Contents

An Empirical analysis of Agricultural Finance Provided by Scheduled Public and Private Sector Banks In India in the post reform era(1991-2014).

1. INTRODUCTION

1.1 Agricultural Sector and Agricultural Finance

Agriculture plays a vital role in all parts of the world. A large population depends on agriculture for food, raw materials for industries, and employment. Throughout the world, agriculture has been recognized as an essential industry for food production as well as raw materials for industries, etc. The agriculture sector contributes less than 20 percent to India's Gross Domestic Product yet it continues to employ more than half of the workforce. In light of the rapid rise of the population, there has been an unprecedented increase in the number of people engaged in agriculture in recent years. For most people of low income, the susceptible and the poor in society, agricultural activities remain an important source of livelihood and it plays a substantial role in diminishment of poverty. Food demand is increasing hastily in developing countries as a result of heavy population pressure.The existing system of food consumption in these countries is very low in volume and with a slight enhance in per capita income, the demand for food rises up steeply. This limits the agriculture sector's ability to continuously increase its marketable surplus of food grains. Failure or success in the agricultural sector depends on climatic factors. Agricultural producers need financing to maximize their agricultural production by purchasing fertilizers, seeds, agricultural machinery, manure, livestock, repairs to wells, paying wages, establishing permanent improvements on their land, and marketing their agricultural products. Despite their willingness, many farmers cannot afford to acquire suitable and improved seeds and manures and bring in better methods or practices due to inadequate financial resources and a lack of timely credit facilities at fair interest rates. Works of minor irrigation channels like wells owned by the cultivators either get into the state of disuse or are not fully utilized for want of capital. It is necessary to increase finance and investment in rural areas in order to attain the goal of food security and poverty reduction. In order for the agricultural sector to develop in a sustainable way, the farmers require credit support from institutional agencies. Non-equity capital is the major source of liquidity in rural areas where farmers lack sufficient equity capital to invest in agriculture. Agricultural production is not directly dependent on credit; however, it allows farmers to make the most of what they have and to access the resources, thereby alleviating financial restrictions. Because money is not wealth, credit cannot be income, but once properly lent it can result in income, thereby serving as a impel for economic growth and development (Reddy, et. al., 2006). The needs of farm families will increase over time and a demand will also be created by the potential borrowers, so the establishment of an institutional credit network is essential for the welfare of the farming community and the institutions as well. Agricultural finance that is, credit granted for the promotion of any line of agriculture (Pantulu, 1944).

1.2 Role of Commercial Banks in Agricultural Finance

Agriculture finance is the economic study of the borrowing of funds by farmers, of the organization and operation of farm lending agencies, and society's interest in credit for agriculture (Murray, 1953). Different credit instruments are used to encourage the agriculture and industrial sectors in India. Farmers have always benefited from the availability of concessional credits by adopting new technologies, investing in machinery and irrigation, and adopting quality inputs. Increased agricultural productivity is possible through the application of new technologies which may be obtained through credit. Growing farming assets as well as farm infrastructure, resulting in increased income levels and overall improvements in living standards, has been a consequence of large-scale financial investment activities. This led to a push for banks to establish more rural branches and provide additional loans to the agriculture sector. Prior to 1935, agriculturalists were solely funded by money lenders and cooperative societies. After 1935 the Reserve Bank of India played an active role in providing agricultural credit to farmers through various initiatives. A cooperative credit structure was built by the Reserve Bank of India, which eventually split into two distinct arms the first for short-term credit, the second for long-term credit. After 14 commercial banks were nationalized in 1969, Agricultural credit by commercial banks has increased consistently from 38.4 percent in 1980-81 to 75.8 percent in 2008-09, as a result, the share of cooperative societies reduced from 61.6 percent in 1980-81 to 15.3 percent over the period. In 2011-12, the share of cooperative societies rose somewhat to 17.2 percent while the share of commercial banks stood at 72.1 percent in 2010-11. Commercial Banks are those banks which have been established per the Indian companies' Act 1913. In India, these banks emerged following the ingress of the East India Company. In India, the first commercial bank was Bank of Hindustan. Commercial Banks are divided into two major categories, scheduled commercial Banks and non scheduled Banks. As per the Reserve Bank of India Act 1934, scheduled banks are the banks that are listed on the second schedule of RBI and that have at least Rs. 5 lakhs in paid-up capital and reserves and a non-scheduled bank is one that does not meet the minimum capital requirement of Rs. 5 lakh and does not qualify for inclusion in the second schedule of the RBI. This study is confined to agricultural finance provided by scheduled public and private sector commercial Banks in India.

1.3 Evolution of Agriculture finance in India

There were different phases of institutional credit to the agriculture sector. These phases are classified as 1904-1969(Pre-Nationalization), 1969-1991(Nationalization) and 1991 onwards (Post Reform Period).

First Phase – 1904 to 1969 (Pre- Nationalization): Cooperation was introduced in India mainly as a means to fight the problems of rural indebtedness. In 1904, the cooperative credit societies act was passed, which led to the creation of cooperative credit societies (**Chausse, 1982**). Cooperative credit movement was led by the farmers themselves. With the passing of cooperative society act 1904 by the government of India, many cooperative credit societies came into existence but its progress was very slow till the twenties. In India cooperative movement grew and nourished by the government involvement. Over the past several decades, cooperative banks/credit societies have been established in India with the specific aim of financing the unorganized sector of the economy, particularly agriculture (**Bhole, 2009**). As per the survey of rural credit, in1950-51 cooperatives provided only3.1 percent of total rural credit, but after 1950 the share of cooperatives in rural credit increased to15.5percent in 1961-62 and 22.7 percent in1970-71.During the period 1950 to1969 more importance was given to the promotion of cooperatives. Government of India always gives more importance to rural finance through institutional sources with the purpose of protecting the farmers from the clutches of money lenders. So the Government of India tries to provide crop loans and investment credit to the farmers in rural areas at reasonable interest rates. In 1913 chamberlain commission raised the issue regarding the foundation of the reserve bank in the country. In India, the need for central bank to participate in rural finance was felt as early as in 1930, when the central banking inquiry committee expressed the hope that the proposed reserve bank would tend to increase the volume of credit available for trade industry and agriculture and to mitigate the evils of fluctuating and high charges for the use of such credit (**Arunachalam, 1961**). In 1931 central banking inquiry committee made a strong recommendation for the establishment of the reserve bank. In 1926 the Hilton Young commission suggested the name Reserve Bank of India for the country's central bank.

In the Schumpeterian framework of development, bank credit has an immense role to encourage innovation in terms of finding new products, new markets, new technologies,

new resources and a new organization to initiate development process **(Dasgupta,2002)**. On the recommendation of Hilton Young Commission or Royal commission on Indian currency and finance the Reserve Bank of India was established under the reserve bank of India act, 1934. The reserve bank of India act 1934 assigned responsibility to reserve bank for developing institutional credit system for the agriculture sector in India. Reserve bank of India started working on 1st April 1935. In the same year, the agricultural credit department of the bank was also established with the objective to fulfil the finance requirement for agricultural operations through cooperative banks and other agencies that are engaged in rural credit. The main responsibility of agricultural credit department was to build sound cooperative credit structure in rural financing, providing financial assistance to state governments to beefing up the cooperative structure and giving suggestions to central and state government on agricultural and rural credit. Except for the supervision and control of urban cooperative banks, all agricultural credit functions were transferred to the National Bank for Agriculture and Rural Development in 1982 from the agriculture credit department. Later on, this responsibility shifted to the department of banking operations and development. Before the commencement of the central bank, the Imperial Bank was acting as a bank to government and government agencies and also as a banker's bank to banking institutions within the country, which was a total meager. At one time, the RBI was the only institution governed by the government yet acted independently, but on 1st January 1949, it became a nationalized institution. In 1948 the government of India passed RBI act to nationalize the Reserve bank. The nationalization of India's reserve bank occurred on 1st January 1949, after the nationalization of RBI, the central government obtained all shares of the bank's capital, in exchange for adequate compensation (TOI, 23rd march 1948). In 1937 the statutory report submitted has drawn the attention towards the predominance of money lenders in the supply of finance to the agriculture sector. This report suggested legislation for the regulation of money lending and it also focused on the reconstruction of the cooperative movement. After independence, the main objective of rural credit policy in the Indian economy was to increase institutional financing with an aim to curtail the role of financial agencies like money lenders. To support the bank's rural finance activities, the All India Rural Credit Survey Committee was established in 1951. The activities of banks in agricultural finance expanded after the All India Rural Survey Committee was appointed. The committee submitted a report in 1954 recommending that rural credit be integrated into a national program for intensified cooperative credit movement in rural areas for the promotion of cooperative credit relations in rural areas. All India Rural survey Credit committee observed that there was an insignificant performance of cooperatives to channelize agricultural credit. A report of the RBI committee on the All India Rural Credit Survey (1954) states that from the total of the amounts borrowed by cultivators from the different credit agencies in 1951-52, 7.3percent of these loans were received from institutional credit, only 0.9percent of these loans were from commercial banks, and the rest were contributed by cooperatives (Shajahan, 1998). As per this report, 92percent of rural credit borrowed by farmers is from non-institutional credit agencies, in which 41.9 percent credit is given by professional money lenders, 23.9 percent by agricultural money lenders. This committee also observed that non-institutional sources contributed the highest share in total agricultural credit in 1951-52; therefore this committee stated that "cooperation has failed, but cooperation must succeed". A rural credit integrated scheme calls for state participation by contributing to the share capital of the cooperative credit institution. There was also an emphasis on the need for an efficient and adequately trained staff in administration in order to meet the financial needs of the rural population. A cooperative credit system based on short-term cooperative crop loans was used in this scheme. Essentially, it was primarily focused on production-oriented loan policy within agriculture and the rural sector. The state bank of India was established in 1955 with the aim of increasing the flow of funds to the priority sector with special attention to the agricultural sector. The committee All India Credit survey (1954) and the committee on Cooperative credit (1960) have mentioned that the lack of institutional financing for long-term investment is a major challenge that affects the development of agriculture in the country. Agricultural Refinance Corporation was established by the Reserve Bank of India in 1963 under an act of parliament and on 1 July 1963, it began providing long-term and medium-term credit to the agricultural sector for the purpose of boosting the agricultural sector and upliftment of rural areas. As of 1975, the corporation is now known as the Agricultural Refinance and Development Corporation.

Second Phase (Nationalization): In 1969 fourteen major commercial banks were nationalized. This was followed by the nationalization of six more banks in 1980. Before nationalization gross domestic share from the agriculture sector was around 46 percent and the workforce engaged in the agriculture sector was around 70 per cent. But this key sector of the economy was neglected in terms of the supply of institutional credit by commercial banks. This step of nationalization of commercial banks made a historic landmark in the Indian banking system and banking moved from class banking to mass banking (Patil, 2005). Before nationalization commercial banks were more concentrated to fulfil the demand for credit of the industrial sector. There was an insignificant contribution of commercial banks in rural credit in India, the share of commercial banks in rural credit was 0.9percent in 1951 and 0.7 percent in1961. Among the positive results of the nationalization of banks was the availability of more agricultural credit, opening of new commercial banks in rural areas, and financing of the priority sectors by the banks. Since nationalization, bank lending to priority sectors has become a key component of banking. It was suggested to increase the share of direct farm lending to 18 percent of net bank credit by March 1990 (Sahu and Rajasekhar, 2005). India's government substantiated a working group on rural banks on July 1, 1975, under the supervision of Shri. M. Narasimham. Notably, the group recommended the substantiation of regional rural banks that would be owned by public sector banks, which would include technical and managerial support for these banks (Reddy, 2006). To enlarge institutional credit towards the rural and agricultural sector, regional rural banks were set up in October 1975 under the regional rural banks' ordinance, 1975. The major objective of regional rural banks is to provide loans and advances to the agricultural labourers, small and marginal farmers, cooperative societies, cooperative farming societies, artisans and other purposes which are related to the agricultural sector. In June 1977 reserve bank of India constituted a committee to review the working of RRB's headed by Prof. M L Dantwala. This committee recommended the change in the share of the capital of the RRB's i.e. 40percent by sponsoring bank, 25percent by Reserve bank of India, 15percent by the state government and 20percent by local participation. Earlier the share capital of RRB's was 50percent by central government, 15percent by state government and remaining 35percent by sponsoring bank. In the year 1978 reserve bank of India appointed the working group on the multi-agency approach in agricultural financing. This group in its report stressed that cooperatives should play major role in providing finance for agriculture and other allied activities in the rural areas because only cooperatives has potential of dealing with millions of farmers throughout the rural sector of the economy, other institutional credit sources like commercial banks and regional rural banks play only supplementary role in the field of rural credit.

Third Phase (banking sector reforms): To improve the efficiency and upgrade the financial sector that is banks, the government of India introduced various banking sector reforms in 1991. For this purpose, a committee on financial system was appointed under the headship of M.Narasimhan. Various committees like the Narasimhan Committee (1991), Verma Committee (1996), Khan Committee (1997) and second Narasimhan committee (1998) were established to improve the financial health of the banking sector. Banking sector reforms are divided into two parts, first-generation reforms and second-generation reforms.

Financial sector reforms which seek to minimize governmental controls on credit institutions, impose stringent accounting norms and give freedom to banks from mandatory rural lending may create conditions not arguing well for rural development, especially for the vulnerable sections **(Puhazhendhi and Jayaraman, 1999)**. In the Era of economic reforms, the government commences various initiatives to increase the credit flow towards the agricultural sector. The government started programs like special agricultural credit Plans (1994-95), Kisan Credit Card scheme (1998-99) and self-help group bank linkage. During 2004-05, the government of India initiated the double rural credit scheme to improve agricultural credit. There was also a government initiative in the sphere of agricultural credit in the year 2008-09 known as the Agricultural Debt Waiver and Debt Relief Scheme. For the first time since 1990, a large scale debt relief program was created. The main purpose behind the commencement of programs like Kisan Credit Card scheme in 1998-99 was to fulfil short term credit needs of farmers for cultivation of seasonal crops, harvest expenses and marketing expenses etc. This scheme provides adequate and timely short –term credit facilities at low cost to the farmers, however, the performance of the scheme was not same across different regions of the country; it was dismal in the northeastern region. The Kisan credit card scheme was revised in 2012. Under this revision, all banking institution was suggested to issue smart cards to all farmers. Agency wise distribution of total cards issued from 1998 to 2014 was about 49 percent issued by commercial banks followed by 35 percent by cooperative banks and 16 percent by regional rural banks **(Gyanendra Mani, 2016).**

A subvention scheme for interest was implemented by the government of India in the year 2006-07. Through this scheme, the government tried to provide concessional crop loan to farmers up to 3lakhs at seven percent rate of interest per annum. It also provides an additional subvention of 3 percent for prompt repayment of loans within a period of one year from the date of advance. For use of own funds, this scheme is granted to public sector banks, private sector banks, cooperative banks, and regional rural banks, as well as by NABARD for refinancing of both cooperative banks and regional rural banks. **(Economic survey,2017-18)**.

2. LITERATURE REVIEW

Several studies have been conducted on the different aspects of commercial banks and agricultural finance at the national and international levels. The following studies have been taken under review:

Wall (1938), discussed the place of commercial banks in agricultural finance. In this study, he discussed the three major aspects of the functioning of commercial banks in agricultural financing. The first aspect was, the services performed by banks in agricultural areas and the cost involved in rendering such services, the second aspect was the future functioning of commercial banks as influenced by the competition of the federally sponsored credit agencies, and third was the influence of commercial bank loan policies upon the economic stability of agriculture.

Torgerson (1940), discussed the current general picture and certain problems in agricultural finance in the United States. This study divided agricultural finance into two major divisions: first long term farm mortgage credit, second intermediate and short term loans to farmers. According to this study, there are two major sources of long term agricultural credit: federal agencies making farm mortgage loans and private persons and institution. The position of the federal agencies making farm mortgage loans may be summarized by saying that about 3 of the total number of farms in this country are mortgaged, and federal agencies are holding about 40% of the mortgage debt on these farms.

Pantulu(1944), argued that the agriculturist class requires annually at least Rs.500 crores (1,500 million U. S. dollars) for the pursuit of the agricultural industry, of which Rs.400 crores (1,200 million U. S. dollars) maybe taken to represent the financial requirements to raise and market its crops and Rs.100 crores (300 million U. S. dollars) is needed for improvement of land or discharge of prior usurious debts which may be beneficially liquidated by raising loans on more economic terms. Further, he pointed out that the chronic poverty is the main cause of indebtedness. Poverty and indebtedness act and react to each other, and each tends to aggravate.

Nimbkar (1968), studied the Challenges of Agricultural Finance in India. He pointed out that Co-operative bank loans to the farmers are not productive either because they are not received in time or because the farmers never intended to use them for agricultural purposes. Finally, a large proportion of the amounts loaned are never recovered. Commercial banks can succeed where the co-operatives have failed only if they provide extension services and train their staff accordingly.

Yotopoulos (1976), discussed the effectiveness of agricultural loan and issues related to credit repayment. This study found that short term loans provided by the government and other banks were plagued by high default ratio in most of the less developed countries i.e. 30 percent. There were many reasons of high default ratio in less developed countries like highly attractive loans provide at very low or even negative interest rate due to this demand greater than the supply and people substitute formal credit in place of informal credit in rural areas. The results of this study revealed that the nature of the small farmer affect the credit repayment record because mostly in this section consumption and production activities are commingled and even lender (formal and informal) is not assured that the credit was truly used for production purpose in agricultural sector.

Chausse (1982), examined the importance of the financial institution in agricultural development. During the All-India Survey of 1954, financial institutions were urged to play a greater role in the country's agricultural development. After the 14 leading banks were nationalized in 1969, the commercial banks had most of the saving deposits, and they were instructed to enter the agricultural sector with two specific objectives, First to support cooperative marketing and processing structure by funding. Certainly, the commercial banks were perceived to be holding private traders to a tighter bargaining position than cooperatives by funding them, and their actions needed to be redirected. Second, where cooperative banks were weak, commercial banks could finance farming operations through primaries. Very rapidly indeed, all kinds of loans, short, medium and long term, were granted by commercial banks directly to individual farmers and farming community through their own branches. A total advance to the agricultural sector constituted about 10% of total bank credit by the end of 1974.

Schmiesing et. Al. (1985), examined the variable interest rates and differential interest rates used by commercial banks in South Dakota. This study looked at the interest rate changes in agricultural operating loans. Branch banks and affiliates of large banks used differential and variable interest rates more aggressively than independent banks, according to the results of this study. Most branch banks, multibank affiliates, and independent banks use differential rates. The branch bank used up to 85 percent of the differential interest rate to the total. The branch banking sector, multi-bank affiliates, and independent banks also rely upon variable interest rates in some cases.

Olomola(1991), examined the rationale for credit control policy in agricultural financing in Nigeria from 1970 to 1985.the main purpose of this study was to identify the credit control instruments applied between 1970 and 1985. The result of this study revealed that credit controls as presently conceptualized cannot effectively tackle the problems of low savings capacity in the rural areas and the inequity in the distribution of income. This study suggested that to justify persistence of credit controls, political considerations should be given less emphasis than sound economic criteria. This will discourage many borrowers from regarding agricultural loans as a form of amnesty from poverty rather than a facilitative input the development of agriculture.

Kashuliza(1992), investigated the performance of cooperative and rural development bank in the area of agricultural credit in Tanzania. This study covers the period from 1971 to 1989. This study analyzed the performance of the credit institutions by using various criteria's like credit allocation methods, operational cost, loan repayment rates and degree of mobilization of saving. This study found that most of the loans provided by cooperative and rural development bank were related to the short term which was mostly given to small landholders. It was concentrated on a few regions of Tanzania like Tabora and Iringa because these regions were involved in cash crop production that is tobacco. It indicates that the pattern of credit allocation by cooperative and rural development bank focused on cash crop production particularly tobacco and ignored staple food crops such as maize and rice. The findings of the study revealed that due to high lending cost, low-interest rates and poor loan recovery increase the losses of cooperative and rural development bank. It indicates that cooperative and rural development bank incurred losses from the lending process between the periods 1984 to 1989.

Temi and Olubiyo(2004), studied the relationship between agricultural finance and the growth of the agricultural sector in Nigeria for the period 1970 to 2001. This study adopted the production-production externality approach to examine the impact of agricultural credit on agricultural production. The parameters estimated in this study are labor force, capital and agricultural output. The results of this study proved that agricultural credit is one of the most important determinants of the growth in agricultural production. This study found that liberalization in the banking system from 1988 registered remarkable improvement in credit allocation to the agricultural sector.

Sahu and Rajasekhar (2005), conducted a comparative study on Banking Sector Reform and Credit Flow to Indian Agriculture during the period 1980 to 2000. There are two parts to the study period: the pre-reform period and the post-reform period. During the period before the reform, credit for professional services, personal loans, finance, and other sectors grew more rapidly on average. Furthermore, as a result of the reform, credit was disbursed to industry, trade, and transportation operators at a higher rate than it was before the reform. Over the period 1981-2000, the average growth rate of agricultural credit was 11.86 percent. It was noteworthy, however, that inter-period differences were distinct. For the period before the reform, annual growth was 14.77 percent, but it dropped to just 10.90 percent after the reform period, a decline in the amount of agriculture credit disbursed throughout India occurred. An investment in government securities, the proportion of credit provided by cooperatives, and the percentage of credit provided by banks was negatively related to credit flow to agriculture as determined by the analysis. Rural bank branches were positively associated with credit to agriculture, imploring the need to reconsider the closing of the loss-making rural branches.

Bhalla and Singh (2010), found that input prices are highly significant with credit in a cross-sectional analysis using data for 2003 or 2006. In all India, credit elasticity for fertilizer use, tractor use and tube well use was 0.85, suggesting that a 10% increase in the supply of direct institutional credit to farmers resulted in an 8-9%increase in the purchase of fertilizer, tractor and tube well in the long run. Their analysis was based on a simple model that regressed the logarithm of input per unit of output on the logarithm of institutional credit. This study found that the credit elasticity varies across regions, with the technologically backward eastern region experiencing exceptionally high credit elasticity for tractors, tube wells and irrigation. Researchers found institutional credit to be essential for agriculture in these regions, which have low inputs and investments. **Jiyaur and Sheereen (2011),** reviewed the trends and composition of agriculture sector institutional credit in India after the reform period. In this study, time-series data from 1975 to 2005 was used to examine the changes in institutional credit to the agricultural sector. A pre-reform period from 1975 to 1990 and a post-reform period from 1991 to 2005 comprise two sub-periods of this study. An analysis of agricultural credit provided by scheduled commercial banks, regional rural banks, and state government agencies was conducted in this study. Among the credit providers reviewed were cooperatives, rural electrification corporations, state cooperative agricultural and rural development banks and primary agricultural credit societies. Compared with the pre-reform period, direct and indirect institutional credit into the agriculture sector grew during the period 1991 to 2005as indicated by the results of the study. In the post-reform period, short-term and long-term credit to the agriculture sector has moderately increased. Among the direct bank credit to the agricultural sector, the share of scheduled commercial banks has increased, while that of cooperatives has decreased. Conversely, regional rural banks have maintained an almost constant contribution to agricultural credit during the study period.

Biradar (2013), Studied trends and patterns of institutional credit used for investment and production in the agriculture sector by scheduled commercial banks, cooperative banks, and regional rural banks from 1971 to 2007. Two sub-periods are set out for the study period, namely, the pre-reform period and the post-reform period. An attempt was made to compare agricultural loan volumes before and after the reform period in this study. For this study, different indicators were examined including average institutional credit per hectare, percentage of agricultural gross domestic product and cultivated area to assess the extent of institutional credit flow for the development of the agriculture sector. Compared to the pre-reform period, the growth of institutional credit to the agriculture sector was higher during the post-reform period as described by the results of the study. Throughout the entire study period, regional rural banks provided the most production credit in comparison to scheduled commercial banks and other cooperative banks. This study found that the banking reforms in the 1990s led to major increases in institutional credit to the agriculture sector during the post-reform period.

Singh (2014), studied the trends in public investment in agriculture during the period of economic reform in India. During the pre-reform period, total investment was split close to evenly between public and private investment, and the percentage of private investment has steadily increased. Private investment in agriculture has been almost constant since the mid-1990s, while public investment has continued to decline. In the decade following 2000-01, public and private investment in agriculture trended upwards.

3. Objectives of study

The general objective of this study, therefore, is to conduct a study of finance provided by scheduled public and private sector commercial banks to the farmers of the agricultural sector in India. Subsumed in this general objective are the following specific objectives:

I. To examine the growth and impact of agricultural credit on agricultural output and input.

II. To identify the major determinants of agricultural credit.

III. To study the impact of commercial banks Loan policies on the economic stability of agriculture.

IV. To examine the impact of long term agricultural credit on capital formation in the agricultural sector.

V. To evaluate the challenges of agricultural finance in India.

4. Hypotheses of the Study

The present study is guided by testing of the following Hypotheses

1. There is significant impact of credit on output and input of the agricultural sector.
2. There is significant growth of credit provided to the agriculture sector by commercial banks.
3. There is significant relationship between the growth of deposits and credit provided to agriculture sector by commercial banks.
4. There is significant impact of interest rate on the supply of agriculture credit.

5. Research Methodology and Sources of Data

This study focuses on descriptive approach. This is the research work about, how commercial banks (Public and Private sector) play an important role in agricultural development by providing finance to the agricultural sector. This study depends on quantitative research design, because quantitative research is an excellent way of finalizing results and proving or disproving the hypothesis. To access different aspects and characteristics of commercial Banks and Agricultural credit, we want to utilize secondary data, published by various government agencies.

Especially secondary data will be collected from various reports and publications of RBI. RBI annual Published data related to Banks, among these main publications and statistical tables related to Banks in India, Data Based reports of RBI, Basic statistical Returns of scheduled commercial Banks, Handbook of Statistics and various issue of Economic survey of India.

In order to achieve the objectives of the study a time series data on the relevant indicators will be collected. This study covered the period between 1991 and 2014. In order to calculate the growth rate of selected parameters at aggregate and disaggregate level two functional specification of growth rate will be used i.e. linear and exponential form. To examine the credit elasticity of agricultural output the Cobb-Douglus Production Function has been used in this study. To investigate the association between growth of deposits and growth of credit in agriculture this study used two variable and multivariable regression model.

6. Chapter Design

The present study is classified into eight chapters. Chapter one of the theses gives introductory information of the agricultural sector, agricultural finance and some historical background of commercial banks in India. Chapter two highlights the various published studies conducted at national and international level regarding the agricultural finance. Chapter three gives the details of research methodology used in the study and various sources of secondary data collection. It also gives an insight regarding the details of various variables. Chapter four estimates growth and performance of agricultural finance by schedules commercial banks. Chapter five examines empirical estimation of the impact of agricultural finance on agricultural output and input demand. Chapter six analysed the linkages between interest rate, interest subsidy and supply of agriculture finance by commercial banks. Chapter seven focuses on impact of agriculture credit on capital formation in the agriculture sector and chapter eight concludes with major findings and policy recommendations.

7. Some of the findings of this study

The results of the study depict that public sector scheduled commercial bank credit and private sector scheduled commercial bank credit towards agriculture sector has positive and significant effect on the variation in agriculture output, but the intervention of agricultural credit through public sector banks has a high and significant positive impact on agriculture output. Direct agriculture credit is significant and positively explains the variation in agriculture output. The indirect agriculture credit amount is significant at the 5 percent level and positive at the first lag. It implies that the benefit of indirect financing for agriculture could lead to higher output next year. The regression coefficients suggest that total direct credit has a greater impact on agricultural output than total indirect credit.

The analysis shows that the supply of credit to the agricultural sector is negatively associated with investment in government securities and Interest subsidy. Credit supply to agriculture is positively associated with the expansion of rural bank branches, interest rate, commercial bank borrowing from Reserve Bank of India and total time deposits available to commercial banks.

The estimated results for the effect of long term direct credit on private capital formation demonstrates that a one percent increase in long-term direct credit leads to a 0.32 percent increase in private capital formation in the agricultural sector. It means long term direct credit is having a positive impact on private capital formation. The results of the regression model suggest that long-term direct credit and short-term direct credit relate positively to total direct credit in the agricultural sector. Further the results of the coefficient indicate that total direct credit is more positively related to short-term direct credit. The coefficient value of private capital formation (PCF) is 0.789. It indicates a one percent change in private capital formation (PCF) leads to a 0.78 percent increase in total capital formation (TCF). The positive effect is high and significant. The coefficient value of public capital formation (PBCF) is 0.212. It indicates a one percent change in public capital formation (PBCF) leads to a 0.21percent increase in total capital formation (TCF). The positive effect is quiet low and significant.

The value of the coefficient of public capital formation one year lag ($PBCF_{t-1}$) is 0.011. It indicates that the elasticity of private capital formation with respect to long term direct credit is only about 0.011 means one percent change in public investment leads to only a 0.011 percent increase in private capital formation in the agricultural sector. It means the level of the previous year public capital formation or public investment increases the present year's private investment. The above results underline an important observation that institutional credit especially long term direct credit is an important determinant of private capital formation. The value of the coefficient of Long term credit (LTC) is 0.321. It shows that there is a positive relationship between long term credit and private capital formation. From the coefficient of explanatory variables, it is clear that long term direct credit that is provided by commercial banks is a critical determinant of private agriculture investment or private capital formation. The results show that there is a direct relationship between long term direct credit and private capital formation in the agriculture sector from 1991 to 2014, as well as a strong positive and significant association between direct credit and private capital formation. This implies that most of the farmers in the agricultural sector are largely dependent and supported by long-term investment resources, specifically loans from commercial banks.

The findings of this study are consistent with the findings of several related studies that have been conducted on the financing of the agricultural sector in India by commercial banks. The results of this study are consistent with those of (Puhazhendhi and Jayaraman, 1999; Mohammad, et.al, 2003; Chand and Kumar, 2004; Sahu and Rajasekhar, 2005; Karmakar, 2008; Das, et.al, 2009; Kumar, et.al, 2010; Singh, 2014)

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