2.1 Introduction

Literature on credit for agriculture comprehends studies on Commercial Banks, Regional Rural Banks and Co-operative Banks. There has been an abundance of studies on institutional credit for agriculture made by many researchers. The studies on Co-operative credit for agriculture is relatively meager at the state level, but has an array of national studies. At the outset the chapter gives a bird’s eye view of the important studies to get an understanding of the various dimensions of the problem to identify the gaps in the existing literatures that calls for further investigation and recommendations to improve the credit status of farmers. Further, an attempt is made to present the main theories associated with the study. The chapter is organised as follows.

Section 2.2 gives a brief survey of literature on various aspects such as Credit requirements, Supply of credit, Credit utilization, Credit recovery, Borrowing cost for credit, Role of Co-operative credit institutions, and Various committee reports on Co-operatives leading to the identification of research gap.
Section 2.3 gives a brief account of the important theories associated with the present study

2.2 Survey of Literature

2.2.1 Credit Requirements

Desai and Desai (1970) examined the impact of inadequacy of institutional credit in changing agriculture of Baroda district in Gujarat after compiling data from about 48 farmers from Sinor, Waghodia Baroda and Choota Udepur of Baroda district. The study showed that the average available credit was less than the credit required at the optimum level of working capital. But there were some farmers with whom the availability of institutional credit was more than the requirement. But with the adoption of new technology, the excess available institutional credit was not sufficient to meet the additional institutional credit required and this magnitude of shortage of available institutional credit went on increasing with changing technological conditions.

Seshan (1971) examined the role of multi agency approach in catering to the needs of farmers in India. The study is based on Report of Expert Group under the leadership of R.K Talwar appointed by Governor of RBI in 1969 which focused on to what extent the multi-agency approach adopted in agricultural credit quicken the pace of bank operations in lending to farmers. The group acknowledged the fact that the multiagency approach to agricultural credit does not lead to over financing of farmers but the credit needs of farmers, for production purposes should be met reckoning the value of landed security he can offer.

Subramanyam (1975) estimated the quantum of credit requirements that enabled the small and marginal farmers to adopt the high yielding variety of paddy in West Godavari district of Andhra Pradesh. It is remarked that by
providing additional capital, 12 per cent of the total cropped area was brought under high-yielding variety in the delta and as much as cent percentage in case of upland zone.

Verma and Chopra (1983) estimated the demand for bank credit in the agricultural sector in India as part of credit planning on the basis of the level of output and prices. The study disclosed that the demand for bank credit was positively related to the adoption of new technology and the cost of production in agricultural sector of economy. The study also points out that as the demands for bank credit was reciprocally related to the national income originating in this sector, more funds can be made available to the small and marginal farmers. Moreover, the rate of interest mechanism could be used to encourage the flow of credit to small and marginal farmers. Hence, more bank branches should be opened in this sector of the economy so as to meet the unfulfilled demand for bank credit.

Rao (1987) conducted a study on various aspects of institutional credit in a backward and drought prone district in Andhra Pradesh, Mahaboobnagar. The study revealed that the short term and long term credit requirement of the sample borrowers was ₹10,418 and ₹12,191 respectively. But the average amount of short term and long term credit availed by farmers was only ₹1,276 and ₹4,152 respectively. Owing to successive crop failures, the repayments were very less and most of the credit from both institutional and non-institutional sources was overdue. The overdues however amounted to only 4 to 13 per cent of the assets in different categories of farms. It was found that, Regional Rural Banks offer better follow-up and recovery of loans than other institutions.

Akmal et al. (2002) analyzed the credit requirements of small farm households in Faisalabad. The results of the study showed that per acre credit
requirements at existing level of input use were ₹1412 and ₹3027 across progressive and conventional farms respectively. Per acre credit requirements of the progressive and conventional farmers at recommended level of input use were worked out to be ₹1473.07 and ₹4462.34 respectively showing that the progressive farmers were using the input close to the recommended level.

Akram et al. (2008) studied agricultural credit restraints and borrowing behaviour of farmers in rural Punjab and reported that majority of the farmers could not avail credit because of needed collateral. The hard hit groups were tenants and share croppers who do not own land and thus were unavailable to avail credit. The high mark up both from formal and informal sources was another constraint. The results showed that the coefficients of transitory income, education level and predicted interest rate have important bearing on borrowing behaviour. The household’s consumption expenditure was positively and significantly determined by operational holding and value of implements.

Singh et al. (2009) contemplated inadequateness of institutional agricultural credit system in Punjab state with the objective of estimating the gap between the productive needs of farm households and institutional lending. The study has concluded that although the institutional credit for agriculture has increased rapidly, it still lags behind the productive needs of the Punjab farmers. It should be noted that there are several irritating bureaucratic hassles in obtaining an institutional credit. In spite of significant increase in institutional lending, the malpractices prevailing in the system make this lending more cumbersome and costly.

Godara et al. (2014) in their study examined the main issues and concerns of agricultural credit in India by using secondary as well as primary data collected from 90 farmers of six banks across three districts namely Jind,
Sirsa and Bhiwani of Haryana state by the method of convenient sampling. From the secondary data, the study found that among the financial institutions, Co-operative Banks had disbursed more credit followed by Commercial and Regional Rural Banks. Altogether credit disbursement to agriculture sector has declined. From the field survey, result indicated that all the farmers faced the problem of insufficiency of credit in comparison to their increasing credit requirements due to increasing cost of inputs. This inadequacy of credit was more severe among small and marginal farmers than for large farmers. It was found that 83 per cent of small farmers and 78 percent of medium farmers were dependent on informal sources for their credit requirements. And also, the study reported that the inadequacy of credit was an important reason for lower productivity and production in agriculture sector.

2.2.2 Supply of Credit

Prabhakaran and Umadevi (1986) examined the nature and extent of regional imbalance in the flow of agricultural credit through PACS in Kerala. The study revealed that the credit flow has definitely shown a positive bias towards developed districts like Kottayam and Ernakulam. The northern district of Kerala has been gravely affected by present distribution of credit. Credit planning and its flow should be directed to the development of backward regions in the state. The levels of fertilizer consumption, acreage under perennial crops and the use of farm machinery are the major factors contributing to regional imbalance. However, the credit distribution in a district is not related to the overdue position.

Balishter and Singh (1987) conducted a study in Uttar Pradesh to know the size wise and purpose wise availability of credit and credit gap, pattern of utilization of credit and level of income and savings of farm families. The results indicated that the availability of credit from Commercial Banks per
hectare was higher in the case of marginal farmers (₹985) and small farmers (₹951) when compared to medium (₹939) and large (₹856) farmers. Credit gap was less in the case of marginal (4 per cent) and small farmers (11 per cent) as compared to medium (25 per cent) and large (38 per cent) farmers. The study concluded that the diversion was more in case of small and marginal farmers.

Bankar and Suryaprakash (1987) conducted a case study in Karnataka state about the supply and utilization of crop production credit in irrigated and un-irrigated farms. The study revealed that the average amount received per acre on irrigated farm was ₹849.95, which was nearly three and half times more than the amount received by the un-irrigated farms i.e., ₹235.53. With regard to the percentage of difference in size groups of farmers covered, no significant difference was observed between irrigated and non-irrigated farms. However, the relative proportion of the total loan availed by different size groups of farmers showed wide variation. Large farmers received higher amount of loan per acre as compared to small farmers.

Deganokar (1994) conducted a comparative study of credit flow from different institutions, the borrowing and utilization pattern in a backward region of Gulbarga Taluk in Karnataka. The credit output relationship is studied with the help of “Correlation Coefficient”. The study revealed that crop loan formed a major proportion of total loan and the size of the loan per acre obtained from different institution differed across the categories. Further, the crop wise analysis of borrowing pattern indicated that red grain was the major crop that received crop loan from different credit institutions.

Yadav (2008) assessed the credit flow to agriculture in Rajasthan, so as to find out the progress of implementation of Farm Credit Package. The study exposed that banks in Rajasthan have performed exceedingly well in the
implementation of Farm Credit Package. However, the performance can be further improved by extending fresh loans to farmers covered under relief measures such as establishing agri-clinics and agri-business centers, financing for redemption of private debt etc. It has also been observed that, farmers are not aware of benefit of Kisan Credit Scheme. The study also evoked the need to give boost to investment credit by the banks so as to encourage financing of investment in agriculture and also to encourage financing under various schemes launched by the Agriculture Ministry for enhancing credit flow to agriculture.

Gandhimathi and Sumathi (2008) studied the availability of formal credit and inequality in credit distribution in Karamadai and Thondamuthur blocks of Tamil Nadu. The study uncovered the fact that medium and large farmers had borrowed higher amount of both crop and investment loans. It was observed that the Commercial Banks highly favoured only larger farmers with regard to the provision of loan; though crop loan was higher for marginal farmers in Karamadai block and investment credit was higher for small farmers in Thondamuthur block. The distribution of credit between the blocks was unequal. For testing these results, Gini concentration ratio was also computed; the ratio was positive which showed the inequality in the distribution of credit. The percentage of credit gap was calculated as a proportion of credit gap to the total variable cost which was the lowest for large farmers and the highest for marginal and small farmers. It is concluded that marginal and small farmers were highly in need of credit. So credit gap was also higher to these categories of farmers.

Prabu and Raheem (2010) probed the performance of institutional agricultural credit system in India with the introduction of economic reforms. According to them, the role of Co-operatives in the lending of agriculture credit has declined over the years. The lower level of business volume, comparatively high overhead costs and tight competition from the Commercial Bank have
contributed to the diminishing role of the agricultural Co-operatives. Thus the Co-operative institutions require better leadership, effective management, innovative institutional arrangements and social audit for greater freedom of action which make them a vehicle for rural transformation.

Kumar et al. (2010) examined the achievements of institutions in the credit flow to agriculture and determinants of credit among the farm household level in India by compiling various sources of secondary data. The study revealed that even though an increase in institutional credit flow to the agriculture happened, different patterns of growth had occurred for the past four decades. And also there was change in the structure of sources of credit as evident from the Commercial Banks surpassing other financial institutions in the flow of credit to agriculture. The study also revealed that there was disparity in the distribution of credit across different categories of farmers. Because there were various socio-demographic factors that affected the quantum of credit availed by farmers from institutions. The most important factors identified were education, farm size, caste, gender and occupation. The prevalence of complicated loan procedures hindered illiterate and less educated farmers in accessing credit from formal financial institutions who in turn chose the informal sectors.

Kalidas and Akila (2014) conducted a study on inadequacies of institutional agricultural credit system among 130 farm households covering four blocks of Coimbatore district. The study revealed that the flow of credit to agriculture sector was inadequate in spite of the presence of large number of financial institutions. Among the farmers, large scale farmers availed higher amount of credit than marginal farmers. The difference between credit requirement and credit availed computed for various farmers revealed that large scale farmers had lower credit gap problem vis-à-vis the marginal farmers. This difference resulted in the restoration of farmers over the non-institutional sources...
of credit for their productive needs. The result of probit model revealed that some socio-demographic factors such as household size, farm size, income and cost of crops had significant positive influence on quantum of institutional credit availed by farm households.

2.2.3 Credit Utilization

Chowdhury and Sharma (1970) studied crop loan system in Andhra Pradesh and Punjab and observed that in Andhra Pradesh 80 to 90 per cent of borrowings were for meeting the labour requirement whereas in Punjab 63 to 89 per cent borrowings were for purchase of seeds, fertilizers, manures and pesticides. Thus the use of credit for various inputs varied according to the agro-climatic conditions.

Ghakhar and Gangwar (1975) conducted a study in Gurgaon district of Haryana. Their study examined the improper handling of credit among the small and marginal farmers. It was found that the extent of improper handling was 54.31 per cent in case of short term credit and 27.37 per cent in case of medium term credit. Further, the study revealed that the major portion of credit borrowed by small farmers was diverted to meet domestic requirements like consumption, marriages, litigation, medicines, repayment of old debt and other social obligations.

Radhakrishnan and Mukundan (1988) conducted a study on supply and utilizations of Short term Co-operative agricultural credit in Palakkad district in Kerala after collecting data from a sample of 15 borrower farmers and unequal number of non-borrowers. It was found that around 50 per cent of the holdings of borrowers as well as non-borrowers belong to the size-group of one hectare. Of loan amount 52 per cent was advanced in kind (mainly fertilizers) and the balance in cash. The study also found that an inverse relationship existed
between the amount of loan per hectare on the one hand and the size of holding on the other. And also smaller holdings obtained relatively more amount of credit than larger holding.

Vaikuntha (1991) studied the pattern of utilization of Co-operative credit in selected taluks and the repayment performance of the borrowers which was based on 180 borrowers of Karnataka Central Co-operative Bank. The study unveiled that all the size group of farmers in the irrigated area utilized the credit for productive purpose. Repayment was more in the case of farmers in the non-irrigated area as compared to irrigated area.

Razak (1998) conducted a study on analysis of utilization of Co-operative credit by marginal, small and large farmers with references to a case study of Bantwal Taluk in Karnataka. The main finding of this study was that the marginal farmers brought more percentage of their land under cultivation when compared to small farmers. In case of marginal farmers, which was 75.3 per cent of their total land holding whereas 67.68 per cent in case of small farmers. As much as 46.67 per cent of small farmers and 48 per cent of marginal farmers utilized the full amount of loans.

Singh et al. (2005) examination regarding credit needs, utilization pattern and factors causing overdues in Varanasi district of Uttar Pradesh by taking 70 farmers revealed that majority of the farmers had availed short term and medium term loan from the financial institutions to purchase small equipment and machinery. With regard to utilization of credit by these farmers, it was revealed that borrowed funds were properly utilized by large farmers. Thus misutilization of borrowed funds was higher among small size group of farms indicating that the borrowed funds were used for unproductive purposes. And also several factors such as high input cost, lower output price, crop failure were responsible for failure of the repayment of borrowed funds.
Chughtai (2012) estimated the impact of utilization of agricultural credit on production based on primary data collected from 285 farmers who borrowed from Zarai Taraqi bank in the study area of Rawalpindi Tehsile from Pakistan. From the study, it was found that the borrowed amount was mainly utilized for the purpose of agricultural inputs especially for the purchase of seeds, fertilizer and pesticides. Therefore, the amount of misutilization of credit was very less among farmers that positively affected the living standards of the farmers and the development of agriculture sector.

Prashant and Daipuria (2014) analyzed the credit utilization through Co-operative Society in Bhind district of Madhya Pradesh by collecting data from Agricultural Co-operative Societies from 12 villages. The results revealed that 48 per cent of the farmers had completely utilized the availed credit. Therefore majority of the farmers benefited from the utilization of credit extended through Co-operative Societies. The study also revealed that education, social participation, size of holding and occupation had significant relationship with credit utilization.

2.2.4 Credit Recovery

Gangwar and Kusum (1982) examined the borrowing and repayment performance of farmers in agriculturally advanced Kurukshetra district of Punjab. The study showed that the total amount of outstanding institutional loans borrowed by the small, medium and large farmers were ₹69,677, ₹30,184, and ₹55,936 respectively, while the overall average stood at ₹26,935. The average amount of loan due for repayment on the small, medium, and large farmers were ₹9,644, ₹23,861, and ₹42,104 respectively and ₹21,691 was found to be overall average. The repaying capacity was only ₹3,437, ₹17,595, and ₹44,895 for small, medium and large farmers respectively with an overall average of
₹18.585 respectively. Thus majority of farmers were found to have large debt burden.

Prasad (2006) conducted a study on recovery performance and volume of overdue of nine selected PACS working in West Godavari district of Andhra Pradesh. The study revealed that a quite interesting and debatable feature of the societies was that the volume of overdue had increased along with the quantum of credit. Short term loans overdue constituted a considerable proportion of total overdue of most of the selected PACS. About half of the overdue was attributed to borrower’s behaviour like willful default, misutilisation of loans and diversion of funds. Due to some chokepoints in lending policy, most of the PACS were not meeting credit requirements of the member borrowers at the right time which led to overdue.

Onyenucheya and Ukoha (2007) studied loan repayment and creditworthiness of farmers in Abia state by using semi-log regression model. The result showed that farming experience, total operating expenditure- income ratio, farm size, level of education and age of farmers made positive contributions to credit worthiness, while outstanding loan-asset ratio, operating expenditure-income ratio, distance between home and loan source made negative contributions to credit worthiness.

Oladeebo and Oladeebo (2008) examined determinants of loan repayment among smallholder farmers in Oyo state of Nigeria. The study revealed that the amount of loan availed by farmers, their experience in farming with credit use and their education were the major factors that positively and significantly influenced loan repayment. The study recommended that for effective farm management and increase in agricultural production, disbursal of loan should be targeted at young and better educated farmers who were more likely to adopt innovations in agricultural production than their predecessors.
The factors contributing to credit repayment behaviour among the members of saving and Credit Co-operative Societies in rural Rwanda were assessed by Papias and Ganesan (2009). The results from the tested empirical model showed that age, gender and size of household, purpose of credit and interest rate charges had commendable effect on loan repayment.

Ramakrishna and Alyanna (2009) studied the repayment performance of agricultural financial institutions in Nanjangud Taluk of Mysore district. The study revealed that State Bank of Mysore had played a critical role in financing the beneficiaries followed by Canara Bank, RRBs and Co-operatives in study area. The marginal and small farmers have borrowed for irrigation structure and livestock while the medium and large farmers for equipment and machineries. With regard to repayment of loan, small and marginal farmers have repaid their loan amount by 37.35 per cent and 39.13 per cent respectively while medium and large farmers repaid 32.22 per cent and 26.46 per cent respectively. The large farmers have more overdues (73.52 per cent) followed by medium farmers (67.78 per cent), small farmers (62.65 per cent) and marginal farmers (60.87 per cent).

Gandhimathi and Ambigadevi (2012) examined the main determinants of overdues in agricultural sector of Pannimadai village in Coimbatore district. The study found that the banks provided two types of loans such as crop loan and investment loan. Among the loans, small and large farmers had higher overdue in crop loan and for investment loan, large farmers had the highest share. Medium farmers had more tendencies for repayment of loan than other farmers. Land size emerged as the dominant factor that influenced the recovery of credit and the variations in the amount of recovery were influenced by the factors mainly net farm income and amount of credit.
Nasrin and Sarker (2014) examined the disbursement and recovery performance of rural credit of Rupali Bank of Bangladesh in agricultural and industrial sector. The recovery performance of business sector is high when compared to agricultural sector, as agricultural sector had faced the problem of low repayment. Higher income, higher age group, smaller family size and higher educated borrowers had strongly influenced loan repayment among agricultural sector.

2.2.5 Borrowing Cost for Institutional Credit

The borrowing cost incurred by farmers in Bangladesh, Brazil and Colombia was studied by Adams and Nehman (1979). According to them borrowing cost includes three separate factors: the nominal interest paid to the lender (N1), additional loan transaction costs incurred by the borrower (TC), and changes in the purchasing power of money over the loan period ($\Delta P$). Thus the expected borrowing cost incurred by the prospective borrower would be equal to $BC = N1 + TC - \Delta P$. They concluded that the most important factor discouraging small and new borrowers from using formal institutional loan was the high transaction cost over and above the nominal interest payment. Thus transaction cost constituted a very large part of borrowing costs for small and medium size borrowers and less important part for large and experienced borrowers. Therefore the large borrowers were more sensitive to nominal interest charges and expected changes in the purchasing power of money.

George et al. (1985) conducted a study in Andhra Pradesh and revealed that farmer’s average borrowing costs on crop and term loan were higher for small holdings than large sized holding. They also reported that as the holding size increased, components of framer’s borrowing cost such as legal charges, transport and communication charges and opportunity cost for loan decreased.
commendably. The average borrowing cost of crop and term loans from non-institutions were lower when compared to institutional sources.

Ahmed (1989) compared transaction costs of borrowing from both formal and informal sources in Bangladesh. The study revealed that transaction costs of loans from formal lenders were higher than those loans from informal lenders. Transaction cost per loan decreased with the loan size which was higher for formal loan than for informal loan. It is also observed that for small loans, the effective cost of formal loans was higher, while for large loans the formal loans were cheaper than informal ones.

Sarap (1990) discussed in detail the interrelationship between the borrowing cost and demand for credit in Orrisa among different land holdings. The significant conclusion was the decrease of average transaction cost with an increase in the size of holdings. There was also systematic fall in the proportion of transaction cost in total cost along with the fall in the size of loan. Interestingly, the effective rate of interest (nominal interest rate plus transaction cost) showed decrease with an increase in the size of holding and the effective annual cost of borrowing as percentage the total amount declined as the size of loan increased.

Llanto and Chua (1996) examined the components of transaction costs of lending to the poor by taking two non-governmental organizations in Philippines. They derived the conclusion that there existed an inverse relationship between an organization’s transaction cost and its number of years of existence. The NGO’s while lending to the poor, provided very small loans, at relatively short-term maturities, and with higher collateral security.

Petrick and Latruffe (2003) investigated credit access and borrowing cost in Poland’s agriculture credit market and reported that the main determinants of
borrowing costs were the nominal interest rate and additional transaction cost faced by farmers.

Datta (2003) studied the transaction cost incurred by small farmers in India by collecting the data from the sample of 700 borrower households across the country. The study established that percentage of monetary transaction cost from formal sources of credit had a negative and significant effect on the total size of loan, but non-monetary transaction cost had a positive association. It was also found out that monetary transaction cost seemed to be smaller for small sized holding than for large sized land holding.

Ranade et al. (2006) evaluated the transaction cost of lending in rural finance and found out that the high transaction cost coupled with cost of delivery and risk of loss provisions was major constraint for banks and other lending institutions. The major factors that contributed to higher transaction cost for rural banking were the small size of seasonal agricultural credit, wide geographical spread, poor transport and communication infrastructure. They also reported that the interest rate for agriculture lending further eroded the capacity of banks to provide their services.

The bank transaction of Primary Co-operative Agriculture and Rural Development Banks (PCARDBs) in Mysore district was studied by Murthy and Veena (2012) with the objective of calculating the transaction cost incurred by the PCARDBs. As per the findings of the study, the transaction cost means cost of identifying and screening the client, processing the loan application, completing the documentation, discussing the loan, collecting repayments and follow-up on non-payment. The study pointed out that the transaction cost incurred by PCARDBs fluctuated between ₹155.83 lakhs to ₹123.13 lakhs and the major reasons were the absence of mutual confidence between lender and
borrowers, ignorance of information regarding receipt of loan, poor recovery performance and delay in loan approval.

Igwe and Egbuson (2013) scrutinized the determinants of transaction cost for borrowers among farmers with the objective of evaluating the transaction cost incurred by farmers in Nigeria. The study unveiled that crucial interrelationships such as distance to credit institution, loan size, age of farmers, interest rate and membership of Co-operative organization were positively related to transaction cost while the factors such as assets of the borrowers and financial information were negatively related to transaction cost. Lack of collateral and high interest rates identified as the most important problems faced by the borrowers in the study area was another commendable finding.

2.2.6 Role of Co-operative Credit Institutions

Moore (1954) discussed in detail the economic functions of money lenders and role of short term co-operative credit in economic development of Indian economy. He observed that whatever be the development in rural finance, the problem of agricultural indebtedness was atrocious. The finance required for both debt liquidation and current credit needs of farmer exceeded the amount available through the facilities of the existing capital market. He made no specific suggestions for the supply of the necessary funds except for financial assistance required from the government to be provided either through the existing co-operative structure of rural credit or through other agencies, created especially for the purposes.

Charvaka (1972) examined institutional reorganization in term finance in the agricultural sphere. He found that term finance institutional sources continued to be pitifully small. The issue has not been lack of funds but failure to organize an institutional framework which would draw up systematic and comprehensive
schemes of farm development, tap the resource potential available and provide finance or refinance.

Acharlu and Rao (1972) appraised the availability of long term finance in relation to the small and marginal farmers in India. The observations were mainly limited to the advances made by Land Development Banks (LDBs). Data collected from the estimates of National Sample Survey examined the percentage of small farmer households that borrowed from LDBs and the relative share of small farmers in the total advances of LDBs. The study revealed that at borrower households small farmers were neglected. It should be noted that though 75 per cent of the rural households were small farmer households, only 36 per cent of them were the borrowers of LDBs. Thus the policies and procedures observed were not tributary to better flow of long term finance to small farmers. As a result small farmers couldn’t obtain maximum benefits from the new technology and ensure fruitful utilization of resources.

Desai and Namboodiri (1992) compiled the performance of institutional finance for agricultural development at national level. They considered three tier co-operative financial institutions, Co-operative Land Development Bank, Commercial Banks, Regional Rural Banks and Rural Electrification Corporations as the sources of institutional finance and observed that relative importance of institutional credit has shown an increasing trend not only in the institutional share of rural credit but also in its share in the number of farmers services. The growth of both rural deposit and agricultural loans though recorded an impressive performance over the long term, displayed a despairing performance over a five year period. Despite this desperate performance, both agricultural productivity and agricultural investments were positively associated with the several functions of rural financial institutions. i.e it has increased the use of fertilizer, irrigation, other agricultural investment and productivity.
Shivamaggi (1994) recognized conditions behind the success of Rural Co-operatives by addressing questions like what organizational principles are involved in promoting Rural Financial Institutions (RFIs) and what is the performance of RFIs. He selected rural financial institutions, Farmers Co-operative Bank and Aruvikara Farmer’s Co-operative Bank in Kerala for the study. The study reviewed the performance at the level of farmers and other clients by selecting five per cent of the rural households in the sample area of operations of two selected PACS. He foregrounded the main factors inherent in the success of Co-operative Credit Societies like non-interference by government, higher literacy, larger deposit mobilization, and less dependence on central financing agency. The study also brought out that the performance of PACS is distinctly better when they become Farmers Service Co-operatives Bank.

Pantulu (1994) evaluated the role of Co-operative credit institution on agricultural finance and found that to the small extent, productive credit dispensed by the societies doubtlessly benefited the agriculturists though it only provided another source of borrowing. But the wider range of benefits like utility in increasing the agricultural income and wealth of the country, relieving the burden of unproductive debt and freeing the rural trade from needless middlemen that were expected from these institutions have not been realized. With regard to the future of Co-operative movement, the study suggested that the credit liberated by the Co-operative Banks could be made productive by prompt and adequate interventions as and when needed. Moreover, the loan classification not only with reference to the purpose but also with reference to their economic background was also highlighted.

Jodhka (1995) contemplated the changing profile of PACS in rural Haryana. The study was based on an intense field study from three villages and the three PACS selected from an agriculturally developed district in the
state of Haryana. The major findings were after the success of Green Revolution technology and the introduction of a new organizational structure of the PACS, significant changes in the working of Credit Co-operatives have happened. But many respondents were no longer members of PACS nor did they borrow from them. The most significant factor behind this development was the bureaucratization of the PACS and the prevalence of corruption. The study conveyed that the obvious reason for this was an absence of any kind of Co-operative movement.

Anandaram and Medha (1999) studied the role of Co-operatives in the social development of Indian economy and showed that the financial need of the farmers was taken care of by the PACS through lending activities. It was estimated that about 65 per cent of the rural credit was being taken care of by Co-operatives. Besides these Rural Co-operatives have also involved in procurement and distribution of the inputs required for agricultural purposes. Through these activities quality inputs were made available to the farmers at optimum prices. The study also suggested that good leadership and will power of the concerned authority was required to strengthen the Co-operative movement.

Satyasai and Badatya (2000) examined the performance of rural credit co-operative institutions in India. They observed that growth in lending has been cramped by the decline in the growth of the resources. Lending by PACS has been more seriously disabled because the resources of PACS have decelerated at a faster rate than that of the higher tiers. These trends may be partly due to the entry of Commercial Banks and Regional Rural Banks into rural credit business, which must have led to laxity in the Co-operative sector. The poor recovery of loans coupled with high transaction cost and lower level of loan business, resulted in losses worth large amount and thus, low financial viability. The external environment factors such as over bureaucratization and increasing political
interference have also contributed in making Rural Co-operative credit institutions financially nonviable. Rationalizing the Co-operative structure by way of integrating short and long term wings, removing the tiers and exploiting scope and scale economies available in rural lending were the proposals to mitigate the condition.

Ganesan (2009) examined the progress of PACS in India. The study covered a period of three years (2002-04). According to the findings of the study, PACS directly interfaced with individual farmers and provided short term and medium term credit. It was observed that viability of PACS was essential for the development of agriculture and rural economy of our country. But most of the PACS were facing overdue problem which stood at ₹11607 crores in 2002 and has increased to ₹16295 crores resulting in 48 per cent increase. He suggested that PACS were to take appropriate steps to improve their recovery performance.

Devi and Govt (2012) examined the role of Credit Co-operatives in the agriculture development of Andhrapradesh. From the study, they established that Co-operatives provided not only the credit facilities to farmers but also they provided agriculture inputs, fertilizers and pesticides. Therefore, farmers benefited to maximum through increased level of output which in turn increased the employment and income of the farmers. And they also pointed out that with the help of credit facilities from Co-operatives, farmers purchased modern inputs and applied modern technology which acted as moral boost to farmers in increasing agricultural productivity. Therefore, Co-operatives worked not only for agricultural development but also for overall development of farmers.

Patra and Agasty (2013) attempted to study the role of Co-operatives in financing agriculture through collected data from 220 households in Balsore
district in Odisha, India. According to them, Co-operatives emerged as the best institution for disbursing agriculture credit and their share constituted as 51 per cent. And also these institutions charged four per cent per annum as interest rate for regular repayers. However, the credit delivery system of Co-operatives creating discontent among farmers included the demand for collateral security, complex lending procedure, longer time gap for getting loan, incurrence of high transaction cost etc. All these factors forced the farmers to turn towards non-institutional agencies.

Innocent and Adefila (2014) assessed the effects of Farmers Co-operatives on agricultural development in Kwali area council, Nigeria by collecting data from 80 executive members and 200 non executive members of registered Co-operatives. From the study, it was obvious that there was significant impact of Co-operatives on agriculture in terms of creating employment generation and raising the living standards of farmers. Even though, farmers had good perception about the role of Co-operatives, majority of the farmers admitted that Co-operatives had an important role in supporting small agricultural producers and marginalized groups.

2.2.7 Committee Reports on Co-operatives

Researcher has also made an attempt to review the reports of various committees on Co-operatives. Various expert groups were appointed to study the development of Co-operatives and make recommendations from time to time. The subsequent section presents the review of these committees.

1 Committee on Organization of Co-operatives for Rural Poor (1990)

A Committee was set up under the chairmanship of Sankam. S.R and submitted report in June 1991. According to the Committee, Co-operatives which are founded to protect the poor from economic exploitation are no
longer helping them. As a result, bulk of the rural poor population relied on private money lenders for meeting their requirements. With regard to the supply of credit, the committee suggested that the Co-operatives should evolve as an institution of providing credit to the poor people, based on the repaying capacity of the poor.

2 **Committee on Model Co-operatives Act (1991)**

The Planning Commission under the chairmanship of Choudhary Brahm Prakash appointed a Committee on Model Co-operatives Act to make a broad rapid review of the status of Co-operative movement and it submitted its report in 1991. The committee recommended a model Co-operative law in 1991 to make Co-operatives more self reliant, autonomous and democratic by ensuring more powers to the members, enlisting more participation and less Government intervention in the affairs of Co-operatives. The Central Government enacted the Multi-State Co-operative Societies Act, 2002 in line with Model Act to serve the interest of members in accordance with Co-operative principle.

Since 1990, the liberalized economic policies followed by Government led to pressures on Governments at the state and the central level to bring about changes in the Co-operatives so as to enable them to compete with private sector. As a result more emphasis was placed on building up of Co-operatives on self-managed, self-regulated and self-institutional lines by giving more autonomy.

3 **Jagdish Capoor Report (1999)**

Government of India constituted a Task Force in April 1999, under the chairmanship of Shri. Jagdish Capoor to study the various aspects of Co-operative Credit institutions. The committee suggested the improvement of resource base by increasing borrowing membership and volume of business, making Co-operatives ‘Member-Driven’ organization to ensure that they are not subjected to excessive control and regulation. Furthermore thrust was placed on democratization and
self-reliance, diversification of business products at all levels, technology and upgradation, so as to ensure uninterrupted credit flow to farmers. The task force is of the view that continuance of the existing three-tier structure in the short-term co-operative credit system in bigger states is generally necessary. Further, the integration of short term and long term structures into a ‘Single Window’ organization may be an advantageous proposition.

The Government of India constituted a Ministerial Task Force to formulate a plan of action for implementation of National Co-operative Policy based on the recommendations made at a Conference of State Ministers for Co-operation in 2001. The task force suggested that a single law instead of parallel laws should be introduced in the states.


In 2002, Government of India announced National Policy on Co-operatives (NPC) with the suggestion of all round development of Co-operatives via the NPC providing needed support, encouragement and assistance to Co-operatives so as to ensure that they function as autonomous, self-reliant and democratically managed institutions, liable to members. Finally the NPC suggested that Co-operatives are a distinct economic sector and integral part and potential instrument of socio-economic development of the country.

5 Report of the Advisory Committee on Flow of Credit to Agriculture and Related Activities (2004)

The Reserve Bank of India established an Advisory Committee on flow of credit to agriculture and related activities under the chairmanship of Prof. V.S Vyas who submitted its report by 2004. The committee noticed that poor health of Co-operatives in most of the states could be the contributing factor for the reduction in its share of agriculture lending in total credit. The rural financial institutions must allow flexibility of approach, innovation to
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meet new needs, empathetic treatment of the clientele and responsiveness to changing environment. They also suggested the measures to reduce the rate of interest on agriculture credit by Commercial Banks, Co-operatives and RRBs. The committee also recommended that the credit flow to small borrowers is to be modified by means of reduction in cost of borrowing, revolving credit package, procedural simplification, involvement of Panchayat Raj Institutions and micro finance.

6 Vaidyanathan Committee (2004)

A) Task Force on the Revival of Rural Co-operative Credit Institutions (Short Term)

Finance Ministry, Government of India constituted a Task Force in 2004 under the chairmanship of Prof. A Vaidyanathan to formulate a practical and implementable plan of action to revive the rural co-operative credit structure. The committee recommended that financial restructuring of Co-operative credit institutions becomes sustained only if it addresses the root causes of the weaknesses of the system. This would require to bring down the interference of state governments in credit Co-operatives and recommended suitable amendments to State Co-operative Acts and Banking Regulation Act 1949 to make them democratic, autonomous, vibrant, member driven, professionally managed and financially strong institutions.

B) Task Force on the Revival of Rural Co-operative Credit Institutions (Long Term)

A Task Force was constituted in January 2005 for the revival of rural co-operative credit institutions (Long term) under the chairmanship of Prof. A. Vaidyanathan. The major recommendation in relation to long term co-operative credit institutions is that; SCARDBs may be permitted to accept a
wide range of term deposit from the public. Further long term co-operative credit institutions be enabled to provide production, investment and other credit including fee based services. In addition to NABARD, long term co-operative credit institutions be free to borrow from other financial institutions and markets. Deposit mobilizations of PCARDBs should be limited to members and depositors who are given full voting rights. All losses arising out of long term loans to agricultural and related activities in respect of PCARDBs may be borne by the Government of India. NABARD be designated as the nodal agency for the implementation of the revitalization package. Further, the Government of India announced in the Union Budget 2008-09 that the central and state governments had agreed upon a package to implement the Vaidyanathan Committee Report.

7 Radhakrishnan (2006)

Government of India formulated an expert group on agricultural indebtedness under the chairmanship of Radhakrishnan in the year 2006. The group prepared an exhaustive report with recommendations covering credit measures, financial architecture, institutional architecture, risk mitigation and other measures.

Expert group noticed that the share of Co-operatives in total agricultural credit declined from 74.09 per cent in 1975-76 to 33.2 per cent in 2005-06, with respect to short term credit while for long-term credit the decline was from 61.2 per cent to 6 per cent during the same period. The fact that the Co-operative Banks are under a much higher risk profile as compared to Commercial Banks that are able to diversify the operations in the whole country and across all sectors, unlike Co-operative Banks that are faced by area and sectoral restrictions, failing to diversify their business portfolio. The committee recommended that Productive Co-operatives, federation of farmers, SHGs and other forms of
collective organizations would enable and support the farmers including the small and marginal farmers to participate in value addition activities like marketing and processing.

8 **High Powered Committee on Co-operatives (2009)**

The Government of India constituted a High Powered Committee on Co-operatives under the chairmanship of Shivajirao G Patil for preparing road map for Co-operatives by considering the issues and challenges faced by the Co-operatives sector. The committee recommended that Co-operatives are to be regarded as primarily autonomous institutions functioning in a free, fair and transparent manner following the principles and values of the Co-operative movement. To achieve this, State Government should put a policy framework for Co-operatives. Because of limited fund and inability to raise fund from the market, the committee suggested that, Co-operatives should build up a strong alternative organizational set up to mobilize fund. The Committee suggested that whenever the Co-operative structures are not found to be cost effective, actions are to be taken for de-layering.

9 **Prakash Bakshi Committee Report (2013)**

RBI constituted an Expert Committee under the chairmanship of Prakash Bakshi to examine the three tier short term co-operative credit structure in 2012 and submitted its report in January 2013. Committee examined the functioning of the short-term co-operative credit structure and also its role in providing agricultural credit. The committee suggested that the share of short term co-operative credit institutions in providing agriculture credit has fallen merely to 17 percent and were not performing their role for which they were constituted. Thus the committee suggested that short term co-operative credit institutions must provide 15 per cent of the agriculture credit requirements in their operational area.
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because they are primarily constituted for provision of agriculture credit. Otherwise these institutions are to be declared as Urban Co-operative Banks.

The committee noted that almost 40 per cent of the loans provided by PACS and almost half the loan provided by Central Co-operative Banks are for non-agricultural purposes, although the share of many of these PACS and Central Co-operative Banks in agriculture credit is less than 30 per cent in their operational area. The Committee therefore recommends that Central Co-operative Banks should provide at least 70 percent of their loan portfolio for agriculture.

PACS will be not be in a position to issue Kisan Credit Cards through ATMs and POS devices; thus it would be most appropriate for Central Co-operative Banks to provide these services directly by using PACS as their Business Correspondents. All the depositors and borrowers of PACS become normal shareholding members of the Central Co-operative Bank with voting right. State Co-operative Societies Act is to be amended so as to provide the authority to Short Term Co-operative Banks and Central Co-operative Banks in taking business decision. An independent organization may be set up by Central Co-operative Banks and State Co-operative Banks in each state for providing support services.

2.2.8 Research Gap

The review of literature clearly depicts a bird’s eye view of relevant studies conducted in the sphere of institutional finance for agriculture at macro and micro level over the years both internationally and nationally. Unfortunately, few studies have been found focusing on Kerala’s circumstances on the one side and on the other side there is not a single analytical and comprehensive study to investigate the different aspects of Co-operative credit for agriculture despite this being the first institution started in agriculture lending. Most of the studies placed
in the context of Kerala cover areas such as multi agency approach in agricultural credit, regional disparities in the flow of credit, along with supply and utilization of short term co-operative credit failing to offer a concerted understanding of the problem.

There has been enough literature on credit requirements of the farmers, supply of credit and borrowing cost incurred by farmer’s at all financial institutions. But there is a lacuna of literature both at national and regional level on the measurement, magnitude and determinants of credit gap of farmers on the basis of a scientific and a systematic methodology, coupled with credit delivery system analyzed within the ambit of Co-operatives. There are certain studies at national level, though in a limited scope, which analyse the problems of Co-operatives by using secondary data on the one side and on the other side concentrating more on the performance level focusing issues such as mounting overdues, recovery performance etc. Studies are rather meager on the role of PACS in agriculture in a national and regional perspective. However, no conjunctive attempt has been made to examine whether the PACS are doing the primary responsibility of supporting the agriculture sector till date. The present study is mooted in this background. This study tries to unravel the aforementioned aspects and makes an effort to remove some of the aforesaid deficiencies, and is an attempt to make a comprehensive analysis of various aspects of Co-operative credit for agriculture in Kerala at the macro and micro levels on the basis of available secondary and primary data.

2.3 Theoretical Underpinnings of the Study

An assessment of the credit gap faced by the farmers coupled with their borrowing options forms the focus of the present study. The elaboration of these themes is well supported by the theories of agricultural finance and of borrowing cost.
2.3.1 Theories on Demand for Credit

The concept of determinants of credit gap is inextricably linked to the theories of demand for credit which is well documented in the Demand Theory of Agricultural Finance.

### 2.3.1.1 Demand Theory of Agricultural Finance

Demand theory of agricultural finance can be used to analyze the factors that influence demand for credit (Jugale, 1991). Generally, demand for credit depends on main factors like conditions of credit, cost of credit, marginal efficiency of credit, repaying capacities and farm production predictability. If the conditions of credit are favourable ($X_1$), cost of credit ($X_2$) and rate of interest is low, the demand for credit will be high. Marginal efficiency of credit ($X_3$) depends on the adoption of new technology ($X_{3a}$) and the yield ($X_{3b}$) that can be obtained by the use of new technology. Introduction of new technology will raise the marginal efficiency of credit. Generally, technology in the agriculture sector includes bio-chemical technology ($X_{3a}$) which consists of farm items such as seeds, fertilizers, pesticides, herbicides, irrigation etc., and mechanical technology ($X_{3b}$), which includes all agriculture implements made by metal, wood, plastic etc. If the new technology is introduced, not only the marginal efficiency of credit improves but also the repaying capacity of the farmer ($X_4$) also increases. As repaying capacity of credit increases, the demand for credit would also increase. The repaying capacity of farmer depends on the owned assets ($X_{4a}$) and managerial skill of the farmer ($X_{4b}$). And finally, a good forecast of farm production ($X_5$) results in high credit demand. And the farm production depends on natural calamities ($X_{5a}$) and the price policy of agricultural products.
(X_{5b}). Using the mathematical explanation, the demand for credit can be represented as
\[ D_c = f(X_1, X_2, X_3, X_{3a}, X_{3b}, X_{3ai}, X_{3a}, X_{3ii}, X_4, X_{4a}, X_{4b}, X_5, X_{5a}, X_{5b}) \]

The theory of demand for credit is the basic framework based on which the study attempts to identify the factors that determine the credit gap. However, variable cost of credit is the only factor included in the determination of credit gap. Discussions on credit gap bringing in the elements of demand for credit is further supplemented by the elaboration of the issue of borrowing cost faced by the farmer.

2.3.2 Theories on Borrowing Cost for Agricultural Finance

There are some theories on borrowing cost of farmers providing ample explanations for the type of cost incurred by farmers in obtaining loan. An overview of these theories linked to the present study is given in the present sub-section.

2.3.2.1 Cost Theory of Agricultural Finance

Cost theory of agricultural finance developed by Jugale (1991) classifies agricultural finance into two: (1) The costs incurred by farmer before receives the loan amount, and (2) The direct or indirect costs which a farmer has to bear after receiving the credit (Figure 2.1)
For availing credit, the farmer has to prepare documents such as no dues certificates, an ownership copy, copies of photographs etc., for which fees have to be paid. Further, the farmer has to incur costs such as costs of travel towards banking units, waste of labour hours while visiting the banks, expenses on photocopy and other charges, expenses on refreshment during the visits to banks etc. These types of cost involved in getting credit continue up to the final repayment of loan. The items like rate of interest, storage charges, and cost arising from uncertainty, marketing costs and period of waiting for marketing the agricultural goods etc. are those costs incurred after receiving the credit. Here what is required is better management of both borrowing and repayment of
credit for which a farmer has to adjust costs and returns from agriculture in an effective manner.

Supported by Jugale’s theory, the study attempts to compute the total costs incurred by the farmer for availing loan confining itself to the cost incurred prior to the receipt of the loan. Exclusion of the cost incurred after receiving the loan from the purview of the study is explained by the difficulties associated with the measurement of items such as storage cost, marketing cost and uncertainty of price.

2.3.2.2 Views of Ladman (1984)

To obtain a loan, a farmer has to go through the procedures that are required by the lender’s credit delivery system, which result in borrowing cost. The borrowing cost includes interest payment, transaction cost incurred by the borrowers etc. Ladman (1984) provides a theoretical framework on demand for credit based on the relationship between Average Borrowing Costs (ABC) and Average Revenue (AR) generated from the investment of the loan. Here ABC is summation of Total Fixed Transaction Costs (T1) and Other Transaction Costs (T2) divided by the size of loan. It can be represented as

\[ \text{ABC} = \frac{T_1 + T_2}{L} \]

T1 represents the amount of outlay the farmers incurred in applying for a loan such as the payment of application fees, service fees, documents, and other paperwork.

T2 represents the cost incurred by the farmers in payment of commission and bribe to bank staff and also the opportunity cost of time involved.

The transaction cost appears to be much less for large sized and experienced borrowers, whereas it makes a very large part of borrowing costs for
many small and medium size borrowers (Adams and Nehman, 1979; Sahu, 2004). According to Ladman, since total borrowing cost is the summation of interest payment and transaction cost, ABC declines with respect to the size of loan.

However in the present study borrowing cost of the farmer is restricted to include transaction cost alone purposively barring the rate of interests as farmers in the study area availed interest free loans for paddy cultivation. While discussing transaction costs, both direct and indirect costs borne by the farmer for availing loan is considered. As suggested by Ladman, it was found from the study that the average borrowing cost decreased with the increase in the size of holding and with the increase in the size of loan.

2.4 Conclusion

The present chapter presented a review of important empirical and theoretical literature which has a linkage with the study. Here, section 2.2 reviews some important studies with regard to Co-operative credit and also identified the research gap. Appropriate theories were located for the study in the last sub section.

In the ultimate analysis, it cannot be ignored that while the Co-operative route is a glorified way of growth for all, it is especially for the upliftment of the marginalized population in rural areas. In short, Co-operative Banks are for the people, of the people and by the people. Hence it is necessary to examine the performance of Co-operatives at the national and regional level in order to get a more detailed picture. This is attempted in the succeeding chapter.