2009-10.

1.7 Scheme of the Study:

The whole study is organised into six chapters. The chapter first introduces the main theme of the study, explaining about statement of the problems along with a brief review of existing literature available on different aspects of banking system in India and reforms therein, as well as institutional credit flow to agriculture in India. The existing literature on the subject is wide and varied. The major selected studies which throw light directly on issue i.e. studies covering the impact of banking reforms on
agricultural credit have been reviewed. The chapter also comprises of objectives of the study, hypotheses to be tested, methodology used and limitations of this study.

Chapter second deals with the description of role of banking sector in growth performance of the economy. Subsequently explains the evolution and structure of banking system in India over the years. It also incorporates the reasons, rationales as well as objectives, and policy measures of banking sector reforms in India. Further, the chapter includes recommendations and implementation of Narasimham Committee Report-I and II.

Chapter third examines the needs, classification and evolution of agricultural credit system by focusing on policies and progress of agricultural credit in India. It examines the organisation, functions, and limitations of the institutional agricultural credit lending agencies. It also analyses the major recommendations of Narasimham Committee Report-I and II, related to agricultural credit.

Chapter four analyses the performance of different banking institutions regarding their credit flow, viz., scheduled commercial banks, regional rural banks and co-operatives in pre and post-reforms period in India. For evaluating the performance of the scheduled commercial banks the parameters such as branch expansion, deposit mobilisation, credit lending, credit-deposit ratio, sectoral deployment of credit, and priority sector lending etc. have been selected. Likewise, the parameters such as growth indicators and loans and advances have been undertaken for analysing the performance of co-operative banks in India. For evaluating the performance of RRBs the same parameters as of co-operative banks have taken into consideration. State-wise institutional credit flow to agriculture has also been carried out for seventeen major states in the form of per hectare loans outstanding through the above three institutions.

Chapter five focusses on the problems and challenges of agricultural credit in India. It examines the problem of dependence on informal sector, neglect of small and marginal farmers, overdues and recovery, problems of NPAs and mounting losses, and indebtedness among farmers. The chapter also evaluates different committees and their recommendations for the improvement in agricultural credit.

Chapter six of the thesis provides summary and conclusion of the study as well as relevant suggestions regarding improvement in agricultural credit flow in India.
References:


21. Ibid.


47. Bandyopadhyay, Arun Kumar (1984), Economics of Agricultural Credit, Agricole Publishers Academy, New Delhi.


