Chapter – II

GROWTH OF INSTITUTIONAL AGRICULTURAL CREDIT

Growth model adopted by Indian agriculture is popularly called ‘Green Revolution Model’. This has transformed the primitive modes of production into modern, high-tech agriculture sector. The change invaded through a set of measures suitably supported by various existing institutions, be it social or political. Also the receptivity of soils, farming community as a whole and that of individuals in particular, markets, research institutions was enormous which led to spectacular success of the model adopted in some specific regions of the country.

With the large scale adoption of modern production technology, demand for cash inputs went up manifolds. Consequently, the cash requirements of the farming business for the current inputs and for making capital investments increased on the farms bringing the need for agricultural credit in sharp focus. The financial institutions, through the monetary authorities, were directed to pump in the credit in the agriculture sector in commensuration with their growing cash requirements. The thrust of the agricultural credit policy was twin fold: increasing the flow of credit and providing it at low rates of interest, in order to increase the agricultural productivity and production by encouraging green revolution technology. This policy also aimed at reducing the presence of informal finance (money lenders) in agriculture.

The field has evolved a lot right from the time of independence. As mentioned earlier, a significant change has taken place in agricultural credit policy with all out efforts of government to increase the availability of institutional agricultural credit and in turn lessen the dependence of farming community on moneylenders. The evolution of the field has been studied by many specialists.

Desai (1979) has discussed the performance of formal rural financial market in India and found that the share of rural credit had increased to around 28-30 per cent from 20 per cent in early 1960’s. The share of rural deposits was also found to be increasing to 33 per cent in 1970’s from 25 per cent in 1960’s.
Bhende (1986) analysed rural financial markets in south India. In Andhra Pradesh, private moneylenders were found to be important sources of agricultural credit while in Maharashtra, it was cooperative institutions. Institutional credit was more concentrated in richer households having large farm and family size and headed by educated and older heads, while, households with more land, but less educated and having more irrigated area were depending on informal credit.

Desai et al (1988) have found density of rural financial institutions and overall amount of credit per hectare to be positively correlated with degree of agricultural progress.

Shukla (1988) found the flow of agricultural credit like an inverted pyramid i.e. with narrow base of resources (deposits) and large number of those needing resources (credit). The financial institutions were found to be acting like one-way pipelines rather than intermediaries in transfer of resources. The recycling of funds had been reduced to around 50 per cent.

Prasad and Naidu (1988) analyzed the adequacy of cooperative credit as availability of short-term credit reflects on the quantum of output. An uncovered gap of 24 to 36 per cent was found to be existing between bulk-line costs (costs of inputs and imputed value of family labour) and scales of finance fixed by the institutions for various crops, former being on the higher side. The proportion of kind component in the crop loans was not only disproportionate but also inadequate. Gadgil (1988) examined the empirical relationship between credit and agricultural development in India. Supply of credit in Punjab and Bihar, two states of India was not found to be lagging behind the growth in demand for credit. So, the basic problem is not one of expansion in amount of credit. Since agricultural development is basically related to the adoption of improved technology, it is clear that credit without a link with improved technology is not likely to be productive.

Dantawala (1989) highlighted the achievements of financial institutions in agricultural credit with weaknesses i.e. leakages, misutilization, corruption so high burden of overdues. The stress should be on making the rural poor credit worthy.
Khusro (1989) reviewed the agricultural credit system in India and found it to be sound and well suited. The role of financial institutions in the growth of agricultural credit was highlighted and more autonomy was favoured for these institutions for raising the flow of agricultural credit and thus agricultural production. Sarap (1990) tried to identify the determinants of access to formal credit in rural India, as mere existence of credit institutions in an area does not guarantee that it will benefit to farmers of the region especially the small farmers. The low bargaining power, bureaucratic and procedural formalities required, asset based lending and policies of financial institutions and corruption prevailing in these agencies worked against small farmers. The small size of holdings, the informal and oral nature of tenancy contracts, illiteracy, low caste status were other inhibiting factors. The higher transaction costs with formal lending has led to increase in effective rate of interest. Narasimham (1991) in his report on reforms of financial institutions has reflected the growth in accessibility of credit for agriculture sector in expansion of rural branches of commercial banks and growth in volume of transactions in relation to GDP (38% in case of deposits and 25% in advances). Varsha Varde (1993) brought out the remarkable growth in institutional agricultural credit both in terms of disbursements and outstandings over the years, but pointed out that agricultural institutions have become weak. It was stressed that credit should not expand quantitatively, but must become a commercial and economic proposition. Rao and Babu (1993) studied bank finances to agriculture and allied activities and found out that low rate of interest, easy and convenient instalments for repayment, possibility of getting subsidies from government agencies were the main reasons for growth in institutional loans. Modgil (1992) estimated the likely impact of Narsimham and Khusro Committee reports on future of institutional agricultural credit in India. He favoured higher rates of lending, if it was accompanied by quality of lending. Its positive impact on output and employment was stressed, besides improving the health of credit institutions. Desai (1994) considered institutional credit as important source of growth in second half of 1970’s and 1980’s. However, contribution of self-financed investments to agricultural growth was found to be
more than credit. Positive response of institutional lenders, farmers, borrowers and input agencies consistent with technological change and resource endowments were responsible for agricultural development in the country. Benson (2000) linked the availability of credit with rural poverty. The average income from the loan activity was found to be increasing at 76.2 per cent in a year. The net income of borrower also showed an increase of 9.4 per cent. Mean income of the borrower from loan activity was found to have increased during the post-loan period. Kumar and Simon (2001) focused on strengthening of rural credit delivery system through kisan credit cards. The small farmers with low income were getting benefited through the scheme, however, repayment was slow and misutilization of credit was emerging as a major problem. Shete (2002) has highlighted the performance of public sector banks in the post-reform period. It was found that reforms have bypassed the agriculture sector and banks have not achieved the targets of lending to this sector. It was suggested to rectify the distortions in the wake of decreased credit supply in rural areas. Mohanty and Haque (2003) have studied the availability of institutional credit in the country. It was found that per hectare credit was higher on small and marginal farms, the medium and large farms had more credit per borrower. Also the share of institutional credit in total credit has increased in all states overtime except in Andhra Pradesh, Orissa and Rajasthan. Here, share of non-institutional sources varied from 42 to 66 per cent of total credit. Overall, highest percentage was of bank credit (33.7) followed by cooperative credit (21.6), professional moneylenders (10.5) and relatives, friends (8.7). Bhukta (2003) has revealed the financial sector reforms since 1969. The share of agriculture in the total bank credit was found to be declining after 1990s. In post reform era public investment in agriculture also showed a steadily declining trend. Thus agricultural production has also started declining from 3.4 per cent to 2.2 per cent in the post reform period. This will have an adverse impact on income, employment, price level and similar macro-economic variables. Rao (2003) found that about 60 per cent of the credit requirements of farmers are now met by the institutional sources and only 40 per cent by informal sources like money lenders etc. Among the formal credit institutions, the commercial banks have emerged
as a major player (50%) followed by cooperatives (43%) and RRBs (7%) in agricultural credit. Shandilya and Prasad (2003) have analysed the performance of NABARD in agriculture credit. The apex agricultural bank is facing many challenges in the post-reform era. Inadequate availability of subsidized funds, borrowing at market determined interest rates, lending at subsidized rate, sagging demand for refinance etc. are serious problems of survival. Sharma and Chamala (2003) have provided a holistic approach to the generation, extension and management of commercial credit for agriculture called as GEMCARD. The biggest advantage of this model is the use of existing guarantee systems for micro-credit organizations and group lendings. So, the raising of commercial finance was easy as in case of BAAC, Thailand and RIDF, India. Satyasai and Viswanathan (2003) found that share of moneylenders in cash debt of rural households is found to be between 40-45 per cent after 1981-82, due to contractual arrangements in input and output markers in rural areas. Fertilizer consumption, illiteracy and high consumption expenditure are the factors responsible for this. Sahu and Rajasekhar (2005) have analysed the banking sector reforms and credit flow to agriculture. The share of agricultural credit in total net bank credit was found to be declining especially after the reforms. The situation was reported to be more grim in cooperatives. Better off farmers have improved their access to formal credit, while share of small farmers has declined. Credit flow to agriculture was more to be negatively associated with investment in government securities and positively with incidence of rural bank branches. Credit subsidy was adversely affecting the supply of agricultural credit. Reduction in lending cost was suggested as a measure to reduce the burden of credit subsidy. Thorat (2005) stressed on revamping of financial institutions to improve the credit delivery system in terms of timeliness, resource mobilization, stress on small and marginal farmers etc. Rakesh (2006) recorded the extension in rural credit in India along with flaws like legal framework and outdated tenancy laws which hamper the flow of credit. A region specific package approach with market participants and private sector suppliers was favoured. Sidhu and Gill (2006) have discussed the issues related to agricultural credit and Indebtedness in India. The accessibility to institutional credit was found to be higher in the
southern region and very poor in the north-eastern region. Also, it was highly related to level of agricultural development. The increase in institutional credit was highest in the northern region while lowest in the central region. Kumar et al. (2007) have analyzed the performance of rural credit in India. The access and distribution of rural credit was found to be skewed in favour of better endowed regions. The study revealed that choice of a credit outlet was affected by a number of socio-demographic factors. The effect of education has indicated the need for capacity building of borrowers. Borrowers needed to be trained in procedural formalities, to increase their access to institutional credit. Reforms need to be initiated in case of margin money requirements and collaterals.

Kumar (2007) has highlighted the withdrawal system of banks from rural credit due to decline in number of rural branches of scheduled commercial banks, poor monitoring of loans, indifferent attitude of banks, to the production process etc. The focus should be shifted to creation of conditions / linkages to sustain large scale capitalist production in agriculture.

Some studies have highlighted the issues of agricultural credit by analyzing the position of different states.

Islam (1985) found that professional money lenders were the main lenders (61.42%) to tenant farmers in West Bengal. 45 per cent of the total institutional credit was availed by owner-cum-tenant farmers. It showed that size of operational holding in term of tangible security was found to be having a bearing in the determination of supply and source(s) of credit. Pany (1985) in a study based on Orissa found the state’s credit supply to be inadequate. A credit gap was found to be existing in case of short term credit but not in case of investment credit. However, distribution pattern of institutional sources was found to be in favour of small and marginal farmers. Karthykeyan (1992) in the book review brought out duality in Indian rural money market with divergent business practices and rates of interest. Strong forward and backward linkages are found to be portrayed by rural credit due to progressive character and technological change present in Guntur district. Abate et al (2002) studied the magnitude of institutional credit flow to agriculture sector in Karnataka and indicated significant growth in quantum of agricultural advances in the state despite the limited
expansion of credit infrastructure. Singh and Nasir (2003) studied that agricultural credit increased in Bihar at an annual rate of 2.58 per cent at constant prices. Commercial banks and cooperatives were the main providers of agricultural credit. The credit flow was found to be adequate. Agricultural development and functional rural institutions had positive influence on the credit flow. Singh et al (2001) reported that the success of credit oriented development projects depends on soundness of credit structure. The study of tribal farmers was based in Kanke block of Ranchi district. 92 per cent of tribal farmers were found to be linked with rural credit agencies. Commercial banks were the prominent institutional sources and in non-institutional sources relatives / friends were dominant. 85 per cent of credit share was of institutional sources, that too of term loans i.e. irrigation loan, milk production etc., while non-agriculture loans were mainly for health and education and provided by non-institutional sources. Shah (2007) has studied the cooperative credit in Maharashtra, with major share of crop loans. But these cooperatives have shown slower growth both in loan advances as well as membership. The reason was traced to financial sector reforms as loans meant for farm finance were diverted to investments thus adversely affected the credit flow.

Darling (1928) has reported the pathetic conditions prevailing in rural India, specifically Punjab. The rural debt of Punjab was reported as Rs. 90 crore and rate of interest charged was minimum 15 per cent. The large part of this debt was unproductive and 33 to 50 per cent of it was due to compound interest and malpractices adopted by moneylenders. Moneylenders were the link between debt and the credit. Gajrani (1986) had also recounted the agricultural scenario at pre-independence times. The Punjab Banking Enquiry Committee estimated the total agriculture debt at Rs. 1350 millions in 1929. Ninety per cent of land owners were reported to be in debt. Cooperatives were not very successful as the amount provided by these was inadequate and formalities were many. Inelastic rules of cooperatives, cumbersome procedure, only cash dealings were the other factors for failure of these. So, farmers were dependent only on moneylenders. Kainth (1999) revealed that growth of cooperatives was 0.17 per cent per annum from 1970-71 to 1995-96, but no significant shift was
observed in the cooperative pattern. The proportion of successful PACSs remained fluctuating around 60 per cent. The restructuring of cooperatives on business principles was favoured, with less interference and less dependence on government. Singh et al (2000) studied the loan portfolios in rural household in Kandi belt of Punjab. On an average, 54 per cent of cultivators were borrowers. The burden of loan was higher on small farms. Source-wise share of loans was 28 per cent from commercial banks, 68 per cent from cooperatives, 13 per cent from government departments and 52 per cent from informal sources of finance, respectively. The maximum amount borrowed (40%) was for crop production, followed by dairying, machinery and equipment etc. Sidhu et al (2002) found the extent of loans to be positively correlated with the size of operational holding in cotton belt of Punjab. The share of non-institutional sources was reported to be higher on marginal and small farms. Cooperatives were dominant source in case of crop loans and for term loans, commercial banks were the main suppliers. The dominant position of money lenders was highlighted by Gill (2004) in an agriculturally advanced state like Punjab in a new guise of commission agent, who interlinked the credit market and output market. Credit was given on the collateral sale of crop to the commission agent and crop payment was also routed through him, who deduct their loan amount before finally paying the cultivators. The rates of interest charged were exorbitant. It was suggested to keep a strict vigil on the dealings of money lenders and monitor them continuously. The amount of debt per indebted household was found to be directly related to farm size by Singh and Toor (2005). The share of non-institutional credit agencies as found to be 58.13 per cent. Low profit margins in agriculture was the main source of borrowing. Fifty-nine per cent of borrowed amount was found for unproductive purposes. Satish (2006) has highlighted the increase in institutional agricultural credit in Punjab. Though, share of commercial banks has increased over the years, but these have not displaced the cooperatives especially in short-term loans. Despite this a strong presence of non-institutional sources was reported by the study. Seventy-eight per cent of cooperative borrowers and 75 per cent of borrowers of commercial banks were also the borrowers of artiyas (commission agents). However, no direct causal
relationship was found between institutional credit, indebtedness and suicides in rural Punjab. Singh et al (2007) analyzed the flow of funds to farmers in Punjab. The growth rate of agricultural advances at 18 per cent at constant prices was found between 2000-01 and 2004-05 due to liberal credit policies of the government and rumours of debt waiving. The commercial banks dominated the inflow of agricultural credit (50-57%) followed by cooperatives (25%) and state agricultural development banks (16-25%) during 1990-91 to 2005-06.

Prihar and Singh (1988) highlighted the source-wise variation in agricultural finance and the accessibility of institutional agricultural loans to different farm categories in Punjab and found that majority of medium and large farmers have access to two or more lending agencies. Singh and Chatha (1990) revealed large scale dependence of farmers in Punjab upon credit to run their farming enterprise efficiently. The crop loans were found to be the major component of total credit availed. The major share of agricultural credit (70%) was provided by the institutional sources. Sidhu et al (1998) reported a growth of 115 per cent in the total institutional agricultural credit advanced from 1970-71 to 1994-95 in Punjab. PACSs were main supplier (88%) of short-term credit, while SCBs were major provider (60-73%) of investment credit.

Belshaw (1959) has discussed the agricultural credit position in underdeveloped countries. In Malaya, Indonesia and India informal sources were important, but in Japan cooperatives were successful. Lending rates were between 6 and 12 per cent. Higher cost of loans was attributed to high lending risks and high administrative costs. 85 per cent of professional money lenders were providing loans on personal security, while government and cooperatives provided 64 per cent and 59 per cent of loans, respectively against immovable property. The distribution of loans was skewed i.e. large farmers were obtaining more loans. Consumption loans and working capital needs for agricultural operations were important motives of credit demand. Ladman and Adams (1978) have analyzed the performance of formal rural financial markets in the Dominican Republic. The authors are not in favour of concessional policy of credit and support higher and more flexible interest rates in directing more credit to small farmers. It will reduce subsidy and thus quantity demanded by large farmers,
which can be further channeled to small farmers. Also, banks will be more willing to lend to small farmers, as they will be receiving large revenues to cover higher costs of administering small farmer loans. Adams and Nehman (1979) have also reported an increase of 50 to 100 per cent in a single year in many low income countries (Bangladesh, Brazil and Columbia). Asian Productivity Organization (1984) studied the farm credit situation in Asia and found that share of institutional lenders has increased in all APO member countries. However, the quantum of loans by non-institutional lenders has increased in absolute value. Among the institutional lenders, the government programmed loans occupied the largest share in the total agricultural loans outstanding in Hong Kong, Indonesia, The Republic of Korea and Thailand. While in China, India, Japan and Nepal, the cooperatives were having largest share and in Bangladesh, Pakistan and Philippines, it were commercial banks. Most common objective of loans was to purchase current inputs, machinery and equipment needed to modernize farming. The lending institutions were facing problems like transaction costs, mounting overdues etc. Problems faced by borrowers in these countries included lack of consumption credit by formal lenders, high interest rate (30-40%) on informal loans, complicated lending procedures, high transaction costs etc. Desai and Mellor (1993) based on time-series data for nine major Asian countries concluded that the share of institutional loans in the total amount of loans has increased over time. Asian countries were found to be having lower unit transaction costs than other regions, because these are multifunctional. It was also found that sustained integrated institutional credit had led to decline of 25 per cent in interest rates of informal lenders from 1951 to 1975. Enjiang and Zhong (2004) have analyzed rural credit supply from 1989-2001 and China’s rural development. The supply was found to have declined as a proportion of rural deposits since 1996, thus adversely affected the China’s rural economic development. The authors did not approve of lending rates of interest, which has led to financial losses of rural financial institutions and thus to decline in supply of rural credit. It was suggested to remove the restrictions on the rates of interest to reduce the borrowing costs of farmers. Onogwu and Arene (2007) found that greater percentage of farmers (65.64%) source their loans through informal
means in Nigeria. Age of farmer, annual income, family size, asset and initial capital were found to be significantly related to credit demand, but level of education account for less.

Floro and Yotopoulos (1991) have studied informal credit markets on Philippine agriculture. The traditional approach explained high interest rates in informal rural credit markets due to higher administrative costs, the monopoly powers of lenders and the high risks of default. The ceiling on interest rates in the formal sector was considered as a major source of distortion in the rural credit market. Credit transactions were found to be interlinked with the sale of output, the purchase of inputs, the provision of intermediation services and the provision of labour services. Also the interest rates on loans that were not linked to transactions in other markets were higher than interest rates on interlinked loans. Irfan (1999) examined the structure of informal credit market in Pakistan. A good deal of interlinkage was found to be existing between formal and informal credit institutions. Lenders in the informal markets also follow the credit worthiness as a criterion to lend thus depriving less privileged households with lesser assets.

So, it was necessary to examine the growth in institutional agricultural credit over time and the contributions made by different financial institutions in the loans advanced both at India and state level.

**Institutional Agricultural Credit in India**

The banking activities are juxtaposed with the volume and nature of economic profile in the country. Since the advent of green revolution, there has been a noticeable progress in various fields of economic activities. The institutionalized credit in the agricultural sector has made rapid progress in conformity with the general trend in loan advancement. Many developments have taken place since 1960, when the agricultural credit scenario was largely dominated by private informal sources of credit, to increase the flow of institutional credit to this sector. The cooperative credit structure was strengthened by reorganizing and merging weak credit societies with strong societies. The participation of scheduled commercial banks was negligible in the agricultural loans. After the nationalization of commercial banks in 1969, these
were mandated to increase their geographical and functional presence in the rural areas. To meet the challenges of institutional agricultural credit, an apex institution namely National Bank for Agricultural and Rural Development (NABARD) was created in 1982, another credit institution lending exclusively to weaker sections of the rural areas, the Regional Rural Banks, were set up in 1975. To increase the flow of agricultural credit, new approaches were also initiated like Service Area Approach, Micro-Finance and Kisan Credit Cards. There is now a very strong network of rural and semi-urban branches catering to the requirements of agriculture sector.

The growth of total agricultural advances in India has been depicted in Table 2.1 and Fig.1. The total loans issued in agriculture sector were Rs. 3435.5 crore in 1980-81 which increased to Rs. 144021 crore in 2005-06 at a growth rate of 13.69 per cent per annum. The rate of growth in the first decade under study i.e. 1980-81 to 1989-90 was 13.35 per cent per annum. The growth rate was higher in the second period of study i.e. 1990-91 to 1989-90 which was 17.65 per cent per annum. However, maximum growth has been observed in third period of study i.e. 2000-01 to 2005-06, which has shown the rate of growth at 24.66 per cent per annum. This tremendous growth is due a policy on part of state to double the directed lending by the year 2006-07. The disbursement of agricultural credit at current prices has maintained an upward trend throughout the period of study except a slight fall in the year 1990-91, when banking reforms were introduced. Similar trend has been highlighted by Bhukta (2003). However, the loan issued as a percentage of gross domestic product (GDP) has shown a fluctuating trend. It increased to 9.1 per cent in 1987-88 from 6.8 per cent in 1980-81, but declined thereafter and touched a low of 6.0 per cent in 1992-93. Afterwards, it has shown improvement and is as high as 23.51 per cent in 2005-06 at current prices.

Intensity of credit was studied by analyzing the credit on per unit area basis. Loans issued per hectare of net sown area (NSA) were Rs. 245.39 in 1980-81, which increased to Rs. 10207 in 2005-06 at a growth rate of 13.66 per cent per annum at current prices. When credit disbursement was studied on per cropped hectare basis, it came to be Rs. 199.01 in 1980-81 and touched Rs.
583.10 in 1989-90. The growth rate for this period of study was 12.94 per cent per annum. After a fall in 1990-91, it showed a persistent increase throughout the second period under study. It grew at a rate of 17.09 per cent per annum in this period. However, the growth rate is found to be maximum in the third period i.e. 2000-01 to 2005-06 at a rate of 24.45 per cent per annum. The rate of growth for total span of study is calculated at 13.26 per cent per annum.

The institution-wise position of loans issued was also analysed to know the structure of credit disbursed and share of various institutions was studied. It was revealed by the Table 2.1 that at all India level, the share of cooperatives had remained higher till recently. It was 59 per cent in 1980-81 and increased to 62.4 in 1982-83, declined to 47.9 per cent in 1986-87, showed improvement, but again fell to 47.3 per cent in 1990-91. The growth rate for the first period under study was 10.95 per cent per annum. In absolute terms the loans issued by cooperatives had shown an increasing trend throughout this period. The trend was maintained in the second period under study but for the one year i.e. 1990-91, when it showed a decline of 10.87 per cent. The rate of compound growth during the second period was 17.95 per cent per annum. In third time span under study, the absolute share of cooperatives has shown an increasing trend at a rate of 12.91 per cent per annum. The overall rate of growth in case of loans issued by cooperatives has been 12.91 per cent per annum from 1980-81 to 2005-06. However, in relative terms, the percentage contribution of cooperative increased to 56.5 per cent in 1993-94, but showed a declining trend thereafter, again increased to 56.6 per cent in 2000-01 but has declined in third period and touched a low of 33.4 per cent in 2005-06.

The second largest contributor of agricultural loans issued was SCBs. These have issued loans of Rs.1262.8 crore in 1980-81 which increased to Rs. 4282.4 crore in 1989-90 at a rate of 16.14 per cent per annum. During this period, the share of SCBs in total agricultural credit available ranged between 28.1 per cent in 1982-83 and 43.2 per cent in 1986-87. Since 1990-91, the loans issued by SCBs have shown an increasing trend and grew at a rate of 16.75 per cent per annum during the second period of study and in the third period the loans issued by this institution has shown a galloping trend at a rate of 28 per
cent per annum. The overall position revealed that loans issued by SCBs have grown at a rate of 13.88 per cent per annum i.e. from Rs. 1262.8 crore in 1980-81 to Rs. 48599 crore in 2005-06. Per cent contribution of SCBs has improved in the second span of study and has remained near or above 40 per cent. It has increased to 55.9 per cent in 2005-06.

Another institution which issued agricultural loans is RRBs. The contribution of these banks remained limited till recently, but have shown improvement since 1994-95 and the share of these banks in total loans issued in agriculture sector was 3.9 per cent in 1980-81 has increased to 10.62 per cent in 2005-06. A total amount of Rs. 167.6 crore was issued by RRBs in 1981-82 which increased to Rs. 647.2 crore in 1989-90 at a rate of 14.43 per cent per annum. The amount declined drastically to Rs. 334.5 crore in 1990-91, but increased to Rs. 697.7 crore in 1992-93. Thereafter, it had maintained an increasing trend and was Rs. 15299.5 crore in 2005-06. The growth rate for the second and third period of study is worked out to be 25.95 per cent and 32.58 per cent per annum, respectively. The overall growth was worked out at 28.64 per cent per annum.

The loans for agricultural sector were also provided by state governments at all India level. But on the whole these have shown a declining trend. The percentage of these loans was 4.2 per cent in 1980-81 with an amount issued of Rs. 144.2 crore. This increased to Rs. 478.4 crore in 1987-88 and share of these loans increased to 5.2 per cent. But it declined in next two years and then improved in 1990-91. After declining, it was again 3 per cent of total loans issued in 1997-98, but has been falling since then and touched a low of 1.1 per cent in 2001-02 with an amount issued of Rs. 442.8 crore. The rate of growth of these loans issued by state governments was high during the first period i.e. 10.08 per cent per annum, 3.77 per cent per annum in the second period of study and is moderate at 6.32 per cent for the total span of study.

The analysis of loans issued for agriculture sector in India was carried out at constant i.e. 1993-94 prices (Table 2.2) to present the real picture of growth in credit. The total loans issued were Rs. 4584.9 crore in 1980-81, which increased to Rs. 10685.9 crore in 1989-90 at a growth rate of 10.26 per cent per annum.
Then, it showed a declining trend till 1992-93, but started increasing afterwards and is Rs. 50585 crore in 2005-06 at constant prices. The growth rate for second period of study i.e. 1990-91 to 1999-2000 came out to be 9.54 per cent per annum. But loans issued at constant prices have shown maximum growth in third span of study i.e. 2000-01 to 2005-06 at a rate of 19.16 per cent per annum. The overall credit grew at a rate of 7.70 per cent per annum for the entire span of study at constant prices. When loans issued at constant prices were considered as a percentage of GDP, it showed by and large a declining trend till the second span, but revived in the third span. It was as high as 9.1 per cent in 1980-81 but declined to 3.7 per cent in 1998-99 with some highs and lows in between but increased to 8.26 per cent in 2005-06.

As a real indicator of growth, the intensity of credit was seen at per unit area basis. The loans issued per hectare of net sown area at constant prices were Rs. 327.50 per hectare which steadily increased to Rs. 750.73 per hectare in 1989-90 at a growth rate of 10.35 per cent per annum. Then a decline was there in loans disbursed till 1992-93, but thereafter these have maintained an increasing trend and were Rs. 3585.06 per hectare in 2005-06. The growth rate for second span of study came to be 9.59 per cent per annum and the third time period it is 19.16 per cent per annum. The overall loans issued per hectare of NSA at constant prices had increased at a rate of 7.32 per cent per annum. On the same pattern on per cropped hectare basis, the loans issued at constant prices were Rs. 265.59 per hectare in 1980-81 which increased to Rs. 586.27 per hectare in 1989-90 at a rate of 9.85 per cent per annum. Then, it showed a declining trend which touched a low of Rs. 484.97 per hectare in 1992-93 but improved again and maintained the rising trend especially in the third time period and is Rs. 2660.56 per hectare in 2005-06. In second period of study, the growth rate was 9.01 per cent per annum but in the third period it is maximum at 18.97 per cent per annum. The overall rate of growth in loans issued per hectare of cropped area at constant prices was 7.32 per cent per annum.

The structure of loans issued at constant prices was analyzed institution-wise. As is clear from the table, the cooperatives have been the major contributor at constant prices. These had issued loans to agricultural sector to
the tune of Rs.2707.2 crore in 1980-81, which increased to Rs. 5436.2 crore in 1989-90. The growth rate during this period came out to be 7.92 per cent per annum. Then the loans disbursed by cooperatives declined for next three years and again started increasing and were at a high of 16902.5 crore in 2005-06. The rate of growth during second period i.e. 1990-91 to 1999-2000 was 9.81 and 7.65 per cent per annum, respectively. The overall growth rate for cooperative loans at constant prices is worked out at 6.99 per cent per annum.

The scheduled commercial banks (SCBs) have been the second largest contributor in loans issued by institutional sources in India. These were issuing Rs. 1685.3 crore in 1980-81. The amount issued increased to Rs. 4305.7 crore in 1989-90 at a rate of 12.96 per cent per annum during this time period. In the second period of study, the loans disbursed by SCBs at constant prices were Rs.4460.5 crore in 1990-91, but declined to Rs. 3355.4 crore in 1993-94, again started increasing steadily and were Rs. 7956.7 crore in 1999-2000 at a growth rate of 8.70 per cent per annum. The growth rate for the third period is maximum at 22.36 per cent per annum. The overall growth in SCBs loans issued at constant prices was 7.91 per cent per annum.

The regional rural banks (RRBs) have been catering to a particular sector of rural population. The loans issued by these banks were Rs. 202.6 crore in 1981-82 and increased steadily to Rs. 650.7 crore in 1989-90 at a growth rate of 11.89 per cent per annum. The amount issued dipped to Rs. 319.1 crore in 1990-91, but started rising thereafter and increased to Rs. 5373.71 crore in 2005-06 at constant prices. The rate of growth for second span was 17.26 per cent per annum and 26.64 per cent per annum during the third period. The growth rate of RRBs loans in total span of time is remarkable at 21.89 per cent per annum.

Another component of institutional loans was state government loans. These stood at Rs. 192.4 crore in 1980-81, touched a high of Rs. 484.8 crore in 1987-88, but dipped to Rs. 286.5 crore in 1988-89 and improved marginally to Rs. 293.4 crore in 1989-90. The growth rate for this period of study was 7.07 per cent per annum. The position of state government loans improved to Rs. 342.1 crore in 1990-91 but started declining afterwards and touched a low of Rs. 211.0
crore in 1998-99. It increased to Rs. 253.2 crore in 1999-2000 but again declined in 2001-02, thus giving a negative growth rate of 3.02 per cent per annum for the second period of study. The rate of growth for the entire span of study was only 0.42 per cent per annum.

The position of institutional flow of credit was also analyzed in terms of loans outstanding at all India level in Table 2.3 and Fig.2.

The analysis was extended to loans outstanding in agriculture sector to know the overtime position of credit to this sector at all India level. Table 2.3 depicts the loans outstanding position at current prices. The total loans outstanding were Rs. 7538.7 crore in 1980-81, which has shown a persistent increase and were Rs. 27686.6 crore in 1989-90. The growth rate during this period was 15.79. The amount outstanding was 29315.5 crore in 1990-91 and increased to Rs. 81383 crore in 1990-2000, at a growth rate of 10.77 per cent per annum, and further increased to Rs. 239439 crore in 2005-06. The overall rate of growth for the entire span of study came to be 12.25 per cent per annum.

The institution-wise picture presented a role swapping between cooperatives and scheduled commercial banks (SCBs) over time. In 1980-81, the share of cooperatives in total amount outstanding was 57.2 per cent and that of SCBs was 40.4 per cent. The share of cooperatives had shown a steady decline till 1990-91, then showed same improvement and rose to 51.55 per cent in 1999-2000, but again followed a declining trend and dipped to a low of 34.38 per cent in 2005-06. In absolute terms, the amount outstanding of cooperatives was Rs. 4315 crore in 1980-81 and increased to Rs. 82327 crore in 2005-06. The overall rate of growth for the entire span i.e. 1980-81 to 2005-06 is 14.83 per cent per annum. On other hand, the share of SCBs maintained a rise till 1990-91 and was 58.1 per cent. Then it started declining and was 50.9 per cent in 1995-96, thereafter it was fluctuating and started rising in 1999-2000 and touched a high of 56.6 per cent in 2005-06. In absolute terms, it had maintained an increasing trend except for the year 1991-92. The amount outstanding SCBs was Rs. 3043.3 crore in 1980-81 which increased to Rs. 135603 crore in 2005-06 at a growth rate of 12.22 per cent per annum indicating a steady increase in the credit flow. The third institution under study was regional rural banks (RRBs).
The share of these in amount outstanding of agricultural sector has shown a slow progress initially, but at a higher rate lately. It was only 2.4 per cent in 1980-81 which has increased to 8.98 per cent in 2005-06. The actual figure of amount outstanding was Rs. 180.4 crore in 1980-81 which increased to Rs. 1837.9 crore in 1989-90. The rate of growth in this period was an impressive 28.72 per cent per annum, which declined to 15.19 per cent per annum during the second period of study but improved to 24.52 per cent per annum during the third period. The overall growth rate for RRBs from 1982-83 to 2005-06 came out to be 16.15 per cent per annum at current prices.

Then analysis was done on per hectare basis of net sown area (NSA) and cropped area (GCA) to know the intensity of credit. It was Rs. 538 per hectare of NSA in 1980-81, but has shown a persistent increase and was Rs. 16969 per hectare of NSA in 2005-06. The growth rate for this entire study period was 12.23 per cent per annum. Similarly, when studied on per hectare of GCA, it was Rs. 437 in 1980-81, increased to Rs. 1519 in 1989-90 at a growth rate of 15.36 per cent per annum. The growth rate for second period of study was 10.23 per cent per annum as the amount outstanding per hectare of GCA was Rs. 1578 in 1990-91 and increased to Rs. 4276 in 1999-2000 and in the third period the growth has taken place at a rate of 21.20 per cent per annum. The overall rate of growth for total span was 11.82 per cent per annum.

The amount outstanding in agriculture sector was also seen at constant i.e. 1993-94 prices in Table 2.4 to know the real growth in credit flow so that the effect of rising prices can be nullified. The total amount outstanding at constant prices was Rs. 10061 crore in 1980-81, which increased to Rs. 27836.9 crore in 1989-90 at a growth rate of 12.62 per cent per annum. However, during the second period, this growth declined to a mere 3.12 per cent per annum as the outstanding loan declined till 1994-95, but started rising again afterwards and were Rs. 84099 crore in 2005-06. The overall growth rate for total amount outstanding was a moderate 6.36 per cent per annum.

When we look at institution-wise scenario, the share of cooperatives has been declining. The amount outstanding was Rs. 5758.7 crore in 1980-81 which increased to Rs. 10623.1 crore in 1989-90, giving a growth rate of 7.19 per cent
The rate of growth came down to 5.01 per cent per annum from 1990-91 to 1999-2000. However, the amount outstanding increased to Rs. 28916 crore in 2005-06. The rate of growth for the total span of study was a modest 5.97 per cent per annum for cooperatives at constant prices. In case of SCBs, the amount outstanding increased at a rate of 17.06 per cent per annum during 1980-81 to 1989-90 at constant prices. The rate of growth declined to 0.92 per cent per annum in the second period of study as the amount outstanding was Rs. 16248.4 crore in 1990-91 and increased to Rs. 16274 crore in 1999-2000. During the third period the outstanding loans have shown a significantly high growth rate of 22.96 per cent per annum. The growth rate for SCBs amount outstanding at constant prices was 6.34 per cent per annum. The regional rural banks (RRBs) though late entrant in the field of agricultural credit, have shown an impressive growth in amount outstanding in relative terms. It was Rs. 240.8 crore in 1980-81 but increased to Rs. 1847.9 crore in 1989-90. The rate of growth in this span was 25.20 per cent per annum. The loans outstanding of RRBs declined from 1990-91 to 1992-93 and started improving thereafter to Rs. 7555 crore in 2005-06. The overall rate of growth during the span of study i.e. 1982-83 to 2005-06 came to be 10.05 per cent per annum.

The growth in credit flow to agriculture was analysed in real terms on per hectare basis. Firstly, it was seen on per hectare of NSA basis. The amount outstanding was Rs. 718.64 in 1980-81 and grew to Rs. 1955.66 in 1989-90 at a growth rate of 12.72 per cent per annum. The credit intensity was less in the second period of study i.e. 3.18 per cent per annum, as the outstanding loans per hectare of NSA increased from Rs. 1995.77 in 1990-91 to Rs. 2806.83 in 1999-2000. But during the third span of study, intensity of credit on per hectare of net sown area has increased at 16.05 per cent per annum. The compound growth rate for the total span of study on per hectare of net sown area basis was 6.34 per cent per annum. On the same lines, the loans outstanding were analyzed on per hectare of GCA basis, also. As is clear from the Table 2.4, the amount outstanding was Rs. 582.81 in 1980-81 but steadily increased to Rs. 1527.24 in 1989-90 at a rate of 12.21 per cent per annum, but declined drastically to 2.63 per annum in the second span of study i.e. it was Rs. 1505.73 per hectare in
1990-91 and rose to Rs. 2080.94 per hectare in 1999-2000 with slight declines in between. However, in the third period, the trend is increasing at a rate of 15.86 per cent per annum. The compound growth rate for the total study period i.e. 1980-81 to 2005-06 on per hectare of GCA basis at constant prices was worked out as 5.96 per cent per annum.

**Composition of agricultural credit at India level**

The composition of institutional agricultural credit was analyzed in the sense that how much is the share of short term and term loans in the total agricultural credit.

Table 2.5 shows the direct short term credit for agricultural growth in terms of loans issued and loans outstanding. The loans issued were to the tune of Rs. 2047 crore in 1980-81 which kept on increasing and were Rs. 6499 crore in `989-90 at a rate of 13.10 per cent per annum. The short term loans declined in 1990-91, but thereafter maintained an increasing trend and rose to Rs. 32355 crore in 1999-2000. The rate of growth during this second span of study was 21.33 per cent per annum. In the third span of study, the short-term loans issued have grown at a rate of 26.53 per cent per annum. The growth rate for total study period for short term loans issued in agricultural sector was 15.48 per cent per annum.

The contribution of various institutions in short term direct loans issued revealed that cooperatives were the dominant players in this field initially. The loans issued by cooperatives were Rs. 1386 crore in 1980-81 with a percentage share of 67.7 per cent. In absolute terms the contribution of cooperatives increased to Rs. 3974 crore in 1989-90, but in relative terms the share of these declined to 61.1 per cent in total short term loans issued. The growth rate for this time period was 11.22 per cent per annum. The loans issued for short time dipped in 1990-91 to Rs. 3448 crore, but recovered afterwards and steadily increased to Rs. 17255 crore in 1999-2000 and further to Rs. 35624 crore in 2005-06. But the percentage share of cooperatives showed wide fluctuation in this span of study and decreased to 28.95 per cent in 2005-06. On the other hand SCBs issued loans for short term to the tune of Rs. 517 crore in 1980-81. The percentage contribution of SCBs was 25.3 per cent in this year.
absolute figure for SCBs increased to Rs. 1898 crore in 1989-90. The percentage share touched a peak of 32.8 per cent in 1986-87 but fell down to 29.2 per cent in 1989-90. The rate of growth for SCBs in this period was 17.21 per cent per annum. The short term loans issued by SCBs were Rs. 2048 crore in 1990-91 but showed a tremendous increase to Rs. 9505 crore in 1999-2000 and lately to Rs. 35624 crore in 2005-06. The rate of growth during the second period i.e. 1990-91 to 1999-2000 has been worked out at 19.19 per cent per annum and in the third period at 33.83 per cent per annum. The overall rate of growth for total study period was 16.37 per cent per annum. The percentage share of SCBs in total loans issued was 34.3 per cent in 1990-91, increased to 35.4 per cent in 1991-92 but declined in next two years and improved later on to 37.08 per cent in 2005-06. Another institution in the field is RRBs. The short term loans issued by these were Rs. 98 crore in 1982-83 with 3.6 per cent in the total short term loans issued. It increased to Rs. 336 crore in 1989-90 with share of 5.2 per cent in 1989-90. The growth rate during this period was 18.55 per cent per annum. A huge dip was observed in loans issued by RRBs in 1990-91 at Rs. 125 crore but recovered in the very next year and increased to Rs. 2285 crore in 1999-2000 at an impressive rate of growth of 32.53 per cent per annum and further at 33.85 per cent per annum during the third period. The overall short term credit of RRBs grew at a rate of 42.61 per cent per annum. The percentage share of RRBs kept on increasing and reached a high of 10.4 per cent per annum in 2005-06.

The position of direct short term agricultural loans issued was also studied at constant prices in Table 2.6. After removing the effect of price change, the total loans issued were Rs. 2731.9 crore in 1980-81 and increased to Rs. 6534.3 crore in 1989-90 with one or two dips in between. The growth rate for this period was worked out as 10.01 per cent per annum. The agricultural disbursements for the short term were Rs. 5704.1 crore in 1990-91 and further declined to 5471.8 crore in 1991-92, afterwards it started increasing and were at Rs. 15745.3 crore in 1999-2000 at a rate of 12.96 per cent per annum in this period. The rate of growth in the third period has been worked out at 20.96 per cent per annum. The
overall short term loans issued grew at a rate of 9.42 per cent per annum at constant prices.

The structure of short term loans issued depicts that for cooperatives the amount stood at Rs. 1849.7 crore in 1980-81, increased to Rs. 3017.7 crore in 1985-86, but declined to Rs. 2755.9 crore in 1986-87. Again it revived in next year and started rising to Rs. 3995.6 crore in 1989.90. At constant prices, the growth rate decreased to 8.18 per cent per annum as compared to 11.22 per cent per annum at current prices. During the second span of study, the rate of growth came to be 9.84 per cent per annum. The trend at constant prices was more fluctuating during second and third periods of study. The rate of growth is calculated at 5.67 per cent per annum in the third period of study. The overall rate of growth for cooperative loans for short term was 6.66 per cent per annum at constant prices.

On the other hand, the SCBs experience a higher growth in loans issued for short term at constant prices. The amount disbursed was Rs. 690 crore in 1980-81 which showed a sustained growth and reached at Rs. 1908.3 crore at a rate of 14.00 per cent per annum. It further increased to Rs. 1953.8 crore in 1990-91 but declined in next three years, recovered again and started increasing. It was Rs. 16031.75 crore in 2005-06. The growth rate for this second span of study came to the 11.06 per cent per annum and for the third span, it is maximum i.e. 27.93 per cent per annum. The rate of growth for the total short term credit availability by SCBs came to be 10.26 per cent per annum.

The position of RRBs in short term credit disbursements was impressive even at constant prices. The amount issued was Rs. 114.1 crore in 1982-83 which maintained an increasing trend and reached at Rs. 337.8 crore in 1989-90 at constant prices at a rate of 15.92 per cent per annum. But showed a large decline in 1990-91 and was Rs, 119.3 crore. It started increasing since 1993-94 and reached at Rs. 1111.98 crore in 1999-2000 and further to Rs. 4501.4 crore in 2005-06. Despite some lows in between the rate of growth was impressive at 23.38 per cent per annum in this second span of study and 27.94 per cent per annum during the third period of study. The growth rate of RRBs for the entire study period i.e. 1982-83 to 2005-06 came to be 35.13 per cent per annum.
Thus it can be said that the loans issued for short term in agricultural sector have grown both at current as well as constant prices i.e. in real terms. In initial phase of study cooperatives were dominant players, but later on the role was sifted to SCBs. Though RRBs had entered the credit scene late still these have presented an impressive growth.

The short term credit availability by various institutions was also studied in terms of amount outstanding for the purpose by these. The total loans outstanding at current prices were Rs. 3250 crore in 1980-81 and steadily maintained an increasing trend throughout the period of study and reached at Rs. 107988 crore in 2005-06 at a growth rate of 13.01 per cent per annum. The rate of growth in credit flow was higher in the second span of study i.e. 1990-91 to 1999-2000 at 13.32 per cent per annum and at 12.94 per cent per annum in the first period i.e. 1980-91 to 1989-90. It is worked out to be maximum during the third period i.e. 2000-2001 to 2005-06 at a rate of 23.94 per cent per annum.

Then we split the growth of short term amount outstanding according to institutions. The loans outstanding of cooperatives for the short term were Rs.1908 crore in 1980-81 and continuously kept an increasing and were Rs.4948 crore in 1989-90. The growth rate for this period was 11.30 per cent per annum. The relative share of cooperatives was 58.7 per cent in 1980-81 in total amount outstanding, touched a high of 60.4 per cent in 1982-83, then showed a declining trend and was 51.9 per cent in 1989-90. However, in absolute terms, the amount outstanding kept on increasing and stood at Rs. 34140 crore in 2005-06 at a rate of 12.45 per cent per annum during the second period and 14.09 per cent per annum during the third period. The percentage share of cooperatives in total amount outstanding showed a diminishing trend and was 31.6 per cent in 2005-06. The overall growth rate for cooperatives in the credit flow was worked out to be 11.39 per cent per annum.

As compared to cooperatives, the SCBs were lagging in total amount outstanding in case of short term loans, as their share was 35.8 per cent in 1980-81, with amount advanced at Rs. 1162 crore that increased to Rs. 4005 crore in 1989-90, with the percentage contribution rising to 42 per cent. The rate of growth in this span was 15.11 per cent per annum. The loans outstanding for
short term by SCBs grew steadily and increased to Rs. 12610 crore in 1999-2000 at a rate of 13.29 per cent per annum and further to Rs. 459971 crore in 2005-06 at a rate of 31.41 per cent per annum in the third period. The share of SCBs in total short term credit flow increased to 55.5 per cent per annum. The overall rate of growth for the entire period under study was 13.98 per cent per annum.

So far as the position of RRBs is concerned, the share of these was mere 3.0 per cent in 1982-83 but increased to 12.9 per cent in 2005-06. The amount outstanding of these institutions was Rs. 109 crore in 1982-83 and increased to Rs. 575 crore in 1989-90 at a growth rate of 26.49 per cent per annum. This trend further continued and reached at Rs. 13877 crore in 2005-06. The rate of growth for second phase of study i.e. 1990-91 to 1999-2000 was 19.02 per cent per annum and for the third span, it has been 30.29 per cent per annum. For the total study period of RRBs which was 1982-83 to 2005-06 this rate for growth for outstanding loans for short term came to be 40.88 per cent per annum.

The short term credit flow scenario was analyzed at constant i.e. 1993-94 prices to check the real growth in it. The total short term loans outstanding were Rs. 4337 crore at constant prices in 1980-81, which increased to Rs. 9579 crore in 1989-90 at a growth rate of 9.85 per cent per annum in the first span of time. In the second period of study, the growth rate declined at 5.50 per cent per annum, as the total short term amount standing at constant prices was Rs. 9542 crore, which increased to Rs. 15407 in 1999-2000. However, it further increased to Rs. 37929 crore in 2005-06 at a rate of 18.48 per cent per annum. The overall rate of growth for the total period of study i.e. 1980-81 to 2005-06 has been worked out at 7.08 per cent per annum. The institution-wise picture of short term loans outstanding at constant prices revealed that it were Rs. 2546 crore in 1980-81 for cooperatives and increased to Rs. 4975 crore in 1989-90 at a rate of 8.26 per cent per annum. But in the second period of study the growth rate declined to 4.69 per cent per annum and improved to 9.07 per cent per annum during the third period. In figure terms, the outstanding amount at constant prices was Rs. 4940 crore in 1990-91, which declined in next four years, but increased in 1995-96, declined again and has maintained an upward trend since then to be at Rs.
11991 crore in 2005-06. The overall growth rate of short term loans outstanding of cooperatives was at 5.55 per cent per annum.

In case of SCBs, the outstanding amount for short term loans at constant prices stood at Rs. 1551 crore in 1980-81, which increased to Rs. 4027 crore in 1989-90. The rate of growth for this span came to be 11.97 per cent per annum. However, in second span of study i.e. from 1990-91 to 1999-2000 this rate of growth was 5.47 per cent per annum as the figure was at Rs. 4040 crore in 1990-91 and showed a decline in next three years, but started improving in 1994-95 and increased to Rs. 6137 crore in 1999-2000. The compound growth rate for SCBs amount outstanding was worked out at as 25.62 per cent per annum during the third period. The overall rate of growth for SCBs has been worked out at 8.01 per cent per annum at constant prices.

The highest growth in short term credit flow was observed in RRBs in real terms. At constant prices the outstanding amount was Rs. 127 crore in 1982-83 which increased to Rs. 578 crore in 1989-90 at a rate of 23.65 per cent per annum during this period. The credit flow declined in 1990-91 and 1991-92, but started increasing thereafter and was Rs. 1366 crore in 1999-2000. The growth rate for this period was calculated at 10.81 per cent per annum. During the third period, the short term loans outstanding of RRBs have grown at a rate of 24.55 per cent per annum. The overall growth rate in RRBs short term credit flow was at 33.47 per cent per annum.

Thus, it can be concluded that short term loans issued and loans outstanding grew overtime not only at current prices but also at constant prices. The roles were swapped between cooperatives which were playing dominant role initially with SCBs in the process of growth. RRBs, though entered the field late have shown an impressive growth in the span of study.

Then the credit scenario was studied for long term or investment loans at all India level in Tables 2.7 and 2.8. In Table 2.7 firstly the loans issued for investment purposes were analyzed at current prices. These were Rs. 1389 crore in 1980-81, which showed an increasing trend till 1987-88 and touched a peak of 3682.4 crore in 1987-88, declined in the very next year, but recovered in 1989-90. The rate of growth during this period was 13.78 per cent per annum.
Afterwards it has shown a persistent rise to be Rs. 49938 crore in 2005-06 at a rate of 15.89 per cent per annum during the second period and at a rate of 27.04 per cent per annum during the third period. The compound growth rate for direct institutional long term credit for agricultural sector for the entire period of study i.e. 1980-81 to 2005-06 was 12.59 per cent per annum.

The split-up of institution-wise loans issued for long term purposes showed it was Rs. 643 crore for cooperatives in 1980-81 with a percentage share at 46.3 in total loans issued. The share increased to 50.8 per cent in 1982-83, but declined afterwards and stood at 34.7 per cent in 1989-90. The rate of growth in this period came to be 10.23 per cent for cooperatives. The loans issued for long term by cooperatives were at Rs. 1371.5 crore in 1990-91, which kept an ever increasing trend and were Rs. 12499 crore in 2005-06 at a growth rate of 17.85 per cent per annum and 8.89 per cent per annum for the second and third span of study, respectively. The percentage share of cooperatives was low in 1990-91 i.e. 32.6 per cent and further decreased to 25.0 per cent in 2005-06.

The SCBs were supplying Rs. 745.8 crore for long term purposes in agriculture sector, with a percentage share of 53.7 per cent in total term loans availability. In absolute terms, the share kept in increasing except for the year 1982-83 and reached at Rs. 2385 crore in 1989-90 at a rate of 15.32 per cent per annum. In 1990-91, the loans issued were Rs. 2628 crore, kept on rising and falling in between, touched a high of Rs. 6921 crore in 1998-99, but declined over the next two years and then recovered to be Rs. 34955 crore in 2005-06. The rate of growth in the third period has been calculated at 44.02 per cent per annum and over the entire span of study at 12.07 per cent per annum.

The share of RRBs in loans issued for long term hovered between 4.9 per cent and 8.6 per cent. The amount issued was Rs. 124 crore in 1982-83 increased to Rs. 275.8 crore in 1987-88, declined next in two years, but improved to Rs. 311.6 crore in 1989-90. The rate of growth in this period was 10.44 per cent. However, a large decline was there in 1990-91, when the loans issued were Rs, 209.6 crore but improved later on, touched a peak of Rs. 871 crore in 2000-01, again decreased in 2001-02 to Rs. 736 crore, but improved to Rs. 2484
crore in 2005-06 at a rate of 16.86 per cent per annum in second period and at 26.76 per cent annum during the third period. The overall rate of growth was worked out at 31.08 per cent per annum.

The position of loans issued was then analyzed at constant i.e. 1993-94 prices in Table 2.8 to see whether these have grown in real terms or not. The total long term loans issued were Rs. 1853.5 crore in 1980-81 that increased to Rs. 4151.3 crore in 1989-90 with lows and highs in between. The growth rate during this period was 10.67 per cent per annum. Thereafter, it kept a declining trend till 1993-94, but started increasing again, touched a peak of Rs. 6078 crore in 1998-99, before again falling to Rs. 6584 crore in 2001-02, but increased to Rs. 17540 crore in 2005-06 at constant prices. The rate of growth in the second span of study was 7.89 per cent per annum and during the third period, it has been 21.44 per cent per annum. The compound growth rate of total investment loans issued at constant prices was 6.69 per cent per annum.

The structure of loans issued for long term purposes at constant prices showed the SCBs to be playing a dominant role. The loans issued by cooperatives were Rs. 858 crore in 1980-81 which increased to Rs. 1440.6 crore in 1989-90. These declined in 1990-91, but recovered again in next year, dipped again in 1992-93 and later on started increasing to reach at Rs. 4390 crore in 2005-06. The rate of growth for cooperatives at constant prices in the field of long term agricultural credit was 7.08 per cent per annum.

The SCBs showed a high growth as compared to others in first span of study i.e. 1980-81 to 1989-90, when it was 12.17 per cent. This rate of growth declined in second phase of study to came at 6.30 per cent per annum, but increased tremendously at a rate of 37.67 per cent per annum during the third span. The overall rate of growth for SCBs for total period of study was 6.19 per cent per annum as in 1980-81, the loans issued by these were Rs. 995 crore that increased to Rs. 12277 crore in 2005-06.

So far as RRBs are concerned the amount issued by these at constant prices was Rs. 145 crore in 1982-83 and grew to Rs. 290 crore in 1986-87, but declined in next two year and improved to Rs. 313 crore in 1989-90. The rate of growth in this period was shown as 7.98 per cent per annum. The amount
issued declined to Rs. 200 crore in 1990-91, started rising after 1994-95 and after touching a peak at Rs. 385 crore in 1998-99 and has been at Rs. 872 crore in 2005-06 with ups and downs in between. The compound growth rate for RRBs from 1982-83 to 2005-06 has been calculated at 24.21 per cent per annum.

The analysis of long term institutional loans was then carried out in terms of amount outstanding in Table 2.7. The credit flow was at Rs. 4289 crore in 1980-81 and kept on increasing to be at Rs. 18159.5 crore in 1989-90 at a rate of 17.63 per cent per annum. A steady increase was observed from 1990-91 to 1999-2000 at a rate of 9.30 per cent per annum and further to Rs. 131451 crore in 2005-06 at a rate of 19.50 per cent per annum. The overall rate of growth came to be 11.74 per cent from 1980-81 to 2005-06.

The position of long term loans outstanding was then studied according to institutions. For cooperatives the amount was Rs. 2407.3 crore in 1980-81 with a percentage share of 56.1 per cent in total term loans outstanding. This share declined to a minimum of 27.7 per cent in relative terms in 1990-91. It showed improvement till 1994-95, but started declining thereafter and was 36.6 per cent in 2005-06. The credit flow of cooperatives for long term was Rs. 5353 crore in 1990-91 and persistently increased to Rs. 48187 crore in 2005-06. The overall rate of growth for cooperative institutions term loans outstanding was 12.17 per cent per annum. On the other hand, the share of SCBs was low initially, but increased later on. It was 43.9 per cent in 1980-81, touched a high of 66.3 per cent in 1990-91, then declined and again increased to 57.5 per cent in 2005-06 in total term loans outstanding. The rate of growth was very high at 22.87 per cent per annum in the first study period i.e. 1980-81 to 1989-90, but decreased to 6.25 per cent per annum during 1990-91 to 1999-2000 and has shown a tremendous increase in third period to grow at a rate of 26.58 per cent per annum. The overall rate of growth for SCBs term credit flow for agriculture was 11.25 per cent per annum. RRBs, the third institution involved in term loans had a rising share in total loans outstanding for long term i.e. 4.6 per cent in 1982-83 to 7.0 per cent in 1989-90. The rate of growth of these banks was maximum in this period i.e. 24.20 per cent per annum. It declined in 1990-91 and had shown wide

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fluctuations thereafter. It touched a peak of 9.3 per cent in 1989-90 relative terms but was 5.8 per cent in 2005-06. In figure terms, the outstanding term loans of RRBs were Rs. 273.1 crore in 1982-83 which kept on rising to Rs, 1263.1 crore in 1989-90 at a rate of 24.20 per cent per annum in this period. It declined to Rs. 1163.2 crore in 1990-91 but later on maintained an increasing trend and has been Rs. 7632 crore in 2005-06. The rate of growth for the second period was worked out at 12.78 per cent per annum and for the third period at 16.66 per cent per annum. However, the rate of growth for the total span of study was put at 22.23 per cent per annum for RRBs loans outstanding.

The same analysis was then carried out at constant i.e. 1993-94 prices to find out the real growth in credit flow. At constant prices the total loans outstanding for long term were Rs. 5724 crore in 1980-81 and grew to Rs, 18258.1 crore in 1989-90 at a growth rate of 14.41 per cent per annum. However, the rate of growth was only 1.76 per cent per annum in second period of study i.e. 1990-91 to 1999-2000, as the term loans outstanding declined from Rs. 18425 crore in 1990-91 to Rs. 15826 crore in 1993-94, recovered to some extent in later years and was Rs. 24197.8 crore in 1999-2000. However, these have shown a significant growth in the third period i.e. 2000-01 to 2005-06 at a rate of 14.23 per cent per annum. The entire study span’s growth rate was calculated as 5.89 per cent per annum at constant prices.

The institution-wise split up structure of flow of credit has shown that rate of growth was minimum for cooperatives. The outstanding loans of these were Rs. 3212.7 crore in 1980-81 at constant prices and increased to Rs. 5648.4 crore in 1989-90 at a rate of 6.28 per cent per annum. However, this rate of growth declined to 5.23 per cent per annum in the second span of study as the term loans outstanding of cooperatives were Rs. 5106.8 crore in 1990-91, kept on rising and falling in between and were Rs. 12511 crore in 1999-2000. The maximum rate of growth has been observed in cooperatives in the third period at a rate of 7.56 per cent per annum. The rate of growth for the total study period was 6.29 per cent per annum. The loans outstanding of SCBs were Rs. 2511.4 crore in 1980-81 and grew to Rs. 11339.7 crore in 1989-90. These declined to Rs. 10222.2 crore in 1991-92 and further to Rs. 8965.7 crore in 1994-95, started
increasing after this to Rs. 10137 crore in 1999-2000 and later to Rs. 26564.57 crore in 2005-06, with a dip in the year 2000-01. The credit flow of third institution (RRBs) studied was at Rs. 318 crore in 1982-83 and rose to Rs, 1270 crore in 1989-90 at constant prices showing a maximum rate of growth of 21.44 per cent per annum during this period. However, this growth rate declined to only 4.99 per cent per annum in the second span of study i.e. 1990-91 to 1999-2000. In absolute terms the amount outstanding for long term loans of RRBs kept on declining till 1993-94, then recovered till 1999-2000 and again fell to Rs. 1465 crore in 2001-02 but improved to be Rs. 2680.76 crore in 2005-06. The overall rate of growth for the total study period was 15.82 per cent per annum for RRBs at constant prices.

On the whole, the credit availability and credit outstanding in agriculture sector in India had shown a positive trend not only at current prices, but also at constant prices for the total credit, as well as for short term and term loans. The institution-wise analysis has shown a role reversal between cooperatives and SBCs i.e. cooperatives which were dominant in initial phases were losing their position to SCBs. This role swapping between cooperatives and SCBs can be attributed to tremendous increase in credit flow under state directed lending policies especially in the recent years. Government focus has sifted to multi agencies approach as the cooperatives have not been successful in curtailing the role of non-institutional sources. Cooperatives have been non-professional institutions working on the principles of cooperation. On the other hands SCBs have professional, target oriented approach. Cost of lending to these is less on agricultural loans as there is no need of credit appraisal. Also, NPAs are less and recovery rate is high. So, these have entered the agriculture credit scenario in a big way, though it is argued that there credit flow may be higher, but the number of beneficiaries is less. In the competitive word cooperatives have ventured into non-farm sector may be to cover the risk of operating in one sector or due to high profit margins there. So, the diversification in the role of these to institutions in the opposite sector can be responsible for this. Though RRBs had a late entry in the field of agricultural credit still they had shown an impressive growth in the initial phases but stagnating in later stages.
Institutional Credit in Punjab

The green revolution has transformed the Punjab agriculture from subsistence level to commercial one. But green revolution was not an instant success mantra. Punjab created the positive conditions for its success overtime by adopting a multipronged approach in the form of development of irrigation network, embarking on consolidation of holdings on a war footing, building up and strengthening of the institutions like Punjab Agricultural University, Markfed, Punjab Mandi Board etc. and establishment of Commission on Agricultural Costs and Prices and Food Corporation of India at the national level, all created an atmosphere which was congenial for the success of green revolution (Farmers Commission, 2006). Thus, public policy encouraged the rural development through increased public outlay that led to stimulation of private investment in the agriculture sector of the state. The landmark achievements were possible through intensive input use in the form of intensive land use (85%) of geographical area, intensive irrigation (97.4%), intensive cultivation (188%), intensive fertilizer and chemical use (195 kg per cropped hectare), intensive mechanization (4.7 lakh tractors) and tubewell irrigation (11.93 lakh) in 2005-06. Agriculture credit has played a significant role in ushering of this fertilizer-irrigation-mechanisation based breakthrough in Punjab agriculture. Credit for making investments in irrigation, land developments, purchasing machinery etc. and for meeting the working capital needs of farmers has immensely contributed to take advantage of available research, technology, institutional and infrastructure facilities in the state that has paid rich harvests to the peasantry.

Table 2.9 presents the loans disbursed each year by cooperative credit institutions, scheduled commercial banks and regional rural banks in Punjab from 1980-81 to 2005-06 at current prices (Fig.3). This credit supply was examined at 1993-94 prices by using the index of prices paid by the farmers for current inputs and capital formation as deflator to analyze the real growth. The availability of credit per hectare of net sown area was also estimated in order to adjust it with respect to increases in the area because ultimately it is the per unit area analysis which helps to examine what has happened to the growth of credit over time and whether it is consistent with the growth of production inputs and lumpy resources.
in the state. In nominal terms the total agricultural credit advanced (direct) by all the institutions was Rs. 234.67 crore in 1980-81. It increased to Rs. 964.58 crore in 1989-90 at a rate of 15.28 per cent per annum. This credit availability further went up to Rs. 3932.61 crore in 1999-2000. The compound growth rate for this period was 20.75 per cent per annum. During the said period the yields of major food crops were stagnating, thus the stress was on higher doses of inputs use. The most significant jump in the quantum of credit availability was experienced from 2000-01 to 2005-06. The credit disbursements increased from Rs. 3718.63 crore to Rs. 15608.83 crore in 2005-06 showing a significant increase of 31.13 per cent per annum. This significant rise in the credit availability can be attributed to the policies of monetary authorities of Government of India which have directed to financial institutions to double the flow of credit by 2006-07. The overall growth rate for the total availability of credit under the span of study has been estimated at 16.09 per cent per annum, this is impressive in the light that in the first period under study, i.e. 1980-81 to 1989-90 the green revolution technology was being stabilized, in the second period from 1990-91 to 1999-2000 the yield gains had tapered off and to maintain the existing yield levels, higher doses of inputs especially fertilizers and weedicides/pesticides were being used as well as the farming became more mechanized, and in the last span of study i.e. 2000-01 to 2005-06 there were mainly institutional factors behind a significant increase in credit disbursements in Punjab.

Looking at the shares of different institutions in this growth, it was observed that cooperative credit structure was the main supplier of agricultural credit in Punjab till 2000-01. Between 1980-81 and 1989-90, total cooperative credit availability in Punjab increased from Rs. 144.61 crore to Rs. 686.46 crore at a compound growth rate of 14.27 per cent per annum. The increase was more sharp between 1990-91 to 1999-2000. It increased from Rs. 414.87 crore to Rs. 2556.21 crore at a rate of 21.74 per cent per annum. In 2000-01 the cooperative credit disbursement in agriculture sector was Rs. 2346.45 crore, which increased to Rs. 5894.60 crore in 2005-06 showing a growth rate of 19.59 per cent per annum. The overall growth rate for the entire period under study i.e. from 1980-81 to 2005-06 has been worked out at 14.28 per cent per annum. The share of
cooperatives had remained more than 55 per cent till 2000-01 in the total availability of agricultural credit in Punjab. So, cooperatives were the key players in the field. However, the trend has reversed in the recent past. The percentage share of cooperatives has shown a declining trend and it is found to be 38 per cent in 2005-06.

In contrast to this, the scheduled commercial banks were playing a second fiddle to the cooperatives till recently in the area of institutional agricultural credit. Their share remained lower than 40 per cent in all these years. However, during the years when the share of cooperatives in absolute as well as relative terms, decreased, that of commercial banks increased. It seems that commercial banks stepped in when the cooperatives withdrew but within a narrow range and vice-versa. During 1984-87, when the cooperative credit declined continuously, the commercial banks’ agricultural advances increased from Rs. 165.27 crore in 1984-85 to Rs. 245.59 crore in 1986-87 and their share went up from 25.8 per cent to 38.5 per cent, respectively. Then it came down modestly to 31.9 per cent in 1987-88 and 34.9 per cent in 1988-89 but the fall was drastic in the year 1989-90 at 24 per cent, where as in absolute terms the credit advanced decreased marginally from Rs. 237.26 crore to Rs. 231.23 crore. This happened due to marked increase in volume of agricultural credit advanced by the cooperatives. In this period the compound growth rate of credit disbursed by scheduled commercial banks was 15.94 per cent. In the nineties, a recovery was shown by these banks in the field of agricultural credit in absolute terms. It has gone up to Rs. 634.01 crore in 1995-96 and further to Rs. 1073.6 crore in 1999-2000 at a rate of 19.70 per cent per annum in the second span of study. But in relative terms the share of commercial banks was 33.9 per cent in 1990-91, increased to 36.7 per cent in 1995-96 but came down to 27.3 per cent in 1999-2000. It appeared that commercial banks after the initial push to agricultural credit under the government directions had developed a cold feet and shied away from the field as compared to cooperatives. However, a second major push was visible since 2000-01, when agricultural credit has shown a marked increase in absolute as well as percentage terms. The credit was Rs, 1204.83 crore in 2000-01 has increased to Rs. 9154.89 crore in 2005-06 at a rate of 45 per cent per annum.
The percentage share of commercial banks in agricultural credit has increased from 32.4 per cent to 58.7 per cent in the said period. This has happened due to deliberate push of agricultural credit by the government by fixing the targets of priority sector lending. Over a period of two and a half decades, the commercial banks direct advances to agriculture sector have increased from Rs. 90 crore in 1980-81 to Rs. 9154.89 crore in 2005-06 with the share ranging from 18.3 per cent to 58.7 per cent during this period.

Regional rural banks (RRBs) were the late entrants in the field of agricultural credit having been created in the year 1975 and their role was confined only to the weaker sections of rural areas. Thus, their contribution towards the agricultural credit has remained limited. The loans made by the RRBs stood at Rs. 9.98 crore only in 1985-86, which increased to Rs. 99.60 crore in 1992-93. But, their loans had come down only to Rs. 44.82 crore in 1995-96. A marked increase was shown till 1999-2000, when the loans stood at Rs. 302.80 crore, but declined again thereafter. In the last two years of study period again these have shown improvement and stood at Rs. 559.34 crore in 2005-06. The overall growth rate since 1985-86 to 2005-06 for agricultural advances of RRBs has been 17.89 per cent per annum. The share of RRBs in total agricultural credit though has increased in absolute terms, but in relative terms has declined. It went up gradually from 1.52 per cent in 1985-86 to 9.5 per cent in 1993-94 has declined to 3.6 per cent only in 2005-06 with wide fluctuations in between.

On the basis of above findings, it can, therefore, be concluded that cooperative credit institutions, which were the major sources of finance to the agriculture sector due to their very strong ground level infrastructure till 2000-01, have lost their dominant position to commercial banks under the directed lending programmes of the government. These banks were hesitant to provide credit to the agriculture sector due to high risk, small size of loans, high transaction costs etc. have become the major players in the field since 2000-01. The role of RRBs so far has been limited because they are to operate under very adverse conditions, their domain being confined to weaker sections of the rural areas, where rate of loan default is very high. Their role in future would depend upon
how successfully they counter this menace and build themselves as independent economically viable institution. These (RRBs) will have to break the myth in the minds of borrowers that the loans advanced to the weaker sections of society are not to be repaid back. They will have to convince them that in case of default their future sources of funds for productive investments would dry up and they will ultimately end up losing income enhancing opportunities.

The picture of growth in agricultural credit overtime becomes quite interesting when we examine it (a) in relation to the growth in gross state domestic product (GSDP) originating in agriculture sector, (b) at constant prices and (c) on per unit area basis. Though the agricultural credit rose substantially over the years but as a percentage of GSDP in agriculture, it showed reverse trend after 1985-86, and touched a low of 5.95 per cent in 1992-93. Later on, it showed some improvement with occasional set backs in between. But since 2000-01, a tremendous increase has been observed in it and it reached 47.29 per cent in 2005-06.

The agricultural credit growth was investigated at constant prices. At 1993-94 prices, the total agricultural loans advanced increased from Rs. 313.19 crore in 1980-81 to Rs. 4070.23 crore in 2004-05 at a statistically significantly growth rate of 9.43 per cent per annum. For the period 1980-81 to 1989-90, the growth rate came to be 12.13 per cent per annum. For the next decade i.e. 1990-91 to 1999-2000, it was 12.42 per cent per annum with wide variations in between. Since 1997-98, it had shown a continuous increase in its availability. This was probably due to lot of emphasis on capital formation in agriculture during mid-nineties, which has shown stagnation in late eighties, in the state. Secondly, increased flow of production credit is also stressed upon due to growing input intensity of Punjab agriculture.

The position of agricultural credit supply was also examined on per unit area basis because this is the real indicator of growth and helps in measuring the role of financial institutions made in respect of pumping in sufficient credit to agriculture sector. On current prices, the institutional credit availability per hectare of net sown area went up from Rs. 561 in 1980-81 to Rs. 37431 in 2005-06 at a compound growth rate of 16.06 per cent per annum. At 1993-94
(constant) prices the increase was from Rs. 749 per hectare to Rs. 9691 per hectare in 2004-05 showing a growth rate of 9.36 per cent per annum. Following the same kind of pattern as that of total availability at constant prices since the net sown area did not change much overtime, it first increased from Rs. 749 in 1980-81 to Rs. 2313 per hectare in 1989-90 giving a growth rate of 12.16 per cent per annum in the first decade under study. Thereafter, it showed a declining trend but started increasing since 1993-94 more so in recent years and has been estimated at Rs. 9691 per hectare in 2004-05.

It is also important to examine these changes on per cropped hectare basis because the use of factor inputs depends upon the cropped area and the cropping intensity in the state has significantly gone up during the study period from 161 per cent in 1980-81 to 188 per cent in 2005-06. The agricultural advances per hectare of gross cropped area (GCA) at current prices improved from Rs. 347 in 1980-81 to Rs. 19838 in 2005-06 at a growth rate of 14.71 per cent per annum. From Rs. 347 per hectare in 1980-81 to Rs. 916 per hectare in 1985-86 and then declined thereafter. It again increased to Rs. 1421 in 1993-94 and since then it has maintained an upward trend. When seen this growth at constant (1993-94) prices it increased from Rs. 463 per hectare in 1980-81 to Rs. 5131 per hectare in 2004-05 at a growth rate of 8.32 per cent per annum. It touched a peak of Rs. 1312 per hectare in 1989-90, but declined thereafter. However, since 1993-94, it has shown an upward trend except for the year 2000-01, when it dipped.

The institutional agricultural credit scenario in Punjab was also examined in terms of amount outstandings in Table 2.10 and Fig.4. The loans outstandings is a better measure to gauge the injection of institutional finance into any sector as it shows the financing efforts over the past instead of just one year as shown by loans advanced during the year. Total amount standing in agricultural sector at current prices was Rs. 392.3 crore in 1980-81, which increased to Rs. 13296.96 crore in 2005-06 at a compound growth rate of 13.15 per cent per annum. When the picture was examined at constant i.e. 1993-94 prices, the amount outstanding increased from Rs. 523.56 crore in 1980-81 to Rs. 4069.45 crore in 2004-05 at a growth rate of 6.77 per cent per annum. Total amount
outstanding per hectare of net sown area (NSA) was also worked out to check the real financial push. It was Rs.938 in 1980-81 increased to Rs.4333 in 1989-90 showing a growth at the rate of 12.03 per cent per annum. It further increased to Rs. 12771 in 1999-2000. The upward trend continued and amount outstanding per hectare was Rs. 31887 in 2005-06. When compared at constant i.e. 1993-94 prices, the increase was from Rs. 1252 in 1980-81 to Rs. 9689 in 2004-05, at a rate of 6.76 per cent per annum. The position was also examined in terms of gross cropped area (GCA) in view of increasing cropping intensity in the state. At current prices, the total amount outstanding per hectare of GCA was Rs. 580 in 1980-81 and increased to Rs. 16900 in 2005-06 at the rate of 12.25 per cent per annum. At constant prices, this increase was quite modest. It was Rs. 774 in 1980-81 and increased to Rs. 5130 in 2004-05 at a rate of 5.99 per cent per annum.

The structure of loans outstandings overtime was also analysed in terms of different institutions. The scheduled commercial banks (SCBs) were found to be dominant institution in total amount outstanding. The amount outstandings of SCBs was Rs. 235.12 crore in 1980-81 which increased to Rs. 8148.85 crore in 2005-06 at a rate of 13.04 per cent per annum during this period. The share of commercial banks in total amount outstanding in agriculture sector ranged between 46.5 per cent in 1998-99 to a high of 61.3 per cent in 2005-06 when a big financial effort was undertaken by the SCBs under the directed programme of agricultural lending. On the other hand the other source of institutional finance, the cooperative institutions were having Rs. 157.18 crore outstanding amount in 1980-81, which increased to Rs. 5148.11 crore in 2005-06 at current prices at a growth rate of 13.29 per cent per annum. The share of these institutions has shown a declining trend since 1999-2000.

Theoretically speaking this trend of agricultural credit availability first rising, then falling and again rising was quite in line with the principles of institutional finance. It is envisaged that in the initial years of evolution of new production technology when its gains are not well demonstrated, the farmers are reluctant to adopt it in wake of its uncertainty and occurrence of potential losses in case it fails. As was argued by Schumpeter (1934) that the financial system
can promote economic growth i.e. the services provided by financial intermediaries in the form of mobilizing savings, evaluating projects, managing risk and facilitating transaction are essential for technological innovation and economic growth. Empirical work by Goldsmith (1969) and McKinnon (1973) illustrates the close ties between financial and economic development. King and Levine (1993) in their cross-country evidence also found consistency with Schumpeter’s view. It was found that the higher levels of financial development are strongly associated with future rates of capital accumulation and future improvements in the efficiency with which economies employ capital. Financial indicators were found to be positively and significantly correlated with each growth indicator. Joan Robinson (1952) argued that by and large, where enterprise leads finance follows. But evidence found by King and Levine (1993) implied that finance does not only follow growth, but seems importantly to lead economic growth. Therefore, the farmers need to be encouraged for its adoption and the best way to do is providing the components of new technology at lower rates, in adequate amounts, at appropriate time. Since cash is an input which provides control over all other inputs, it was thought that provision of cheap agricultural credit in sufficient amounts to the farmers will help in the adoption of seed-irrigation-fertilizer technology. Therefore, the credit was pumped into agriculture sector at lower rates of interest and this policy paid rich dividends. The technology on Punjab farms was adopted at a very fast rate and production and productivity during this period had increased manifolds. However, when technology becomes well entrenched and its gains percolate to all the regions and classes effectively, it is advocated that special attention in the form of subsidized credit is no longer required. Some people also argue that when economically efficient technology becomes wide spread and resultantly the incomes of the farmers are enhanced, the credit dependence of the farmers does also fall. But development models suggest that cash requirements are ever increasing for future growth of the economy, may it be any sector. Therefore, availability of credit in sufficient amounts remains still pivotal. Secondly, agriculture sector world over, does involve special cash (i.e. credit) requirements due to dependence on nature and lumpiness as well as fixity of its resources.
Thirdly, credit requirements in Indian agriculture can never diminish since 94.8 per cent of our operational holdings are less than 4.0 hectares in size, which do not generate enough surpluses for making investments in current and capital inputs. In this light, rise in trend of agricultural credit vis-à-vis GSDP and on per unit area basis in Punjab was desirable to maintain the existing level of production as well as for the future growth. The situation becomes more alarming in light of the fact that Punjab agriculture has become more capital intensive. More and more current inputs are required even for smaller increases in the productivity levels and total factor productivity of important crops like wheat and rice.

**Estimates of Non-Institutional Agricultural Credit**

The role of institutional agricultural credit has assumed significance only in the recent past, more so after the nationalization of commercial banks in 1969. Earlier, rural sector was dependent on only informal sources of finance except for some assistance by cooperative institutions or state sponsored loans. Agriculture being a biological enterprise, faces higher risk and uncertainty. So, banks were hesitant to finance this sector of the economy. Thus, there was predominance of non-institutional sources in the field of agricultural finance comprised of moneylenders, commission agents, trades, big landlords, relatives or friends.

Government has taken several measures from time to time to increase the flow of institutional credit to the agriculture sector of the economy. Concerted efforts on the part of state has led to the expansion of the institutional network comprised of commercial banks, regional rural banks and cooperatives both in terms of location and function. Inspite of all these initiatives, the moneylenders continue to play a dominating role in the delivery of credit to rural households and the flow of credit to the agricultural sector remains a matter of concern. After a significant role in the share of institutional finance, the trend seems to have reversed after 1991. The flow of institutional credit was not able to fully contain the growth of non-institutional financing which had shown a growth rate of 14 per cent per ha and 10 per cent on per capita basis annually between 1991-92 and 2002-03 (Kumar et al., 2007).
Some estimates of share of non-institutional sources of finance in the amount outstanding have been depicted in Table 2.13 at all India level. In the very first estimation undertaken by all India rural credit survey committee, the share was 93 per cent, with the share of moneylenders at 91 per cent. In 1975, the UNI survey had put the share at 70 per cent. The NSSO in its report of 48th round on ‘Debt and Investment’ had estimate the share at 44.35 per cent. However, the estimates of 59th round undertaken by NSSO in 2003, has shown the share at 42.4 per cent at all India level.

The estimates of share of non-institutional credit in the state of Punjab have been shown in Table 2.14. The debt and investment survey of 1991-92 undertaken by NSSO has shown the proportionate share of non-institutional sources of finance at 40.74 per cent, with an amount of Rs. 961 per hectare at constant (1993-94) prices. In 1997, the Government of Punjab sponsored study of indebtedness gave the share of non-institutional sources as 53.44 per cent. In its latest survey for 2003 released in 2005, the NSSO gives an estimate share of informal sources at 46.18 per cent, with an amount of Rs. 4701 per hectare at constant prices. In 2003, another field study at PAU placed their contribution even higher at 58.13 per cent. However, in the latest farmer’s commission sponsored study by PAU, in 2005-06 the proportionate share has declined to 38.06 per cent, with an amount outstanding at Rs. 68106 per household.

Several factors induce the borrower to take loans from non-institutional sources. The transaction costs of informal borrowings are assumed to be low as moneylenders are located conveniently, loan procedures are minimal, secrecy of borrowing is kept, less fee of litigation is there, cash is disbursed promptly even at odd hours not only for productive purposes but for consumption motives also. So, rural households especially the poor ones turn to informal sources of finance.

It may be inferred that during the period of banking reforms, the excessive emphasis on profitability eroded the primary mandate of some formal grass root level financial institutions like cooperatives and RRBs and facilitated the come back of non-institutional credit sector in rural lending.
Equity Issues in Institutional Agricultural Credit

Agricultural credit policy of the government since its inception stressed upon the equitable distribution of institutional credit among all the regions of the country, among all the areas within the state and among all the farm size classes. The supply of institutional credit to the small and marginal farmers is studied with special interest because they have got very low capacity of generating economic surplus as such and consequently cannot either make productive investments on their farms and/or meet operating cash requirements of modern production technology. So, it was important to examine the flow of institutional agricultural credit to different farm size classes as well as it is over time growth regarding equity issue of credit. What has been the performance of commercial banks and cooperative credit institutions in this respect was also examined to see the institutional basis, if any, to different farm size classes. The supply was then examined on per hectare of net sown area basis for meaningful conclusions.

The size-wise flow of institutional agricultural credit in Punjab has been presented in Table 2.11. In 1980-81, the credit flow to small and marginal farmers was Rs. 35.38 crore, out of which cooperatives were providing major part at Rs. 21.78 crore and SCBs Rs. 13.60 crore. The supply of credit per hectare of NSA was Rs. 846.2 for this category whereas for large farmers i.e. having more than 5.0 acres, the total supply was Rs. 168.96 crore. Here, the SCBs were dominant players providing Rs. 119.91 crore and cooperatives Rs. 49.05 crore. The per hectare availability in this category came to be Rs. 4041.2.

In 1990-91, the flow of credit for small and marginal farmers in Punjab was estimated at Rs. 450.45 crore. The SCBs were at Rs. 204.70 crore and cooperatives were providing Rs. 245.75 crore to this size-class. The per hectare of credit flow came to be Rs. 10679 for the small and marginal farmers. However, the large farmers were getting supply of credit to the tune of Rs. 1236.58 crore. The SCBs had been providing Rs. 738 crore and cooperatives Rs. 498.58 crore to this class. The per hectare credit supply was calculated at Rs. 29317 for the large farmers category.
Under the targeted government programmes the flow of credit to agriculture sector maintain an increasing trend. It was clear from the figures of 2001-02. In Punjab, the advances to small and marginal farmers were Rs. 1662.75 crore, with SCBs contributing Rs. 681.34 crore and cooperatives Rs. 981.41 crore. The per hectare supply of credit for this farm size category was Rs. 39087. On the other hand, for large farmers the credit flow was Rs. 4910.56 crore. The SCBs were providing Rs. 4180.24 crore and cooperatives Rs. 730.32 crore. The per hectare credit advanced was found to be Rs. 115434 for large sized farmers in 2001-02.

In the year 2005-06, the credit flow further increased to Rs. 4547.25 crore for small and marginal farmers. At the time, the SCBs were providing Rs. 2860.06 crore and the cooperatives Rs. 1687.19 crore. The per hectare amount advanced increased to Rs. 109047 for small and marginal farm size category. Whereas for large sized category the total amount outstanding was Rs. 10143.36 crore, of SCBs Rs. 8733.76 crore and that of cooperatives at Rs. 1409.60 crore. The per hectare outstanding amount for this category came to be Rs. 243246 for large sized category of farmers.

Table 2.12 presents the percentage contribution of SCBs and cooperatives in the institutional agricultural credit flow in Punjab. In 1980-81, the situation was grim for small and marginal farmers as these were getting only 17.31 per cent of total credit advanced. In case of SCBs these were obtaining 10.19 per cent total credit supplied and in cooperatives also the share of these farmers was 30.75 per cent. Whereas the rest of proportion was being taken by large farmers although there share in total operation holdings was 7.0 per cent.

Due to state sponsored programmes and other efforts of government, the situation improved to some extent in 1990-91 as the share of small and marginal farmers in total credit flow to agriculture sector increased to 26.70 per cent. SCBs have shown a remarkable improvement in the sense that these were supplying 21.71 per cent of loans advanced to small and marginal farmers and rest to large farmers. The cooperatives had also shown some improvement i.e. to 33.0 percent to this farming class.
But in the post-reform situation a reverse trend was again visible in institutional agricultural credit. The relative share of small and marginal farmers declined to 25.30 per cent in flow of credit in 2001-02. A drastic decline was observed in the credit supplied by SCBs to this poor class of farmers. It was at 14.01 per cent. Contrary to this cooperatives have improved remarkably and supplied its 57.33 per cent of agricultural credit to this class of farmers.

The situation again took a turn for the better under directed policies of government in the year 2005-06. In this year, 30.95 per cent of total agricultural credit was supplied to small and marginal farmers. This was highest in the history of institutional finance. SCBs jumped almost 15 per cent and the relative share of small and marginal farmers in these stood at 24.67 per cent. In case of cooperatives, a decline was there, but still it was above half past mark and at 54.48 per cent.

In the early stages of agricultural development, the farm size productivity relationship was found to be inverse in Indian agriculture. However, since the nineties, the period of economic liberalization and globalization has started. Though the policy reforms and restructuring did not encompass agriculture sector as rich, yet the trade policy initiatives have direct bearing on the agriculture sector and on the whole a change in attitude of policy makers and decision makers towards agriculture sector has been observed due to new challenges and opportunities thrown open by the WTO regulations.

Credit is often considered an effective policy instrument for improving the production and distribution of agricultural commodities and for promoting social welfare. However, no amount of credit, even at the most reasonable rate, can provide a panacea for raising the profitability and productivity of the farm-firm (Olomala 1989). The credit expansion programme alone cannot combat the agrarian crisis prevalent at present, as there is a need for other measures like public investment in irrigation, research and extension, infrastructure, proper seeds and fertilizers, good marketing system for better price etc. Credit expansion should take into account the risk element in cultivation while framing policies (Dev 2009).