CHAPTER - I

INTRODUCTION
1. Introduction:

Rural credit plays an important role in the overall development of the Rural economy. In India, even now, around 67 per cent of the people depending on agriculture for their livelihood and agriculture is being practiced by using primitive technology though we have gone for structural adjustment and globalizing our economy. In addition to various reasons, non-availability of an important input like credit, is an obstacle. Once the financial resources are assured to the farmers they will be able to use the fertilizers, sufficient organic manure, proper farm technology, high yielding varieties of seeds, skilled labour, etc., which will increase the productivity and in turn the total agricultural production.

The credit factor in agriculture is of paramount importance where the prospects of 'plough back' are rather weak when compared to trade and industry. With the adoption of new farm technology, since the mid-sixties, the credit needs of the farmers have increased manifold and the availability of credit in adequate amounts is necessary to sustain agricultural development. The rural credit system for agriculture comprises of five types, they are: i). The Co-operative credit institutions, ii). Commercial Banks, iii). Regional Rural Banks, iv). National Bank for Agriculture and Rural Development and v). Reserve Bank of India.
Among the five financial institutions, The Rural Credit Cooperative Institutions (RCCls) is one of the strong arms of the Rural Financial Institutions (RFIs). These institutions have made significant strides in delivering credit for agricultural and rural development. The cooperative credit structure consists of two wings namely short term and long term. The short-term credit structure deals with medium term credit also for agricultural purposes and it is federal in character. It is mostly based on the three-tier pattern with the State Cooperative Banks (SCBs) at the Apex Bank level, District Central Cooperative Banks (DCCBs) at the intermediary level and Primary Agricultural Credit Cooperative Societies (PACs) at the village level. Of the institutions providing credit to the primary sector, the cooperative organizations occupy a predominant place. Cooperative credit sector in India is now the largest in the world with 5.03 lakh societies covering a total membership of over 20 crore and a working capital of more than Rs. 71,000 crore. Beginning with the first decade of the current century, the cooperative movement has taken deep-roots and culminated in a massive rural cooperative institutional structure.

These cooperative institutions, today, have formed the major contributors to rural credit system in India. Of the total institutional credit for agricultural and rural development disbursed during 1998-99 for all the three term loans, cooperatives accounted for more than 46.31 per cent. About 50 per cent of the total cooperative credit is estimated to have gone to marginal and small farmers and other weaker sections of the rural society. About 70 per cent of the loans provided by the cooperatives are short-term agricultural production loans; the remaining 30 per cent being medium and long term loans, which are used for the permanent asset creation in the
rural areas, like, bullocks, bullock carts, wells, tube wells, bore-wells, tillers, tractors, etc.

2. Cooperative Credit Structure at the Present:

The credit cooperative structures have been organized into short term and long term structures. The short-term structure is based on three-tier structure in almost all the states, except the states in the north-eastern region. They are organized at the level of the State called State Cooperative Banks (SCBs), district level banks called District Credit Cooperative Banks (DCCBs) and the village level we have PACSs. The PACSs at the village level form the base. The long-term credit cooperatives, however, are organized at two levels. These differ from state to state and have been categorized into: The unitary structure in which State Cooperative Agricultural and Rural Development Banks (SCAROBs) operate at the State level through their branches and have direct membership of individuals. This structure has been adopted in the states of Bihar, UP, Maharastra, Gujarat, Tripura, Jammu and Kashmir and the Union territory of Prondichery. The federal structure in which Primary Cooperative Agricultural and Rural Development Banks (PCARDBs) operate as independent units at the primary level and federate themselves into SCARDBs at the State level. This has been adopted in the states of Tamilnadu, Karnataka, Kerala, Orissa, Punjab, Haryana, Rajasthan and Madhya Pradesh.

The states like Himachal Pradesh, Assam and West Bengal have mixed structure, where we find both unitary and federal types in one form or the. The integrated structure is in operation in the union territory of Delhi, Daman and Diu and the States of
Andhra Pradesh, Goa and other smaller states of northeastern region. There are no separate LDBs in these states and the long-term credit business is undertaken by the long-term section of the SCBs concerned. At present, RCCIs have emerged as one of the key players in the field of rural credit having an institutional network of 28 SCBs with 742 branches, 364 DCCBs with 11,663 branches and 93,278 PACSs at the grass-root level in the short term structure and 19 SCARDBs with 1772 branches and 733 PCARDBs with 647 branches in the long term structure accounting for more than two thirds of the rural credit outlets throughout the country (NABARD 1989).

Today we have a very complex, huge super structure of cooperatives, which have emerged due to a number of initiatives taken over a period of time in state as well as in the country. The most impressive features of RCCIs is their reach, covering a large part of the country, with the policy of merging small sized cooperatives and encouraging large sized cooperatives, the number of cooperative outlets at the primary level had declined but their geographical coverage has not declined.

3. The Origin of Cooperative Banks:

The word cooperation is derived from a Latin word ‘Co-opera’, where ‘Co’ denotes “with” and ‘Opera’ means “work”. A cooperative is one of the forms of organization representing group entrepreneurship where people get together to meet their common needs. A cooperative is a distinct organization in that it has the peculiar structure and the universally accepted principle on which it is based. The concept of cooperation has been defined in several ways but all these definitions emphasize the orientation towards members and democratic control. These are the basic factors that differentiate cooperatives from other forms of enterprise. The principle of cooperative
s as old as the mankind. Right from the primitive society to the sophisticated community one or the other form of cooperative could be observed among the people. The origin of cooperatives can be traced back to Europe when the Rockdale pioneers set up the first in 1844. Even before them, there were examples of experiments carried out by Robert Owen and William King in Britain, Charles Fourier in France and Raiffesan in Germany. Cooperative movement in India started towards the end of the 19th century.

The history of cooperatives in India could be traced back to as early as 1891, when the first cooperative society was started in Punjab for controlling the common land of the village (Hough 1960). However, the first official step to formalize the cooperative organization was taken in July 1901 and it got its final shape in 1904 when the first Cooperative Societies Act was passed. The Cooperative Credit Societies Act 1904 was restrictive in its scope as it permitted only primary credit societies and kept non-credit and federal societies out of its purview. The Cooperative Societies Act of 1912 removed many of these shortcomings and served as a model for subsequent Acts passed by various Governments when “Cooperative Societies” became a transferred subject under the constitutional reforms of 1919.

The promotion of cooperatives has been accepted as a part of the state policy in the development of various economic activities, particularly those providing support to agriculture. This was the strong policy recommendation of the Rural Credit Survey Committee of 1954. The policy led to state partnership in the share of cooperative law 1955 appointed by the Government of India suggested a number of modifications in the cooperative legislation. For giving effect to the concept of the state partnership and
Accordingly various State Cooperative Societies Acts were amended which in effect also strengthened the government control on the cooperative institutions.

The cooperative policy resolution was adopted by the National Development Council in 1958, which inter-alia examined the cooperative legislative framework. The Council had observed that "Many of the existing procedures impede the development of cooperative as a popular movement in which small groups and communities can function freely and organize their work and activities along the cooperative lines without excessive official interference and red tape." The restrictive features of existing cooperative legislation should be removed and both the present cooperative laws and model legislation and rules which have been under consideration should be modified in accordance with the approach outlined in this resolution.

A new orientation to the cooperative law was given by the Mirdha Committee in 1965. The committee analysed criteria of genuine cooperative societies and removal of vested interests from them. However, on the pretext of promotion of genuine cooperative movement by removing vested interests, the state governments made cooperative legislation more and more restrictive and stringent, thus pushing cooperative character of the movement to the background. The All India Rural Credit Review Committee (1966-69) constituted by the RBI under the chairmanship of Sri B. Venkatappaiah recommended the adoption of multi agency approach in the field of agricultural credit, setting up of small farmers development agency, streamlining the credit policies and procedures emphasizing the need for establishing viable cooperatives and formation of Agricultural Refinance Cooperative.
The working group on Cooperative Administrative Reforms Commission (1967) recommended that the law should aim at promotion of cooperation as people's movement full of self regulation and control. In view of this the process of audit, supervision and control that vests presently with the Registrar Cooperative Societies should be gradually passed on to the federal bodies of the cooperative institutions. Noting that in many states the federal cooperative organizations are not strong enough, the committee recommended that the government by giving catalytic help to the cooperative movement should promote these federal organizations to which ultimately some of the statutory powers of the Registrar of Cooperative Societies should be transferred, but till that time the Registrar should continue to exercise checks and balances in order to maintain steady growth of the cooperative movement.

A committee was appointed by the Reserve Bank of India on integration of cooperative credit institutions (1975-76) under the chairmanship of Dr. R.K. Hazari for studying the possibility of integrating the two wings (Short and Long term) of cooperative credit structure of the country. It recommended "single window approach" under which the two credit structures were to be merged into single structure. There after the Reserve Bank of India appointed a committee on March 30, 1979 headed by Shri. B. Sivaraman, to review the arrangements for institutional credit for agriculture and rural development. The main recommendations of the committee were to set up National Bank for Agriculture and Rural Development, professionalisation in Central Cooperative Banks, "Evaluation and Monitoring Cell" and a "Recovery Cell" in each State Land Development Bank (SLDB).
To consolidate and amend the existing law relating to cooperative societies with the objectives not confined to one state and serving the interest of members in more than one state, the Multi Cooperative Societies Act was passed in 1984. The restrictive provisions like compulsory amendment of byelaws, compulsory amalgamation or division of societies, the veto power of the government nominees in respect of board resolutions etc., constrained in the earlier laws were removed. The main mission of this Act is to grant autonomy to cooperatives, arrange for inspection, monitoring and audit of society's accounts, besides strengthening the functioning of societies with responsibility to their constituents and the community as specified in the fifth schedule of cooperative principles. The committee on cooperative law, popularly known as Ardhanareswaran Committee (1987) examined various State Cooperative Acts and made the following observations:

1. The existing Cooperative Societies Act contains provisions, which militate against the democratic character and the autonomy of the cooperatives.

2. Over the years Registrar has acquired undue powers in respect of management decisions of the cooperatives which should be curtailed.

3. The role of the Registrar should be made more positive and he should be looked upon as a development agent.

4. The federal cooperative societies should play a more active part in the development functions relating to promotion, organization, proper functioning and growth of the affiliated cooperative societies.

The Model Cooperative Societies Act 1991, piloted by Choudary Brahm Perkash Committee, has attempted to give genuine character to cooperatives. The procedures for registration of new cooperatives are simplified and all artificial restrictions by way of area of operation, economic viability etc., are removed. State policy on cooperatives and the principles of cooperation have been explicitly incorporated in the Act itself as a
guide to the remaining provisions of the Model Act to facilitate the government to conform to the basic ideology of cooperation. The Model Act gives no power to the Registrar or the government to issue orders for; 1. Suspension of the Board of Directors. 2. Compulsory amalgamation of the societies, 3. Compulsory amendment of the bye laws, 4. Vetoing/rescinding/annulling the resolution and 5. Issuing directives.

Cooperative federations/unions are to assume greater responsibility towards the member cooperatives and to ensure regular conduct of elections to the Board of Management and timely conduct of annual audit of accounts. The role of the Registrar under the Model Act has been confined to the registration and liquidation of cooperatives, conduct of inquiry and in case of default to conduct elections audit and to convene meeting of General Body. The Model Act prohibits the cooperatives from accepting funds from the Government by way of equity. To ensure the voluntary character of cooperatives as a member-user organization, special obligations have been imposed on members. Board of Directors has been made accountable for timely conduct of audit of the books of accounts. The Model Act provides for the constitution of Cooperative Tribunal for settlement of disputes including appeals on matters relating to constitution, management and business of cooperative and to take cognizance of any offence under the Act. The Model Act prohibits officers for the Government to work in cooperatives on deputation.

Following the introduction of the policy of economic liberalization in 1991, the Reserve Bank of India freed in September 1994 the rural cooperative banks from the requirement of administered interest rates, for both loans and deposits. The draft National Policy on Cooperatives prepared by Ministry of Agriculture, Government of
India, aims to recognize cooperatives by the Central Government as distinct economic entity which is an integral part of the socio-economic system in the country. The policy underlines the need for the cooperatives to mobilize local resources, diversify into new activities and ventures.

A Task Force was appointed by the Government of India in 1999 to study the cooperative credit system and suggest measures to make the cooperative credit institution a member driven professional enterprise, to restructure and improve their financial health to become efficient and effective instruments for delivery of credit to the agriculture sector and to strengthen the supervisory and regulatory arrangement of cooperatives. The Task Force has submitted its report in July 2000. The Task Force has strongly recommended for completing the process of legal/legislative reforms in cooperative law to provide operational freedom to the cooperative banks and to reduce the scope for interference by the Government in their business. It has also recommended amendment to the Banking Regulations Act to bring ARDBs under the supervisory power of RBI/NABARD. With the introduction of market economy and globalization of trade, state support to cooperatives is constantly declining. However, no perceptible change is taking place in the cooperative laws and government – cooperatives relationship. The government continues to exercise control on the working of cooperatives including interference in the day-today affairs. The cooperative leadership also continues to look towards the government for guidance and financial support more than towards members. If this attitude is not changed, cooperatives will not be able to sustain for long. Cooperatives will have to compete with the private firms by showing efficiency and better service. This will also need changes in the existing
cooperative legislative structure. With their hands and feet tied under the existing laws, in many cases, cooperative banks will not be able to compete and stand with the market forces. Therefore, there is a need to examine the various existing cooperative laws in the country in today's context, so that cooperative banks are able to stand and play an effective role to serve their members (farmers) and needs of society at large. Though the Brahm Perkash Committee has submitted its report on Model Cooperative Bill, it is yet to be implemented.

4. Ninth Five Year Plan and Cooperative Banks:

With the adoption of economic reform in India since July 1991 and with greater emphasis on liberalization, operation of free market forces, structural adjustments and globalization, the cooperative sector has also to gear itself up to face this competitive environment. Even though, the Ninth Five-Year Plan Document did not allocate a separate chapter on cooperation, a portion relating to cooperative development has been included under the chapter on Agricultural Sector. The following observations have been made with regard to the cooperative development.

Cooperative banks are an integral part of the country's agricultural system and have now emerged as the largest in the world with 4.11 lakh societies. They have played a major role in the disbursement of agricultural credit. The agricultural credit support is a precondition for higher production and productivity in agriculture. Short term advances by credit cooperatives accounted for about 59 per cent of the total disbursement, while Commercial Banks and Regional Rural Banks accounted for about 35 per cent and around six per cent respectively in 1995-96.
Measures have been initiated in the following areas for strengthening the country's cooperative movement:

1. The Multi-state Cooperative Societies Act is being amended to facilitate autonomy, democratization and professionalisation of the cooperative credit structure

2. National policy on cooperatives has been formulated

3. A cooperative bank of India is being set up

4. Cleansing of balance sheets of the cooperative institutions is proposed

5. Strengthening of the resource base of institutions is being undertaken

6. Streamlining of cooperatives to facilitate supply of inputs at farmer's doorsteps

7. Progressively increasing the quantum of refinance to cooperative banks for crop loans

To strengthen the cooperatives, NABARD has setup a Cooperative Development Fund with a corpus of Rs.10 crore. The scope of the fund is being widened further. The above measures incorporated in the draft National Cooperative Policy and also Draft Ninth Five Year Plan are being viewed as steps towards preparing the cooperative banks for the twenty-first century with a view to enable them to demonstrate their ability and potential as instruments for bringing about development in the areas of agriculture and rural development.
5. Business Development Plan (BDP):

The Agricultural Credit Review Committee in 1989 exposed the weaknesses of cooperative credit structure, particularly the qualitative aspect of the working of PACSs. The Committee recommended, besides other things, a Business Development Plant (BDP) to revitalize and strengthen PACS. BDP is a rational process of deciding the objectives of a cooperative society in the light of its strengths and weaknesses as well as business prospects and threat of its area of operation and selecting a suitable line of action in order to achieve the objectives. It is prepared well in advance for a period ranging from one year to five years. The Pant Committee (1990) and Sankaran Committee (1991) recommended specific lines of actions so that during the Eight Five Year Plan all PACSs are covered under the program of BDP and are enabled to emerge as self-restraint and autonomous institutions. The BDP is launched in each and every PACSs in the country under a phased program so that these institutions are enabled to emerge as self-reliant and autonomous organizations. In 1992 the Banking Commission in its report stressed the need to strengthen the PACSs. The commission state that “The structure of banking institutions in the rural sector should be improved by strengthening the PACSs in such a way that they can provide adequate credit and develop the banking and closely allied services.”

There was a proposal to convert PACSs into profitable institutions on the lines of BDP for remunerative development of resources of SCBs and DCCBs during the Ninth Plan. NABARD has decided to liberalize the norms for organizing cooperatives to generate 8-9 million employment opportunities per year. Emphasis is proposed to be
given to non-farm activities in which the cooperative credit institutions can play a significant role by sanctioning loans for various economic activities and projects. Involvement of SHGs in cooperatives has been proposed. The cooperative law is likely to be changed by the State Governments in the framework of Chowdary Brahma Arikash Committee recommendations. The PACSs have undergone many structural changes since their inception. The main thrust of the program was to reorganize PACSs into viable units by amalgamation / liquidation of weak units, and to organize FSS, LAMPS and BDP.

6. Current Scenario - PACSs.

The PACSs, FSS and LAMPS are the grassroots level organizations. The PACSs constitute the largest number of village level institutions in India numbering 93,278 as on March 1998-99. The number and quantum of business of PACSs has shown a steady progress in the past one decade. This is evident especially during post-economic reform period. Significant growth rates could be observed regarding the reserves (36.35 per cent), deposits (21.40 per cent) and advances (23.16 per cent) during the reform period.

The performance of PACSs is quite impressive in terms of business. During 1998-99 itself all the villages (cent per cent) were covered comprising 67 per cent of the rural households. The total membership rose to 93.197 million. The total share capital has reached Rs. 26,287.7 million and total deposits to Rs. 67,299.7 million. The all-India position of PACSs has shown satisfactory results with 64.3 per cent of them reported to be in the viable category. The government's paid-up share capital of PACSs was less than 15 per cent. The relative position was highest in Sikkim (76.92 per cent) and the lowest in Maharashtra (2.71 per cent). The percentage of overdue to demand in PACSs
was 33.6 per cent, showing divergent trends across the states. The all-India profit earning position of PACSs was reported to be 44 per cent. This varied from less than 12 per cent in Pondichery to more than 55 per cent in Himachal Pradesh. PACSs in states have been classified into three categories, viz., high, medium and low, based on the key indicators of performance. On these criteria PACSs in Kerala have emerged on the top and those in Chandigarh remained at the bottom. Generally speaking, the cooperative credit sector is underdeveloped in the eastern and northeastern states of the country.

7. Cooperative Movement in Karnataka:

Karnataka is one of the few states where cooperative movement has gained considerable progress. Indeed the first PACSs in the country was established in 1905 in Kanaginhal village in Dharwad district. The country's first farmer's service cooperative society was established at Bidadi village in Bangalore rural district of Karnataka State in 1973. Karnataka has a widespread network of 26,048 cooperative institutions serving various sectors of the state's economy. The government holds a substantial share, i.e., about one-third of the total share capital. The cooperatives working under profits constitute about 48 per cent those under loss 28 per cent and with breakeven 14 per cent. Moreover, cooperatives have been reported to be successful in districts like Mangalore, Udupi, Karwar and Kodagu, while the movement is rather weak in Gulbarga and Raichur districts. In Karnataka, production credit requirements (ST and MT loans) are channeled through three tier structure comprising Karnataka State Cooperative Bank (State Apex Bank), 19 DCCBs, and 5,437 PACSs at the village level. Refinancing facilities are available from NABARD for the state cooperative institutions. Karnataka State Government has drafted the amendments to the Karnataka
State Cooperative Societies Act 1959. The proposed amendments have been formulated adopting the special features of the Model Cooperative Act as recommended by Ch. Brahman Perkash Committee. The name of the proposed new Act is Karnataka Souharda Sahakari Act 2000.

**The Special Features of the Act are as Follows:**

The procedure for registration of a new cooperative is simplified and all restrictions by way of area of cooperation, economic viability, etc., are removed. The Model Act gives no rule making power to the government. The law itself lays down the broad parameters necessarily to be observed by cooperatives and leaves all other matters relating to constitution, management and business of the society to be decided in accordance with its bye-laws. The Model Act gives no power to the Registrar or government to issue orders for any of the following in a cooperative.

1. Super session of the Board of Directors
2. Compulsory amalgamation or division of societies
3. Compulsory amendment of bye-laws
4. Veto/Rescind/Annual the resolution
5. Issue of directives.

Cooperative Federation/Unions are to assume greater responsibility towards the member cooperatives and in particular to ensure regular conduct of elections to the Board of Management and timely conduct of annual audit of accounts. The role of the Registrar under the Model Act has been confined to the registration and liquidation of cooperatives, conduct of enquiry and in the case of default in the conduct of elections,
audit and convening of general body meeting.

The Model Act prohibits cooperative banks from accepting funds from the government by way of equity. To ensure the character of cooperatives as a member user organization, special obligations have been imposed on members. Board of Directors is made accountable for timely conduct of elections, regular convening of meetings of the managing committee and the general body for participation therein and for the timely conduct of the audit of the books of accounts. The model act prohibits officers of the government to work in a cooperative. It also provides for the constitution of cooperative Tribunals for settlement of disputes including on matter relating to constitution, management and business of a cooperative bank and to take cognizance of any offence under the Act.

8 Research Problem:

Cooperative undertakings have long been accepted as an alternative to the private and public sector enterprises in India in organizing key economic activities, especially where people of small means are involved (Gowda 1994). The PACSs form the basic edifice on which the entire short-term and medium term cooperative credit system is built. These societies have direct contact with the member agriculturists. In the year ending 2000, there were 4,437 PACSs (representing close to 50 per cent of the cooperative societies) covering the largest membership of about 5.81 lakhs. Hence it would not be an exaggeration to state that the success of the cooperative movement in general and credit structure in particular depends to a very large extent on the success of the PACSs. Cooperative banks have an important role to play in the process of economic development of India. But they have not been quite successful in
accomplishing the objectives for which they have been established. The main problem encountered by PACSs for a long time is their non-viability due to the interplay of several factors. The cooperative banks under liquidation represent as high as 22 per cent of the existing cooperative banks.

Considering the commitment and interest of the state in the development of such institutions and the outlay on promoting such institutions, it is very important to take all measures to avoid the occurrence of the inevitable act of closing down a cooperative bank. Though PACSs have made a substantial progress in providing credit towards agriculture and other allied activities, the doubts are raised about the efficient functioning of the PACSs. The most serious problems faced by PACSs are: i) low rate of recovery and ii) high rate of liquidation. The available studies concentrate only on certain aspects of PACSs leaving unexplained the important aspects of economic viability and agricultural finance. The studies on PACSs are not only very few but also far between. Hence the present study is designed to fill the said research lacunae. More specifically, the study aims at studying the agricultural finance and other related problems of these cooperative banks. The study is also justified on the ground that there exists a wide gap between agricultural finance and recovery rate of these cooperative banks. The present study aims to evaluate the agricultural finance and also the economic performance of PACSs in Karnataka between the years 1986-2004. During these years the government has encouraged and strengthened the cooperative banks.
9. Objectives of the study:

The broad objectives of the study are:

1) To study the structural organization of cooperative banks.

2) Assess the performance of cooperative banks in Tumkur District.

3) To analyse the position of agricultural credit in Tumkur District.

4) To assess the agricultural credit requirements of cultivations in Tumkur District.

5) To suggest suitable resources to strengthen the working of cooperative banks in Tumkur District.

6) 10. Hypotheses:

Based on observation, review of literature and the objectives set for the study the following hypotheses have been formulated.

1. Performance of cooperative Banks in Karnataka is not satisfactory; this has resulted in hampering the recycling of credit to the rural poor.

2. Recovery performance is associated with socio-economic factors such as the psychology of the beneficiaries, value system, external influence on borrowers and size of holding, rainfall, irrigation, prices of farm produce, expenditure on consumption and government policies and measures.

11. Research Methodology:

The study has been carried out in the state of Karnataka. This state has been achieved as one of the better agriculturally prospered states in the country and also, the state government very frequently announces lot of populist programmes including credit melas. Tumkur district has been selected as one of the study districts for an in-depth field level study. Though there is no special reason to select Tumkur district as the study region, we have selected few districts where there are more number of branches.
and by lottery method the Tumkur district was chosen. In addition to this we would like to mention here that, the cooperative banks refer to other Cooperative Banks, PLD Banks and Credit Co-operative Societies operating in the rural areas for the analysis.

11a. The Study Method and the Sample Design:

The data for the present study have been collected from both primary and secondary sources such as the annual reports of the Karnataka State Cooperative Apex Bank Ltd, Karnataka at a glance for about 15 years, RBI bulletins, journals, books and other published and unpublished reports. The data will be collected relating to the loans advanced and recovered. The Compound Growth Rate will be worked out to understand the trends of loans advanced and recovered over a period of time. And also an effort is made to understand the agricultural credit and its impact on the cultivated area in general and the area cultivated for HYVs of crops. This helped us to understand to what extent credit played a role to increase the cultivated area. Correlations are worked out to understand the impact of credit on the usage of seeds, manure, fertilizers and machines.

The primary data at the household level like resource endowments, cropping pattern, cultural practices, input and outputs have been collected through structured questionnaire specially developed for the study. Towards this Multi-stage Stratified Random Sampling Method was used in order to choose the ultimate unit of the farm households constituting about 200 from all the five land size classes. As the study was intended to observe the role of Co-operative Banks in Agricultural Finance, only the households having some land are selected. The data have been analysed by using suitable statistical techniques along with simple tabular analysis to study the objectives.
and also to test the hypotheses mentioned earlier. In addition to the above, the qualitative data have also been collected to strengthen the results which have emerged from the quantitative analysis, by using participant observation method. The sources of information have been the village headman, experienced and dynamic young people, local leaders and government staff.

11b. Tools of Analysis:

The following tools were used in the analysis of data.

(a) Simple Average: Mean and the percentage analysis were adopted to analyse and interpret the land use pattern, size of farming, intensity of cropping, costs and returns. The percentage analysis is very simple, but very effective and precise in particular uses.

(b) Functional analysis: The output-input relationship expressed in the form of multiple regression equation is called the production function and is purposive to study the resource use and productivity in agriculture and to estimate the relative shares of factors of production in the net earnings from agriculture. The Cobb-Douglas' production function of the form:

\[ Y = a \cdot X_1^{b_1} \cdot X_2^{b_2} \cdots X_n^{b_n} \]

has been fitted, where

- \( Y \) = dependent variable
- \( X_1, X_2, \ldots, X_n \) = independent variables
- \( a \) = constant term
- \( b_1, \ldots, b_n \) = the elasticities of production with respect to the independent variables \( X_1 \ldots X_n \) respectively.
For the purpose of this study the following function was chosen

\[ Y = a \cdot X_1^{b_1} X_2^{b_2} \ldots X_n^{b_n} + U \]

where \( Y \) = Gross farm income (in rupees)
\( X_1 \) = Index of cropping intensity
\( X_2 \) = Labour use (in man days) including family labour and bullock labour
\( X_3 \) = Fertilizer applied for all crops (in rupees)
\( X_4 \) = Farm expenses other than labour and fertilizer (in rupees)
\( X_5 \) = Credit used (in rupees)
\( b_1 \ldots b_5 \) are parameters in equations
\( U \) = Error term

The regression coefficients are also the elasticities of production and the sum of these regression coefficients indicate the returns to scale.

The sum of the elasticities i.e. \( b_i, i=1\ldots n \) is called the elasticity of production. The production is said to be under increasing, constant and decreasing returns to scale as the elasticity of production is greater than, equal to, and less than unity respectively.

**Marginal Value Productivity**

The marginal Physical Productivity (MPP) of an input factor \( X_i \) is the change in total yield by an unit change in \( X_i \) and is defined by:

\[ MPP(X_i) = \frac{\partial y}{\partial x_i} = Y \cdot \frac{b_i}{X_i} \]

The marginal value productivity (MVP) of \( X_i \) is defined by \( MVP(X_i) = P_y \cdot MPP(X_i) \)

\( P_y \) is the cost of one unit of \( y \).
Concepts and Variables Used

Sampling Unit: The household was adopted as the basic unit of the study and was defined as a group of persons normally living together and taking food from common kitchen, there may be a household of persons related by blood or a household of unrelated persons or having a mix of both. However, at present the business houses, hotel complexes, educational institutions and households maintained and fed directly by Government such as those in prisons, police quarters and cantonments, hospitals, relief camps are excluded from the scope of the enquiry to avoid inconveniences. The number of members in a household as defined above constituted the household size and the person recognised by all members of the household as the head was regarded as the head of the household.

Operational Holding: The area of land actually cultivated by the farmer and his family irrespective of location. The term farm or cultivated holding or holding or households has been used synonymous to operational holding.

Human Labour: Human labour included family labour and hired labour. Human labour has been taken in days, one day consisting of eight hours of work. Hired labour was valued according to the prevailing wage rate and the value of family labour was imputed at the wage rate paid to hired labour for the respective farm operations. Further, it was expressed in terms of man days. The differences in the efficiency of labour has taken into account by converting female and child days into adult man days. Women and children were converted into man days by the formula:

\[ 1 \text{ women labour work} = \frac{3}{4} \text{ man labour work} \]

\[ 1 \text{ child labour work} = \frac{1}{2} \text{ man labour work} \]
**Bullock Labour**: Bullock labour used for all the operations in a year for crop production was taken for this study. It was expressed in pairs of bullock days of eight hours duration.

**Seeds**: The use of seed as per hectare basis happens to be more or less fixed in the traditional farming. However, after the introduction of new technology, seed plays an important role in increasing production. The home-produced seed has been evaluated on the basis of the ruling price.

**Fertilisers and Manures**: It refers to the amount in rupees spent on chemical fertilisers and value of farm yard manures, composite and green manures. The value of chemical fertilisers and manures were imputed on the basis of market price, irrespective of whether it was farm produced or purchased.

**Gross Output**: The value of total produce including main and by-products at harvest price for different produces was taken for the study.

**Working Capital**: It includes the value of the hired human, seeds, manures, fertilizers and irrigation water charges.

**Household Income**: Household Income was computed as the sum of earnings of all members of the household, from all sources during the reference period.

**Farm Business Income**: Farm business income is obtained by subtracting cost A2—defined in the various farm management studies— from the gross farm income.

\[ FBI = GFI - Cost A2 \]
Gross Income: The gross income of the households is worked out by including non-farm income into farm business income. Non-farm income comprises of income from dairy, hiring out of labour, income earned through service, trade and commerce.

Cropping Intensity: The cropping intensity is measured in percentage terms. It is measured as the ratio of cropped area to cultivated area.

\[
\text{Cropped area} \quad \text{----------------} \times 100 \\
\text{Cultivated area}
\]

Cropped Area: Net sown area plus area sown more than once.

Cultivated Area: Net sown area plus current fallows.

12. The Scope of the Study:

The objectives of the study have already been spelt out. Broadly the scope of the study includes economic issues concerning the agricultural operations on the one hand and on the other employment and income implications of the credit towards agriculture. While analyzing these issues the focus has been mainly on the performance of the farmers who have taken credit from any sources, particularly from Cooperative Banks, Societies and other related sources. It is assumed that the study will help the policy makers and others to devise suitable policies for the success of agricultural credit by the cooperative banks in the state. It is hoped that the findings of the study will provide stimulation and insights for further studies in agricultural finance and their impact.
3. Limitations of the Study:

The study, though deals with agricultural credit and its implications on other inputs use and their further impact on income and standard of living for the farmers, concentrates only on the credit from Cooperative Bank/Societies. The other sources of finance like private money lenders, commercial banks, etc., have not been taken into account. It is difficult to cover all these areas in one single study. However, the present thesis is a source of information for further research in the field.

14. Chapterisation:

Chapter I contains introduction, research problem, methodology followed and the scope and limitations of the study. Chapter-II includes a brief description of the importance of cooperatives in the economic development of the farmers and also it gives a brief review.

Chapter III highlights the growth and development of cooperative banks/societies in terms of branches and also business. This chapter will be based on purely secondary data relating to the Karnataka state in general and the Tumkur district in particular. This includes the data relating to land-holdings, the status of irrigated land, agricultural performance, etc.

District and area profile have been given in Chapter IV. Chapter V takes into account the Cooperative Credit and its impact on the farmer's capacity to use modern inputs in the agricultural sector. And also an effort will be made to understand the production levels of various crops cultivated by farmers.

The last chapter, Chapter VI includes summary conclusions and policy suggestions for further growth and development of the cooperative banks/societies to take care of the agricultural sector.