

PERFORMANCE ANALYSIS OF PRIMARY AGRICULTURAL CREDIT COOPERATIVE SOCIETIES IN KARNATAKA

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BANGALORE
2000

PERFORMANCE ANALYSIS OF PRIMARY AGRICULTURAL CREDIT COOPERATIVE SOCIETIES IN KARNATAKA

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Thesis submitted to the
University of Agricultural Sciences, Bangalore
in partial fulfillment of the requirements
for the Award of the Degree of
Master of Science
in
AGRICULTURAL ECONOMICS

BANGALORE

DECEMBER 2000

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*Affectionately Dedicated
To my Beloved Father
Keshi Fessha Gebregziabher
My Beloved Mother
Wizo. Asefach Alemayoche*

<i>Kushet</i>	<i>Menkerakoho</i>
<i>Tabia</i>	<i>Kewanit</i>
<i>Werda</i>	<i>Endamariam</i>
<i>Zone</i>	<i>Central (Arum)</i>
<i>Regional state</i>	<i>Tigray</i>
<i>Country</i>	<i>Ethiopia</i>
<i>Continent</i>	<i>Africa</i>

&

*To teacher Fantahun, teacher Haile, Fessha, Teklu, Amare
Yemarieshet, Cherkos, Kassa, Belay, Kendeya and others who lost
their lives by "Red Terror" and to all T.P.L.F. and E.P.R.D.F.
Fighter Friends who lost their lives during the struggle for peace
and democracy of nation and nationalities, during the military
dictatorship in Ethiopia.*


I missed your friendship.

DEPARTMENT OF AGRICULTURAL ECONOMICS
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Certificate

This is to certify that the thesis entitled “**PERFORMANCE ANALYSIS OF PRIMARY AGRICULTURAL CREDIT COOPERATIVE SOCIETIES IN KARNATAKA**” submitted by **Mr. ZERATSION FISSHA**, in partial fulfillment of the requirements for the award of **MASTER OF SCIENCE (AGRICULTURE) in AGRICULTURAL ECONOMICS** of the University of Agricultural Sciences, GKVK, Bangalore, is a record of *bonafide* research work carried out by him during the period of his study in this University under my guidance and supervision and the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowships or other similar titles.

Bangalore
December 15, 2000



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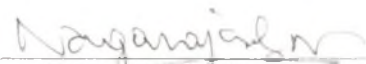


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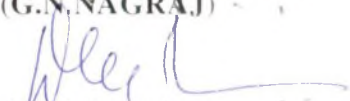
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ACKNOWLEDGEMENT

The realisation of this piece of work wouldn't have been possible without the contribution of my Major Advisor Dr.S.Suryaprakash who rendered his kind help in one way or the other.

I am glad to express my deep sense of gratitude and reverence to the Chairman of my Advisory Committee Dr.S.Suryaprakash, Professor of Agricultural Economics, University of Agricultural Sciences, Bangalore, for his invaluable suggestions, constant supervision, encouragement, sustained interest, everlasting patience, ethical and moral support extended in the course of this study. Indeed, I found it a privilege to work under his guidance. I owe a great deal to him and I thank most sincerely for all help and guidance.

I shall be grateful to Dr.B.M.Shashidhara, Associate Professor, Department of Agricultural Marketing and Cooperation UAS, GKVK, Dr.Ramana Gowda, Professor of Forestry and CRP (Westershed), UAS, Hebbal, Dr.G.N.Nagaraj, Farm Management specialist, EEU, Hebbal, Dr.D.M.Gowda, Associate Professor, Department of Statistics, UAS, GKVK for their cordial help, valuable suggestions and critical evaluation of my research work, as members of my Advisory Committee.

I express my heartfelt thanks to Dr.M.G.Chandrakanth, Professor and Head of Department of Agricultural Economics, UAS, GKVK for his constant help in various steps of the study and offering computer facilities for analysis of the data.

My sincere thanks are due to the staff members of Department of Agricultural Economics for their cooperation and encouragement during my stay in India.

I wish to express my deep sense of gratitude to Dr.Jalith Achoti, Associate Professor, Department of Dairy Economics and Business Management, UAS, Hebbal for his valuable suggestions regarding the methodological aspects of this study.

I owe my success to beloved parents Woiz, Kidan Tedela, Keshi Fessha, Gebregziabher, Woiz, Asefack Alemayohe, Woiz, Zimame Gessese, Ato Tadese Mogos, Woiz, Tsion Gidey who have been the guiding lights in my life, without their constant care and alimentionation my success in the area of education would have not been possible.

I record my deep sense of gratitude and indebtedness to my co-workers in investment authority: Ato. Tadesse Haile, Ato. Tadesse Wondem, Woiz. Alemtehay Girmay, Woiz. Shefena Gebremeskel and others, brothers: Zemenfeskuduse, Dibekula, Amedbrhan, Gizachew, Adane and Zebreh, and Sisters Woiz. Yeweynmar Fessha, Genet Zebreh for their moral encouragement and support which helped me to complete this study.

I acknowledge gratefully the affection and the help I received from my esteemed classmates and friends in the University of Agricultural Sciences, Bangalore, whose cheerful and genuine friendship made my stay in India extremely pleasant and academically rewarding.

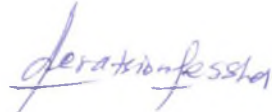
I take this opportunity to thank the staff members of the office of the Registrar of Co-operative Societies, Research and Evaluation Cell, NABARD, Karnataka State Apex Bank (KSAB), Directorate of Economics and Statistics and Coffee Board for their co-operation and hospitality during the period of data collection.

My study remains incomplete without my heartfelt thanks to Ato. Mustefa Haji Esmael, Ato. Adinew Abate, Ato. Milkessa Wakejira for their help and encouragement during my research work from data collection to writing this thesis.

Finally, I thank the Governments of FDR Ethiopia and Tigray National Regional State for offering me the fellowship support and all those who helped me directly or indirectly in the course of this study.

I also thank Mr. G. Prakash, Ms. Profand Computers for meticulous computerized typing of this thesis.

Bangalore
December , 2000


(ZERATION FESSHA GEBREGZIABHER)

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INTRODUCTION

CHAPTER I

INTRODUCTION

The principle of cooperation is as old as human society. Cooperation connotes working together and has been practiced in various forms since ancient times in India. The history of modern civilization is, in fact, the history of cooperation, for without it social and economic progress would have been impossible.

The spirit of village communities of rural India was almost entirely cooperative. The cooperative element in the community life in India was represented by the joint family system. In this system, the lands were commonly owned, cultivated and benefits were shared by the member equitably. Another form of cooperation particularly in credit activities was the chit fund which was based on mutual confidence and honest dealings. Yet another form, particularly in South India is 'Nidhis' which were based on the idea of mutual credit association (Mahajan, 1970).

The modern concept of cooperation began in India in 1904 with the enactment of Cooperative Credit Societies Act. This Act made provision for the establishment of credit cooperative societies only. In order to widen the sphere of activity through organization of all types of cooperative societies, the Cooperative Societies Act was enacted in 1912. This act made provision for the present two tier and three tier structure of cooperative credit societies apart from the provision for non-credit societies in India.

In India, farm income still constitute a large proportion of national income. However, farm income does not meet even the basic requirement of the agriculturists. This has resulted in the under-utilization of resources on the one hand and chronic indebtedness of the farmers on the other. The volume of investment in the farm business mainly depends upon the internal savings generated by the business. Since the

generated surplus in Indian agriculture is very less, the provision of adequate, timely and cheap finance becomes a necessary function of the state.

Agriculture is changing rapidly due to availability of modern technology. The adoption of modern technology calls for increased capital needs. Further a majority of the farmers have very low capital base and as such it would be difficult for them to adopt the new technology without adequate external finance. The availability of credit enables farmers to switch over to a superior production function. Hence, production oriented lending system on the basis of techno-economic feasibility rather than security based particularly for the farmers who have low income-saving base is imperative.

The All India Rural Credit Survey (1951-54), reviewed credit situation in the country and recommended new initiation and financial support for the cooperatives from the Government of India. The establishment of large-sized primary agricultural credit societies, financial and technical strengthening of the cooperative credit structure in the rural areas were some of the efforts of the government.

The evaluation of the cooperative credit policy in India indicates that a definite policy of integrated cooperative credit emerged by the end of the first five year plan. Although the same general approach to cooperative credit is still being pursued, a shift in policy towards multiagency approach to agricultural finance is seen during 1970's with the commercial banks and regional rural banks taking active participation. In spite of the entry of several other institutions, cooperatives are the most important agencies which supply the largest amount of institutional finance to agriculture (Directorate of Economics and Statistics, Bangalore 1997/98).

Doubts are raised about the efficient functioning of the cooperatives in India. Apart from the social view point, proper management of the cooperatives is subject to criticism. For instance, the All India Rural Credit Review Committee of the Reserve

Bank of India has pointed out that the business principles are scarcely followed in the village cooperatives. The performance of the cooperatives is thus far from satisfactory as evidenced from the increasing percentage of overdues in the total loans outstanding against members. Despite this, cooperative sector has been recommended by the Banking Commission to provide not only credit, but also the other services required to villagers.

The flow of cooperative rural credit in Indian, is not uniform. Many studies have indicated that inter and intrastate as well as inter-district inequalities in the flow of cooperative rural credit in India. The Indian cooperative movement can be divided into two broader groups, viz., credit and non-credit societies and each one of them may further be divided into agricultural and non-agricultural societies. The movement in general is based on three tier system but for a few types like long-term credit societies which are based on two tier system.

The primary Agricultural Credit Cooperative Societies (PACS) form the basic foundation on which the entire short and medium term cooperative credit system is built. These are the societies having direct contact with the member agriculturists at village level, the Central Cooperative Banks at the district level and the Apex banks at the State level. These societies are generally organized, managed and benefited by the member farmers. Of the cooperative movement consisting of different types of cooperative societies, it is these societies that form the bulk. The success of the cooperative movement in general, and credit structure in particular, depends to a very large extent on the success of these primaries. Hence, the study of performance analysis of these societies will be of much use.

Karnataka has been fortunate from the beginning to have a good rural credit system compared to many other states. Though there are a number of studies on rural credit supply and use at the national level, the studies at the disaggregated level are only

few. The exercise at the national level in any case is expected to give us some broad perspectives into the trends in credit flow and the nature as well as the extent of the impact of various factors on credit use. This has to be supplemented by district-wise studies because districts may differ in respect of soil, climatic conditions, irrigation, adoption of HYVs, fertilizer consumption, etc. All these differences are concealed in the national level estimates and make them inappropriate for use in district specific situations. Though the quantum of credit advanced to agriculture has increased over the years, the flow is not uniform over the districts.

The effectiveness of the service rendered by primary agricultural credit cooperative societies (PACS) varies from district to district. Though the number of these primary societies decreased over the years, they have been able to cover all the villages, though increase in this jurisdiction. The status of the local communities is also related to the performance of the cooperatives. It has been indicated that in communities, with more flexible socio-economic structure as well as with a more homogenous membership, there would be a greater effectiveness in bringing changes and to effect improvements.

The planned and positive approach adopted by state of Karnataka somehow has not been shared by all the rural masses. It is, therefore, all the more necessary on the part of cooperatives to help the penurious farmers in large numbers rather than the affluent. The large coverage of the small farmers is one of the indicators of achieving the desired objectives by the cooperative societies. Due to the varied nature of performance of these cooperative societies in different districts of the state, often it is argued that the cooperative societies have failed. However, all the studies, beginning from the All India Rural credit Survey, have indicated that these primary institutions which have localised characteristics, close contact with the member farmers, with better understanding as compared to any other organization, are considered as essential features for bringing about desired improvement in the local communities.

The present study was undertaken to analyze the performance of primary agricultural credit societies in the 20 districts of Karnataka during the period 1986/87 to 1997/98. The overall objective of this study was to analyze the performance of PACS in all the districts of Karnataka in their various aspects and to evaluate their changing status during the period 1986/87 to 1997/98.

Hence, the present study was undertaken with the following specific objectives: -

1. To evaluate the performance of PACS in their various aspects, during 1986/87-1997/98.
2. To assess the district-wise growth of PACS in Karnataka.
3. To compare the performance of PACS in different districts and to assess the inequality in their performance.
4. To identify the factors influencing short term credit flow to different districts.
5. To rank the districts based on the growth registered by PACS with reference to different cooperative indicators.

To serve as a basis of investigation on the above mentioned objectives, the following a priori expectations of outcomes were hypothesized.

1. The performance of PACS in all districts of Karnataka state was uniform during the study period.
2. The growth of PACS in their various aspects in different districts of Karnataka state was decreasing during the study period.
3. Agricultural credit flow by PACS was evenly distributed across the districts in Karnataka state.
4. The agricultural performance and the agroclimatic factors strongly influence the flow of short term credit in the districts.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

In this chapter the work done in Karnataka state regarding the working and performance of the primary agricultural credit societies (PACS) is briefly reviewed under the following headings.

1. Performance of the primary Agricultural credit societies
2. Growth and growth rates
3. Agricultural credit flow and regional inequality
4. Factors causing regional inequality in credit flow

2.1 Performance of the primary agricultural credit societies

Mehta (1963) observed that the deposits to working capital and overdues to outstanding loans were two effective ratios to be considered in evaluating the functioning of cooperative credit societies.

Patwardhan and Dharmaraj (1966) compared the performance of PACS in different states of India and found that the percentage of coverage of population by PACS increased in all the states between 1959 and 1962. The quantum of credit provided by the PACS registered an increase in all the states except in Assam and Rajasthan. Moreover the per member loan amount decreased from 1959 to 1962. The working capital increased over the years in all the states except in Assam. The deposit per member was the highest in Punjab, while some states had less than Rs. 5 as deposits per member.

Reserve Bank of India (1966) suggested that the percentage of overdues to loans outstanding is an important indicator of effectiveness of agricultural credit. Deposits to

working capital, percentage of borrowing members to total members, loan amount per member, deposits per member were the other criteria suggested.

Das and Hanumappa (1967) in their macro study of PACS in Southern states during 1961-62 to 1964-65 indicated a variation in number of societies over the years. The highest increase of eight per cent was in Andhra Pradesh, while Kerala and Tamil Nadu had a 4 per cent increase in number of societies. Karnataka had 7 per cent reduction in number of societies in 1964-65. The membership of PACS in all the states had increased over the study period except in case of Karnataka. The share capital, total loans advanced and the overdue position were on an increase over the years in Tamil Nadu, Kerala, Andhra Pradesh and Karnataka.

Rangachar (1969), while studying the performance of cooperative societies between 1950-51 and 1964-65, found that the volume of cooperative credit had been increasing over the years in different states and the increase has been uneven. About 25 per cent of the societies were found to be dormant. In term of overdues, the highest percentage (74 per cent) was seen in Assam and the lowest in Rajasthan.

Tiwari (1969) analysed the working of the Agricultural credit cooperatives between 1951-52 and 1965-66 with 1960-61 as the base year. He found that the working capital was the highest (Rs. 122 crores) in Maharashtra followed by Gujarat and Uttar Pradesh (Rs. 67 crores), and the least was in case of Assam (Rs. 2 crores). The inequality was also observed between states in case of loan amount and deposits per member. He suggested deposit mobilization drive for better working of the Agricultural Credit Cooperatives.

Chauhan (1971) assessed the extent of Cooperative borrowings by small, medium, and large farmers in one of the cooperatively advanced districts of Maharashtra. About 78 per cent of the small, 84 per cent of medium and 26.7 per cent of large

farmers borrowed from cooperatives during 1971-72. The proportion of overdue borrower farmers was the highest in case of medium (84.2 per cent) followed by large (35 per cent) and small farmers (16.3 per cent). However, the quantum of loan realized by large farmer borrower was seven times higher (Rs. 7070) than that of small farmer borrower (Rs. 1040).

Galgalikar and Bhole (1972) pointed out that the success of the cooperative credit societies depended not only on the extent of advances but also mainly on the position of recoveries effected. In their investigation, they found that the recoveries ranged from 52 to 86 per cent. They considered share capital as an indicator of growth.

Singh Gurbachan (1972) appraised the progress and functioning of six Cooperative Credit Societies in Punjab and found that 37.5 per cent of the working capital of those societies were derived from the members as deposits.

Krishnaswamy (1973) stressed the need for deposit mobilization in the efficient running of the rural credit institutions. He indicated that a high deposit – mobilization could bring about a high level of responsibility and efficiency in the management of cooperative credit societies in India.

Thakur (1973) tried to probe into the generally conceived hypotheses that (1) cooperatives are biased towards big farmers in granting loans and (2) the big farmers are mostly responsible for mounting overdues of the cooperative societies compared to small farmers. On the basis of an empirical test it was pointed out that both the hypotheses could not be accepted.

Mariyanathan (1974) found that Kerala had the highest average share capital (Rs. 36,806) and West Bengal (Rs. 2,769) the minimum during 1970-71. Gujarat had the maximum per member share capital (Rs. 182) followed by Maharashtra, Bihar and

Jammu and Kashmir, while Assam recorded the minimum (Rs. 18). Kerala had the highest average working capital (Rs. 193287) followed by Gujarat and Bihar. The minimum was recorded by West Bengal (Rs. 16238). He found that the defaultness, inefficient management and dormancy which were interlinked, as the important problems.

Bhuyan and Mohanty (1975) attempted to examine the working of the primary cooperative societies in India on the basis of their bad debts and overdues. They found that the highest percentage of overdues was in West Bengal (6.12 per cent), while the lowest was in Andhra Pradesh (0.14 per cent) during 1957-58. The situation however improved by 1960-61 in all the states except in Assam. The position of bad debts decreased from 6.12 per cent in 1957 to 1.81 per cent in 1960-61 in West Bengal. It was also observed that Jammu and Kashmir had the highest percentage increase in bad debts during 1961-62 (0.04 per cent to 3.32 per cent).

Venkataram (1975) studied the short term financing by institutional and non-institutional agencies in Mandya district, Karnataka. He found that 50 per cent increase in loan limits of the cooperatives and commercial banks would provide a favourable situation for adaptation of new technology which provided about 52 per cent increase in net returns.

Bahaddur (1976) did the trend analysis of all the three types of cooperative credit societies in Andhra Pradesh during 1958-59 to 1969-70. He found the number of societies declining over the years due to reorganization. The share capital and deposits showed an increasing trend. The increase in membership was found to be associated with an increase in advances, membership and working capital. The short and medium term credit also registered an increasing trend over the years despite a decrease in the number of societies.

Sridharan *et al* (1976) evaluated the working of 15 PACS in a Taluk of Tamil Nadu. A linear multiple regression model was used in the analysis. The main findings were that the average deposits per member significantly contributed to the net profits of the credit cooperative societies, the other factors such as average owned funds, average amount of loans per member and percentage of borrower members to total membership, though important, did not influence the net profit significantly.

Choubey (1977) was of the opinion that inspite of the spectacular growth of cooperative credit during the plan period, the credit gap continues and it was widening as development gathers momentum. Hence there a need for cooperative credit planning. The author defines the concept in the context of agricultural development, "Cooperative credit planning is a process which involves consistent forecasting and assessment by cooperative credit institutions, of all kinds of credit needs of agricultural and allied activities and rational allocation of available resources to match the demand on a period basis and in a systematic, scientific and objective manner, so as to achieve a given target of productivity". The author suggested that cooperative credit societies has to be multipurpose and viable.

Nair (1976) stated that the ability to mobilise deposits by the PACS continued to be poor. In 1974 the average amount of deposits per society was only Rs. 5800 as against an average working capital of Rs. 102743. Among the states, Kerala stood first in per society average deposits and it was the lowest for West Bengal. The per member average deposit was the highest in Himachal Pradesh followed by Punjab with the lowest being in Assam.

Patel *et al* (1977) studied the performance of cooperatives in Mehsana district of Gujarat and found that the increase in membership of the societies results in substantial increase in number of non-borrowers because of overdues. The study further revealed

that the proportion of misutilizers of loan was larger and they were mainly cash borrowers.

Rao (1978) reviewed provisions of the Andhra Pradesh cooperative societies act 1976, for recognition of primary cooperative societies to classify societies into viable, potentially viable and non-viable societies. Non-viable societies were to be merged or amalgamated with viable and potentially viable societies. If a society was neither viable or potentially viable nor to be liquidated, then it was to be merged or amalgamated with a viable society.

Pandey and Muralidharan (1978) studied the socio-economic factors influencing the overdues in cooperative credit societies. According to their conclusion, the amount of loan and consumption expenditure were responsible for the overdues. Loans were issued without keeping the repaying capacity of the borrower in mind and were not properly supervised.

Goyal (1979) studied the deposit mobilization by Apex Cooperative Banks in India during the period 1971-1977. He concluded that total deposit mobilization was sufficient in all the State Cooperative Banks in India. The savings and fixed deposits recorded a steady growth during the period. The total deposits registered an increasing trend more than the own funds and total assets.

Venkateswarulu and Rao (1980) studied the impact of cooperative finance on agriculture in Andhra Pradesh. The study revealed that there is significant impact of cooperative credit on agriculture with regard to the cropping pattern, adoption of improved technology such as improved seeds, fertilizer and plant protection and in terms of the gross yields of major crops.

Vagganer (1981) discussed the importance of primary agricultural credit cooperatives in the disbursement of credit to the small and marginal farmers, agricultural labourers and to other weaker sections in India in the creation of job opportunities for them. He highlighted the problem of overdues and lack of dedicated leaders at the village level and absence of good management as contributory causes for mal-functioning of these cooperatives.

Lasley (1982) examined how the organizational and structural dimensions influence levels of membership participation and financial performance from a sample of 20 US cooperatives (10 federated and 10 centralised). The data showed that as centralization increased, membership participation decreased and that cooperative size has positively related to financial performance.

Rao (1992) studied the extent of financial infrastructure in Karnataka in terms of the number of commercial banks and PACS per lakh population and per 100 sq.km. He found that the number of PACS per lakh population decreased from 32.2 in 1974-75 to 14.3 in 1988-89 due to liquidation of a large number of societies, which were incurring losses due to heavy overdues.

Barman (1994) pointed out that priority sector lending by itself was not a drawback in the financial system. It was the appropriate system of selecting the borrowers, and monitoring the loan and disbursement, use and repayment which were important issues of cooperative bank loans.

Singh (1996) reviewed the trends in expansion of the network of credit institutions at the national level and had showed that the share of cooperatives in the credit disbursement, which had been higher in earlier decades as compared to that of commercial banks and RRBs, exhibited a declining trend after 1989-90 mainly due to expansion in the branch network of commercial banks and RRBs. Further more, the

high level of overdues had adversely affected the eligibility of cooperatives and in turn their lending programmes.

The report on trend and progress of banking in India showed that PACS formed a pivotal part of the short term structure of cooperative credit institutions (Anonymous, 1997). As of the end of 1997, there were around 91720 PACS with a total membership constituted 40.2 per cent state wise borrowing membership was below all India level. During the last few years PACS continued to depend mainly on borrowings from financing agencies to fund their operations. As most PACS were totally dependent on the finance provided by CCBs, resource mobilization was in a weak spot in their growth due to the fact that most of the CCBs are not financially strong. This affects the credit expansion strategies of PACS. The total deposits of PACS as on 1996 aggregated Rs. 3,450.2 crores showing an increase of around 13.0 per cent over the previous year. Besides Kerala, the other leading states which mobilized sizeable deposits were Tamil Nadu, Karnataka, Andhra Pradesh and Punjab for the period ended 1996. The total loans issued by PACS rose to Rs. 11,805 crore in 1996 from Rs. 10459 crore in 1995 a rise of 12 per cent. With regard to loans outstanding it rose by 9.5 per cent during 1996. Based on the criteria for viability determination of PACS, it had been estimated that as on 1996, only 65 per cent of the total PACS were viable and another 28 per cent have been considered to be potentially viable.

Jain (1998), in stating the problems of credit in the Indian agriculture, pointed out that the big impediment in the way of credit flow to the farming sector was poor recoveries. The low rate of recoveries affected the economic viability of the credit institutions like cooperative societies. Hence, the government apart from strengthening the public credit channels, had to step in for credit enhancement and risk mitigation from the borrowers side through self-help groups and other measures.

Tyagi and Singh (1998) indicated the poor recovery of loan to be a major problem in rural areas. The various reasons offered to explain this problem included natural calamities, inadequacy of credit, fixation of unrealistic repayment programmes, poor supervision and follow-up, lack of timely action, lack of coordination among various government departments and financial institutions. More importantly the root cause of poor recoveries in rural credit was found to be the utilization of credit by the borrower for some unproductive purposes. The most serious problem was lack of awareness of development opportunities through credit among the envisaged beneficiaries.

2.2 Growth and growth rates

Bhalerao and Srivatsava (1966) studied the working and organization of the cooperative service societies in Uttar Pradesh. They evaluated the growth of the cooperative societies in terms of membership, share capital, working capital, reserve funds, loans advanced and overdues by using the exponential trend.

Minhas (1966) was of the opinion that the linear trend equation $Y(t) = a + bt$ gives us an estimation of the absolute increase per unit time. However, when we are interested in finding one single per cent rate (r) of growth such that Y growing at this particular rate (r), starting from $Y(0) = a$, reaches a value equal to $a + bt$ in t years. One assertion is that that this rate ' r ' is obtained when b is divided by the harmonic mean, HY and Y . In other words, $r = b / HY$.

Blyu (1967) analysed the effect of several methodological aspects on measurement of growth rates. He studied the growth rates by using both linear and compound forms. He concluded that the linear and compound growth rates would be more nearly the same, if a better standardizing base was used.

Garoian and Cramer (1968) compared the growth of merging and non-merging supply and marketing cooperatives in the United States of America. Growth in sales and total assets were the criteria used to represent the growth of the cooperatives.

Agarwal *et al* (1972), in a case study of a district cooperative bank in Andhra Pradesh, employed trend analysis in evaluating the growth of the institutions. Data for 10 years were used in the above analysis. The variables considered in this analysis were share capital, working capital, borrowed capital, loans advanced and profits.

Sridharan (1975), in analyzing the growth of Tudiyalur Cooperative Agricultural Service Society in Tamil Nadu, considered total membership, total assets, total owned funds, sales and average assets per member for the purpose of analysis. Orthogonal polynomial function was fitted to the data from 1954-55 to 1972-73. Growth rate was found out by taking first derivative of the function.

Angrish and coworkers (1976) attempted to calculate the growth rate of the advances of the land development bank in the state of Gujarat as well as the recoveries and loans outstanding using a linear equation $Y = a + bx$, so as to assess the performance of the LDB during the period 1963-64 to 1975-76.

Fredericks (1976) attempted to indicate the relevance of two different political regions on the cooperative development in West Malaysia. The author used linear trend equation, $Y = a + bx$ to find out the linear growth of variables such as number of societies, membership, share capital, etc. He also calculated R^2 values to test the goodness of fit.

Varma (1980) studied the growth rate of Dairy cooperatives in India for the period from 1963-64 to 1975-76 using linear regression equations. The variables considered in the study were number of Dairy Cooperatives, membership, paid up share

capital and value of sales during the year. In order to study the comparative growth of the societies, the percentage annual growth rates were also estimated.

Krishnaji (1980) while examining the methodological issues in measuring the agricultural growth observed that though R^2 is not a very reliable guide for choosing the correct form, the common procedure would be to choose the form of regression that gives the highest value of R^2 from among a set of pre-specified trend functions.

Bhalerao and coworkers (1981) studied the year-wise growth of Arecanut Marketing Societies in India during the period 1967-1977. The variables considered for the analysis were number of societies, membership, share capital, working capital, reserve funds, deposits and per member average of these indicators.

Chamola and Hasija (1982) appraised the progress of PACS in India by employing trend analysis since 1966-67 to 1976-77. The results indicated the highest growth rate in overdues (14.6 per cent). The number of societies decreased by 20 per cent while the membership increased by 50 per cent. The share capital showed 148 per cent increase and member deposits 180 per cent. The share capital and loans advanced recorded the same rate of growth as that of member deposits indicating that whatever was deposited by members was given out as loan. The regression analysis also indicated that one per cent increase in membership is associated with 213 per cent increase in advances and 1.73 per cent increase in deposits.

Mitra and Sain (1982) examined the stability of Burdwan Central Cooperative Bank, West Bengal, in financing agriculture during the period 1960-61 to 1980-81. Both tabular analysis and simple statistical estimates of linear and compound growth rates were attempted in the study.

Bhat and Rao (1982) evaluated the growth of primary Agricultural Credit Cooperative Societies in Karnataka since 1965 upto 1978. As judged by R^2 values, they used regression equation $Y = C^{a+bt+ct^2}$ to estimate the growth rates. The variables chosen for the purpose of the study of PACS were the share capital, advances, recoveries, overdues and deposits.

Arunkumar *et al* (1987) in a study on growth of inputs in Karnataka's agricultural position by 2000 AD, estimated the requirements of major agricultural inputs, viz., fertilizers, pesticides, credit and investment in irrigation. They estimated the total agricultural credit availability to be Rs. 8577.5 million by 2000 AD.

Bhat (1991) studied the agricultural credit absorption in Karnataka for the period 1975-76 to 1988-89. He found that the growth of per ha short term credit absorption is attributed to irrigation (10.28%), HYV (6%), fertilizer consumption (37.7%) and term agricultural credit (27.82%). Branch expansion and deposits were found to contribute negatively to the growth of short term agricultural credit. He further showed that the contribution of commercial crops was insignificant as farmers used to obtain credit from indirect sources.

Singh (1997) has stated that the growth of institutional credit overtime has reduced the dependence of rural population on private sources of credit. The share of private sources which formed 93 per cent in the total debt of the rural households in 1951 declined to about 44 per cent in 1987 (All India Debt and investment survey, 1981). Further more, small and marginal farmers with land holdings of less than two hectares and operating about 25 per cent of the net sown area have received about 42 per cent of the total institutional credit. It is still a matter of concern that medium farmers commanding a large (50.9 per cent) portion of operated area had relatively poor access (24.5 pr cent) to credit.

Puhazhendhi and Jayaraman (1999), concerned on the growth of agricultural advances during 1990-1996, pointed out that despite the phenomenal growth in absolute terms, the proportion of amount outstanding advances to priority sector showed a declining trend from 16.9 per cent in June 1990 to 14.3 per cent in March 1996. The reversal of the trend was observed in 1996-97 (March) when loans issued for agriculture constituted 16.3 of the net bank advances. The share of priority sector lending at all India level whose share had declined from peak of 42.9 per cent in 1985, marginally improved to 41.7 per cent in March 1997.

2.3 Agricultural credit flow and regional inequality

Theil (1967), in his book on income and information theory, suggested different techniques for measuring the extent of inequality in consumer income distribution by considering different factors such as social welfare.

Anonymous (1971) examined the performance of Commercial Banks that offer loan to agriculture and reported that with the nationalisation of commercial banks, the banking system had enhanced agricultural credit supply. The total amount advanced to agriculture increased from Rs. 4455.8 lakhs in 1967-68 to Rs. 37852 lakhs in 1969-70.

Jain (1971) observed a quantitative decline in the preparation of private lending to farmers from 1951-52 to 1970-71. The percentage share of institutional credit has increased but the demand for credit in the farm sector was so large and diverse that all the institutional credit agencies were still far from meeting the total requirements of credit.

Champernowne (1974) compared the performance indices of inequality displayed by given frequency distribution of income. He concluded that the inequality measures should be selected based on some criteria such as familiarity and convenience for computation estimations.

Varde *et al* (1975), reviewed different measures of disparity reduction and of banking habits by expanding networks of branches. They considered three different

measures viz., disparities among different districts, polarization between more developed states and less developed states and disparities among different places in each district. They indicated that there was a possibility that further branch expansion may at best maintain and at worst accentuate polarization between developed and under developed states.

Ghiara (1977) studied the magnitude of overall progress of rural and semiurban branches and its relationship to incremental deposits and advances. It was observed that the increase in agricultural loans (114%) was faster than the increase in the total bank credit (78%) and no significant change in the regional distribution of bank credit to agriculture.

Arora *et al* (1978), while studying the inter-state and intra-state disparities in the flow of rural credit in India, found that the performance of these institutions was uneven among different states of India. They also confirmed that the amount of loan facilities were mostly realized by the big and efficient farmers. They indicated that inter state disparities in the flow of credit depend upon the membership, outstanding dues, working capital, extent of irrigated area and area under high yielding varieties.

Rao and Raju (1978) examined the extent of reduction in the disparity in the flow of agricultural credit over time and the agro-economic characteristics of the region with high credit concentration by using state-wise data on per hectare loans outstanding of primary cooperative credit societies and commercial banks from 1970-71 to 1975-76. They showed that even though loans outstanding per hectare had doubled during the period in all the states except in Assam and Jammu Kashmir, the inter state disparities continued to be the same. There was positive and significant association between consumption of fertilizers, oil engines and institutional finance and negative association with the percentage area under several crops.

Haque and Maji (1978) measured the direction of flow of credit from 1965-66 to 1974-75 according to size groups of farms using state wise figures. They observed a decline in the cooperative credit supply in Andhra Pradesh, Assam and Bihar and constant supply in U.P. while there was an increase in credit supply in other states during the study period. State to state variation was seen in credit flows to different size groups.

Puhazhendi and Balakrishnan (1981) studied the temporal variations in the flow of farm credit in Nilgiris district and indicated that increase in credit supply helped only to contain the inflationary pressure and had not augmented the real purchasing power of the farmers. They concluded that purposeful credit policy must necessarily go with stabilization of prices of critical farm inputs.

Bhat and Rao (1982) evaluated the growth of primary agricultural credit cooperative societies in Karnataka during 1965-1978. They reported that the number of societies decreased by about 40 per cent, while the membership increased by 110 per cent. The total advances indicated five fold increase and overdues recorded seven fold increase. They concluded that in qualitative terms, the progress of cooperatives was not remarkable because of increase in overdues.

Gracy (1983) studied the progress and performance of PACS in different states of India during pre and post green revolution period (1959 to 1979). She concluded that the percentage increase in loan per society as well as per member was the highest in post green revolution period compared to pre green revolution period. The percentage of short term and medium term credit out of the total loans provided by the PACS during 1970 and 1979 indicated that 11 states out of 17 provided more than 90 per cent, four states more than 82 per cent and one state each provided 77 and 58 per cent of the total loan as short term loan in 1979. Over the years, the proportion of short term loans decreased, while the percentage of medium term loan increased in almost all the states

except Punjab. The inequality in the performance of the PACS between the states as well as within the states had increased between 1968 and 1978.

Rangarajan (1984) examined the course of financial development in India over the last three decades. The most striking figure was the growth in the size of the financial system, the proportion of the total financial claims to national income rose from about 5 per cent during 1951-52 to 1955-56 to about 30 per cent during the period 1977-78 to 1981-82.

Vasudev (1984) studied the progress and performance of primary agricultural credit societies in Karnataka. He observed a reduction in number of societies, increasing trend in total membership as well as membership per society, declining of dormant societies percentage, continuous falling of percentage of borrowing members to total membership, increase of share capital and loans advanced by PACS in the state during the study period (1968-69 to 1980-81).

Dadibhavi (1988) analyzed distribution of credit according to the size of holding and regional disparities in credit disbursal during 1970-71 to 1984-85. During the period 1971-72 to 1981-82, he observed a remarkable increase, from 29 per cent in 1971 to 61 per cent in 1981, in institutional credit to the total rural credit in almost all regions except Assam, where it witnessed a marginal decline.

Giri and Dasgupta (1988), in their study on intra-state and inter-state variations in the flow of institutional credit in India from 1978-79 to 1981-82, indicated that there were large inter-state variations in the distribution of credit, because some of the states accounted for a larger share of the total loans compared to the proportions of their borrowing members. Loans from commercial banks and RRBs helped to balance the regional disparity in the flow of credit arising out of unequal growth of cooperative movement.

Haque and Verma (1988) attempted to find out the extent of temporal variations in the institutional and non-institutional sources of credit in various regions for the period 1971-72 to 1981-82. They observed a remarkable increase from 29 per cent in 1971 to 61 per cent in 1981 in the institutional credit to total rural credit in almost all regions except Assam, where it witnessed a marginal decline.

Puhazhendi and Jayaraman (1999) studied the impact of credit on agricultural development using regression analysis. The results of the study indicated that there was a significant and positive impact of credit on the level of input use, which in turn had a significant positive impact on the gross value of output in agriculture at the national level. The increased flow of term credit has significantly contributed to the growth of capital formation in the private sector in agriculture.

Shivamaggi (2000) pointed out that the overall picture of cooperatives, barring a few exceptionally successful PACS, to be dismal. While the apex bodies at the state and district cooperative banks are prosperous, many primary societies were sick and stagnant. As apex bodies many of them had failed to function a genuine leadership in the cooperative system "Government interference which leaves no scope for these apex bodies to show initiative and workout action plans for development on their own was partly responsible for this situation" pp¹⁷¹⁶. In order to enable the cooperatives to meet the challenge of competition they need restructuring.

Satyasai and Badatya (2000) affirmed that with the onset of the financial sector reforms since the beginning of 1990s, the expectations from cooperatives had been high. Viability was increasingly stressed and prudential norms are made applicable to cooperatives. Notwithstanding few success stories, the cooperative system in general has failed due to both internal and external problems. In this context a total revamping of the system and not cosmetic changes is expected for the renaissance of the cooperatives structure.

2.4 Factors causing regional inequality in credit flow

Shukla (1971) concluded based on the study on regional analysis of institutional credit that cooperatives and commercial banks followed the same pattern of agricultural finance. She also indicated that agricultural finance depended on the physical assets of the farmers such as land, farm machinery, consumption of fertilizers, etc.

Gupta *et al* (1978) studied the extent of inequality and reasons for the specific trends in inequalities in supply of cooperative credit in India between 1970-71 and 1975-76. They attributed the high degree of inequality to the advancement of technology, fertilizer consumption, area under HYVs being concentrated in certain regions of the country as well as the overdue percentage.

Singh and Singh (1978) used the multiple regression analysis to determine the relative importance of different factors affecting the inter-district distribution pattern of agricultural advances in Punjab. They attributed the factors such as inter-district difference in agricultural productivity, rural literacy, density of road network and the proportion of large holdings to the disparity in the flow of credit in agriculture during the period from 1970-71 to 1973-74.

Basu (1980) analysed the determinants of regional imbalances in banking development in India, by using data on 360 districts for the year 1973. He used regression technique to determine the determinants of per capita credit by taking variables like per capita deposits, bank branches per lakh population, percentage of gross irrigated area to gross cropped area and index of urbanization. He found that degree of urbanization seemed to be the one which inflates per capita credit as a higher rate compared to the enhancement of per capita deposits and also concluded that increase in quantum of cooperative credit enhanced bank credit.

Chippa and Sushmasagar (1981) attempted to explain the variation in the level of banking development in India on the basis of a cross section of observations on eighteen major states. They computed a composite index by the method of modified factor analysis for the year 1977-78. It was observed that urban branches per thousand square kilometers rural branches per thousand square kilometer and per capita deposits as the important variables in deployment of credit respectively.

Bhalerao *et al* (1988) attempted to assess the extent and trend in the regional (inter-state) inequality in the supply of long term credit by the land development banks in India for the period 1968-69 to 1980-81. The analysis indicated that the inequality in the distribution of long term loans in the 17 states had increased during the 12 year period. To avoid further accentuation of the problem of regional imbalance, they emphasized on accelerated development of cooperatively under developed states with more resources, trained manpower and efficient long term credit management.

Prabhakaran and Umadevi (1988) attempted to examine the nature and extent of regional imbalance in the flow of agricultural credit through primary agricultural credit societies in Kerala during 1976-77 to 1985-86. The study showed that there was a gradual decline in the regional concentration of refinance distribution of credit. The levels of fertilizer consumption, acreage under perennial crops and the use of farm machinery were the major factors contributing to the regional imbalance.

Pandey and Ashokkumar (1988) examined the structure and growth of cooperative credit in different states and investigated the factors responsible for the flow of credit for the period from 1977-78 to 1983-84. The analysis indicated that the compound growth rate was the maximum in Punjab. The factors responsible for variation in the flow of credit in various states were fertilizer consumption, irrigated area, area under high yielding varieties and area under cash crops.

METHODOLOGY

CHAPTER III

METHODOLOGY

The main purpose of the present study was to analyze and to compare the performance of the PACS in Karnataka over the years. In consonance with the objectives of the study, the methodology followed is explained under the following headings.

- 3.1 Brief history of cooperative movements in Karnataka.
- 3.2 Brief description of the study area
- 3.3 Research data base
- 3.4 Definition of variables considered in the study
- 3.5 The methods of analysis used in this study

3.1 Brief history of co-operative movement in Karnataka

Karnataka is one of the developed states in the country in the field of cooperation. The cooperative movement of the state has spread to various fields of development and is playing a vital role in the economic development of the agriculturists and the weaker sections of the community. Practically all villages have been covered by cooperatives.

The state was the first to enact its own independent cooperative law among the states and provinces. The Mysore cooperative Regulation IV was enacted in 1905. Though passed on the lines of Indian act of 1904, it made certain departures calculated to ensure greater simplicity in its application and needs of the state. The important deviation being the scope for organizing other types of cooperatives other than credit cooperative societies.

The progress of the movement upto 1910-11 was slow, but in the course of next few years, there was rapid development. There were 111 societies with a membership of

9.043 and working capital of Rs.3.71 lakhs at the close of 1910-11. By the close of 1914-15, there were 725 societies with a membership 56,267 and working capital of Rs.30.85 lakhs for the whole state (Directorates of economics and statistics, Bangalore).

During the first three or four years of the introduction of the movement in the state, the need for central financing institutions was not felt. Most of the earlier societies were of non agricultural type. They were more or less able to raise their own funds for their working. But, after the year 1910-11, the number of societies registered was mostly of the agricultural type. Out of 725 societies that were in existence at the close of 1914-15, as many as 661 societies were primary agricultural credit societies. With the development of this branch of co-operative activity, the need arose for a special agency to finance them.

The Apex bank was started in 1915 with the objective of financing, inspecting and supervising the primary cooperative societies in the state. Subsequently, several district banks also came into existence with their jurisdiction confined to the respective districts. Five such banks were registered in and subsequent to 1919.

In 1923, the State Government appointed the Mysore Cooperative Enquiry Committee with Sri. Lalbhai Samaldas as its Chairman. As per the recommendations of the committee, the Apex bank was recognized for the entire state in September 1925 and it became the sole agency for financing of Credit Cooperative Societies in the state by giving them loans directly. Further, the District Central Banks were organised in all the districts of the state by the end of 1954-55. As a result the Apex Bank is financing and supervising the District Cooperative Central Banks. Similarly, the District Cooperative Central Banks are financing and supervising the activities of Primary Credit Cooperative Societies in their respective districts. Thus the bottleneck of financing of Primary Credit Cooperative Societies was removed.

The scheme of dispensation of short and medium term credit to the agriculturists under the Reserve Bank of India scheme took its birth in the year 1954-55. After the amendment of section 17 of the Reserve Bank of India Act, provision was made for sanction of short term and medium term loans for seasonal agricultural operations, for marketing of crops and for land improvements under the guarantee of the State Governments. The authorities of the Reserve Bank of India began to evince interest in the development of cooperative institutions in all the states with a view to use them as vehicles in the scheme of dispensation of agricultural finance.

At the end of 1954-55, the three tier system of the dispensation of production finance was ushered in the hierarchy of cooperative credit structure with the Apex Banks of state level, District Central Banks at the district level and Primary Agricultural Credit Societies at the village level. The number of Primary Agricultural Credit Societies (PACS) has also increased considerably and by 1997/98 there were 4392 PACS. The total membership of PACS was 5.048 million and the average membership per society was 1149.

Karnataka has achieved commendable success in the field of long term loans. The Karnataka State Cooperative Agriculture and Rural Development Bank with the assistance of 177 Primary Land Development Bank has been providing necessary long term loans.

3.2 Brief description of the study area

The study was conducted in the state of Karnataka which is situated between 11°31' and 18°45' North latitudes and 74°12' and 78°40' East longitudes and lies in the Western Central part of Peninsular India. It is bound on the North by Maharashtra, on the North – West by Goa, on the East by Andhra Pradesh, on the South and South West by TamilNadu, on the South West by Kerala and on the West by the Arabian Sea.

The study area refers to the entire Karnataka state covering an area of 1,91,791sq.k. on occupying 5.84 per cent of the total geographical area of the country. The population of the state according to the 1991 census was 44,977,200 (with 22,951,916 males and 22,025,284 females) as against a population of 37,135,714 (with 18,922,627 males and 18,213,087 females) as for 1981 census. In terms of area, the state holds eighth place among the states in the country arranged in the descending order. Among the districts of the state, Bijapur occupies the largest geographical area with 8.9 per cent and Kodagu district has the smallest area with only 2.14 per cent. Bangalore is the most densely populated district with the density of 618 persons per sq.km. and Uttara Kannada has the lowest density, with barely 104 persons per sq.km. The state has four revenue divisions, 175 taluks, 745 hoblies and 27,066 inhabited villages. The state is divided into four divisions viz., Bangalore, Belgaum, Mysore and Gulbarga. Bangalore division consists of the districts of Bangalore urban, Bangalore rural, Chitradurga, Kolar, Shimoga and Tumkur. Belgaum division is made up of Belgaum, Bijapur, Dharwad and Uttra Kannada districts. Mysore division comprises the districts of Chikmagalur, Dakshina Kannada, Hassan, Kodagu, Mandya and Mysore. Gulbarga division includes Bellary, Bidar, Gulbarga, and Raichur districts. All the villages are being served with Primary Agricultural Credit Societies.

There were 23,665 cooperative societies in the state of which 4341 are PACS as on 31.03.1997. The short term advances of PACS were to the tune of Rs.960.367 crores and the medium term advances stood at Rs.103.88 crores as on 31.03.1997 (Anonymous, 1998).

3.3 Research data base

The study encompasses twenty districts of Karnataka state for which the data on short-term cooperative credit details were available in the form of statistical statements from the annual report tables (ANR tables) of department of cooperation. Research and Evaluation cell, office of the Registrar of Cooperative Societies, Karnataka. The data on

gross cropped area, gross irrigated area, area under high yield varieties, area under commercial crops, consumption of fertilizers and actual rainfall were collected from the Directorate of Economics and Statistics, Bangalore.

The period of study was from 1986/87 to 1997/98 as the data in district-wise cooperative credit like number of societies, number of borrowing members, credit advanced, outstanding credit, overdues, etc., were available from 1986-87 onwards only. In this study, districts were considered as units of reference and district-wise data on different variables have been considered. The data covered a period of 12 years 1986/87 was taken as the base year because it is an average year. The district-wise consolidated data on PACS were available from that year onwards. During 1997/98 was the terminal year of the study because the consolidated data were available upto 1997/98 only.

3.4 Definition of variables considered in the study

3.4.1 Agricultural Credit

The term agricultural credit includes two types of credit viz., short term agricultural credit and term agricultural credit at the district level rather than at the individual level.

3.4.2 Short-term agricultural credit

The short term agricultural credit throughout the study refers to the amount of credit made available for the purpose of crop production from primary agricultural cooperative societies.

3.4.3 Term Agricultural Credit flow

This refers to both medium and long-term investment credit made available from primary agricultural cooperative societies.

3.4.4 Irrigation

It is measured in terms of the proportion of gross irrigated area to gross cropped area. It represents the development in terms of spread of irrigation.

3.4.5 Commercial Crop

It is expressed as the proportion of area under commercial crops to the gross cropped area. Commercial crops include cotton, tobacco, sugarcane, groundnut, chilies, sunflower and coffee which generally need higher credit facilities.

3.4.6 High Yielding Varieties

It is expressed as the proportion of area under high yielding varieties to the gross cropped area which includes area under paddy, jowar, ragi, maize, bajra and wheat.

3.4.7 Fertilizer Consumption

It refers to combined levels of consumption of nitrogen (N), Phosphorus (P_2O_5) and Potash (K_2O) per hectare of gross cropped area in kgs.

3.4.8 Rainfall

The amount of rainfall (mm) received during the particular year is taken as a proxy for weather.

3.4.9 Deposits

It is measured as the amount of deposits (in Rs.) per head of membership.

3.4.10 Credit Flow

This refers to the amount of short and term agricultural credit made available to the farmer by Primary Agricultural Credit Societies in each of the districts of Karnataka. It is assumed that whatever the credit amount provided by primary Agricultural Credit Societies Intermediaries is being used by the farmers for one purpose or the other.

3.5 The methods of analysis used in this study

To achieve the objectives of the study different analytical tools were employed to analyze the data. The methods of analysis employed were growth functions, tabular analysis, inequality measures like Theils Entropy, Lorenze curve, Gini ratio and regression analysis. Each of these methods are briefly explained below.

3.5.1 Tabular Analysis

Tabular analysis was employed to evaluate the performance of Agricultural Credit Cooperative Societies between different districts and over the years. The following per society and per member averages as well as percentages of various cooperative development indicators were calculated for each district and the state as a whole for different years from 1986-87 to 1997-98.

- a) Average membership per society in each district.
- b) Share capital per society.
- c) Share capital per member.
- d) Percentage of share capital to working capital.
- e) Percentage of Government contribution to total share capital.
- f) Deposit per member.
- g) Percentage of deposits to working capital.
- h) Working capital per member.
- i) Loans issued per member.
- j) Proportions of short and medium term loans to total loans.
- k) Loans recovered per member.
- l) Loans overdue per member.
- m) Percentage of overdue to outstanding loans.

3.5.2 Growth Function

To assess the growth of PACS in different districts of the state during the study period, the compound growth rate of different indicators of cooperative development

were computed. In analyzing the growth of PACS in different districts of the state during the study period, the following indicators of cooperative development were considered.

- a) Total number of societies
- b) Total membership
- c) Total share capital
- d) Total deposits
- e) Total working capital
- f) Total loans advanced
- g) Total loans recovered
- h) Total loans outstanding
- i) Total loans overdues

The growth model employed was an exponential function. Growth rates for the above mentioned variables were calculated by using the least square method of fitting the exponential function of the type

$$Y = AB^t \quad \dots \quad (1)$$

Where Y = Variable for which growth rate has to be calculated

A = Constant

B = The relation coefficient

t = Time period in years

This function in fact was used in log form of the type

$$\ln Y = \ln A + t \ln B \quad \dots \quad (2)$$

Where $\ln A$ and $\ln B$ are obtained by least square method. The coefficient of determination R^2 was computed to test whether the exponential function is appropriate or not.

$$B = 1 + r$$

$$\text{Hence } \ln B = \ln (1 + r)$$

The compound growth rate was derived from the following equation.

$$\text{Compound growth rate (r) = antilog } [\{\ln(1+r)\}] \times 100 \dots (3)$$

3.5.3 Measures of district-wise inequality in credit flow

3.5.3.1 Coefficient of variation

To accomplish the objective relating to the inequality in the performance of the PACS over a period of time, coefficient of variation (CV) was calculated for each of the 12 years (1986/87 – 1997/98) using the formula.

$$CV = \frac{S.D}{Mean} \times 100 \dots (4)$$

Where CV	=	Coefficient of variation
SD	=	Standard deviation
Mean	=	$\Sigma X/n$
X	=	Variable, under consideration
n	=	Number of districts

Then taking CV as dependent variable and time as independent variable, a linear equation of the form

$$CV = a + bt + e \dots (5)$$

was fitted to examine the trend of district wise variations. The regression coefficients were tested for their significance. A significant positive regression coefficient indicates an increase in the variability in credit flow while a significantly negative regression coefficient indicates a tendency of reduction over the 12 year (1986/87 to 1997/98) period of time.

3.5.3.2 Theils entropy

Theil (1967) evolved the measure of inequality to assess the income inequality which is given by

$$H(Y_i) = \sum_{i=1}^N Y_i \log \frac{1}{Y_i} \dots\dots(6)$$

Where $H(Y_i)$ - is the Theils Entropy

Y_i - Proportion of i^{th} district in the total credit flow of the state by PACS.

$H(Y_i)$ has been modified and is given by

$$I(Y_i) = \log N - H(Y_i) \dots\dots(7)$$

Where $I(Y_i)$ is the Theils Entropy coefficient which ranges form 0 to $\log N$ and N is the number of districts.

The valve of $I(Y_i)$ being equal to $\log N$ indicates perfect inequality and a value of zero indicates perfect equality.

Taking $I(Y_i)$ as dependent variable, linear trend was fitted to examine the trend in district-wise inequality over the period of 12 years (1986/87 to 1997/98) as following.

$$I(Y_i) = a + bt + e$$

The regression coefficient was tested for its significance.

3.5.3.3 Lorenze curve techniques

Kuznets (1963) developed the measure of inequality to assess the income inequality by constructing lorenz curves and derived their Gini coefficients. Lorenze curve is a useful tool for diagrammatic presentations of inequality. This presents a picture of the commutative percentage of districts of the Karnataka state on the X axis

and handling cumulative percentage of agricultural credit given by PACS per gross cropped area on the Y axis.

In a fairly even distribution of agricultural credit, each category of districts in the state should handle proportionately equal share of agricultural credit per gross cropped area given by PACS. In that case, the Lorenze curve drawn for cumulative percentage of districts against the cumulative percentage of the agricultural credit per gross cropped area handled by each district approaches close to 45 degree line in a graph. Closer a Lorenze curve to 45 degrees line, more equitable distribution of the agricultural credit per gross cropped area handled by different districts of the Karnataka state.

3.5.3.4 Gini coefficient

Gini coefficient is also called as “coefficient of inequality” and is a very widely used measure of concentration. The Gini coefficient (L) is estimated as follows.

$$L = 1 - \sum_{i=1}^n (P_i - P_{i-1}) (Q_i + Q_{i-1}) \dots \dots (8)$$

P_i - Cumulative percentage of number of districts up to and including i^{th} class.

Q_i - Cumulative percentage of credit flow per gross cropped area of districts up to and including i^{th} class.

n - Number of districts

Lower the value of ‘L’, more equal is the distribution of credit.

3.5.4 Techniques for analysing the factors causing regional inequality

In order to study the factors influencing credit flow to districts, multiple linear regression functions were used. The forms of the analytical models used in the study and the variables associated with those models are given below.

3.5.4.1 District-wise multiple regression analysis

$$C_i = b_0 + \sum_{i=1}^K b_i X_{ii} + e \quad \dots (9)$$

3.5.4.2 District-wise pooling of time series and cross sectional data multiple regression analysis

The regression model run by pooling of the time series (12 years) and cross section data (20 districts) was attempted to combine the influence of time and space variables into a single regression, which is not possible through the regression models as above.

$$C_{jt} = \beta_0 \prod_{i=1}^K X_{ijt}^{\beta_i} e^{u_{jt}} \quad \dots (10)$$

$$\text{Log } C_{jt} = \log \beta_0 + \sum \beta_i \log X_{ijt} + U_{jt} \quad \dots (11)$$

Where

- C = Per hectare short term agricultural credit (Rs.)
 b_0 and β_0 = Intercepts
 b_i and β_i = Regression coefficient
 X_1 = Term agricultural credit per hectare (Rs.)
 X_2 = Proportion of gross irrigated area to gross cropped area
 X_3 = Proportion n of area under commercial crops to gross cropped area
 X_4 = Proportion of area under high yield varieties to gross cropped area
 X_5 = Annual fertilizer consumption (kg/ha)
 X_6 = Average annual rainfall (mm)
 X_7 = Per capita deposits (Rs.)
 e and U_{jt} = Error term
 $i = 1, 2, \dots, K$ (explanatory variables)
 $j = 1, 2, \dots, 20$ (districts)
 $t = 1, 2, \dots, 12$ (years)

The figures for each of the variables are at the district level.

After exploring different forms of the regression (for growth rates, growth in equality and factors influencing credit flow), the most appropriate form was chosen in each case depending on the magnitude of R^2 and regression coefficients.

3.5.5 Ranking districts based on compound growth rate

The ranking of districts was done based on the compound growth rate (CGR) registered by different districts with respect to various indicators of cooperative development. For this purpose, CGR registered in respect of the following variables were considered.

- a) Membership
- b) Share capital
- c) Deposits
- d) Working capital
- e) Loans advanced
- f) Loans recovered
- g) Loans overdue

Ranking was done by assigning different scores ranging from 1 to 7 based on CGR registered by the districts in respect of each of the above variables.

For assigning scores the difference between maximum CGR and minimum CGR registered by districts with respect to particular variable was divided into seven classes and the range for each was determined. This was done individually for each attribute. Thus the districts which registered the highest CGR were allotted the maximum score of seven (i.e., 7). Assigning the scores was done looking into the range fixed. The districts which registered low CGR and which came under the bottom range fixed, were allotted a score of one.

This procedure was followed with reference to all the variables except for overdues. In case of overdues the districts which registered high CGR and which were in the top range were assigned with score of one and the districts which registered low CGR were assigned with a score of seven. This is because a high CGR of this variable indicated low performance and the lower CGR is with better performance.

The overall ranking of districts was done by adding the scores which were obtained by each district with reference to the above mentioned variables on the basis of the CGR. The district which aggregated maximum score was ranked first and the one which aggregated the least score was ranked the last.

RESULTS

CHAPTER IV

RESULTS

The main objectives of this study were to investigate the performance of PACS in respect of various aspects and to evaluate their changing status during the study period (1986/87 to 1997/98) in all the districts of Karnataka. With a view to deal with the different facts of this objective, the result of the study, with respect to different indicators of cooperative development are presented in this chapter under the following headings.

- 4.1 Performance analysis of PACS in their various aspects
- 4.2 Growth performance indicators of PACS in Karnataka
- 4.3 Inter-district inequality in PACS credit flow
- 4.4 Factors influencing flow of short-term credit
- 4.5 Ranking of districts based on growth rate indicators of cooperative development

4.1 Performance of primary agricultural credit societies district-wise, in Karnataka

The performance of PACS was studied district-wise, through different indicators. The details of the analysis are presented below.

4.1.1 Number of PACS

It can be seen from Table 4.1 that there is a gradual decrease in the number of PACS in the state from 4732 in 1986/87 to 4334 in 1991/92. In 1992/93, the number of PACS increased to 4374 and thereafter the reduction in number of PACS was uneven and by 1997/98 the number reached 4392.

In the base year of 1986/87, Dharward with 736 PACS had the largest number, followed by Belgaum (475), Bijapur (411), Mysore (303) and Shimoga (253). Bangalore urban, with 48 PACS, had the lowest number. In the terminal year of

Table-4.1: Total number of primary agricultural credit societies in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	48	49	49	49	49	49	49	49	48	48	47	48
2	Bangalore (Rural)	159	154	156	157	157	157	157	157	154	154	154	154
3	Chitradurga	215	216	216	215	216	216	216	216	216	216	213	212
4	Kolar	219	219	219	219	219	219	218	208	194	198	202	202
5	Shimoga	253	233	233	233	233	232	232	229	216	214	214	220
6	Tumkur	252	250	250	250	249	249	247	238	253	253	251	234
7	Belgaum	475	475	475	475	475	278	479	478	450	481	489	512
8	Bijapur	411	411	411	409	409	409	410	410	405	406	405	405
9	Dharwad	736	733	728	728	393	393	424	424	419	438	445	514
10	Uttara Kannada	163	160	159	159	159	158	158	156	157	158	158	158
11	Chickmagalur	112	113	112	113	113	113	112	112	110	112	111	111
12	Dakshina Kannada	168	168	168	167	167	165	165	165	164	164	165	167
13	Hassan	149	156	160	163	167	161	171	173	161	161	161	163
14	Kodagu	73	73	73	73	73	73	73	73	73	73	73	73
15	Mandya	221	221	221	221	221	214	216	216	216	210	216	220
16	Mysore	303	277	276	278	279	276	275	275	266	265	266	260
17	Bellary	163	167	165	164	163	164	164	164	168	162	163	163
18	Bidar	171	171	171	171	171	171	171	232	171	171	171	171
19	Gulbarga	234	232	232	232	232	232	232	171	232	233	233	233
20	Raichur	207	207	207	205	205	205	205	204	204	204	204	172
Karnataka State		4732	4685	4681	4681	4350	4334	4374	4350	4277	4321	4341	4392

1997/98, baring Dharward which had 514 PACS, the number of PACS had declined significantly in all the other districts except in Kodagu, Bellary and Bidar which have the same number of PACS as of base year.

4.1.2 Membership

The membership of PACS in the whole state had steadily increased from the base year to 1995/96 as seen from table 4.2, the total membership of PACS in Karnataka which was 41.79 lakhs in 1986/87 increased to 51.55 lakhs in 1995/96 and then decreased to 50.48 lakhs in the terminal year of the study (1997/98). During the terminal year (1997/98), the districts of Belgaum, Mysore, Tumkur and Bijapur had relatively larger membership than the other districts.

During the base period of the study (1986/87), Dakshina Kannada with 3.33 lakh members had the highest membership and Kodagu with membership of 90,700 had the lowest membership among all the districts of Karnataka state.

In order to assess the performance of the PACS, it would be useful to study the average membership per society in different districts of the state. From table 4.3 it could be observed that the average membership per society increased from 1986/87 till 1995/96 and then after decreased from 1996/97 to 1997/98 in Karnataka state. The average membership per society increased from about 883 members in 1986/87 to 1193 members in 1995/96 and thenafter decreased to 1149 members in 1997/98.

The results indicated that during the base year (1986/87), Dakshina Kannada had the highest membership (per society – 1983), followed by Bangalore urban (1850), Mandya (1280), Bangalore rural (1244), Kodagu and Mysore (1243 per society). On the other hand the lowest membership per society was in Dharward (365). In the terminal year (1997/98), Bangalore urban had 2223 membership per society followed by

Table-4.2: Total membership of PACS in Karnataka (District-wise) during 1986/87-1997/98

SI.No.	District	(in 000s)																		
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98							
1	Bangalore (Urban)	88.8	85.0	89.0	92.0	92.0	92.9	96.5	102.5	106.2	109.4	105.8	106.7							
2	Bangalore (Rural)	197.9	201.0	207.0	207.0	207.0	206.1	209.5	224.9	243.2	251.4	263.3	264.4							
3	Chiradurga	230.2	198.0	240.0	198.0	209.0	228.2	231.7	244.2	251.5	261.0	214.1	247.8							
4	Kolar	231.8	292.0	254.0	269.0	274.0	275.5	272.8	278.9	289.6	290.0	309.6	343.1							
5	Shimoga	193.1	204.0	211.0	263.0	215.0	214.2	214.1	215.5	218.8	224.1	224.9	227.1							
6	Tumkur	295.3	302.0	301.0	299.0	313.0	341.4	345.6	364.6	334.2	375.7	369.6	402.9							
7	Belgaum	324.9	348.0	329.0	341.0	345.0	344.3	356.0	358.3	344.3	370.8	381.9	422.0							
8	Bijapur	271.1	279.0	280.0	274.0	286.0	291.8	296.8	295.8	313.3	326.8	348.8	356.9							
9	Dharwad	268.3	261.0	293.0	290.0	292.0	291.3	300.7	296.8	306.2	277.6	230.0	254.7							
10	Uttara Kannada	122.3	126.0	129.0	130.0	132.0	133.0	136.5	138.4	139.7	168.2	170.2	147.8							
11	Chickmagalur	113.0	117.0	122.0	125.0	125.0	129.3	129.8	127.7	156.9	152.3	159.9	161.1							
12	Dakshina Kannada	333.2	342.0	342.0	356.0	356.0	351.0	365.0	525.0	549.0	559.0	568.3	350.8							
13	Hassan	140.9	151.0	155.0	163.0	169.0	170.0	169.4	174.0	172.9	189.5	196.7	210.6							
14	Kodagu	90.7	92.0	92.0	94.0	96.0	97.2	99.1	87.0	109.9	109.5	112.8	112.8							
15	Mandya	283.0	287.0	285.0	316.0	320.0	284.0	291.0	284.9	288.2	310.1	310.6	275.7							
16	Mysore	376.5	347.0	374.0	374.0	375.0	380.6	390.1	395.9	398.5	420.3	415.1	406.6							
17	Bellary	183.6	186.0	194.0	196.0	197.0	208.0	208.9	207.0	207.5	213.8	214.0	225.8							
18	Bidar	91.5	92.0	96.0	101.0	102.0	103.7	108.8	197.4	118.2	129.5	126.3	129.8							
19	Gulbarga	157.3	155.0	154.0	156.0	162.0	160.7	167.2	115.1	203.2	205.5	208.2	209.8							
20	Raichur	185.4	193.0	202.0	205.0	202.0	210.7	212.7	218.1	220.7	210.6	202.6	191.9							
Karnataka State		4178.8	4258.0	4349.0	4449.0	4469.0	4513.8	4602.2	4851.9	4972.0	5155.1	5132.7	5048.4							

Table-4.3: Average membership per PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	1850	1735	1816	1878	1878	1896	1968	2093	2213	2280	2251	2223
2	Bangalore (Rural)	1244	1305	1327	1318	1318	1313	1335	1432	1579	1633	1709	1717
3	Chiradurga	1071	917	1111	921	968	1057	1073	1131	1165	1208	1005	1169
4	Kolar	1058	1333	1160	1228	1251	1258	1252	1341	1493	1465	1533	1699
5	Shimoga	763	876	906	1129	923	923	923	941	1013	1047	1051	1032
6	Tumkur	1172	1208	1204	1196	1257	1371	1399	1532	1321	1485	1472	1722
7	Belgaum	684	733	693	718	726	720	743	750	765	771	781	824
8	Bijapur	660	679	681	670	699	714	724	721	774	805	861	881
9	Dharwad	365	356	402	398	743	741	709	700	731	634	517	795
10	Uttara Kannada	751	788	811	818	830	842	864	887	890	1065	1077	936
11	Chickmagalur	1009	1035	1089	1106	1103	1144	1159	1140	1427	1360	1440	1451
12	Dakshina Kannada	1983	2036	2036	2132	2132	2127	2212	3182	3348	3409	3444	2101
13	Hassan	945	968	969	1000	1012	1056	990	1006	1074	1177	1222	1292
14	Kodagu	1243	1260	1260	1288	1315	1332	1358	1192	1505	1500	1545	1545
15	Mandya	1280	1299	1290	1430	1448	1327	1347	1319	1334	1477	1438	1253
16	Mysore	1243	1253	1355	1345	1344	1379	1419	1440	1498	1586	1561	1564
17	Bellary	1126	1114	1176	1195	1209	1268	1274	1262	1235	1320	1313	1385
18	Bidar	535	538	561	591	596	606	636	851	691	757	739	759
19	Gulbarga	672	668	664	672	698	693	721	673	876	882	894	900
20	Raichur	896	932	976	1000	985	1028	1038	1069	1082	1032	993	1116
	Karnataka State	883	909	929	950	1027	1041	1052	1115	1163	1193	1182	1149

Dakshina Kannada (2101), Tumkur (1722) Mysore (1564) and the lowest membership per society was in Dharward (495).

The position of per society membership changed among the districts with reference to base year and terminal year. It was observed that there was a gradual increase in membership per society till 1995/96 and thereafter there was a decreasing trend in some of the districts of Karnataka state.

4.1.3 Financial resources

The financial resources of PACS such as share capital, working capital and deposits will indicate the financial strength of the PACS. The financial soundness is most important for better credit and service activities of PACS.

4.1.3.1 Share capital

The details of share capital position of PACS of different districts of Karnataka state during 1986/87 to 1997/98 are presented in Table 4.4. The results indicate an increasing trend in the total share capital position among PACS in Karnataka between 1986/87 to 1997/98 from Rs.62.27 crores to Rs.170.44 crores. The share capital was the highest in Belgaum (Rs.31.53 crores) followed by Dakshina Kannada, Mandya, Dharward and Bijapur and the lowest was in Hassan (Rs.2.72 crores) in 1997/98.

In 1986/87, the districts of Belgaum, Dharward and Dakshina Kannada had relatively high share capital than the other districts. These districts have maintained their top position with respect to share capital through out the period of study.

The average share capital per society in Karnataka increased from Rs.1,31,600 in 1986/87 to Rs.4,29,020 in 1997/98 (Table 4.5). In 1997/98, Kodagu district had the highest share capital per society (Rs.10,82,200) followed by Dakshina Kannada (Rs. 10,70,000), Mandya (Rs. 7,85,100), Belgaum (Rs. 6,15,900), Chikmagalur (Rs.

Table-4.4: Total share capital of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in thousand Rupees)																		
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98							
1	Bangalore (Urban)	9060	11217	11798	12379	12809	12810	13139	14093	13920	12146	14804	15517							
2	Bangalore (Rural)	20884	18711	21132	23554	24231	24996	30453	35660	37763	48678	52876	57467							
3	Chiradurga	20521	21295	26828	32362	23758	24845	25402	28627	28681	32223	342	36395							
4	Kolar	21502	22019	23917	25816	27752	27265	28038	31185	32343	37668	43347	48969							
5	Shimoga	21274	20761	23340	25919	26430	30478	30492	31102	31341	32168	32769	33455							
6	Tumkur	23583	24617	33700	42784	32946	31944	34868	37380	38140	44992	52155	58725							
7	Belgaum	91447	90825	104278	117732	121520	145631	149661	168975	160067	197098	239513	315325							
8	Bijapur	42274	43450	45505	47561	48714	49623	52966	57188	60934	68947	85582	113668							
9	Dharwad	59989	77375	82813	88252	88135	87300	89318	94734	100340	116208	130242	163585							
10	Uttara Kannada	25766	31218	33445	35673	36744	38142	41175	44606	47295	54397	64592	76140							
11	Chickmagalur	12919	15085	16525	17965	17979	18234	21476	23447	29416	37897	40407	55259							
12	Dakshina Kannada	52282	57235	62269	67304	71660	74238	79758	92343	103451	120891	156227	178688							
13	Hassan	13728	14794	15236	15678	15812	15821	16313	16395	14831	19527	27221	27221							
14	Kodagu	31992	33964	36002	38044	39984	41823	45454	52483	61421	66381	70646	79003							
15	Mandya	44138	42776	45232	47689	48601	49707	50262	49626	49828	55665	151911	172716							
16	Mysore	40165	36077	38119	40162	40996	39036	41194	43172	42649	47974	58045	70039							
17	Bellary	31635	35289	41989	48690	47325	47147	53605	59329	51537	54435	54606	62080							
18	Bidar	24106	25141	26358	27576	33577	29246	33070	38639	46814	57251	60553	71000							
19	Gulbarga	15021	16626	18578	20530	20994	21571	24261	33045	28552	30551	30644	33567							
20	Raichur	20430	21812	23868	25925	25920	25956	25441	25307	25734	27909	31289	34556							
Karnataka State		622716	660287	697232	801595	805887	748513	886346	977336	1005057	1163006	1397771	1704375							

Table-4.5: Average share capital per PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in thousand rupees)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	188.8	228.9	240.8	252.6	261.4	261.4	268.1	287.6	290.0	253.0	315.0	323.5					
2	Bangalore (Rural)	131.3	121.5	135.5	150.0	154.3	159.2	194.0	227.1	245.2	316.1	343.4	373.2					
3	Chiradurga	95.4	98.0	124.2	150.5	110.0	115.0	117.6	132.5	132.8	149.2	1.6	171.7					
4	Kolar	98.2	100.5	109.2	117.9	126.7	124.5	128.6	149.9	166.7	190.2	214.6	242.4					
5	Shimoga	84.1	89.1	100.2	111.2	113.4	131.4	131.4	135.8	145.1	150.3	153.1	152.1					
6	Tumkur	93.6	98.5	134.8	171.1	132.3	128.3	141.2	157.1	150.8	177.8	207.8	251.0					
7	Belgaum	192.5	191.2	219.5	247.9	255.8	304.7	312.4	353.5	355.7	409.8	489.8	615.9					
8	Bijapur	102.9	105.7	110.7	116.3	119.1	121.3	129.2	139.5	150.5	169.8	211.3	280.7					
9	Dharwad	81.5	105.6	113.8	121.2	224.3	222.1	210.7	223.4	239.5	265.3	292.7	318.3					
10	Uttara Kannada	158.1	195.1	210.3	224.4	231.1	241.4	260.6	285.9	301.2	344.3	408.8	481.9					
11	Chickmagalur	115.6	133.5	147.5	159.0	159.1	161.4	191.8	209.3	267.4	338.4	364.0	497.8					
12	Dakshina Kannada	311.2	340.7	370.6	403.0	429.1	449.9	483.4	559.7	630.8	737.1	946.8	1070.0					
13	Hassan	92.1	94.8	95.2	96.2	94.7	98.3	95.4	94.8	92.1	121.3	169.1	167.0					
14	Kodagu	438.2	465.3	493.2	521.2	547.7	572.9	622.7	718.9	841.4	909.3	967.8	1082.2					
15	Mandya	199.7	193.6	204.7	215.8	219.9	232.3	232.7	229.8	230.7	265.1	703.3	785.1					
16	Mysore	132.6	130.2	138.1	144.5	146.9	141.4	149.8	157.0	160.3	181.0	218.2	269.4					
17	Bellary	194.1	211.3	254.5	296.9	290.3	287.5	326.9	361.8	306.8	336.0	335.0	380.9					
18	Bidar	141.0	147.0	154.1	161.3	196.4	171.0	193.4	166.5	273.8	334.8	354.1	415.2					
19	Gulbarga	64.2	71.7	80.1	88.5	90.5	93.0	104.6	193.2	123.1	131.1	131.5	144.1					
20	Raichur	98.7	105.4	115.3	126.5	126.4	126.6	124.1	124.1	126.1	136.8	153.4	200.9					
	Karnataka State	131.6	140.9	148.9	171.2	185.3	172.7	202.6	224.7	235.0	269.2	322.0	429.0					

4,97,800), Uttra Kannada (Rs. 4,81,900) and Bidar (Rs.4,15,200). However, Gulbarga with an average of Rs. 1,44,100 had the lowest share capital per society. In 1986/87 Kodagu district had the highest share capital per society (Rs. 4,38,200) and Gulbarga had the least (Rs. 64,200).

As could be seen from table 4.6, the share capital per member also indicated an increasing trend over the years in Karnataka state except in 1991/92. The highest increase in per member share capital was in Kodagu (from Rs. 352.70 to Rs. 580.38) followed by Belgaum (from Rs. 281.48 to Rs. 747.27), Dharward (from Rs. 223.59 to Rs. 642.34), Uttra Kannada (from Rs. 210.61 to Rs. 515.13) and the least was in Tumkur (from Rs. 79.85 to 145.76). In 1997/98 the highest per member share capital was in Belgaum (Rs. 747.27) followed by Kodagu (Rs. 700.38), Dharward (Rs. 642.34), Mandya (Rs. 626.40) and the least was in Kolar (Rs. 142.71).

Chitradurga registered a declining growth rate (9.79, per cent between 1986/87 and 1997/98), though there was an increase in per member share capital between 1986/87 and 1997/98 except in 1996/97 for Chitradurga and in 1994/95 for Kodagu.

The Government contribution of the share capital of PACS in Karnataka had steadily increased over the years from Rs.11.90 crores in 1986/87 to Rs.30.99 crores in 1997/98. The details are presented in Table 4.7. The Government contribution to share capital of PACS was the largest at Rs. 1.09 crores in Dakishna Kannada and the smallest (Rs. 0.20 crores) in Bangalore Urban district during 1986/87. During 1997/98 the terminal year of the study, the PACS of Dakshina Kannada had gained the largest government contribution to share capital at Rs. 2.86 crores, while the least contribution of government share of capital was to the PACS of Hassan district (Rs. 0.44 crores).

The contribution of Government to the total share capital of PACS was worked over the years for all the districts in the state, the details of which are presented in table

Table-4.6: Total Share capital per member of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in rupees)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	102.04	131.96	132.56	134.55	139.23	137.91	136.22	137.45	131.06	110.99	139.91	145.40					
2	Bangalore (Rural)	105.54	93.09	102.09	113.79	117.06	121.28	145.34	158.58	155.29	193.60	200.85	217.35					
3	Chiradurga	89.14	107.55	111.78	163.44	113.67	108.87	109.63	117.21	114.02	123.48	1.60	146.85					
4	Kolar	92.76	75.41	94.16	95.97	101.28	98.96	102.76	111.81	111.67	129.82	139.99	142.71					
5	Shimoga	110.15	101.77	110.62	98.55	122.93	142.32	142.42	144.35	143.26	143.57	145.74	147.32					
6	Tumkur	79.85	81.51	111.96	143.09	105.26	93.56	100.88	102.53	114.13	119.76	141.13	145.76					
7	Belgaum	281.46	260.99	316.95	345.26	352.23	422.94	420.44	471.58	464.85	531.61	627.16	747.27					
8	Bijapur	155.96	155.73	162.52	173.58	170.33	170.03	178.46	193.34	194.47	210.98	245.34	318.52					
9	Dharwad	223.59	296.46	282.64	304.32	301.83	299.74	297.05	319.18	327.71	418.55	566.21	642.34					
10	Uttara Kannada	210.61	247.76	259.26	274.41	278.36	286.81	301.76	322.39	338.62	323.36	379.53	515.03					
11	Chickmagalur	114.28	128.93	135.45	143.72	143.83	141.07	165.50	183.61	187.44	248.89	252.77	343.11					
12	Dakshina Kannada	156.90	167.35	182.07	189.06	201.29	211.50	218.52	175.89	188.44	216.26	274.90	509.34					
13	Hassan	97.45	97.97	98.30	96.18	93.56	93.08	96.31	94.20	85.79	103.04	138.36	129.28					
14	Kodagu	352.70	369.17	391.33	404.72	416.50	430.25	458.49	603.37	558.96	606.11	626.43	700.38					
15	Mandya	155.98	149.05	158.71	150.91	151.88	175.02	172.72	174.20	172.91	179.52	489.11	626.40					
16	Mysore	106.68	103.97	101.92	107.39	109.32	102.56	105.59	109.05	107.02	114.15	139.82	172.25					
17	Bellary	172.30	189.73	216.44	248.42	240.23	226.65	256.64	286.59	248.36	254.64	255.20	274.95					
18	Bidar	263.58	273.27	274.56	273.03	329.19	282.09	303.84	195.69	395.95	442.21	479.27	546.81					
19	Gulbarga	95.51	107.26	120.64	131.60	129.59	134.25	145.10	287.13	140.52	148.65	147.18	159.99					
20	Raichur	110.19	113.02	118.16	126.46	128.32	123.21	119.56	116.05	116.62	132.54	154.44	180.03					
Karnataka State		149.02	155.07	160.32	180.17	180.33	165.83	192.59	201.43	202.14	225.60	272.33	310.85					

Table-4.7: Government contribution to share capital of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in rupees thousands)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98		
1	Bangalore (Urban)	2045	2257	2324	2391	2856	3158	2659	4060	4256	4332	4209	4964		
2	Bangalore (Rural)	5176	5164	6359	7554	8133	8932	11496	14532	11605	16161	3539	17910		
3	Chiradurga	5957	6181	6262	6344	6542	7603	6865	8048	8719	10180	105	17360		
4	Kolar	7317	7770	8455	9140	9598	9684	9680	10239	11590	13429	15813	18121		
5	Shimoga	5258	5628	6133	6638	6708	7233	7233	7233	7233	7825	8182	8215		
6	Tumkur	5981	6770	7372	7975	8473	7962	8567	9541	9716	12526	13105	14105		
7	Belgaum	9587	13480	13468	13456	14569	23372	23952	24290	23952	17948	22491	25505		
8	Bijapur	8316	7841	7875	7909	8607	9201	9690	8650	11022	11356	14306	17779		
9	Dharwad	8604	9670	10168	10667	11187	11202	11915	13711	14345	18529	23043	27916		
10	Uttara Kannada	5230	7474	7877	8280	8979	8948	9053	9053	9103	9918	10373	19905		
11	Chickmagalur	4456	4764	4826	4889	6007	6835	6693	8548	11400	14715	17050	20408		
12	Dakshina Kannada	10977	11882	12984	14087	14243	14707	15494	18062	18734	27219	26376	28601		
13	Hassan	3582	3545	3553	3561	4526	3751	4004	3926	3924	3973	4388	4388		
14	Kodagu	6250	6340	6499	6659	7016	7573	9651	10440	11299	11299	11299	17306		
15	Mandya	4710	4776	4974	5173	5480	5791	12109	7527	7832	8893	18995	19769		
16	Mysore	9769	9901	10359	10817	10516	10984	11554	11402	12450	13055	14624	16525		
17	Bellary	4896	4921	5324	5727	7747	6389	6584	7901	8160	9257	9472	10039		
18	Bidar	3562	3842	3915	3998	4017	4656	4760	5361	5767	6358	7118	7298		
19	Gulbarga	3377	3916	3946	3976	3919	4087	4122	4407	5366	5660	5744	6287		
20	Raichur	3978	4411	4349	4288	4258	4393	4311	4971	4656	5862	7155	7553		
Karnataka State		119028	130533	137022	143529	153381	166461	180392	191902	201129	210547	237387	309954		

Table-4.8: Percentage of government share capital to total share capital of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	22.57	20.12	19.70	19.31	22.30	24.65	20.24	28.81	30.57	35.67	28.43	31.99
2	Bangalore (Rural)	24.78	27.60	30.09	32.07	33.56	35.73	37.75	40.75	30.73	33.20	6.69	31.17
3	Chiradurga	29.00	29.03	23.34	19.60	27.54	30.60	27.03	28.11	30.40	31.59	30.70	47.70
4	Kolar	34.03	35.29	35.35	35.40	34.58	35.52	34.52	32.83	35.83	35.65	36.48	37.01
5	Shimoga	24.72	27.11	26.28	25.61	25.38	23.73	23.72	23.26	23.08	24.33	24.97	24.56
6	Tumkur	25.36	27.50	21.88	18.64	25.72	24.92	24.57	25.52	25.47	27.84	25.13	24.02
7	Belgaum	10.48	14.84	12.92	11.43	11.99	16.05	16.00	14.37	14.96	9.11	9.39	8.09
8	Bijapur	19.67	18.05	17.31	16.63	17.67	18.54	18.29	15.13	18.09	16.47	16.72	15.64
9	Dharwad	14.34	12.50	12.28	12.09	12.69	12.83	13.34	14.47	14.30	15.94	17.69	17.07
10	Uttara Kannada	20.30	23.94	23.55	23.21	24.44	23.46	21.99	20.30	19.25	18.23	16.06	26.14
11	Chickmagalur	34.49	31.58	29.20	27.21	33.41	37.48	31.17	36.46	38.75	38.83	42.20	36.93
12	Dakshina Kannada	21.00	20.76	20.85	20.93	19.88	19.81	19.43	19.56	18.11	22.52	16.88	16.01
13	Hassan	26.09	23.96	23.32	22.71	28.62	23.71	24.54	23.95	26.46	20.35	16.12	16.12
14	Kodagu	19.54	18.67	18.05	17.50	17.55	18.11	21.23	19.89	18.40	17.02	15.99	21.90
15	Mandya	10.67	11.17	11.00	10.85	11.28	11.65	24.09	15.17	15.72	15.98	12.50	11.45
16	Mysore	24.32	27.44	27.18	26.93	25.65	28.14	28.05	26.41	29.19	27.21	25.19	23.59
17	Bellary	15.48	13.94	12.68	11.76	16.37	13.55	12.28	13.32	15.83	17.01	17.35	16.17
18	Bidar	14.78	15.28	14.85	14.50	11.96	15.92	14.39	13.87	12.32	11.11	11.75	10.28
19	Gulbarga	22.48	23.55	21.24	19.37	18.67	18.95	16.99	13.34	18.79	18.53	18.74	18.73
20	Raichur	19.47	20.22	18.22	16.54	16.43	16.92	16.95	19.64	18.09	21.00	22.87	21.86
Karnataka State		19.11	19.77	19.65	17.91	19.03	22.24	20.35	19.64	20.01	18.10	16.98	22.85

Table-4.9: Percentage of share capital to working capital of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	9.58	11.62	11.97	12.03	13.15	13.85	14.16	16.72	15.29	6.87	9.14	7.47
2	Bangalore (Rural)	13.06	11.48	12.64	12.61	16.85	19.58	18.03	17.60	19.33	13.86	12.68	12.84
3	Chiradurga	11.49	11.88	14.91	12.55	12.63	12.22	11.83	15.18	15.07	13.98	13.99	10.28
4	Kolar	14.95	12.73	11.49	11.84	12.28	13.01	12.41	15.81	13.30	15.48	13.53	11.14
5	Shimoga	14.44	12.03	11.55	12.54	10.99	11.83	11.55	13.06	14.42	14.70	10.31	8.25
6	Tumkur	11.13	10.91	14.02	13.76	11.10	14.31	13.17	15.27	14.58	10.88	13.12	10.11
7	Belgaum	11.99	14.29	19.68	15.01	16.23	16.15	17.24	19.89	19.27	14.12	13.14	12.51
8	Bijapur	12.05	12.45	13.09	11.41	15.40	16.61	16.21	15.37	16.86	16.02	15.14	12.43
9	Dharwad	12.83	14.88	14.32	13.95	19.20	19.79	18.22	19.19	113.35	17.28	15.39	10.90
10	Uttara Kannada	8.82	11.96	14.34	12.79	14.18	13.93	12.31	12.20	10.69	8.95	8.67	7.78
11	Chickmagalur	13.28	12.66	11.33	11.75	12.58	20.77	21.13	20.56	24.34	20.87	14.49	14.00
12	Dakshina Kannada	7.54	8.41	9.33	8.91	9.10	9.89	9.17	7.71	9.30	7.59	7.63	7.03
13	Hassan	12.98	13.30	13.02	12.24	12.93	15.16	14.76	17.24	15.06	15.29	17.59	10.06
14	Kodagu	7.42	10.37	14.48	13.14	10.64	13.05	12.82	18.51	8.10	10.30	8.63	7.04
15	Mandya	25.39	20.83	18.65	18.11	20.39	17.40	17.96	20.25	6.05	15.16	21.85	23.12
16	Mysore	10.11	11.01	14.11	13.54	9.14	20.45	18.32	19.89	17.63	14.59	13.18	14.83
17	Bellary	12.69	11.96	12.01	10.97	113.18	44.03	11.72	14.32	12.90	11.57	11.75	12.00
18	Bidar	12.18	13.70	15.49	14.96	17.78	19.35	15.96	14.68	13.89	10.75	9.35	9.86
19	Gulbarga	13.78	12.70	11.82	12.41	16.11	16.27	14.06	21.08	20.88	14.22	12.35	10.72
20	Raichur	15.14	13.19	11.78	10.65	11.50	12.29	12.24	16.13	15.54	12.02	13.19	12.27
Karnataka State		11.53	12.41	13.02	12.69	14.19	13.94	14.21	15.32	14.13	12.33	12.02	11.23

4.8. At the state level, the government's contribution to share capital of PACS formed 19.11 per cent in 1986-87, which increased and declined over the years, which reached 22.85 per cent in 1997-98. In 1997/98, Government contribution to total share capital was 47.7 per cent in Chitradurga district followed by Bangalore urban (31.99 per cent) and Bangalore rural (31.17 per cent). The lowest Government contribution to total share capital was only 8.09 per cent in Belgaum district. But in 1986-87, the government contribution amounted to 34.49 per cent in Chickmagalur and it was the lowest at 10.48 per cent in Belgaum district.

The percentage of share capital to working capital will enable us to determine the self reliance of PACS. From table 4.9, it can be observed that in 1986/87, 11.53 per cent of the working capital of PACS in Karnataka state was made up of share capital. This percentage share has come down to 11.23 per cent in 1997/98. In 1986/87 contribution of share capital to working capital was the highest in Mandya district (25.39 per cent) and the least was in Kodagu district (7.42 per cent). On the contrary during 1997/98, contribution of share capital to working capital was the highest in Mandya district (23.12 per cent) and the least in Dakshina Kannada district (7.03 per cent). The percentage of share capital to working capital of PACS in Karnataka state is not uniformly increasing or decreasing but changing form year to year during the study period from 1986/87 to 1997/98.

4.1.3.2 Deposits

Deposits raised locally have always been considered as an ideal method for raising the capital required by the cooperative societies. In Table 4.10 presents the total deposits position, while Table 4.11 shows the per member deposit in the PACS in different districts of Karnataka from 1986/87 to 1997/98.

The total deposit showed a changing trend, increasing and decreasing, over the years. The total deposits of PACS for the state as a whole increased from Rs. 122.24

Table-4.10: Total deposits of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in thousand rupees)												
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	
1	Bangalore (Urban)	21762	20426	23098	17755	28441	7069	49813	52384	47242	57526	36959	78094	
2	Bangalore (Rural)	7267	6686	7848	5524	10172	877	19467	20313	118621	22006	15236	28776	
3	Chiradurga	5189	5071	5308	4834	5783	3886	7681	9207	6155	12259	52	12207	
4	Kolar	7243	6931	7556	6306	8806	3806	13807	14261	13353	15169	11538	18801	
5	Shimoga	12584	12241	12927	11556	14298	8815	19782	19933	19631	20235	19027	21442	
6	Tumkur	17555	16793	18318	15269	21367	9172	33563	34345	32782	35909	29655	42163	
7	Belgaum	43968	27656	60280	50346	70214	30478	109951	113683	106220	121147	91293	151002	
8	Bijapur	22183	20589	23778	17401	30156	4647	55666	58935	52397	65474	39320	91628	
9	Dharwad	14965	14254	15677	12832	18523	7141	29905	32189	27622	36756	18489	55023	
10	Uttara Kannada	165126	158227	172026	144428	199625	89231	310020	315201	304840	325562	284118	367006	
11	Chickmagalur	21999	20474	23525	17423	29627	5219	54036	55533	52539	58527	46551	70504	
12	Dakshina Kannada	640177	616780	663574	569986	757162	382811	1131514	1144767	1118261	1171274	1065249	1277300	
13	Hassan	7849	7577	8122	7033	9211	4856	13566	13811	13322	14300	12344	16257	
14	Kodagu	180685	73763	187607	159919	215296	104543	326049	331155	320944	341366	300523	382210	
15	Mandya	5291	4947	5636	4259	7014	1504	12525	13105	11945	14265	9626	18904	
16	Mysore	30642	29214	32070	26358	37782	14934	60631	64427	56835	72019	41651	102388	
17	Bellary	8311	7939	8683	7195	10171	4219	16123	16331	15915	16748	15082	18415	
18	Bidar	1224	1117	1331	903	1760	46	3474	3187	3761	2631	4890	373	
19	Gulbarga	3081	2893	3270	2517	4023	1011	7035	7551	6520	8584	4455	12714	
20	Raichur	5336	5011	5762	4260	7265	1255	13276	13376	13177	13576	12778	14375	
Karnataka State		1222437	1058589	1286396	1086104	1486696	685520	2287884	2333694	2342082	2425333	2058837	2779582	

crores in 1986/87 to Rs. 277.96 crores in 1997/98. The highest deposit position was in Dakshina Kannada followed by Kodagu, Ultra Kannada, Belgaum, Mysore, Bijapur and Bangalore urban in that order and the lowest was in Bidar in 1986/87. In the terminal year of 1997/98, the districts of Dakshina Kannada, Kodagu and Ultra Kannada had mobilized larger deposits. The deposit mobilization was low in the districts of Bidar (Rs. 3.73 lakhs) and Gulbarga (Rs. 127.14 lakhs) when compared with the respective base year values of Rs. 12.24 lakhs and Rs. 30.81 lakhs.

The total deposits do not generally reflect the true deposit performance as the membership of societies in different districts was not the same. Hence, the per member deposits was worked out to draw the possible inferences on the deposit position as well as the deposit drive in PACS of different districts in Karnataka state.

An examination of per member deposits (Table 4.11) indicates that deposits per member for the state as a whole stood at Rs. 258.3 in 1986/87 and Rs. 632.9 in 1997/98. The districts of Dakshina Kannada (Rs. 3810.6), Kodagu (Rs. 2475.1), Ultra Kannada (Rs. 1013) and Bangalore urban (Rs. 453.4) mobilized relatively larger deposits per member in that order, while the rest of the districts had lower deposits per member during 1986/87. During 1997/98, the deposits per member of the above mentioned districts was Rs. 7648.5, Rs. 5235.8, Rs. 2322 and Rs. 1627 respectively. Deposit mobilization per member was as low as Rs. 2.2 in Bidar, Rs. 54.6 in Gulbarga Rs. 57.6 in Chitradurga and Rs. 83.6 in Raichur.

The percentage share of deposits to working capital of PACS is another indicator to assess the inherent financial strength of the PACS. It indicates the level of dependence of PACS on DCC Banks for their working capital needs. From table 4.12 it can be observed that on an average only 22.6 per cent of working capital of PACS in Karnataka state was made up of deposits in 1986/87 and it further decreased to 17.7 per

Table-4.11: Per member deposit of PACS in Karnataka (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in thousand rupees)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	453.4	416.9	471.4	362.3	580.4	144.3	1016.6	1069.1	984.2	1198.5	786.4	1627.0					
2	Bangalore (Rural)	45.7	43.4	50.3	35.2	64.8	5.6	124.0	129.4	770.3	142.9	98.9	186.9					
3	Chiradurga	24.1	23.5	24.6	22.5	26.8	18.0	35.6	42.6	28.5	56.8	0.2	57.6					
4	Kolar	33.1	31.6	34.5	28.8	40.2	17.4	63.3	68.6	68.8	76.6	57.1	93.1					
5	Shimoga	49.7	52.5	55.5	49.6	61.4	38.0	85.3	87.0	90.9	94.6	88.9	97.5					
6	Tumkur	69.7	67.2	73.3	61.1	85.8	36.8	135.9	144.3	129.6	141.9	118.1	180.2					
7	Belgaum	92.6	58.2	126.9	106.0	147.8	63.8	229.5	237.8	236.0	251.9	186.7	294.9					
8	Bijapur	54.0	50.1	57.9	42.5	73.7	11.4	135.8	143.7	129.4	161.3	97.1	226.2					
9	Dharwad	20.3	19.4	21.5	17.6	47.1	18.2	70.5	75.9	65.9	3.9	41.5	107.0					
10	Uttara Kannada	1013.0	988.9	1081.9	908.4	1255.5	564.8	1962.2	2020.5	1941.7	2060.5	1798.2	2322.8					
11	Chickmagalur	196.4	181.2	210.0	154.2	262.2	46.2	482.5	495.8	477.6	522.6	419.4	635.2					
12	Dakshina Kannada	3810.6	3671.3	3949.8	3413.1	4533.9	2320.1	6857.7	6938.0	6818.7	7141.9	6456.1	7648.5					
13	Hassan	52.7	48.6	50.8	43.1	55.2	30.2	79.3	79.8	82.7	88.8	76.7	99.7					
14	Kodagu	2475.1	1010.5	2570.0	2190.7	2949.3	1432.1	4466.4	4536.4	4396.5	4676.2	4116.8	5235.8					
15	Mandya	23.9	22.4	25.5	19.3	31.7	7.0	58.0	60.7	55.3	67.9	44.6	85.9					
16	Mysore	101.1	105.5	116.2	94.8	135.4	54.1	220.5	234.3	213.7	271.8	156.6	393.8					
17	Bellary	51.0	47.5	52.6	43.9	62.4	25.7	98.3	99.6	94.7	103.4	92.5	113.0					
18	Bidar	7.2	6.5	7.8	5.3	10.3	0.3	20.3	13.7	22.0	15.4	28.6	2.2					
19	Gulbarga	13.2	12.5	14.1	10.8	17.3	4.4	30.3	44.2	28.1	36.8	19.1	54.6					
20	Raichur	25.8	24.2	27.8	20.8	35.4	6.1	64.8	65.6	64.6	66.5	62.6	83.6					
Karnataka State		258.3	226.0	274.8	232.0	341.8	158.2	523.1	536.5	547.6	561.3	474.3	632.9					

Table-4.12: Percentage of deposits to working capital of PACS (district-wise) during 1986/87-1997/98

SI.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	23.0	21.2	23.4	17.3	29.2	7.6	53.7	62.1	51.9	32.5	22.8	37.6
2	Bangalore (Rural)	4.5	4.1	4.7	3.0	7.1	0.7	11.5	10.0	60.7	6.3	3.7	6.4
3	Chiradurga	2.9	2.8	3.0	1.9	3.1	1.9	3.6	4.9	3.2	5.3	2.1	3.4
4	Kolar	5.0	4.0	3.6	2.9	3.9	1.8	6.1	7.2	5.5	6.2	3.6	4.3
5	Shimoga	8.5	7.1	6.4	5.6	5.9	3.4	7.5	8.4	9.0	9.2	6.0	5.3
6	Tumkur	8.3	7.4	7.6	4.9	7.2	4.1	12.7	14.0	12.5	8.7	7.5	7.3
7	Belgaum	5.8	4.3	11.4	6.4	9.4	3.4	12.7	13.4	12.8	8.7	5.0	6.0
8	Bijapur	6.3	5.9	6.8	4.2	9.5	1.6	17.0	15.8	14.5	15.2	7.0	10.0
9	Dharwad	3.2	2.7	2.7	2.0	4.0	1.6	6.1	6.5	31.2	5.5	2.2	3.7
10	Uttara Kannada	56.5	60.6	73.8	51.8	77.0	32.6	92.7	86.2	68.9	53.5	38.1	37.5
11	Chickmagalur	22.6	17.2	16.1	11.4	20.7	5.9	53.2	48.7	43.5	32.2	16.7	17.9
12	Dakshina Kannada	92.3	90.7	99.4	75.5	96.2	51.0	76.9	95.6	99.4	73.5	52.0	50.2
13	Hassan	7.4	6.8	6.9	5.5	7.5	4.7	12.3	14.5	13.5	11.2	8.0	6.0
14	Kodagu	41.9	22.5	75.4	55.2	57.3	32.6	92.0	85.6	42.3	53.0	36.7	34.1
15	Mandya	3.0	2.4	2.3	1.6	2.9	0.5	4.5	5.3	1.5	3.9	1.4	2.5
16	Mysore	7.7	8.9	11.9	8.9	8.4	7.8	27.0	29.7	23.5	21.9	9.5	21.7
17	Bellary	3.3	2.7	2.5	1.6	24.3	3.9	3.5	3.9	4.0	3.6	3.2	3.6
18	Bidar	0.6	0.6	0.8	0.5	0.9	0.0	1.7	1.2	1.1	0.5	0.8	0.1
19	Gulbarga	2.8	2.2	2.1	1.5	3.1	0.8	4.1	4.8	4.8	4.0	1.8	4.1
20	Raichur	4.0	3.0	2.8	1.8	3.2	0.6	6.4	8.5	8.0	5.8	5.4	5.1
	Karnataka State	22.6	19.9	24.0	17.2	26.2	12.8	36.7	36.6	32.9	25.7	17.7	17.7

cent in 1997/98. The reduction in percentage from 1986/87 to 1997/98 was 4.9 per cent in a period of 12 years.

The percentage of deposits to working capital was very high and the maximum in Dakshina Kannada (92.3 per cent) followed by Uttra Kannada (56.5 per cent), Kodagu (41.9 per cent) Bangalore urban (23 per cent) and Chikmagalur (22.6 per cent) in the year (1986/87. In all the remaining districts, the percentage of deposits to working capital was less than 10 per cent. In the year 1997/98, the percentage of deposits to working capital was again the maximum in Dakshina Kannada (50.2 per cent) followed by Bangalore urban (37.6 per cent), Uttra Kannada (37.5 per cent), Kodagu (34.1 per cent), Mysore (21.7 per cent) and Chikmagalur (17.9 per cent). In all the remaining districts the percentage of deposits to working capital was less than 10 per cent.

4.1.3.3 Working capital

Working capital indicates the amount of funds available for undertaking various credit and service activities in cooperative organizations. Larger the working capital, greater is the potential in services and credit activities of a society. If the working capital increases over the years, it also reflects the financial strength of the societies which could be an indication of potentiality of better performance and this is more true in case of per member working capital rather than total working capital.

The working capital comprises of share capital, reserve and other funds, deposits and borrowed funds. The total working capital and per member working capital in PACS of different districts of Karnataka are presented in table 4.13 and 4.14, respectively.

The results reveal that there was a gradual increase in total working capital of primary agricultural credit societies in all the districts of Karnataka state except

Table-4.13: Total working capital of PACS in Karnataka (1986/87 to 1997/98)

Sl.No.	District	(Amount in crores of rupees)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	9.50	9.70	9.90	10.30	9.70	9.20	9.30	8.40	9.10	17.70	16.20	20.80					
2	Bangalore (Rural)	16.00	16.30	16.70	18.70	14.40	12.80	16.90	20.30	19.50	35.10	41.70	44.70					
3	Chiradurga	17.90	17.90	18.00	25.80	18.80	20.30	21.50	18.90	19.00	23.00	0.20	35.40					
4	Kolar	14.40	17.30	20.80	21.80	22.60	21.00	22.60	19.70	24.30	24.30	32.00	43.90					
5	Shimoga	14.70	17.30	20.20	20.70	24.10	25.80	26.40	23.80	21.70	21.90	31.80	40.60					
6	Tumkur	21.20	22.60	24.00	31.10	29.70	22.30	26.50	24.50	26.20	41.40	39.80	58.10					
7	Belgaum	76.30	63.60	53.00	78.50	74.90	90.20	86.80	85.00	83.10	139.60	182.20	252.10					
8	Bijapur	35.10	34.90	34.80	41.70	31.60	29.90	32.70	37.20	36.10	43.00	56.50	91.50					
9	Dharwad	46.70	52.00	57.80	63.30	45.90	44.10	49.00	49.40	8.90	67.20	84.60	150.10					
10	Uttara Kannada	29.20	26.10	23.30	27.90	25.90	27.40	33.50	36.60	44.30	60.80	74.50	97.80					
11	Chickmagalur	9.70	11.90	14.60	15.30	14.30	8.80	10.20	11.40	12.10	18.20	27.90	39.50					
12	Dakshina Kannada	69.30	68.00	66.80	75.50	78.70	75.10	87.00	119.70	111.20	159.40	204.80	254.30					
13	Hassan	10.60	11.10	11.70	12.80	12.20	10.40	11.10	9.50	9.80	12.80	15.50	27.10					
14	Kodagu	43.10	32.80	24.90	29.00	37.60	32.00	35.50	28.40	75.80	64.40	81.90	112.20					
15	Mandya	17.40	20.50	24.30	26.30	23.80	28.80	28.00	24.50	82.30	38.70	69.50	74.70					
16	Mysore	39.70	32.80	27.00	29.70	44.90	19.10	22.50	21.70	24.20	32.90	44.00	47.20					
17	Bellary	24.90	29.50	35.00	44.40	4.20	10.70	45.70	41.40	39.90	47.10	46.50	51.70					
18	Bidar	19.80	18.40	17.00	18.40	18.90	15.10	20.70	26.30	33.70	53.30	64.00	72.00					
19	Gulbarga	10.90	13.10	15.70	16.50	13.00	13.30	17.30	15.70	13.70	21.50	24.80	31.30					
20	Raichur	13.50	16.50	20.30	24.30	22.50	21.10	20.80	15.70	16.60	23.20	23.70	28.20					
Karnataka State		539.90	532.30	535.70	631.90	567.80	537.10	623.70	638.00	711.50	943.40	1163.10	1573.20					

Table-4.14: Workign capial per member of PACS in Karnataka 1986/87 to 1997/98 (district-wise) during 1986/87-1997/98

Sl.No.	District	(Amount in rupees)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98		
1	Bangalore (Urban)	273	239	421	593	392	252	280	219	155	184	159	227		
2	Bangalore (Rural)	323	204	364	530	437	401	396	348	177	194	460	354		
3	Chiradurga	265	262	300	464	346	508	430	447	229	370	6	473		
4	Kolar	269	186	353	464	372	365	380	392	176	338	284	277		
5	Shimoga	254	138	521	728	773	715	688	808	534	730	452	931		
6	Tumkur	207	137	455	778	384	315	369	340	294	386	434	450		
7	Belgaum	335	168	642	1067	1030	972	894	535	130	493	516	171		
8	Bijapur	451	266	550	852	656	518	479	514	212	468	418	493		
9	Dharwad	798	239	636	1070	770	639	672	862	571	697	894	1225		
10	Uttara Kannada	308	134	539	939	714	561	576	489	234	331	409	565		
11	Chickmagalur	163	86	275	456	318	352	406	310	32	162	229	346		
12	Dakshina Kannada	102	132	230	314	103	351	255	170	119	112	162	316		
13	Hassan	192	120	260	382	405	336	289	259	52	131	239	647		
14	Kodagu	785	390	597	787	535	383	630	343	147	131	266	491		
15	Mandya	201	139	220	270	403	362	391	427	184	257	312	338		
16	Mysore	281	277	365	472	227	232	213	202	118	189	205	168		
17	Bellary	397	172	649	1123	1099	937	804	915	473	444	473	743		
18	Bidar	376	63	456	810	904	457	356	209	168	403	533	790		
19	Gulbarga	337	85	640	547	527	484	537	836	213	333	1797	568		
20	Raichur	178	299	455	614	605	524	481	453	201	239	303	349		
	Karnataka State	314	189	439	655	532	491	474	436	222	331	409	464		

Chitradurga district during the study period. The working capital for the state as a whole increased from Rs. 539.9 crores in 1986/87 to Rs. 1573.2 crores in 1997/98.

During 1986/87, the working capital was relatively high in the districts of Belgaum (Rs. 76.3 crores), Dakshina Kannada (Rs. 69.3 crores), Dharward (Rs. 46.7 crores) and Kodagu (Rs. 43.1 crores) and lower in all the other districts of the state. The districts of Dakshina Kannada, Belgaum and Dharward maintained their top position with reference to working capital throughout the period of study. In addition, all the other districts have also improved their position from base year to terminal year. The working capital was in the range of Rs. 254.3 crores (Dakishna Kannada) and Rs. 20.8 crores (Bangalore urban district) during 1997-98.

The per member working capital for the state as a whole increased form Rs. 314.7 in 1986/87 to Rs. 464 in 1997/98 (Table 4.14). During 1986/87, the per member working capital was relatively high in the districts of Dharward (Rs. 798), Kodagu (Rs. 785), Bijapur (451), Bellary (397) and Bidar (Rs. 375.5) while was low in the districts of Dakshina Kannada (Rs. 102), Chikmagalur (Rs. 163), Raichur (Rs.178) and Hassan (Rs. 192).

During the terminal year (1997/98) the per member working capital was relatively high in the districts of Dharward (Rs. 1225), Shimoga (931) Bidar (Rs. 789.70), Bellary (Rs. 743.40), Hassan (Rs. 646.9) and Utra Kannada (Rs. 564.90) and it was relatively low in the districts of Mysore (Rs. 167.90), Belgaum (Rs. 170.5) Kolar (Rs. 277.4) and Dakshina Kannada (Rs. 315.5).

4.1.4 Loans advanced

The credit activities of the primary agricultural credit societies in different districts of Karnataka state were analyzed by looking at the total loans advanced and per member advances. The details are presented in table 4.15 and 4.16 respectively.

Table-4.15: Total loans advanced by PACS in Karnataka during 1986/87 to 1997/98

Sl.No.	District	(Amount in crores of rupees)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98		
1	Bangalore (Urban)	3.27	4.05	4.47	0.95	0.61	1.54	2.23	4.18	4.38	5.38	2.01	4.27		
2	Bangalore (Rural)	6.23	6.33	7.59	2.03	0.26	2.01	7.77	10.40	8.52	22.30	21.48	14.18		
3	Chiradurga	4.31	7.70	8.86	3.03	0.24	0.24	4.78	8.59	8.43	11.73	0.09	18.79		
4	Kolar	4.56	5.75	7.47	2.92	1.89	1.59	4.92	7.17	8.76	12.41	15.32	19.48		
5	Shimoga	6.34	9.60	13.88	7.35	1.14	0.70	4.15	9.47	7.90	17.71	21.78	33.22		
6	Tumkur	8.39	10.68	15.59	10.69	6.59	0.65	9.01	11.19	9.82	22.78	19.72	24.01		
7	Belgaum	28.78	36.94	32.53	23.63	18.98	19.68	23.13	38.33	92.38	98.61	129.84	165.52		
8	Bijapur	7.62	15.52	15.45	9.17	1.10	5.53	16.21	18.88	21.97	32.22	44.40	77.13		
9	Dharwad	8.64	29.85	29.69	6.94	3.45	3.73	21.20	30.69	29.63	55.33	79.48	135.63		
10	Uttara Kannada	9.62	12.84	12.58	8.00	6.37	5.96	13.17	14.81	22.32	65.60	84.73	89.43		
11	Chickmagalur	4.77	6.32	8.08	4.56	3.74	0.60	7.44	7.49	10.10	14.22	19.99	20.34		
12	Dakshina Kannada	48.14	48.64	56.69	49.34	54.75	48.86	77.14	94.90	119.14	143.84	173.41	212.64		
13	Hassan	2.59	5.16	4.66	1.01	1.35	1.05	1.35	1.42	2.03	7.52	12.58	21.49		
14	Kodagu	12.22	12.58	14.54	13.66	15.46	9.94	17.68	21.96	33.75	35.99	53.31	82.71		
15	Mandya	8.32	7.34	13.68	11.46	2.85	3.50	5.52	3.87	5.01	12.92	13.03	36.25		
16	Mysore	7.06	10.44	5.43	3.15	1.61	1.34	5.13	6.48	8.18	13.58	11.29	17.98		
17	Bellary	10.64	15.99	22.18	11.63	4.47	6.31	16.92	19.92	15.44	25.06	26.22	20.73		
18	Bidar	8.36	10.77	9.43	5.78	3.00	4.77	13.35	19.86	32.83	36.19	37.23	43.65		
19	Gulbarga	4.28	6.68	8.99	0.46	0.71	0.72	9.83	11.21	4.63	11.68	11.40	11.92		
20	Raichur	5.76	8.46	11.98	4.79	0.51	1.36	3.97	3.04	5.12	10.65	8.41	14.87		
Karnataka State		199.90	234.67	303.77	180.56	129.07	120.08	264.91	343.87	450.34	655.72	785.73	1064.25		

4.1.4.1 Total loan advanced

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An examination of the results in table 4.15 indicate that the loan facilities which comprise of short and medium term loans advanced by PACS in Karnataka state increased from Rs. 199.90 crores in 1986/87 to Rs. 1064.25 crores in 1997/98. In the year 1986/87, Dakshina Kannada district accounted for the largest amount advanced with Rs. 48.14 crores followed by Belgaum Rs. 28.78 crores, Kodagu Rs. 12.22 crores and Bellary Rs. 10.64 crores. The least amount of loans was issued by Hassan urban district (Rs. 2.59 crores).

In the terminal year of the study period (1997/98), Dakshina Kannada district advanced the maximum amount of loan of Rs. 212.64 crores, followed by Belgaum (Rs. 165.52 crores), Dharward (Rs. 135.63 crores) Uttara Kannada (Rs. 89.43 crores) and Kodagu (Rs. 82.71 crores). The least amount was issued by Bangalore urban at Rs. 4.27 crores. In the remaining districts the loans issued ranged from Rs. 4.92 crores in Gulbarga to Rs. 77.13 crores in Bijapur.

4.1.4.2 Loans advanced per member

In order to examine the trend in the amount of loan per member provided by PACS in all districts of Karnataka state during the study period, the loan amount per member was calculated and is presented in Table 4.16. The results clearly revealed that in Karnataka state the loan amount issued per member by PACS increased from Rs. 478.36 in 1986/87 to Rs. 2108.12 in 1997/98.

In the year 1986/87, the loans issued per member were relatively large in the districts of Dakshina Kannada (Rs. 1444.81), Kodagu (Rs. 1346.82), Bidar (Rs. 914.34), Belgaum (Rs. 885.70), Uttra Kannada (Rs. 786.30) and Bellary (Rs. 579.65). The per member advances were less in the districts of Hassan (Rs. 183.97), Chitradurga (Rs. 187.36), Mysore (Rs. 187.57) and Kolar (Rs. 186.54).

Table-4.16: Per member total loans issued by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amount in rupees)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98		
1	Bangalore (Urban)	368.00	476.22	502.25	103.30	66.10	165.96	230.71	407.77	412.10	491.64	190.20	400.15		
2	Bangalore (Rural)	314.88	314.76	366.67	98.15	12.78	97.46	370.98	462.65	350.44	886.94	815.86	536.27		
3	Chiradurga	187.36	389.01	368.17	152.81	11.43	10.58	206.49	351.73	334.96	449.33	4.29	758.14		
4	Kolar	186.54	196.98	284.09	108.37	68.99	57.56	180.18	257.24	302.52	427.73	494.91	567.70		
5	Shimoga	328.17	470.58	657.82	279.52	52.93	32.77	194.01	439.64	361.06	790.57	968.84	1462.95		
6	Turnkur	284.12	353.75	517.94	357.54	210.68	19.14	260.61	306.92	293.83	606.23	533.52	595.87		
7	Belgaum	885.70	1061.38	988.75	692.98	550.19	571.54	649.76	1069.75	2682.74	2659.69	3399.90	3922.65		
8	Bijapur	281.06	556.11	551.79	334.73	38.34	189.42	546.28	638.35	701.13	986.04	1272.96	2161.41		
9	Dharwad	322.07	1143.62	1013.31	239.29	118.09	128.23	705.20	1034.05	967.81	1992.95	3455.37	5325.67		
10	Uttara Kannada	786.30	1019.17	975.19	615.15	482.20	448.39	965.36	1070.13	1597.95	3888.72	4978.34	6049.14		
11	Chickmagalur	422.17	539.75	662.30	364.88	298.92	46.25	573.69	586.29	643.78	933.67	1250.35	1263.23		
12	Dakshina Kannada	1444.81	1422.10	1657.60	1386.05	1538.04	1392.02	2113.41	1807.57	2170.10	2573.09	3051.30	6061.34		
13	Hassan	183.97	341.78	300.65	61.77	79.59	61.94	79.71	81.54	117.14	396.94	639.42	1020.61		
14	Kodagu	1346.82	1367.01	1580.43	1453.63	1610.90	1022.56	1783.54	2524.86	3071.65	3286.50	4727.26	7331.85		
15	Mandya	293.93	255.59	480.00	362.80	88.95	123.16	189.54	135.88	173.87	416.58	419.49	13186.00		
16	Mysore	187.57	300.73	145.19	84.28	42.98	35.23	131.47	163.69	205.39	323.05	272.05	442.08		
17	Bellary	579.65	859.58	1143.30	593.19	226.76	303.20	810.20	962.28	744.15	1172.43	1225.31	918.13		
18	Bidar	914.34	1170.11	982.29	572.24	284.29	460.02	226.50	1005.87	2776.42	2795.63	2946.85	3361.78		
19	Gulbarga	271.89	431.01	583.77	29.67	43.70	44.90	587.61	973.81	227.88	568.43	547.60	568.27		
20	Raichur	310.80	438.33	593.07	233.88	25.05	64.45	186.64	139.50	232.21	505.61	414.88	774.72		
	Karnataka State	478.36	551.13	698.48	405.84	288.81	266.04	575.61	708.72	905.75	1271.98	1530.83	2108.12		

In the terminal year of the study (1997/98) Mandya district has maintained its top position with reference to per member advances with Rs. 7331.85 followed by Dakshina Kannada (Rs. 6061.34) and Ultra Kannada (Rs. 6049.14). The loan issued per member was the lowest in Bangalore urban district (Rs. 400.15). During the study period, the average amount of loans issued per member increased, as expected, in all the districts of Karnataka state.

4.1.4.3 Total short-term loan advances

During the base year of the study period, out of the total advances of Rs. 199.90 crores by PACS in Karnataka, short term advances amounted to Rs. 160.553 crores (Tables 4.17) which accounts for 80.32 per cent to total advances. During the terminal year of 1997/98 out of the total advances of Rs. 1064.25 crores by PACS in Karnataka, short term advances accounted Rs. 960.369 crores representing 90.24 per cent of the total loans advanced.

It may be noted that the short term advances depend on the extent of gross cropped area, extent of irrigation, nature of crops in the region, apart from the past recovery status of the PACS. During 1986-87, the total short term advances ranged between Rs. 2.14 crores in Bangalore urban to Rs. 42.57 crores in Dakishna Kannada. In the latest year (1997-98) too, these were the two districts which accounted for the lowest and the highest amount of short term advances, with the range being Rs. 3.054 crores to Rs. 183.834 crores.

4.1.4.4 Total medium term advances

During the base year of the study period, out of the total advances of Rs. 199.90 crores by PACS in Karnataka, medium term advances amounted to Rs. 39.34 crores (Tables 4.18) which accounts for 19.68 per cent to the total advances. During the terminal year of 1997/98 out of the total advances of Rs. 1064.25 crores by PACS in

Table-4.17: Short term loan advanced by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amount in crores of rupees)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98		
1	Bangalore (Urban)	2.140	2.966	3.397	0.695	0.371	0.758	1.878	3.544	3.298	4.054	1.549	3.054		
2	Bangalore (Rural)	4.894	4.870	6.369	1.716	0.198	0.818	7.689	9.814	8.276	21.658	19.234	12.877		
3	Chiradurga	2.899	7.702	8.757	3.026	0.239	0.091	4.785	8.536	8.425	11.725	0.092	18.789		
4	Kolar	3.140	4.311	6.255	2.314	1.606	1.007	4.609	6.763	8.445	11.962	14.707	18.253		
5	Shimoga	4.992	9.580	12.362	6.763	1.082	0.215	4.154	9.244	7.774	17.433	21.501	31.458		
6	Tumkur	5.176	10.470	12.773	9.923	5.785	0.025	7.721	10.245	7.906	18.339	19.197	21.781		
7	Belgaum	21.885	33.814	29.174	22.352	16.195	17.440	21.154	36.142	90.595	96.706	111.079	152.840		
8	Bijapur	5.235	15.499	15.430	9.101	1.069	5.427	16.213	18.765	21.934	32.172	42.683	69.729		
9	Dharwad	4.259	26.172	29.342	4.826	3.175	2.382	20.631	28.925	23.695	44.245	71.136	120.304		
10	Uttara Kannada	7.143	9.711	11.268	7.147	5.736	5.354	10.758	13.323	19.802	58.205	74.252	77.950		
11	Chickmagalur	4.257	6.220	8.029	4.561	3.737	0.595	7.445	7.416	9.914	13.951	19.552	13.583		
12	Dakshina Kannada	42.557	40.197	51.800	45.532	48.806	43.373	68.148	89.189	111.392	134.484	153.996	183.834		
13	Hassan	1.777	3.282	4.371	0.894	1.157	0.585	0.810	1.101	1.469	5.456	12.011	21.020		
14	Kodagu	11.469	12.439	14.436	13.164	14.324	9.272	17.503	21.726	33.460	35.682	50.838	79.522		
15	Mandya	7.499	6.823	12.430	11.113	2.735	3.498	5.516	3.871	5.010	12.917	13.029	36.255		
16	Mysore	4.779	9.288	4.597	2.913	1.306	0.750	4.735	6.207	8.021	13.305	10.645	15.438		
17	Bellary	9.329	15.513	21.610	9.912	3.883	5.136	16.494	17.613	15.356	24.925	26.218	20.730		
18	Bidar	7.964	9.551	8.939	4.774	2.020	3.148	8.144	17.049	26.678	29.414	26.257	36.157		
19	Gulbarga	4.144	6.681	8.936	0.454	0.708	0.662	9.825	11.207	4.630	11.683	11.402	11.923		
20	Raichur	5.016	8.111	11.329	4.459	0.492	0.719	3.687	3.027	5.107	10.611	8.405	14.870		
Karnataka State		160.553	243.200	281.603	165.638	114.625	101.253	241.896	323.709	421.190	608.928	707.783	960.369		

Table-4.18: Medium term loans advanced by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amount in lakhs of rupees)																		
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98							
1	Bangalore (Urban)	112.71	108.16	107.28	25.51	23.68	78.34	34.77	63.75	107.85	132.57	46.39	121.63							
2	Bangalore (Rural)	133.68	145.66	122.07	31.59	6.65	119.03	8.45	58.91	24.58	64.33	224.42	130.18							
3	Chiradurga	141.43	0.00	10.34	0.00	0.00	15.09	0.00	5.38	0.00	0.00	0.00	0.00							
4	Kolar	141.55	144.06	121.47	60.10	28.49	57.89	30.73	41.17	31.73	44.94	61.74	122.69							
5	Shimoga	134.58	2.03	151.81	58.79	5.57	48.63	0.00	22.83	12.51	28.06	28.29	176.48							
6	Tumkur	321.51	21.32	281.73	76.75	80.89	62.86	128.69	94.38	191.30	443.71	51.93	222.58							
7	Belgaum	689.21	312.13	335.61	127.89	278.62	223.96	197.44	218.84	178.35	190.38	1876.34	1268.46							
8	Bijapur	238.30	1.68	1.99	7.12	2.74	10.14	0.00	11.65	3.49	5.12	172.22	740.35							
9	Dharwad	438.22	367.62	34.81	211.29	27.29	135.32	57.31	176.62	593.82	1108.84	834.62	1532.39							
10	Uttara Kannada	247.67	313.05	131.23	85.05	62.93	60.94	241.50	148.40	251.67	739.75	1047.46	1147.77							
11	Chickmagalur	51.58	9.56	5.12	0.00	0.00	0.32	0.00	7.03	18.88	26.57	43.57	676.11							
12	Dakshina Kannada	558.59	843.84	489.02	381.17	594.82	548.63	899.17	570.81	774.59	935.16	1941.08	2880.95							
13	Hassan	81.50	187.85	28.90	11.23	18.83	46.79	54.00	31.77	55.62	206.60	56.88	46.86							
14	Kodagu	74.75	13.78	10.44	50.06	114.06	66.82	17.86	23.60	29.20	31.14	247.38	318.89							
15	Mandya	81.84	51.23	125.04	35.17	11.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
16	Mysore	228.37	114.77	83.30	23.89	30.60	59.14	39.46	27.27	16.42	27.24	64.87	253.70							
17	Bellary	131.34	47.49	56.98	171.41	58.38	117.11	42.91	230.76	8.53	13.84	0.00	0.00							
18	Bidar	39.84	121.36	49.08	100.51	98.16	162.16	520.54	281.17	614.88	677.95	1097.40	749.31							
19	Guibarga	13.18	0.00	5.38	0.93	0.00	5.93	0.00	0.00	0.00	0.00	0.00	0.00							
20	Raichur	74.65	34.90	65.14	33.59	1.37	63.89	28.36	1.53	1.69	3.50	0.00	0.00							
Karnataka State		3934.51	2840.49	2216.75	1492.05	1444.24	1883.01	2301.18	2015.88	2915.11	4679.69	7794.57	10388.33							

Karnataka, medium term advances accounted Rs. 10388.33 crores representing 9.76 per cent of the total loans advanced.

It may be noted that the medium term advances depend on the extent of gross cropped area, extent of irrigation, nature of crops in the region, apart from the past recovery status of the PACS. During 1986-87, the total medium term advances ranged between Rs. 13.18 lakhs in Gulbarga to Rs. 689.21 lakhs in Belgaum. In the latest year (1997-98) too, Gulbarga and Dakshina Kannada were the two districts which accounted for the lowest and the highest amount of medium term advances, with the range being of Rs. 0 to Rs. 2880.95 lakhs.

The PACS are expected to provide only short and medium term loans particularly on priority basis to the agriculture sector. The short term loan provision is the main responsibility of the PACS as no other cooperative institution accommodates this type of loan (other than FSS). The medium term loan can also be obtained by farmers through the two-tier structure of cooperative organizations. The percentage shares of short and medium term loans out of the total loans provided by PACS in all districts of Karnataka state between 1986/87 and 1997/98 are presented in Table 4.19 and 4.20.

4.1.4.4 Proportion of short term advances in total advances

It could be seen from the table that during 1986/87 in four districts, the short term advances accounted for over 90 per cent of total advances in 1986/87 (Table 4.19). the share of short term advances in total advances were between 80 and 90 per cent in three districts. In the rest of the districts, the share was 49 to 79 per cent. At the state level, the share of short term loans in total loans was 80 per cent. This share increased over years, though not continuously, to reach 90 per cent in 1997-98. More importantly, the share of short term loans was over 90 per cent in 13 districts. Even in the rest of the

Table-4.19: Short-term loans as percentage of total advances of PACS in Karnataka

SI.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	66	73	76	73	61	49	84	85	75	75	77	72
2	Bangalore (Rural)	79	77	84	84	75	41	99	94	97	97	90	91
3	Chiradurga	67	100	99	100	100	38	100	99	100	100	100	100
4	Kolar	69	75	84	79	85	63	94	94	96	96	96	94
5	Shimoga	79	100	89	92	95	31	100	98	98	98	99	95
6	Tumkur	62	98	82	93	88	4	86	92	81	81	97	91
7	Belgaum	76	92	90	95	85	89	91	94	98	98	86	92
8	Bijapur	69	100	100	99	98	98	100	99	100	100	96	90
9	Dharwad	49	88	99	70	92	64	97	94	80	80	89	89
10	Uttara Kannada	74	76	90	89	90	90	82	90	89	89	88	87
11	Chickmagalur	89	98	99	100	100	99	100	99	98	98	98	67
12	Dakshina Kannada	88	83	91	92	89	89	88	94	93	93	89	86
13	Hassan	69	64	94	89	86	56	60	78	73	73	95	98
14	Kodagu	94	99	99	96	93	93	99	99	99	99	95	96
15	Mandya	90	93	91	97	96	100	100	100	100	100	100	100
16	Mysore	68	89	65	92	81	56	92	96	98	98	94	86
17	Bellary	88	100	97	85	87	81	97	98	99	99	100	100
18	Bidar	95.8	96	95	83	100	66	61	86	81	81	71	83
19	Gulbarga	97	88	99	98	97	92	100	100	100	100	100	100
20	Raichur	87	88	95	93	89	53	93	99	100	100	100	100
	Karnataka State	80	88	93	92	89	84	91	94	94	93	90	90

Table-4.20: Medium term loans as percentage of total advances of PACS in Karnataka state

SI.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	34	27	24	24	27	51	16	15	25	25	23	28
2	Bangalore (Rural)	21	23	16	16	16	59	1	6	3	3	10	9
3	Chiradurga	33	0	1	1	0	63	0	1	0	0	0	0
4	Kolar	31	25	16	16	21	37	6	6	4	4	4	6
5	Shimoga	21	0	11	11	8	69	0	2	2	2	1	5
6	Tumkur	38	2	18	18	7	96	14	8	19	19	3	9
7	Belgaum	24	8	10	10	5	11	9	6	2	2	14	8
8	Bijapur	31	0	0	0	1	2	0	1	0	0	4	10
9	Dharwad	51	12	1	1	30	36	3	6	20	20	11	11
10	Uttara Kannada	26	24	10	10	11	10	18	10	11	11	12	13
11	Chickmagalur	11	2	1	1	0	1	0	1	2	2	2	33
12	Dakshina Kannada	12	11	9	9	8	11	12	6	7	7	11	14
13	Hassan	31	36	6	6	11	44	40	22	27	27	5	2
14	Kodagu	6	1	1	1	4	7	1	1	1	1	5	4
15	Mandya	10	7	9	9	3	0	0	0	0	0	0	0
16	Mysore	32	11	15	15	8	44	8	4	2	2	6	14
17	Bellary	12	3	3	3	15	19	3	12	1	1	0	0
18	Bidar	5	11	5	5	17	34	39	14	19	19	29	14
19	Gulbarga	3	0	1	1	2	8	0	0	0	0	0	0
20	Raichur	13	1	5	5	7	47	7	1	0	0	0	17
	Karnataka State	20	12	7	7	8	16	9	6	6	7	10	10

districts, the share ranged between 67 and 89 per cent. This shows that PACS have been concentrating on short term loans in the recent past.

4.1.4.5 Proportion of medium term loans in total advances

It could be seen from Table-4.20 that the medium term loans advanced by PACS in Karnataka state decreased from 20 per cent in 1986/87 to 10 per cent in 1997/98. This reflects that a minor proportion of the total lending by PACS was in the form of medium term loans. The proportion of medium term loans over the years (between 1986/87 and 1997/98) decreased marginally in almost all the districts of Karnataka state.

4.1.5 Loan recovery

Performance of loans recovery is another criteria used to assess the growth as well as efficiency in management of primary agricultural credit cooperative societies.

4.1.5.1 Total loans recovered

The district wise total amount of loans recovered are presented in Table 4.21. The total loans recovered by PACS in Karnataka state had increased from Rs. 166.16 crores in 1986/87 to Rs. 770.73 crores in 1997/98. In the base year of the study period (1986/87), Dakshina Kannada topped the recovery rank with Rs. 40.02 crores, followed by Belgaum (Rs. 23.53 crores), Kodagu (Rs. 9.81 crores), Dharward (Rs. 9.38 crores), Bellary (Rs. 8.87 crores) and Bijapur (Rs. 8.38 crores). The recovery performance was low in the districts of Hassan (Rs. 1.91 crores), Bangalore urban (Rs. 2.03 crores), Gulbarga (Rs. 2.25 crores) and Kolar (Rs. 3.13 crores).

In the terminal year of the study period (1997/98), Dakshina Kannada topped the recovery list with Rs. 183.37 crores, followed by Belgaum (Rs. 120.72 crores), Dharward (Rs. 79.30 crores), Ultra Kannada (Rs. 73.62 crores) and Kodagu (Rs. 63.39 crores). Bangalore urban district recovered Rs. 3.41 crores and stood last of all districts

Table-4.21: Total loans recovered by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amount in rupees crores)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	2.03	3.69	2.65	0.40	1.36	1.27	1.68	3.93	4.47	3.45	2.20	3.41					
2	Bangalore (Rural)	4.92	8.19	4.50	0.85	4.03	1.76	4.18	8.73	12.26	12.47	18.95	9.09					
3	Chiradurga	4.52	9.30	5.30	1.38	2.96	1.39	3.78	6.23	14.78	6.75	0.06	12.59					
4	Kolar	3.13	7.14	4.43	1.02	4.29	2.83	4.50	5.27	23.81	10.27	10.98	12.91					
5	Shimoga	5.08	9.30	8.23	1.02	3.44	1.84	3.78	7.70	14.77	12.00	21.36	22.09					
6	Tumkur	5.67	10.44	9.24	1.86	9.72	3.79	5.69	9.89	12.63	14.32	15.74	19.46					
7	Belgaum	23.53	35.46	19.46	10.56	21.93	25.17	26.87	45.03	81.19	61.58	97.00	120.72					
8	Bijapur	8.38	18.77	9.24	3.04	9.03	6.96	14.16	15.64	42.22	25.37	31.78	49.46					
9	Dharwad	9.38	29.89	17.76	1.94	19.72	6.95	17.60	17.69	42.87	50.45	55.01	79.30					
10	Uttara Kannada	7.42	12.00	7.46	4.44	10.17	9.52	9.67	14.75	19.02	52.07	74.74	73.62					
11	Chickmagalur	3.99	5.98	4.83	4.55	5.01	4.88	2.34	11.26	13.58	9.30	19.58	21.23					
12	Dakshina Kannada	40.02	45.16	33.91	46.82	53.96	44.84	66.56	86.28	92.26	121.24	139.64	183.37					
13	Hassan	1.91	4.12	2.79	0.79	1.96	1.33	1.85	1.79	5.55	5.13	10.51	11.15					
14	Kodagu	9.81	11.51	8.70	8.19	12.59	18.86	14.24	28.82	27.63	27.81	41.29	63.39					
15	Mandya	7.19	10.19	8.18	7.73	7.76	4.90	5.06	4.35	11.94	6.68	8.07	9.85					
16	Mysore	5.10	10.02	3.22	1.54	11.05	5.77	4.89	7.46	11.66	9.81	9.57	14.16					
17	Bellary	8.87	15.82	13.15	3.12	7.06	8.68	13.43	17.07	29.47	19.87	25.42	16.08					
18	Bidar	7.14	11.52	5.64	4.45	2.78	7.52	9.43	3.77	28.87	21.74	27.25	32.05					
19	Gulbarga	2.24	6.07	5.38	0.20	4.05	1.62	3.60	9.91	20.30	8.24	7.38	6.36					
20	Raichur	5.82	8.15	7.10	1.07	3.93	3.49	3.46	3.82	10.93	4.70	63.54	10.45					
Karnataka State		166.16	272.73	181.17	103.44	196.79	163.37	216.77	309.38	520.22	483.24	623.07	770.73					

in Karnataka state. Gulbarga district recovered Rs. 6.36 crores, Bangalore rural recovered Rs. 9.09 crores and Mandya recovered Rs. 9.85 crores. In all the remaining districts amounts recovered was more than Rs. 10 crores.

4.1.5.2 Loan recovery per member

Loans recovered per member by primary agricultural credit societies in Karnataka state were Rs. 406.7 in 1986/87 and it increased to Rs. 1638.5 in 1997/98 (Table 4.22). However loans recovered per member increased to Rs. 653.15 in 1987/88 and Rs. 1065 in 1994/95. Kodagu district topped the list with reference to loans recovered per member throughout the study period.

During the base year of the study period (1986/87), the recovery per member in D.K. was Rs. 1201.11 which was followed by Kodagu (Rs. 1081.3) and Bidar (Rs. 780.72). Kolar with recovery performance of only Rs. 135.17 per member and was at the bottom of the list. During the terminal period of the study, Dharwad recovered Rs. 5618.99 per member, followed by D.K. (Rs. 5226.89), U.K. (Rs. 4979.72) and Dharwad (Rs. 3113.68). Gulbarga with recovery performance of Rs. 303.27 per member was ranked at the bottom from the list of all districts of Karnataka state. The recovery performance of Kodagu ranked top from all the districts throughout the study period (1986/87 to 1997/98).

4.1.6 Loans outstanding

The performance of loans outstanding is also another criterion used to assess and evaluate the growth as well as efficiency in management of PACS. Apart from the total amount of loans outstanding, the amount of loans outstanding per member were worked out.

Sl.No	Districts	(Amount in rupees)																
		1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98					
1	Bangalore (Urban)	229.15	434.67	297.73	43.68	147.79	136.71	174.08	383.09	421.17	315.46	208.13	319.69					
2	Bangalore (Rural)	248.63	407.65	217.36	41.16	194.66	85.33	199.50	388.24	504.17	495.87	719.87	343.63					
3	Chitradurga	196.37	469.53	220.83	69.65	141.56	61.02	163.20	254.97	587.75	258.49	2.71	507.85					
4	Kolar	135.17	244.53	174.34	37.97	156.59	102.59	164.84	189.04	821.92	354.03	354.54	376.30					
5	Shimoga	263.28	455.94	389.96	38.91	160.16	85.95	176.46	357.31	675.16	535.38	950.10	972.72					
6	Tumkur	191.96	345.55	307.04	62.12	310.61	111.14	164.63	271.24	377.92	381.17	425.82	482.91					
7	Belgaum	724.07	1018.93	591.47	309.54	635.63	730.95	754.91	1256.85	2357.81	1661.01	2539.90	2860.77					
8	Bijapur	309.29	672.82	330.08	111.13	315.65	238.48	477.19	528.80	1347.56	776.46	911.04	1386.00					
9	Dharwad	349.53	1145.06	606.16	66.93	675.20	238.66	585.43	595.84	1400.01	1817.01	2391.55	3113.68					
10	Uttara Kannada	606.63	952.45	578.09	341.47	770.36	715.92	708.74	1066.01	1362.04	3095.29	4391.66	4979.72					
11	Chickmagalur	352.74	511.09	396.19	364.14	401.08	377.41	180.63	881.48	865.16	610.46	1224.69	1318.49					
12	Dakshina Kannada	1201.11	1320.58	991.58	1315.19	1515.81	1277.50	1823.49	1643.34	1680.51	2168.88	2457.14	5226.89					
13	Hassan	135.44	272.83	179.85	48.16	116.12	78.02	108.96	102.94	320.92	270.58	534.21	529.33					
14	Kodagu	1081.00	1250.61	945.41	871.18	1311.81	1940.10	1436.46	3313.44	2514.26	2539.16	3661.27	5618.99					
15	Mandya	254.08	355.03	287.14	244.68	242.38	172.67	173.72	152.72	414.42	215.27	259.92	357.21					
16	Mysore	135.51	288.87	86.07	41.26	294.54	151.48	125.46	188.50	292.63	233.41	230.61	348.36					
17	Bellary	483.06	850.33	677.75	159.26	358.16	417.08	642.86	824.35	1420.27	929.56	1188.04	712.37					
18	Bidar	780.72	1252.23	587.60	440.82	272.23	725.63	866.71	191.03	2441.86	1679.01	2156.65	2468.09					
19	Gulbarga	142.94	391.72	349.21	12.79	250.06	101.02	215.20	860.90	999.02	400.87	354.35	303.27					
20	Raichur	313.64	422.51	351.57	52.13	194.32	165.83	162.61	175.25	495.52	223.41	322.82	544.62					
	Karnataka State	406.72	653.15	428.27	233.61	423.24	395.67	465.25	681.27	1065.00	948.04	1264.25	1638.54					

Table-4.23: Total loans outstanding by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amounts in rupees crores)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	6.39	6.16	6.77	7.53	6.60	5.58	6.12	6.42	5.41	5.17	5.85	7.27					
2	Bangalore (Rural)	12.19	10.21	12.09	13.49	9.73	10.05	13.65	15.32	11.58	21.42	24.25	30.27					
3	Chiradurga	10.28	8.69	9.67	11.32	8.60	11.87	12.85	15.22	9.19	13.62	0.17	21.22					
4	Kolar	11.94	11.48	13.95	15.93	13.53	13.97	14.72	17.12	13.43	10.27	17.86	24.81					
5	Shimoga	8.79	9.09	14.01	30.34	17.69	16.54	16.92	18.69	11.82	17.54	17.89	29.02					
6	Tumkur	13.91	14.15	17.42	26.27	23.09	13.68	18.94	20.25	12.89	24.15	22.62	35.28					
7	Belgaum	40.83	38.62	41.62	54.69	51.74	50.29	51.40	46.50	57.67	96.48	129.33	186.71					
8	Bijapur	21.17	18.99	21.29	27.41	19.48	18.05	20.10	23.34	15.88	22.76	35.49	64.38					
9	Dharwad	32.60	32.56	37.15	42.15	25.88	22.67	26.27	39.28	26.05	30.94	55.41	94.21					
10	Uttara Kannada	13.85	14.68	15.40	18.96	15.15	14.77	18.27	18.33	21.63	33.30	43.34	59.15					
11	Chickmagalur	6.60	6.93	8.89	8.90	7.63	8.01	8.38	4.62	1.08	6.21	8.14	20.36					
12	Dakshina Kannada	35.52	38.99	42.62	47.49	48.29	52.39	62.97	71.51	77.94	100.55	132.33	161.60					
13	Hassan	5.67	6.75	7.43	7.68	7.11	7.08	6.59	6.21	2.69	5.09	7.15	17.49					
14	Kodagu	14.79	15.86	16.46	22.61	25.50	16.56	20.78	13.91	19.59	8.18	28.59	36.86					
15	Mandya	15.19	12.33	18.93	22.66	17.75	16.16	16.46	15.77	11.99	17.02	19.20	44.70					
16	Mysore	20.22	20.63	21.43	23.05	13.61	9.14	9.25	8.27	4.79	8.60	11.10	14.91					
17	Bellary	17.10	17.51	23.06	31.56	28.97	27.10	30.60	33.55	17.52	26.88	27.59	37.84					
18	Bidar	11.92	11.47	12.63	13.95	14.18	11.31	15.23	21.31	25.27	36.80	47.88	60.37					
19	Gulbarga	7.48	7.85	11.16	11.44	9.85	8.27	13.32	13.35	9.08	11.38	14.83	19.89					
20	Raichur	8.46	8.77	12.36	16.09	12.67	11.97	12.11	11.61	5.75	11.74	13.81	17.84					
	Karnataka State	314.89	311.72	364.34	453.52	377.05	345.46	394.92	420.58	361.25	508.12	662.80	984.18					

4.1.6.1 Total loans outstanding

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From the increase of total loans outstanding it is quite understandable that there was a poor performance of PACS in the state. The total loans outstanding by PACS in Karnataka state has increased from Rs. 314.89 crores in 1986/87 to Rs. 984.18 crores in 1997/98.

In the base year of the study period (1986/87), loans outstanding were relatively large in the district of Belgaum with Rs. 40.83 crores, followed by Dakshina Kannada at Rs. 35.52 crores, Dharward at Rs. 32.60 crores Bijapur at Rs. 21.17 crores and Mysore at Rs. 20.22 crores. The amount outstanding was low in the districts of Hassan (Rs. 5.67 crores), Chikmagalur (Rs. 6.60 crores), Gulbarga (Rs. 7.48 crores), Raichur (Rs. 8.46 crores) and Shimoga (Rs. 8.79 crores). In the terminal year of the study period (197/98), the districts of Dakshina Kannada (Rs. 161.60 crores), Belgaum (Rs. 186.71 crores), Dharward (Rs. 94.21 crores), Bijapur (Rs. 64.38 crores), Bidar (Rs. 60.37 crores) and Uttara Kannada (Rs. 59.15 crores) had relatively large outstanding than the other districts. Outstanding were relatively less in the districts of Bangalore urban at Rs. 7.27 crores in Mysore at Rs. 14.91 crores in Hassan at Rs. 17.49 crores, in Raichur at Rs. 17.84 crores and in Gulbarga at Rs. 19.89 crores.

4.1.6.2 Outstanding loans per member

Loans outstanding per member of primary agricultural credit societies in Karnataka state have increased from Rs. 753.5 in 1986/87 to Rs. 1949.5 in 1997/98 (Table 4.24). However loans outstanding per member marginally increased to Rs. 1019.4 in 1989/90 and it was uneven upto 1994/95. Thereafter, loans outstanding per member increased from Rs. 985.70 in 1995/96 to Rs. 1949.50 in 1997/98.

During the base year of the study period (1986/87), outstanding loans per member was larger in Kodagu district (Rs. 1630) followed by Bidar (Rs. 1303.3), Belgaum (Rs. 1256.7), Dharward (Rs. 1215), Uttara Kannada (Rs. 1132.20) and

Table-4.24: Total loans outstanding per member by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amount in rupees)																
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98					
1	Bangalore (Urban)	719.3	724.6	760.7	818.7	717.4	600.9	634.4	626.5	509.1	472.7	552.5	681.6					
2	Bangalore (Rural)	615.9	508.0	584.1	651.8	469.9	487.9	651.3	681.3	476.3	851.7	921.0	1144.8					
3	Chiradurga	446.7	438.8	402.9	571.6	411.4	520.2	554.7	623.0	365.3	522.0	8.0	856.1					
4	Kolar	515.1	393.1	549.2	892.0	493.9	506.9	539.4	613.8	463.8	354.0	576.8	723.1					
5	Shimoga	455.0	445.4	664.0	1153.5	822.8	772.4	790.2	867.5	540.3	782.7	795.4	1277.8					
6	Tumkur	470.8	468.6	578.7	878.6	737.6	400.7	548.0	555.4	385.7	642.9	612.1	875.7					
7	Belgaum	1256.7	1109.7	1265.0	1603.8	1499.8	1460.5	1444.1	1297.7	1674.9	2602.3	3386.4	4424.7					
8	Bijapur	781.0	680.6	760.4	1000.5	681.2	618.5	677.3	789.1	506.8	696.6	1017.3	1804.1					
9	Dhanwad	1215.0	1247.6	1267.9	1453.5	886.4	778.3	873.6	1323.3	850.7	1114.4	2408.8	3699.4					
10	Uttara Kannada	1132.2	1165.0	1193.8	1458.1	1147.8	1110.8	1339.2	1324.9	1548.4	1979.5	2546.8	4001.3					
11	Chickmagalur	583.4	592.5	728.7	712.2	610.0	256.1	645.4	361.4	68.8	408.2	509.4	1263.9					
12	Dakshina Kannada	1066.0	1140.1	1246.2	1334.1	1356.4	1492.5	1725.2	1362.1	1419.6	1798.7	2328.4	4606.3					
13	Hassan	402.7	447.3	479.4	471.1	420.6	416.4	388.8	357.0	155.7	268.3	363.4	830.8					
14	Kodagu	1630.0	1723.5	1789.1	2404.8	2655.9	1703.8	2095.9	1599.1	1782.8	747.3	2535.3	3267.6					
15	Mandya	536.7	429.7	664.2	717.1	554.7	569.2	565.7	553.5	416.1	548.9	618.2	1621.2					
16	Mysore	537.1	594.6	573.0	616.2	362.8	240.1	237.2	208.9	120.3	204.7	267.3	366.6					
17	Bellary	931.2	941.4	1188.7	1610.3	1470.7	1302.8	1464.9	1620.7	844.4	1257.2	1289.4	1676.1					
18	Bidar	1303.3	1246.3	1315.6	1381.6	1390.1	1090.9	1398.9	1079.5	2137.3	2842.8	3789.9	4649.8					
19	Gulbarga	475.8	506.7	724.7	733.6	499.8	515.0	796.6	1160.0	446.8	553.6	712.3	947.8					
20	Raichur	456.5	454.3	611.9	784.8	627.2	568.4	569.2	532.3	260.4	557.5	681.5	929.2					
	Karnataka State	753.5	732.1	837.8	1019.4	839.8	755.0	858.1	866.8	726.6	985.7	1291.3	1949.5					

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Dakshina Kannada (Rs. 1066). Loans outstanding per member was low in the districts of Hassan (Rs. 402.7), Chitradurga (Rs. 446.7) and Shimoga (Rs. 455). In the terminal year of the study period (1997/98), the districts of Bidar (Rs. 4649.8), Dakshina Kannada (Rs. 4606.3), Belgaum (Rs. 4424.7) and Ultra Kannada (Rs. 4001.30) had relatively larger outstanding per member than the other districts. Loans outstanding per member was low in the districts of Mysore (Rs. 366.60), Bangalore urban (Rs. 681.60), Kolar (Rs. 723.10), Hassan (Rs. 830.80) and Chikmagalur (Rs. 856.10).

4.1.7 Loans overdue

The recovery performance in cooperative societies is an measure used to reflect the progress and performance of their operations as well as the efficiency in management of funds. Beside this, total overdues, overdues per member and percentage of overdues to outstanding loans are the three criteria which help us to assess the performance of PACS and the results of the above mentioned criteria are presented in Table 4.25, 4.26 and 4.27 in that order.

4.1.7.1 Total overdues

The poor performance of PACS is quite comprehensible from the increase in the total overdues of PACS in the state from Rs. 131.09 crores in 1986/87 to Rs. 234.22 crores in 1997/98 (Table 4.25). That is why, the overdues continue to be a serious weakness of PACS in Karnataka state.

From the table it can be observed that in the base year (1986/87), overdues were relatively large in the district of Dharward with Rs. 21.41 crores followed by Bijapur (Rs. 12.21 crores), Belgaum (Rs. 10.88 crores) and Mysore (Rs. 10.58 crores). Overdues were less in the districts of Chikmagalur (Rs. 1.84 crores), Bangalore urban (Rs. 2.43 crores), Hassan (Rs. 2.71 crores), Raichur (Rs. 3.30 crores), Dakshina Kannada (Rs. 3.40 crores), Bidar (Rs. 3.43 crores) and Ultra Kannada (Rs. 3.76 crores). In the terminal year 1997/98 the districts of Dharward (Rs. 31.19 crores), Shimoga (Rs.

Table-4.25: Total loans overdue from 1986/87 to 1997/98

Sl.No.	District	(Amount in crores of rupees)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98		
1	Bangalore (Urban)	2.43	2.03	3.74	5.45	3.61	2.34	2.70	2.24	1.65	2.01	1.68	2.42		
2	Bangalore (Rural)	6.39	4.10	7.53	10.97	9.05	8.27	8.31	7.82	4.29	4.89	12.10	9.37		
3	Chiradurga	6.10	5.19	7.19	9.18	7.23	11.59	9.97	10.92	5.77	9.66	0.12	11.73		
4	Kolar	6.23	5.42	8.95	12.48	10.20	10.06	10.36	10.94	5.11	9.79	8.80	9.52		
5	Shimoga	4.91	2.81	10.98	19.15	16.61	15.32	14.72	17.42	11.69	16.36	10.17	21.14		
6	Tumkur	6.10	4.13	13.70	23.27	12.02	10.76	12.75	12.40	9.81	14.50	16.05	18.12		
7	Belgaum	10.88	5.84	21.12	36.39	35.56	33.48	31.80	19.16	4.48	18.29	19.71	7.20		
8	Bijapur	12.21	7.43	15.39	23.36	18.74	15.11	14.21	15.21	6.63	15.28	14.71	17.58		
9	Dharwad	21.41	6.25	18.63	31.02	22.49	18.61	20.21	25.59	17.49	19.34	14.57	31.19		
10	Uttara Kannada	3.76	1.68	6.95	12.21	9.42	7.46	7.86	6.77	3.27	5.50	20.56	8.35		
11	Chickmagalur	1.84	1.01	3.36	5.70	3.97	4.54	5.26	3.96	0.51	2.46	6.96	5.57		
12	Dakshina Kannada	3.40	4.53	7.86	11.18	3.68	12.33	9.31	8.94	6.52	6.29	3.66	11.07		
13	Hassan	2.71	1.81	4.02	6.22	6.85	5.71	4.90	4.51	0.90	2.48	9.22	13.62		
14	Kodagu	7.12	3.58	5.49	7.40	5.13	3.72	6.24	2.98	1.61	1.43	4.70	5.54		
15	Mandya	5.70	4.00	6.26	8.53	12.90	10.28	11.36	12.16	5.29	7.96	3.00	9.31		
16	Mysore	10.58	9.62	13.64	17.65	8.52	8.81	8.29	8.01	4.70	7.96	9.68	6.83		
17	Bellary	7.29	3.19	12.60	22.01	21.65	19.49	16.79	18.94	9.81	9.50	8.50	16.78		
18	Bidar	3.43	0.58	4.38	8.18	9.22	4.74	3.87	4.12	1.99	5.22	10.12	10.25		
19	Gulbarga	5.29	1.32	9.86	8.54	8.54	7.78	8.98	9.62	4.33	6.85	6.74	11.91		
20	Raichur	3.30	5.77	9.18	12.60	12.21	11.03	10.23	9.87	4.44	5.02	7.41	6.71		
Karnataka State		131.09	80.31	190.83	291.50	237.60	221.43	218.12	211.58	110.28	170.85	6.13	234.22		

21.14 crores), Tumkur (Rs. 18.12 crores) and Bijapur (Rs. 17.58 crores) had relatively large overdues than the other districts. Overdues were relatively less in the districts of Bangalore urban (Rs. 2.42 crores), Kodagu (Rs. 5.54 crores) Chikmagalur (Rs. 5.57 crores) and Raichur (Rs. 6.71 crores).

4.1.7.2 Overdues per member

Loan overdues per member of primary agricultural credit societies in Karnataka state have increased from Rs. 313.70 in 1986/87 to Rs. 464.00 in 1997/98 (Table 4.26). In the base year of 1986/87, loan overdues per member was larger for Dharward district (Rs. 798.00) and was the last in the district Dakshina Kannada (Rs. 102.00). In the terminal year of the study period (1997/98), loan overdues per member ranged between Rs. 167.9 in Mysore district to Rs. 1224.80 in Dharward district. Overdues per member declined from Rs. 273.1, Rs. 334.7, Rs. 785.1 and Rs. 280.9 in 1986/87 to Rs. 226.7, Rs. 170.50, Rs. 490.8 and Rs.167.90 in 1997/98 in that order in the districts of Bangalore urban, Belgaum, Kodagu and Mysore.

4.1.7.3 Overdues as percentage of outstanding loans

The percentage of overdues to outstanding loans is one of the most important indicators of effectiveness of agricultural credit system. It can be observed from table 4.27 that percentage of overdues to outstanding loans decreased from 41.63 per cent in 1986/87 to 25.76 per cent in 1987/88 and thereafter it increased to 64.10 per cent in 1991/92. After 1991/92, the percentage of overdues to outstanding loans decreased to the lowest of 23.80 per cent in 1997/98 for the state as a whole. This percentage was the maximum (64.28 per cent) in 1989/90 and minimum (23.80 per cent) in 1997/98. In the base year of 1986/87 percentage of loans over due to outstanding loans ranged from as low as 9.57 per cent in Dakshina Kannada to as high as 70.73 per cent in Gulbarga. In the terminal period of the study (1997/98), this percentage ranged from 3.85 per cent in Belgaum to the high of 77.86 per cent in Hassan district.

Table-4.26: Loans overdue per member of PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	(Amount in rupees)															
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98				
1	Bangalore (Urban)	273.1	239.2	420.7	592.9	392.3	251.9	279.6	218.9	155.2	183.5	159.2	226.7				
2	Bangalore (Rural)	323.2	204.0	364.0	530.0	437.1	401.4	396.4	347.9	176.5	194.4	459.8	354.4				
3	Chiradurga	265.1	262.2	299.5	463.8	345.8	508.0	430.1	447.0	229.2	370.1	5.5	473.4				
4	Kolar	268.6	185.8	352.5	464.0	372.1	364.9	379.8	392.3	176.4	337.5	284.3	277.4				
5	Shimoga	254.4	137.8	520.5	728.3	772.8	715.4	687.6	808.3	534.4	730.1	452.1	931.1				
6	Tumkur	206.5	136.8	455.1	778.2	384.1	315.0	368.9	340.1	293.6	386.0	434.3	449.8				
7	Belgaum	334.7	167.8	641.8	1067.2	1030.4	972.4	893.5	534.6	130.1	493.3	516.1	170.5				
8	Bijapur	450.6	266.4	549.8	852.4	655.3	517.7	478.9	514.4	211.6	467.5	417.8	492.6				
9	Dharwad	798.0	239.3	635.9	1069.6	770.1	638.9	672.1	862.1	571.2	696.7	893.7	1224.8				
10	Uttara Kannada	307.6	133.5	538.6	939.4	714.0	561.2	576.0	489.1	234.2	330.5	409.0	564.9				
11	Chickmagalur	163.0	86.3	275.1	456.3	317.8	351.5	405.5	310.3	32.4	161.8	228.7	346.1				
12	Dakshina Kannada	102.0	132.4	229.7	314.2	103.2	351.3	255.0	170.4	118.8	112.4	162.2	315.5				
13	Hassan	192.4	120.0	259.3	381.9	405.4	336.1	289.4	259.3	51.9	131.1	238.7	646.9				
14	Kodagu	785.1	389.6	597.0	787.3	534.5	382.8	629.7	342.9	147.0	130.8	266.1	490.8				
15	Mandya	201.3	139.2	219.7	269.8	403.1	362.0	390.5	426.8	183.6	256.7	311.6	337.8				
16	Mysore	280.9	277.3	364.6	471.9	227.3	231.5	212.5	202.3	117.8	189.4	204.7	167.9				
17	Bellary	397.1	171.5	649.4	1122.9	1099.2	936.8	803.7	915.0	472.5	444.2	472.8	743.4				
18	Bidar	375.5	62.9	456.1	809.7	903.8	457.2	355.6	208.7	168.2	403.3	533.4	789.7				
19	Gulbarga	336.5	85.3	640.3	547.4	527.2	484.0	537.0	835.5	213.2	333.2	355.9	567.7				
20	Raichur	178.2	299.0	454.6	614.4	604.7	523.6	480.9	452.6	201.2	238.6	302.8	349.4				
	Karnataka State	313.7	188.6	438.8	655.2	531.7	490.6	474.0	436.1	221.8	331.4	408.9	464.0				

Table-4.27: Percentage of overdues to outstanding loans by PACS in Karnataka from 1986/87 to 1997/98

Sl.No.	District	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1	Bangalore (Urban)	37.97	33.01	55.30	72.42	54.69	41.91	44.07	34.93	30.48	38.82	28.81	33.26
2	Bangalore (Rural)	52.47	40.15	62.32	81.31	93.01	82.28	60.86	51.06	37.06	22.82	49.92	30.96
3	Chitradurga	59.34	59.76	74.34	81.15	84.06	97.66	77.54	71.74	62.76	70.91	69.15	55.29
4	Kolar	52.15	47.26	64.18	78.37	75.35	72.00	70.40	63.91	38.04	95.33	49.28	38.36
5	Shimoga	55.91	30.93	78.39	63.13	93.91	92.61	87.01	93.17	98.90	93.28	56.84	72.86
6	Tumkur	43.87	29.19	78.64	88.57	52.07	78.62	67.32	61.23	76.12	60.03	70.96	51.37
7	Belgaum	26.64	15.12	50.73	66.54	68.70	66.58	61.87	41.20	7.77	18.96	15.24	3.85
8	Bijapur	57.69	39.15	72.31	85.20	96.19	83.70	70.71	65.18	41.75	67.10	41.07	27.30
9	Dharwad	65.68	19.18	50.15	73.59	86.88	82.09	76.93	65.15	67.14	62.52	37.10	33.11
10	Uttara Kannada	27.17	11.46	45.11	64.43	62.20	50.52	43.01	36.92	15.13	16.70	16.06	14.12
11	Chickmagalur	27.94	14.56	37.76	64.08	52.10	56.68	62.83	85.86	47.14	39.63	44.89	27.39
12	Dakshina Kannada	9.57	11.62	18.43	23.55	7.61	23.54	14.78	12.51	8.37	6.25	6.97	6.85
13	Hassan	47.78	26.84	54.08	81.06	96.39	80.72	74.42	72.63	33.37	48.84	65.69	77.86
14	Kodagu	48.16	22.60	33.37	32.74	20.12	22.47	30.04	21.45	8.24	17.50	10.49	15.02
15	Mandya	37.50	32.40	33.08	37.63	72.67	63.61	69.02	77.11	44.13	46.76	50.40	20.84
16	Mysore	52.31	46.64	63.63	76.59	62.64	96.42	89.61	96.83	97.94	92.51	76.61	45.79
17	Bellary	42.65	18.22	54.64	69.73	74.74	71.91	54.87	56.46	55.96	35.33	36.67	44.35
18	Bidar	28.81	5.05	34.67	58.61	65.02	41.91	25.42	19.33	7.87	14.19	14.07	16.98
19	Gulbarga	70.73	16.83	88.36	74.62	86.70	93.98	67.41	72.02	47.72	60.18	49.96	59.90
20	Raichur	39.04	65.81	74.30	78.29	96.41	92.13	84.48	85.02	77.24	42.79	44.43	37.60
	Karnataka State	41.63	25.76	52.38	64.28	63.02	64.10	55.23	50.31	30.53	33.62	27.14	23.80

4.2 Growth rates of performance indicators of primary agricultural credit societies district-wise in Karnataka

The growth of different performance indicators of PACS was assessed district-wise using compound growth rates and the same are presented below.

4.2.1 Number of PACS

A perusal of Table 4.28 reveals a significant decline in the number of Primary Agricultural Credit Societies (PACS) during the study period in all the districts except in Tumkur, Kodagu, Bellary, Gulbarga, Hassan, Bidar and Belgaum. The decline ranged from as high as 4.92 per cent per annum in Dharward to as a low as 0.09 per cent per annum in Chitradurga. The overall decline in number of PACS for the state as a whole was 0.87 per cent per annum. In Kodagu district the number of PACS has virtually remained the same over years. But for Dharwad district, the decline is other districts was less than the per cent.

4.2.2 Membership

It can be observed from Table 4.29 that the membership of PACS in the whole state of Karnataka registered a compound growth rate of 2.03 per cent per annum, but it was not significant. The membership of the primary agricultural society (PACS) has not changed for the years as depicted by in significant growth rate. It could be observed that a significant growth has been seen in case of Kolar, Belgaum, Uttara Kannada, Kodagu, Mysore, Gulbarga, Dakshina Kannada, Bidar and Chitradurga districts. In the other 12 districts the growth rate was insignificant. The district of Dakshina Kannada recorded the highest growth rate of 4.26 per cent in membership while the lowest growth rate of 1.33 per cent was in case of Chitradurga and Mysore.

4.2.3 Share capital

The share capital of PACS in the whole state of Karnataka registered a compound growth rate of 8.11 per cent per annum but it was not significant (Table

Table-4.28: District-wise compound growth rate of number of primary agricultural credit societies in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	-0.20*
Bangalore rural	-0.10**
Chitradurga	-0.09*
Kolar	-0.99***
Shimoga	-1.15***
Tumkur	-0.27
Belgaum	0.30
Bijapur	-0.10***
Dharward	-4.92**
Uttar Kannada	-0.20***
Chikmagalur	-0.15**
Dakishina Kannada	-0.18**
Hassan	0.49
Kodagu	0
Mandya	-0.20**
Mysore	-0.90***
Bellary	-0.07
Bidar	0.32
Gulbarga	-0.31
Raichur	-0.80*
Karnataka State	-0.87***

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

Table-4.29: District-wise compound growth rate of PACS membership in Karnataka state for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	2.31
Bangalore rural	2.85
Chitradurga	1.33*
Kolar	2.18***
Shimoga	0.75
Tumkur	2.77
Belgaum	1.66***
Bijapur	2.44
Dharward	-0.59
Uttar Kannada	2.53
Chikmagalur	3.35
Dakishina Kannada	4.26**
Hassan	3.05
Kodagu	2.10***
Mandya	0.80
Mysore	1.33***
Bellary	1.63
Bidar	4.14**
Gulbarga	2.90**
Raichur	0.60
Karnataka State	2.03

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

Table-4.30: District-wise compound growth rate of share capital of PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	3.35***
Bar.galore rural	11.07
Chitradurga	-9.79
Kolar	7.14
Shimoga	4.50
Tumkur	6.71***
Belgaum	10.74
Bijapur	7.79
Dharward	6.82
Uttar Kannada	8.65
Chikmagalur	12.64
Dakishina Kannada	11.07
Hassan	5.23***
Kodagu	8.76***
Mandya	10.29***
Mysore	4.39
Bellary	5.02***
Bidar	10.40
Gulbarga	7.57
Raichur	3.55
Karnataka State	8.11

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

4.30). It is further observed from the table that Mandya district registered high CGR of 10.29 per cent followed by Kodagu rural 8.76 per cent, Tumkur 6.71 per cent, Hassan 5.23 per cent, Bellary 5.02 per cent and Bangalore Urban 3.35 per cent. The growth rate was significant in Bangalore Urban, Tumkur, Hassan, Mandya, Bellary, Kodagu and it was non-significant for the other 14 districts of Karnataka state. The district of Mandya recorded the highest growth rate of 10.29 per cent in share capital while the lowest growth rate at 3.35 per cent was in case of Bangalore Urban.

4.2.4 Deposits

The annual rate of increase was 9.42 per cent (Table 4.31) for the Karnataka state. Bangalore rural registered maximum CGR of 19.12 per cent followed by Bijapur 14.34 per cent, Chikmagalur 13.54 per cent, Belgaum 13.20 per cent and Mandya 13.20 per cent. Chitradurga district registered negative CGR of -7.60 per cent, but it was not significant. The growth rate were non-significant for Chitradurga and Bidar. It could be observed that a significant growth has been seen in case of Kolar, Shimoga, Tumkur, Belgaum, Ultra Kannada, Dakishna Kannada, Hassan, Kodagu, Bellary, Bangalore rural Dharward, Chikmagalur, Mandya, Mysore, Gulbarga and Raichur. The district of Bangalore rural recorded the highest growth rate of 19.12 per cent in deposit while the lowest growth rate of 6.18 per cent was in case of Shimoga.

4.2.5 Working capital

The state of Karnataka as a whole was registered a compound growth rate of 8.65 per cent (Table 4.32). The performance of the individual districts with respect to working capital varies from 3.25 per cent CGR in Raichur to 14.11 per cent CGR in Bidar. It could be observed that a significant growth rate has been seen in case of Mandya, Ultra Kannada, Belgaum, Bangalore Urban, Bangalore Rural, Kolar, Shimoga, Tumkur, Bijapur, Chikmagalur, Hassan, Kodagu, Bidar, Gulbarga and Raichur.

Table-4.31: District-wise compound growth rate of deposits of PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	12.74**
Bangalore rural	19.12*
Chitradurga	-7.6
Kolar	9.64***
Shimoga	6.18***
Tumkur	9.42***
Belgaum	13.20***
Bijapur	14.34**
Dharward	10.85**
Uttar Kannada	8.98***
Chikmagalur	13.54**
Dakishina Kannada	8.00***
Hassan	7.90***
Kodagu	11.40***
Mandya	13.20**
Mysore	10.63**
Bellary	9.42***
Bidar	6.50
Gulbarga	12.86**
Raichur	12.98**
Karnataka State	9.42***

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

Table-4.32: District-wise compound growth rate of working capital of PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	5.86**
Bangalore rural	9.63***
Chitradurga	-10.15
Kolar	6.82***
Shimoga	6.18***
Tumkur	6.71**
Belgaum	11.07***
Bijapur	5.76**
Dharward	3.04
Uttar Kannada	12.19***
Chikmagalur	8.33**
Dakishina Kannada	12.41
Hassan	4.18*
Kodagu	10.85***
Mandya	13.20***
Mysore	1.01
Bellary	7.90
Bidar	14.11***
Gulbarga	6.93***
Raichur	3.25*
Karnataka State	8.65***

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

The district of Bidar recorded the highest growth rate of 14.11 per cent in working capital while the lowest growth rate of 3.25 per cent was in case of Raichur. On the other hand, the growth rate was insignificant in five districts of Karnataka state.

4.2.6 Loans advanced

An examination of the results in Table 4.33 reveal that Ultra Kannada district registered a high CGR of 23.99 per cent in respect of loans advanced followed by Dharward (22.88 per cent), Bijapur (20.80 per cent) and Bidar (20.80 per cent).

The district of Chitradurga registered negative CGR of -0.90 per cent and the growth rate was insignificant. The growth rate was significant in the districts of Belgaum, Uttara Kannada, Kodagu, Bidar, Kolar, Bijapur, Dharward and Chikmagalur. The CGR was non-significant in rest of the 12 districts of Karnataka state.

4.2.7 Loans recovered

The loans recovered by PACS in the state of Karnataka registered a compound growth rate of 15.37 per cent per annum (Table 4.34).

Ultra Kannada district registered the highest compound growth rate of 24.86 per cent with reference to recovery performance followed by Dharward (20.08 per cent), Kodagu (18.41 per cent), Belgaum (18.06 per cent) and Bijapur (17.70 per cent). The district of Chitradurga registered -5.92 per cent and the growth rate was insignificant. The growth rate was significant in the districts of Belgaum, Bijapur, Ultra Kannada, Chikmagalur, Kodagu, Kolar, Dharward, Hassan, Bidar, Bangalore Rural, Shimoga, Tumkur, Mysore and Bellary. The growth rate was non-significant in six districts of Karnataka state. The lowest growth rate of 9.97 per cent was in the case of Mysore.

Table-4.33: District-wise compound growth rate of loans advanced by PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	4.18
Bangalore rural	17.82
Chitradurga	-0.90
Kolar	14.57**
Shimoga	13.31
Tumkur	8.55
Belgaum	17.94***
0.59***	20.80**
Dharward	22.88**
Uttar Kannada	23.99***
Chikmagalur	14.45*
Dakishina Kannada	15.26
Hassan	14.34
Kodagu	17.59***
Mandya	6.50
Mysore	10.08
Bellary	7.03
Bidar	20.80***
Gulbarga	15.14
Raichur	5.87
Karnataka State	16.18***

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

Table-4.34: District-wise compound growth rate of loans recovered by PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	6.61
Bangalore rural	14.11*
Chitradurga	-5.92
Kolar	15.84**
Shimoga	16.07*
Tumkur	11.18*
Belgaum	18.06***
Bijapur	17.70***
Dharward	20.08**
Uttar Kannada	24.86***
Chikmagalur	15.26***
Dakishina Kannada	15.37
Hassan	15.72**
Kodagu	18.41***
Mandya	0.10
Mysore	9.97*
Bellary	10.19*
Bidar	16.65**
Gulbarga	16.07
Raichur	4.60
Karnataka State	15.37***

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

Table-4.35: District-wise compound growth rate of loans outstanding by PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	-0.79
Bangalore rural	8.22***
Chitradurga	-8.06
Kolar	3.46*
Shimoga	5.76*
Tumkur	4.60*
Belgaum	12.30***
Bijapur	5.76*
Dharward	5.02
Uttar Kannada	11.96***
Chikmagalur	0.07
Dakishina Kannada	14.00
Hassan	1.51
Kodagu	2.84
Mandya	4.08
Mysore	-8.24**
Bellary	4.08*
Bidar	16.07***
Gulbarga	6.18***
Raichur	2.22
Karnataka State	7.57***

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

4.2.8 Loans outstanding

The loans outstanding of PACS in Karnataka state as a whole registered a compound growth rate of 7.57 per cent per annum Table 4.35.

Bidar district registered the highest growth of 16.07 per cent with reference to loans outstanding followed by Belgaum (12.30 per cent), Ultra Kannada (11.96 per cent) and Bangalore rural (8.22 per cent). The districts of Bangalore urban and Chitradurga registered negative growth rate i.e., (-0.79 per cent) and (-8.06 per cent) respectively and the growth rate was non-significant. The growth rate was significant at in the districts of Bangalore rural, Belgaum, Ultra Kannada, Bidar, Gulbarga, Mysore, Kolar, Shimoga, Tumkur, Bijapur and Bellary. In nine districts the growth rate was non-significant. Kolar recorded the least growth of 3.46 per cent in loans outstanding. It was only in respect of Mysore that there was significant deceleration (by 8.24%) in loans outstanding during the study period.

4.2.9 Loans overdues

The loan overdues of PACS in the state of Karnataka registered a compound growth rate of 3.15 per cent per annum (Table 4.36) but the growth rate was insignificant. The overdues of the Primary Agricultural Credit Societies (PACS) has not changed over the years as depicted by insignificant growth rates.

Gulbarga registered a high compound growth rate (12.41 per cent) with reference to loan overdues, followed by Shimoga (10.30 per cent), Tumkur (7.36 per cent) and Dakshina Kannada (6.29 per cent).

The districts of Bangalore urban, Chitradurga, Belgaum and Raichur registered negative growth rate (-4.49 per cent, -18.61 per cent, -2.37 per cent and -7.50 per cent), (-6.60 per cent) respective rate, the growth rate was insignificant. The districts of

Table-4.36: District-wise compound growth rate of overdues by PACS in Karnataka for the period 1986/87 to 1997/98

District	Growth Rate (%)
Bangalore urban	-4.49
Bangalore rural	2.02
Chitradurga	-8.61
Kolar	1.81
Shimoga	10.30**
Tumkur	7.36*
Belgaum	-2.37
Bijapur	1.01
Dharward	4.50
Uttar Kannada	4.39
Chikmagalur	3.35
Dakishina Kannada	6.29*
Hassan	4.18
Kodagu	-7.50*
Mandya	4.50
Mysore	-5.54**
Bellary	4.60
Bidar	9.31
Gulbarga	12.41*
Raichur	-0.60
Karnataka State	3.15

*** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level

Kodagu and Mysore registered negative growth rate i.e., -7.5 per cent and -5.54 per cent and it was significant.

The growth rate was significant in districts of Shimoga, Mysore, Tumkur, Dakshina Kannada, Kodagu, Gulbarga. In fourteen districts of the state the growth rate of overdues was non significant.

4.3 Inter-district inequality in PACS credit flow

The inter-district inequality in credit flow across years was assessed using different measures as indicated earlier. The findings are detailed below.

4.3.1.1 Inequality in term credit flow

In order to examine whether or not the PACS disbursed credit uniformly across the districts in Karnataka state, coefficient of variation was computed for each year, as explained in chapter III. Similarly, the theles entropy was employed. It could be seem from table 4.37 that the coefficient of variation of medium term credit flow across districts was low at 109.54 per cent in 1986-87. However, it rose to 173.04 per cent in 1987-88 and during the terminal year of 1997-98, it was 177.15 per cent. Between 1987-88 and 1997-98, it varied between 122.44 per cent (in 1988-89) and 204.99 per cent (in 1990-91). The variation across years in the state was 168.74 per cent.

The Theils entropy coefficient (another measure of inequality), which was 0.45 in 1986-87 rose over years, though unsteadily, to be 0.63 in 1997-98. The value of the coefficient (inequality across years) for Karnataka state was 0.61.

The trend equations were fitted by taking CV and I (V) as dependent variables and time as independent variable. The regression coefficients were positive and significant indicating that the district-wise inequality in term agricultural credit flow did

Table-4.37: Trends in district-wise inequality in medium term agricultural credit flow in Karnataka

Year	Coefficient of variation (%)	Theils Entropy coefficient [I(V)]
1986-87	109.54	0.45
1987-88	173.04	0.62
1988-89	122.44	0.51
0.89-90	148.16	0.54
1990-91	204.99	0.68
1991-92	156.16	0.56
1992-93	211.90	0.74
1994-95	172.28	0.66
1995-96	190.52	0.67
1996-97	193.35	0.70
1997-98	177.15	0.63
Karnataka State	168.74	0.61
Linear trend function		
I. $I(Y) = 0.514 + 0.015^{**}t$		$R^2 = 0.418$
(0.042) (0.0056)		(0.067)
II. $CV = 135.54 + 5.11^{**}t$		$R^2 = 0.01$
(16.13) (2.19)		(0.088)

Figures in parentheses indicate standard errors

** = Significant at 5% level

Table-4.38: Trends in district-wise inequality in short term credit flow in Karnataka

Year	Coefficient of variation (%)	Theils Entropy coefficient [I(V)]
1986-87	143.84	0.51
1987-88	110.43	0.44
1988-89	268.59	0.75
0.89-90	158.63	0.56
1990-91	211.74	0.70
1991-92	218.46	0.72
1992-93	163.11	0.55
1993-94	160.14	0.54
1994-95	160.57	0.57
1995-96	151.36	0.54
1996-97	161.85	0.58
1997-98	174.60	0.55
Karnataka State	173.61	0.58
Linear trend function		
I. I (Y) =	0.592 – 0.001t (0.059) (0.008)	R ² = 0.002 (0.096)
II. CV =	183.11 – 1.81t (26.71) (3.63)	R ² = 0.024 (43.39)

Figures in parentheses indicate standard errors

create significant inequalities over years. However, the coefficients were not significant in case of short-term credit.

4.3.2 Inequality in short term credit flow

In order to examine whether or not the PACS disbursed credit uniformly across the districts, coefficient of variation was computed for each year, as explained in chapter III. Similarly, the Theils entropy was employed. It could be seen from Table-4.38 that the coefficient of variation of short term credit flow across districts was low at 143.84 per cent in 1986-87. However, it rose to 268.59 per cent in 1988/89 and during the terminal year of 1997/98 it was 174.60. Between 1987/88 and 1997/98, it varied between 110.43 per cent (in 1987-88) and 268.59 per cent (in 1988-89). The variation across years in the state was 173.61 per cent.

The Theils entropy coefficient (another measure of inequality) which was 0.51 in 1986/87 rose over years, though unsteadily to be 0.58 in 1997/98. The value of the coefficient (inequality across years) for Karnataka state was 0.58.

4.3.3 Inequality in PACS credit flow – lorenz curve analysis

Lorenze curve and Gini ratio were used to measure the inequality of credit flow districts across in Karnataka state. Lorenz curve was constructed for short term agricultural credit and term agricultural credit separately. This presents a picture of the cumulative percentage of districts of Karnataka state on the X axis and cumulative percentage of agricultural credit given by PACS per hectare of gross cropped area on the Y axis for the base year the average year and terminal year.

Figures 4.1 and 4.2 present the Lorenze curve for short term agricultural credit (base year, over age year and terminal year) and term agricultural credit (base year, average year and terminal year). In both the figures, the curve was away from the line of equal distribution (45° degree line) and is more bowed out, indicating that there is more

Fig.1: Lorenze Curve for short-term credit

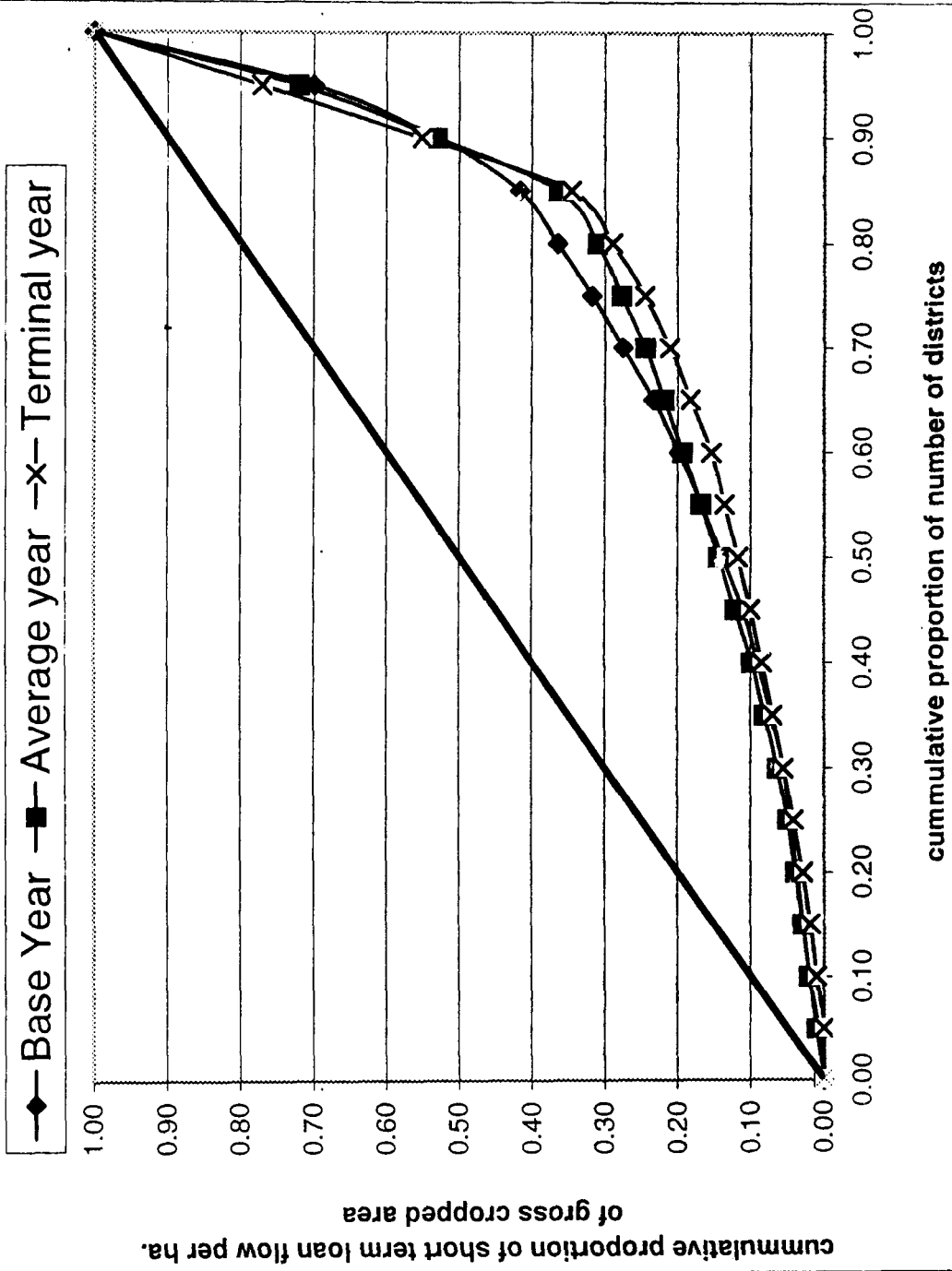
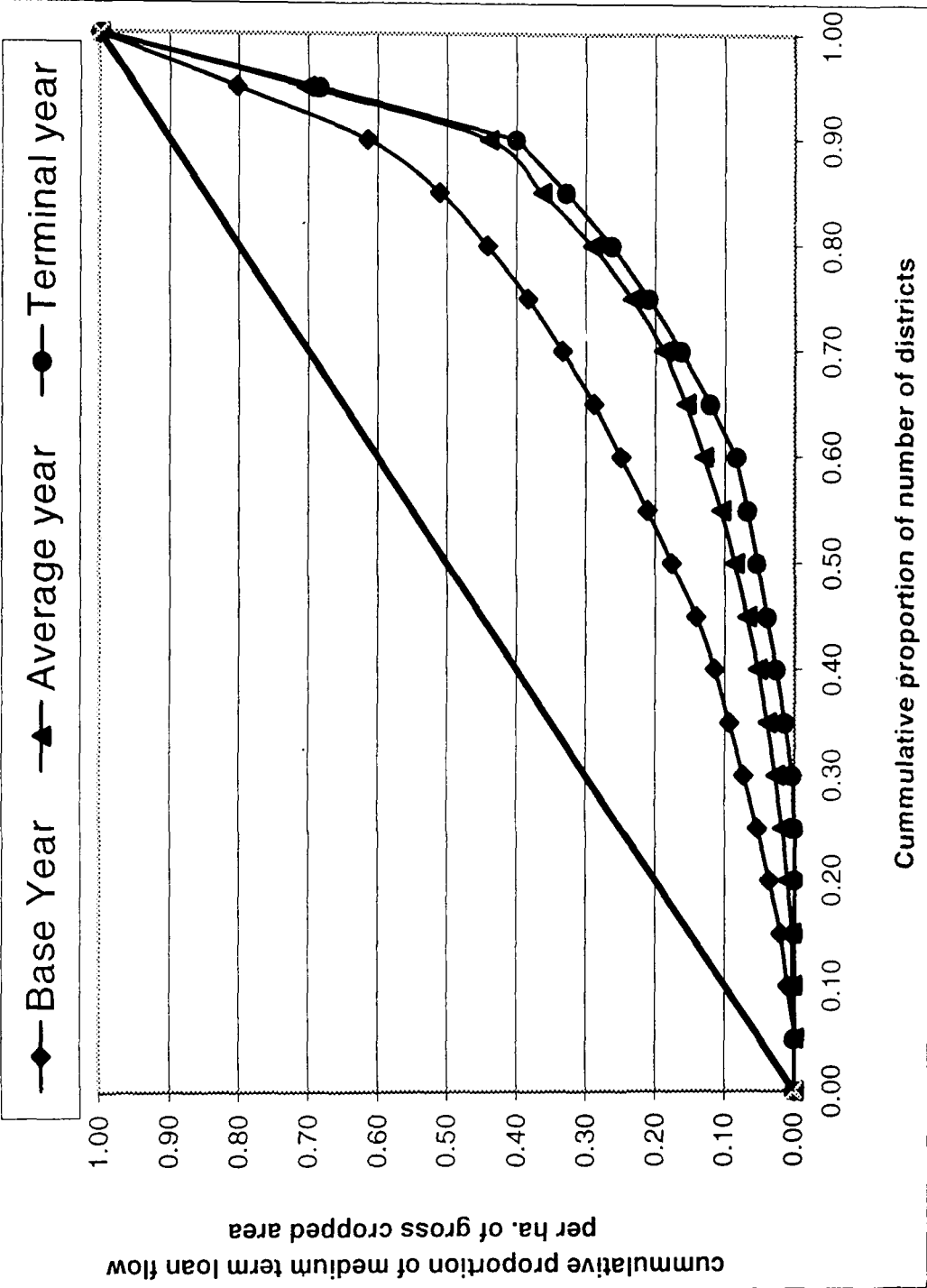


Fig. 2: Lorenze Curve for medium term credit



unequal distribution of agricultural credit among districts during the study period 1986/87 to 1997/98 in Karnataka state.

The extent of inequality of the distribution of agricultural credit flow can also be determined by the Gini concentration ratio. The closer the ratio to 1, the greater is the degree of inequality and vice versa.

The Gini ratio was calculated separately for short term agricultural credit and medium term agricultural credit flow for the base year, average year and terminal year. The Gini ratio was 0.57, 0.58 and 0.61 for the base year, average year and terminal year respectively for short term agricultural credit flow. The Gini ratio was 0.54, 0.59 and 0.61 for the base year average year and terminal year in that order, for medium term agricultural credit flow in Karnataka state during the study period extending from 1986/87 to 1997/98.

Since, the Gini ratio was over 0.5 in all the cases both for short term agricultural credit flow and term agricultural credit flow, we can conclude that there was inequality in the flow of agricultural credit among district in Karnataka State during the study period (1986/87 to 1997/98).

4.4 Factors influencing flow of short term agricultural credit

To analyze the factors causing district-wise inequality in credit flow, simple multiple linear regression analysis using cross section data and the technique of pooled data was employed. A multiple linear regression function was estimated to determine the relative impact of different factors on credit flow. In order to capture the effect of space and time simultaneously, pooling of time series and cross sectional data was attempted

Table-4.39: Factors influencing district-wise disbursal of per hectare short term agricultural credit flow in the state results of multiple linear regression (for cross-section data of 20 districts for 12 years)

Sl.No.	Variable		Regression coefficient
1.	Constant		-221.96** (112.2)
2.	Term agricultural credit (Rs.)	(X ₁)	5.4692*** (0.2675)
3.	Irrigation	(X ₂)	673.14** (258.9)
4.	Commercial crops	(X ₃)	576.74** (228.70)
5.	High yield varieties	(X ₄)	-475.10* (285.8)
6.	Fertilizer consumption (kg/ha)	(X ₅)	1.3856** (0.6137)
7.	Rainfall (mm)	(X ₆)	-0.00323 (0.0414)
8.	Deposits (Rs.)	(X ₇)	0.50349*** (0.05452)
		R ²	0.86
		d.f.	232, 8

*** = Significant at 1% level

** = Significant at 5% level

* = Significant at 10% level

Figures in parenthesis indicate standard errors

4.4.1 Multiple linear regression analysis (with cross section data)

In order to identify the factors influencing the flow of short term agricultural credit flow from PACS during the period from 1986/87 to 1997/98 in Karnataka, regression analysis was resorted to. To enhance efficiency of the parameters, Multiple linear regression was employed for the state as a whole to analyze the factors responsible for the district-wise inequality in per hectare short term agricultural credit flow. The regression analysis using various independent variables was estimated. The results are presented in table 4.39. The regression equations were found to be adequate as depicted by large R^2 .

The results of regression showed positive influence of all variables except rainfall, which was found negative and statistically non-significant. The coefficient of high yielding variety was found negative, but statistically significant at the ten per cent level.

The variables like term agricultural credit per hectare and deposits were found to be highly significant (significant at one per cent) and the variables like irrigation, area under commercial crops and fertilizer consumption were found to be significant at five per cent with positive influence on short term credit flow.

The variables like term agricultural credit per hectare, irrigation, commercial crops, high yield variety, fertilizer consumption and deposits explained 86.76 per cent of variations in short term agricultural credit flow in districts.

4.4.2 Multiple linear regression analysis (with panel data)

The factors causing short term credit flow were studied using pooling of time series and cross section data of 20 districts for twelve years using multiple linear regression technique. In order to study the relevance of the factors influencing the district wise flow of short term agricultural credit, the period from 1986/87 to 1997/98

Table-4.40: Factors influencing district-wise disbursal of per hectare short term agricultural credit flow in the state results of multiple linear regression (pooling of time series and cross sectional data of 20 districts for 12 years)

Sl.No.	Variable	Regression coefficient
1.	Constant	-79.002 (54.92)
2.	Term agricultural credit (Rs.) (X ₁)	5.1556*** (0.2497)
3.	Irrigation (X ₂)	596.36*** (138.7)
4.	Commercial crops (X ₃)	226.27* (117)
5.	High yield varieties (X ₄)	-356.89** (138.8)
6.	Fertilizer consumption (kg/ha) (X ₅)	0.14653 (0.3672)
7.	Rainfall (mm) (X ₆)	0.003972 (0.02279)
8.	Deposits (Rs.) (X ₇)	0.47427*** (0.03976)
	R ²	0.91
	d.f.	232, 8

*** = Significant at 1% level

** = Significant at 5% level

* = Significant at 10% level

Figures in parenthesis indicate standard errors

was considered in order to enhance efficiency of the coefficients with more degrees of freedom. Pooling of time series and cross section data (panel data) multiple linear regression analysis was run for the state as a whole to analyze the factors responsible for district-wise inequality in per hectare short term agricultural credit flow.

The results are presented in table 4.40. The combination of the independent variables provided a good fit as reflected by the value of R^2 , which represents the proportion of total variation in dependent variable explained by the independent variables included in the model. The coefficient of multiple determination adjusted for degrees of freedom was 91 per cent.

Among the independent variables, the regression coefficients of term agricultural credit per hectare, irrigation and deposits per membership were found positive and statistically significant at one per cent level. High yield variety was found negative and significant at the five per cent level. Area under commercial crops was found to be positive and significant at the ten per cent level. In addition to this, fertilizer consumption and rainfall were found positive but statistically non-significant.

The magnitude of the regression coefficients was of 5.15, 596.36, 226.27, -356.89 and 0.47 for the independent variables of term agricultural credit per hectare, irrigation, area under commercial crops, area under high yield variety and deposits per membership respectively which were statistically significant.

4.5 Ranking of districts based on cooperative development

The ranking of the districts was made on the basis of the compound growth rate registered by each districts with reference to different indicators of cooperative development mentioned below and the result obtained are presented in table 4.41.

4.5.1 Membership

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Dakishina Kannada registered the highest compound growth rate of 4.26 per cent with reference to membership and thus a score of seven was assigned to it. The districts of Chikmagalur, Hassan and Gulbarga which registered CGR of 3.35 per cent, 3.05 per cent and 2.90 per cent respectively were assigned a score of six each. Shimoga, Dharward and Mandya districts were allotted score of the each since they registered low CGR.

4.5.2 Share capital

Districts like Chikmagalur, Bangalore rural, Dakishina Kannada, Belgaum, Bidar and Mandya registered a high CGR of 12.64 per cent, 11.07 per cent, 11.07 per cent, 10.74 per cent, 10.40 per cent and 10.29 per cent with reference to share capital respectively and obtained scores of seven each. Chitradurga district each was allotted score of one since it registered the least CGR.

4.5.3 Deposits

With respect to deposits, Bangalore rural district was assigned with score of seven. Chitradurga district obtained score of one. The district obtained low score point since it registered negative compound growth rate during the study period.

4.5.4 Working capital

The districts of Bidar, Mandya, Dakishina Kannada, Ultra Kannada, Belgaum and Kodagu registered high CGR of 14.11 per cent, 13.20 per cent, 12.41 per cent, 12.19 per cent, 11.07 per cent and 10.85 per cent, respectively with reference to working capital and thus obtained a score of seven each. Chitradurga district obtained score of one since it registered negative compound growth rate during the study period.

Table-4.41: Ranking of districts based on cooperative development

Sl.No.	Districts	Membership	Share Capital	Deposits	Working Capital	Loans Advanced	Loans Recovered	Loans Overdues	(Scores)	
									Total Scores	Rank
1	Bangalore (Urban)	5	5	6	5	3	3	6	32	
2	Bangalore (Rural)	5	7	7	6	6	6	4	41	II
3	Chiradurga	3	1	1	1	1	1	7	15	
4	Kolar	5	6	5	5	5	5	4	35	
5	Shimoga	1	5	4	5	5	5	1	26	
6	Tumkur	5	6	5	5	4	4	2	30	
7	Belgaum	4	7	6	7	6	6	6	42	I
8	Bijapur	5	6	6	5	6	6	4	39	
9	Dharwad	1	6	5	4	6	6	3	32	
10	Uttara Kannada	5	6	5	7	7	7	3	40	III
11	Chickmagalur	6	7	6	6	5	5	4	39	
12	Dakshina Kannada	7	7	5	7	5	5	3	37	
13	Hassan	6	5	5	5	5	5	3	33	
14	Kodagu	4	6	5	7	6	6	7	41	II
15	Mandya	1	7	6	7	2	2	3	29	
16	Mysore	3	5	5	4	4	4	6	31	
17	Bellary	4	5	5	6	4	4	3	30	
18	Bidar	7	7	4	7	6	6	2	40	III
19	Gulbarga	6	6	6	5	6	6	1	35	
20	Raichur	2	5	6	6	3	3	5	27	

4.5.5 Loans advanced

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Uttra Kannada, Dharward, Bijapur and Bidar districts registered a high compound growth rate of 23.99 per cent, 22.88 per cent, 20.80 per cent and 20.80 per cent in that order with reference to loans advanced. Thus they were assigned a score of seven each. The districts of Chitradurga and Raichur with low CGR of -0.90 per cent and 5.87 per cent were assigned scores of one and two, respectively.

4.5.6 Loans recovered

Uttra Kannada district with CGR of 24.86 per cent in four recovery was assigned a score of seven. Dharward, Kodagu, Belgaum, Bijapur, Bidar, Gulbarga and Bangalore rural obtained score of six each with CGR of 20.0 per cent, 18.41 per cent, 18.06 per cent, 17.70 per cent, 16.65 per cent, 16.07 per cent and 14.11 per cent respectively with reference to loans recovered. Districts of Chitradurga and Mandya could rank scores of two and one respectively, since they had registered lower of four of -5.92 per cent and 0.10 per cent in that order.

4.5.7 Loans overdue

The districts of Chitradurga and Kodagu were assigned score of seven with reference to loans overdue, since they registered relatively low compound growth rate with reference to loans overdue (i.e., -8.61 per cent and -7.50 per cent respectively). Gulbarga and Shimoga districts scored score of one each, since they registered high compound growth rate of 12.41 per cent and 10.30 per cent in that order with reference to overdue.

4.5.8 Overall ranking

Belgaum district was ranked first since it obtained the highest aggregate score followed by Kodagu and Bangalore rural with 41 each and districts of Uttra Kannada and Bidar with scores 40 each. Chitradurga districts which got the score of 15 has been ranked the lowest in the cooperative development.

DISCUSSION

CHAPTER V

DISCUSSION

The results of the study presented in the previous chapter pertaining to the performance analysis of primary agricultural credit cooperative societies in all the districts of Karnataka are discussed in this chapter. The discussion is presented under the following Heads.

5.1 Performance analysis of PACS

The performance of PACS in Karnataka, district-wise, was analyzed by through different indicators like number of PACS, membership, financial resources, advances, recovery etc.

5.1.1 Number of PACS

The number of PACS in each district is one of the measures which helps us to evaluate the performance of PACS in the state. During the early stages of cooperative movement, it was the policy of the Government to encourage the organization of PACS on the basis of 'one village one society' principle. Because of this principle, to begin with, a large number of PACS were started in each district with the broad view of uplifting the weaker and vulnerable sections of the rural community.

The All India Rural credit Survey Committee as well as the Committee on Cooperative Credit pointed out that even though the numerical strength of the societies was increased at the early stage of cooperative movement, the quality rather than the economic strength of most of the societies was so poor that it resulted in the increase in the number of defunct societies. For this reason, these committees recommended the reorganisation and establishment of economically strong primary Agricultural credit cooperative societies. This resulted in a decline in the number of PACS in each district during the study period.

It can be observed that, during the period 1986/87 to 1994/95 a gradual decline in the number of PACS occurred from 4732 to 4277 (Table 4.1). This was because the state government was armed with the necessary statutory power for the early completion of the viability programme.

Thus the reorganisation of PACS in all the districts of the state was effected in order to improve their economic performance and working conditions. Similar trend in reduction of number of PACS in Karnataka was also reported by Bhat and Rao (1981) and Vasudev (1984).

5.1.2 Membership

The performance of the PACS based on average membership per society criterion is a better indicator than the total membership. The average membership per society for the entire state increased from 883 in 1986/87 to 1149 members in 1997/98 (Table 4.3). The top position in per society membership was noticed in the districts of Dakshina Kannada, Bangalore urban, Bangalore rural and Tumkur. There was an increasing trend in membership per society in all the districts over the years, though the magnitude of increase differed among the districts. It may be inferred that the performance was reasonable and satisfactory in terms of membership per society in PACS of different districts. The large membership per society adds to its strength of activities. Larger the number of members, larger will be the quantum of its own funds, which gives more financial / economic strength to function effectively by extending service to more members. Similar trend in membership per society was also noticed by Das and Hanumappa (1967), Chamola and Hasija (1982), Gracy (1983) and Vasudev (1984). Increased membership means larger amount of lending, higher interest margins and more profit to the society.

5.1.3 Financial resources

The financial strength of the PACS in different districts of the state over the years can be examined through their financial resources such as share capital, working capital, deposits and own funds. The membership strength and capital position are the two necessary ingredients that will lead any cooperative society to success. This is more so with the primary Agricultural Credit Societies.

The capital structure consists of owned funds and borrowed funds. Owned funds include share capital and reserves, while borrowed funds include deposits and loans from outside. The sum total of owned funds and borrowed funds is the working capital. The financial strength of a society is judged by the proportion of owned funds to working capital. The amount of owned funds decides the society's borrowing power. It is a common rule for any type of cooperative organization that every member on admission should subscribe to atleast one share, there is a ceiling also that no member can attribute to more than one fifth of the total authorized share capital.

5.1.3.1 Share capital

An increasing trend in the total share capital between 1986/87 and 1997/98 reflect the move towards the financial soundness of PACS in the districts studied. The total share capital, as an important indicator of resources position of PACS, showed an increase from Rs. 62.27 crores in 1986/87 to Rs. 170.43 crores in 1997/98 (Table 4.4). The highest share capital was in Belgaum (Rs. 31.53 crores) while the lowest was in Bangalore urban (Rs. 1.55 crores) in 1997/98. The districts of Belgaum, Dakshina Kannada, Mandya and Dharward had relatively higher share capital than the other districts through the period of study. The total amount of share capital in PACS may depend upon the number of societies which may be related to the size of districts. Hence, the trend in per society as well as per member share capital were calculated to judge the financial strength of the PACS. The per society share capital had increased four folds from Rs. 1.31 lakhs in 1986/87 to Rs. 4.29 lakhs in 1997/98. Among the

districts, Kodagu had the highest share capital per society (Rs. 1082200) followed by Dakishna Kannada (Rs. 1070000) and Belgaum (Rs. 615900) in the terminal year of the study period. Gulbarga, with an average of Rs. 144100, had the lowest share capital per society.

The share capital per member also increased over the years in all the districts. Belgaum had the highest share capital in 1986/87, where as Kodagu had the highest per member share capital. Bangalore urban had the lowest share capital, whereas Tumkur had the least share capital per member. The lowest share capital per member was also noticed in Assam among all states during 1959/79 by Gracy (1983).

In brief, according to "All India Rural Credit Survey Committee", one of the main causes for failure of cooperatives was the poor financial position. One of the ways suggested by the committee was, contribution by the Government to the total share capital of societies in order to strengthen its capital position. Government contribution to share capital has increased over the years from Rs. 11.9 crores in 1986/87 to Rs. 30.99 crores in 1997/98 (Table 4.7), representing 19.11 per cent and 22.85 per cent to the total share capital respectively. The results of this study reveal that the Government contribution to total share capital of the PACS during the study period increased by 3.74 per cent at the state level. The increase in total share capital of PACS in Karnataka over the years was mainly due to increased number of members and increased contribution by Government to the total share capital.

Since share capital is the major component of owned funds, proportion of share capital to working capital will enable us to determine the self reliance of primary agricultural credit cooperative societies. That is why the self-reliance of a cooperative society was examined through its proportion of owned funds to working capital. During the base period of the study (1986/87), 11.53 per cent of the working capital of PACS in Karnataka was made-up of share capital (Table 4.9). This percentage came down to

11.23 per cent during the terminal period of the study (1997/98). The percentage of share capital to working capital of PACS in Karnataka had decreased in all the districts of Karnataka except Belgaum, Bijapur, Chikmagalur and Mysore.

5.1.3.2 Deposits

There is an increase in deposits of PACS in Karnataka during the study period from Rs. 122.24 crores in 1986/87 to Rs. 277.95 crores in 1997/98 (Table 4.10). The average deposits per member is a better indicator of the performance of PACS in different districts. Deposits per member for the Karnataka state as a whole increased from Rs. 2.58 lakhs in 1986/87 to Rs. 6.32 lakhs in 1997/98 (Table 4.11). Deposits per member were relatively large in the districts of Dakishina Kannada (Rs. 38.10 lakhs), Kodagu (Rs. 24.75 lakhs) and Uttar Kannada (Rs. 10.13 lakhs) and low in the districts of Bidar (Rs. 7200), Dharward (Rs. 20300) and Mandya (Rs. 23900) during the base period of the study (1986/87). In 1997/98, the average deposit per member was as high as Rs. 76.48 lakhs in Dakishna Kannada and Rs. 52.35 lakhs in Kodagu and as low as Rs. 2200 in Bidar, Rs. 54600 in Gulbarga and Rs. 57600 in Chitradurga district.

The self reliance of a cooperative society can be examined through the proportion of deposits to working capital. In other words this proportion indicates the level of dependence of a society on external source of funds. The principle of increasing risk clearly emphasises that larger the proportion of deposits to working capital, greater would be the financial strength and stability of the society. The growth of deposits helps PACS to reduce their reliance on external resources. Krishnaswamy (1973) stressed the need for deposit mobilization in the efficient running of the rural credit institutions.

Though there is no clear cut percentage that any particular society should have, the trend over the years would reflect the performance of any cooperative society. Mehta (1963) observed that deposits to working capital ratio is an effective measure to evaluate the functioning of cooperative credit societies. Perusal of the Table 4.12 shows

that percentage of deposits to working capital of PACS in Karnataka decreased throughout the study period. The percentage of deposits to working capital of PACS in Karnataka decreased from 22.6 per cent in 1986/87 to 17.7 per cent in 1997/98. Dakishna Kannada topped the list in this respect in both the base and terminal years with the figures being 92.3 per cent and 50.2 per cent, respectively. Except in Bangalore urban, Bijapur, Uttar Kannada, Chikmagalur, Dakishina Kannada, Kodagu and Mysore the percentage of deposits to working capital was below 10 per cent in all the other districts. This shows that in Karnataka state most of the PACS made poor performance in attracting deposits and their dependence on outside borrowings has always been large during the study period. Gracy (1983) and Vasudev (1984) observed a declining trend of the proportion of deposits to working capital and obviously the performance of the PACS in different states of India and different districts of Karnataka over the years indicated a declining trend.

The primary agricultural credit society will be stronger if it can mobilise the requisite resources on its own. To make the primary society depend on its internal resources, to meet its financial needs and to foster self-reliance, promotion of thrift and savings has been one of the most important objectives which cooperative movement set before itself from the time of its inception in the country.

Deposits being one of the internal resources of PACS, RBI (1966) suggested that besides other things, percentage of deposits to working capital is an important indicator of effectiveness of agricultural credit. However, except in the districts of Bangalore urban, Uttar Kannada, Chickmagalur, Dakishna Kannada, Kodagu and Mysore other districts had a very low percentage of deposits to working capital. Reasons for this state of affairs are varied. In general the rural people are left with very little savings to keep in any organization as deposits. Moreover, the return on the deposits is not attractive when compared to the competitive rate of interest offered by other banking organizations. Deposits in PACS in Karnataka being very less, the PACS

in Karnataka should intensify the efforts to increase deposits which in turn will strengthen their financial position.

5.1.3.3 Working capital

The total working capital and working capital per member is another financial criterion which can be used to measure the potentialities of PACS for undertaking credit and service activities. The working capital of PACS include share capital, reserve and other funds, deposits and borrowed funds. The changes in the working capital over the years also reflect the financial strength of the societies, particularly the per member working capital.

All the districts of the state registered a gradual increase in the total working capital between 1986/87 and 1997/98 (Table 4.13). Similar results were also reported by Partwardhan and Dharmaraj (1966), Tiwari (1969) and Gracy (1983). Working capital has increased in all the districts during the study period. The improvement that is observed regarding working capital in all the districts of Karnataka can be attributed to the improvement that has take place in the components of working capital such as share capital and deposits. Working capital for the state as a whole increased from Rs. 539.9 crores in 1986/87 to Rs. 1573.2 crores in 1997/98. Working capital per member for the state as a whole increased in all the districts during the period, except in the districts of Bangalore urban, Belgaum and Kodagu. Increase in per member working capital of PACS in most of the districts of Karnataka might be due to the per member increase that has taken place regarding the components of working capital such as share capital and deposits.

5.1.4 Loans advanced

The performance of the PACS in all districts of Karnataka regarding the credit activities was analysed based on the total loans advance and loans advanced per member (Table 4.15 and 4.16 respectively). The credit facilities comprise of short and

medium term loans to agricultural sector. Advancing loans to members with a view to improve their economic conditions of the rural community is the main function of the PACS. Primary Agricultural credit Cooperative Societies advance both short and medium term loans. The present practice is to advance loans only for agricultural purposes. That is why short term loan is advanced for a period of one year for the purpose of meeting the expenditure towards current agricultural operations, like purchase of fertilizer, seeds, pesticides, payment of land revenue etc. Medium-term loans are advanced for the purpose of purchase agricultural implements and equipments, purchase of cattle, digging or repairing wells, and for construction of small irrigation facilities including installing pumpsets. The amount of medium term loan required the above mentioned activities comparatively larger and the repayment is made on annual installment basis. The period of medium term loans ranges from 3 to 5 years.

The credit facilities comprise of short and medium term loans to agricultural sector. There is a commendable increase in the amount of loans advanced by PACS in Karnataka state during the study period (1986/87 to 1997/98). Total loans advanced by PACS for the state as a whole increased from Rs. 199.90 crores in 1986/87 to Rs. 1064.25 crores in 1997/98. Out of the total advance of Rs. 1064.25 crores in 1997/98, short term advances accounted for Rs. 960.369 crores and medium term advances were Rs. 103.88 crores. The average loan advanced per member, including non-borrowing members, has increased from Rs. 478.36 in 1986/87 to Rs. 2108.12 in 1997/98. During the terminal year, the average loan advanced per member ranged from Rs. 400.15 (Bangalore urban) to Rs. 7331.85 (Kodagu). Hence it is imperative to increase the amount of loans advanced to members in most of the districts. The per member advances were the highest in Kodagu because, the PACS there had a larger working capital and less membership (Tables 4.2 and 4.13). On the other hand district per member advances was the lowest in case of Bangalore urban because it had lower working capital and less membership. Hence, this has resulted in low advances per member in Bangalore urban district. The total loans issued per member had increased in

all the districts of Karnataka state during the study period from 1986/87 to 1997/98 (Table 4.16).

The proportion of short term loans in total loans advanced by PACS in Karnataka state increased from 80 per cent in 1986/87 to 90 per cent in 1997/98. The medium term loans advanced by PACS in Karnataka state decreased from 20 per cent in 1986/87 to 10 per cent in 1997/98. This reflects that a major proportion of the total lending by PACS was in the form of short term loans and only 10 per cent was in the form of medium term loans. In addition to this, the analysis shows that out of 20 districts, four districts provided more than 90 per cent, five districts provided more than 80 per cent and four districts provided more than 70 per cent of total loan as short term loans in the base year. Thus it can be inferred that the PACS have started to specialise in short term advances. This might be because of the perception that PCARD Banks, RRBS and commercial banks are there to take care of the term loan needs of farmers.

5.1.5 Total loans recovered

The recovery of the loans is another criterion used to measure the performance as well as efficiency in management of cooperatives. The borrowers should repay the loan amount along with the agreed rate of interest within the specified period of time according to the negotiation, terms and conditions of the loan. As for the short term loans are concerned, the borrower is required to bring his product to the marketing society to which the credit society is affiliated for marketing. The society shall arrange for the selling of the produce at a rate acceptable to the producer, and from such sale proceeds deduct the loan amount due from a member to the credit society. Though such linking of credit with marketing is accepted in principle and agreed upon by the borrowers, many do not bring their produce to the marketing society for sale. In reality, very few societies are linked with primary marketing societies for adjusting the sale proceeds to the loan recovery.

In general, the reasons for poor recovery and non-repayment of the loans in time are crop failure due to disease or any other natural calamity, misuse of loan, failure to comply with the terms of credit and willful defaulters.

There are certain factors on the part of the lending institutions which also lead to hardships in recovering the loans advanced in time. Mariyanthan (1974) listed factors such as unsound lending policies, unsatisfactory management and inadequate supervision. He observed that, in almost all developing countries, it is only too easy to distribute agricultural credit, but extremely difficult to recover it. That is why recovery of loans is the major problem faced by cooperatives.

The recovery performance of credit institutions is of paramount importance for any further credit expansion. No credit institution can increase its credit supply unless the recovery of its loans is satisfactory. The recovery position reflects on the success or failure of the society as also the entire cooperative movement. Prompt recovery of loans on due dates on the part of any credit system is an important test for judging its efficiency. Galgaliker and Bhole (1972) pointed out that the success of the cooperative credit societies depended not only on the extent of advances but also mainly on the position of recoveries effected.

The PACS cannot make any progress, unless the loans advanced are recovered promptly. Credit cannot be dynamic as an agent of agricultural development if the credit cycle is not repeated. This lead to many consequences making the societies in-operative and some times resulting in closure, depriving of further capital investment in agriculture, there by hampering agricultural production itself. Hence it is considered that, "the proper recovery of loans is not only pre-requisite for a rapid expansion of agricultural credit, but also question of life or death for any credit lending institution". It is more true because, if members default to the agricultural credit societies, the latter cannot meet its obligation to central bank beyond the limited extent to which it has free

own resources for the purposes. Ultimately the failure of repayment of loan on the part of borrowers and recovery on the part of societies result in the increasing overdues.

The total loans recovered by PACS in Karnataka state has increased from Rs. 166.16 crores in 1986/87 to Rs. 770.73 crores in 1997/98 (Table 4.22). Loans recovered per member have increased from Rs. 313.7 in 1986/87 to Rs. 655.2 in 1989/90 and then after decreased to Rs. 464 in 1997/98. The loans recovered per member was uneven in its progress during the study period (Table 4.22).

5.1.6 Loans outstanding

The loans outstanding is one other criterion used to assess and evaluate the growth as well as the efficiency in management of PACS. The results of total amount of loans outstanding and amount of loans outstanding per member are presented in Tables 4.23 and 4.24, respectively.

The increase in total loans outstanding is an indicator of the poor performance of PACS in the state. The total loans outstanding by PACS in Karnataka state has increased from Rs. 314.89 crores in 1986/87 to Rs. 984.18 crores in 1997/98.

Loans outstanding per member of PACS in Karnataka state have increased from Rs. 753.3 in 1986/87 to Rs. 1949.5 in 1997/98 (Table 4.24). However loans outstanding per member marginally increased to Rs. 1019.4 in 1989/90 and it was uneven upto 1994/95. Thereafter, loans outstanding per member increased from Rs. 983.7 in 1995/96 to Rs. 1949.5 in 1997/98.

5.1.7 Loans overdue

The total overdues, overdues per member and percentage of overdues to outstanding loans are the three criteria which help us to assess the performance of PACS. The overdues in the PACS have been posing serious problems. Although efforts

have been made by the Government and the institutions concerned, there has not been considerable impact in reducing the quantum of overdues. This is evident from the mounting overdues of PACS in all the districts of Karnataka over the years. It may be stated that this is the most important factor for the dormant condition of a very large number of PACS in different districts of Karnataka. The increase in overdues in different states of India over the years was also reported by Rangachar (1969), Winfred (1972), Bhuyan and Mohanty (1973) and Gracy (1983). The increase in overdues in different districts of Karnataka over the years was also reported by Vasudev (1984). Reddy (1981) had indicated in his study in Srinivasapur taluk of Kolar district, Karnataka that low off-farm income, more capital investment and low net farm returns to be the possible reasons for increasing overdues among farmers.

The amount of overdues of PACS in all districts of Karnataka during the study period rose from Rs. 131.09 crores in 1986/87 to Rs. 234.22 crores in 1997/98 (Table 4.25). Loans overdue per member have increased steadily from Rs. 313.70 in 1986/87 to Rs. 464.00 in 1997/98. During the terminal year of the study period, loans overdue per member ranged from Rs. 167.9 in Mysore to Rs. 1224.0 in Dharward. There was a decline in overdues per member from base year (1986/87) to terminal year (1997/98) in Bangalore urban, Belgaum, Kodagu and Mysore districts. The possible reasons for this may be that, the above mentioned districts have good irrigation facilities, commercial crops, improved infrastructure and access to market and thus the borrowers had better scope for the full utilization of credit, which helped in obtaining additional income. Thus they were able to repay the loans in time.

Percentage of overdues to outstanding loans is an important indicator of effectiveness of agricultural credit (RBI, 1966) and Mehta (1963). The percentage of overdues to outstanding loans steadily increased from 41.63 per cent in 1986/87 to 64.10 per cent in 1991/92 and thereafter decreased to 23.80 per cent in 1997/98. This percentage was maximum in 1991/92 at 64.10 per cent.

The performance analysis of the districts of Karnataka state shows that some districts are virtually at a point of danger of total failure and most of the districts are in a position of satisfactory condition. During the base year (1986/87), in the district of Gulbarga, the percentage of overdues to outstanding loans was as high as 70.73 per cent followed by Dharward (65.68 per cent), Bijapur (57.69 per cent) and Shimoga (55.91 per cent). The position is satisfactory only in a few districts like Dakishna Kannada 9.57 per cent and Uttar Kannada (27.17 per cent). This shows that a large number of societies are not in a position to recover the loans advanced resulting over dues. Despite this status, they continue advancing fresh loans every year.

The problem of overdues is acute and requires greater attention on the part of Government in formulating future policies. This also calls for greater skills on the part of cooperative administration to bring down this menace.

5.2 Growth rate of performance indicators of PACS in Karnataka

5.2.1 Number of PACS

It is evident from the results that the number of PACS declined at the rate of 0.87 per cent per annum for the state as a whole (Table 4.28). The negative compound growth rate ranged from 0.09 per cent per annum in Chitradurga to 4.92 per cent per annum in Dharward district. This indicates that the reduction in number of PACS in Karnataka state was the highest in Dharward district and least in Raichur district. The CGR for Kodagu district was zero implying that there was no change in number of society in Kodagu district.

5.2.2 Membership

The progress and performance of the PACS based on the membership criterion indicated that the total membership of PACS did not increase significantly in the state (Table 4.29). The CGR of total membership ranged from 1.33 per cent in Mysore district to 4.26 per cent in Dakishina Kannada district. The growth of membership of

PACS is not consistent across districts and that 12 districts did not show any growth in membership. Part of this can be explained by the negative growth rate in the number of PACS. When a PACS is closed, not all its members would go to the other PACS with which the former was merged due to the affiliated PACS being away from the village or any other such factor. One other observation is that in the districts of Tumkur and Bellary there was no significance change both in the number of PACS and the membership.

5.2.3 Share capital

It can be observed from Table 4.30 that share capital of PACS did not increase in Karnataka during the study period. The districts of Mandya and Kodagu registered high growth with respect to share capital. Bangalore urban district registered the least growth of 3.35 per cent. It may be noted that the district of Kodagu which registered high rate of growth of share capital also registered a significant growth of membership. Thus, Kodagu district which registered 8.76 per cent growth of share capital also registered 2.10 per cent growth with respect to membership.

5.2.4 Deposits

The growth of deposits which helps the PACS to reduce their reliance on external resources is another indicator of performance of PACS. It is observed from the Table 4.31 that deposits of PACS grew by 9.42 per cent annually for the state as a whole. The districts of Bangalore urban (19.12 per cent), Bijapur (14.34 per cent), Chikmagalur (13.54 per cent) and Belgaum (13.20 per cent) registered a fairly high CGR with respect to deposits. Thus, the finding of the study reveals that 18 districts of the state have been able to increase their deposits during the study period from 1986/87 to 1997/98.

5.2.5 Working capital

It is observed from Table 4.32 that working capital of PACS increased at the rate of 8.65 per cent annually for the state as a whole. The growth of the working capital of PACS reveals that the districts of Bidar (14.11 per cent), Mandya (13.20 per cent), Uttar Kannada (12.19 per cent) and Belgaum (11.07 per cent) registered comparatively higher CGR than the remaining districts. But, barring Belgaum which improved its position of the working capital to rank among the top districts, other districts mentioned above had low working capital to begin with. This might be one of the reasons for high growth rate registered by these districts. Working capital has increased significantly in 15 districts of Karnataka state during the study period (1986/87 to 1997/98). The improvement that is observed regarding working capital in 15 districts of Karnataka can be attributed to the improvement that has taken place in the components of working capital such as share capital, deposits and increased borrowings.

5.2.6 Loans advanced

The assessment of the PACS based on the loans advanced criterion indicated that the total loans advanced increased significantly yielding a compound growth rate of 16.18 per cent (Table 4.33). When we look into the growth rates of working capital, advances and membership together (Tables 4.32, 4.33 and 4.29) it reveals that the working capital increased at the rate of 14.11 per cent annually and advances increased at the rate 20.80 per cent annually in Bidar district, whereas the membership increased at 4.14 per cent annually. Because of larger advances and low membership, the per member advances were more in Bidar district.

5.2.7 Loans recovered

It is observed from Table 4.34 that loans recovered by PACS increased at the rate of 15.37 per cent annually for the state as a whole. The districts of Uttar Kannada (24.86 per cent), Dharward (20.08 per cent), Kodagu (18.41 per cent) and Belgaum (18.06 per cent) registered high CGR with respect to loans recovered. The reason

for this, may be that they had recovered less amount during base year 1986/87, and have steadily increased their recovery position over the years of the study period. The district of Chitradurga registered a negative CGR of 5.92 per cent with reference to loans recovered. This may be attributed due to poor irrigation facilities in the district.

5.2.8 Loans outstanding

It is evident from the results (Table 4.35), that the loans outstanding increased at 7.57 per cent in the state. The districts of Bidar (16.07 per cent), Belgaum 912.3 per cent) Uttar Kannada (11.96 per cent) and Bangalore rural (8.22 per cent) have registered high CGR with respect to loans outstanding. The district of Mysore registered a CGR of 8.24 per cent with reference to loans outstanding.

5.2.9 Loans overdues

The overdues of the primary agricultural credit societies (PACS) has not changed for the years as depicted by insignificant growth rates (Table 4.37). The growth of overdues of PACS is not consistent across districts and that 14 districts did not show any growth in overdues. Part of this can be explained by the negative growth rate in loan overdues. It could be observed that a significant growth has been seen in case of Shimoga, Tumkur, Dakishina Kannada, Kodagu, Mysore and Gulbarga. The district of Gulbarga recorded the highest growth rate of 12.41 per cent in loans overdues, while the lowest growth rate of 6.29 per cent was in the case of Dakishina Kannada district.

The growth rates of working capital, loans advanced, loans recovered and loans outstanding were positive and increasing while the growth rate of overdues was positive and insignificant between 1986/87 and 1997/98. The rates of increase were different between the districts. Since the loans overdues position is also insignificant, no definite conclusion can be drawn on the performance except that PACS have recorded better performance, if the overdues position is taken into consideration.

5.3 Inter-district inequality in PACS credit flow

The district-wise inequality in per hectare credit flow in terms of agricultural credit had shown a tendency of widening the inequality over the years, as revealed by the increasing values of coefficient of variation and Theils entropy (Table 4.37). The inter-district inequality was also proved by using Lorenze curve and Gini ratio. The Gini ratio result shows that, term agricultural credit has shown a tendency of widening the credit flow inequality over the years. The increase in the inequality in term credit flow was statistically significant while that in short term credit flow was statistically insignificant.

The value of coefficient of variation increased from a low of 143.84 per cent in 1986/87 to 174.60 per cent in short term agricultural credit flow in 1997/98. The coefficient of variation had increased from 109.54 per cent in 1986/87 to 177.15 per cent in 1997/98 for term credit. Theils entropy had also increased from 0.51 in 1986/87 to 0.55 in 1997/98 in the case of short term agricultural credit flow and its increase for term agricultural credit flow was from 0.45 in 1986/87 to 0.63 in 1997/98. The Gini ratio had increase from 0.57 in 1986/87 to 0.61 in 1997/98 in short term agricultural credit flow, while, the Gini ratio had increased from 0.49 in 1986/87 to 0.70 in 1997/98 for term agricultural credit flow. Over the years, the deviations from the mean value of 20 districts with respect to per hectare credit flow had also increased substantially for all measures of inequality except for Theils entropy coefficient for term agricultural credit flow, indicating the widening of the inequality over the years. This goes to prove that PACS have not to a great extent, achieved their goal of more even spread of supply of credit across the districts. These results shows that, the policy makers of Karnataka state need to make efforts for even distribution of Agricultural credit among the districts for the achievement of uniform development in the state.

These observations are in line with the results of the studies made by Singh and Singh (1978) where in they observed the district-wise inequality in credit advanced per hectare in Punjab state.

The low correlation between the coefficients of variation of short term agricultural credit and term agricultural credit as well as that of Theils entropy coefficient revealed low degree of association between the short term and term agricultural credit inequality among the districts for all the years during the study period. This clearly establishes the lack of any link between short term agricultural credit and term agricultural credit. This calls for a greater degree of cooperation and coordination between the agencies supplying different types of credit under single agency approach.

5.4 Factors influencing flow of short term agricultural credit

The flow of credit to agriculture is supposed to be associated with the social, economic, policy and natural factors related to agricultural activities. The selection of variables is based on some a priori expectations so that these variables provide sufficient economic explanations. Irrigation is taken as a proxy for agricultural infrastructure and the commercial crops variable represent the extent of commercialization in agriculture. Both HYV and fertilizer use are taken as indicators of technological advancement in agriculture, and rainfall is taken as a proxy for climatic factor. Moreover, short terms loans and term loans were considered as important variables to affect one another. The results show that the short-term credit flow is influenced by flow of medium-term credit, irrigation, are under commercial crops and deposits. Rainfall was not found to be a significant factor. This clearly shows that agriculture infrastructure largely influences the flow of short-term credit across districts. The variations in infrastructure and agriculture performance in the districts has resulted in the inequality in short-term credit flow among different districts (Table 4.37 and 4.32).

To identify the factors responsible for the district-wise inequality in short term credit flow in Karnataka, both linear regression analysis and pooling of time series and cross sectional data regression analysis were used (Tables 4.39 and 4.40). The results obtained from both regressions were found to be the same with reference to statistical significance for term agricultural credit, irrigation, commercial crops, high yield variety and deposits. But, the results were different with reference to statistical significance for fertilizer consumption. Rainfall was insignificant in both cases.

The standard error of the coefficients was less in pooling of time series and cross sectional data regression analysis. Among the factors responsible for causing district-wise inequality in short term credit flow, term agricultural credit, irrigation, commercial crops, high yield varieties and deposits per membership were found to be significant (Table 4.40). The variables considered in the model explained 91 per cent of variation in the dependent variable, which testifies to the adequacy of the model.

The spread of irrigation in some districts has been the major factor causing district-wise inequality. This was evident from the highly significant regression coefficient value for irrigation. It is obvious that whenever there is an expansion of irrigation facilities, the gross cropped area also increased. As a result, the short-term agricultural credit flow increases. This may be due to the high cash intensity of irrigated agriculture. This is in conformity with the results of Honniah (1982), Dadibhavi (1988) Bhat (1991) and Surya Prakash *et al.* (1993).

The assessment of short term loan and term loan as a factor for each other has showed that they have a complementary relationship rather than showing a competitive trend. High level of seasonal agriculture operations necessitates the enhancement of fixed assets and conversely the increment in the scope of seasonal agricultural operations induces the need for capital formation to support these activities. As a result, the term loan advances contribute significantly to the growth of short-term credit. The

flow of short term loan, term loan and thereby total agricultural loan were found to be positively significant.

Area under commercial crops is another major factor influencing short-term credit flow as is generally to be expected and responsible for the intensive cultivation of high value crops for which credit flow is very high. From these results, it can be observed that agricultural credit by PACS has made an important contribution towards commercializing agriculture in the state and that commercialization of agriculture leads to larger short-term credit flow.

The contribution of the variable HYV was negative and significant. The contribution of the variable fertilizer consumption was positive and significant using regression analysis whereas it was positive but insignificant when time series and cross sectional data were pooled in the regression analysis. The variables HYV and level of fertilizer use, both reflect the level of technological advancement in the agricultural sector. Agricultural credit especially short term loan in the state mainly goes in the form of inputs such as fertilizer, HYV and other related inputs. The influence of high yield varieties on short-term credit flow is not in the expected line. This might be because of the fact that, the short-term credit is being advanced on the basis of cropped area, irrespective of whether high yield variety was used or whether fertilizer was applied in full. This might be on reasons for misuse of credit and the resultant increase in overdues.

As regard the climatic factor, the current year's rainfall was found to have no effect on the flow of agricultural loans. This may be due to the fact that, the decision on short-term advances is made by PACS for earlier to the beginning of crop season and that rainfall variation is apparent in the middle of season.

The deposit per membership found to be positive and significant. It refers to deposit of PACS and this is significant probably because the short term credit flow is linked with deposit working capital. The variables like crop intensity and average size land holding have not been included due to their inability to improve R^2 values of the model and the insignificance regression coefficients associated with them.

The results of this study with respect to the influence of irrigation and rainfall on short term credit flow are consistent with the results obtained by Bhat (1991) who worked out the influence of these factors on short term agricultural credit absorption in Karnataka for the period 1975-76 to 1988-89.

5.5 Ranking of districts based on cooperative development

Belgaum district ranked first with a total score of 42 (Table 4.41). This is because, it had registered high CGR with reference to variables such as share capital, working capital, deposits, loans advanced and loans recovered. Even with reference to membership, it has registered a fairly high CGR.

Kodagu and Bangalore rural districts with scores of 41 each are ranked second next to Belgaum district. Kodagu district has performed well with reference to working capital and loans overdues. Bangalore rural districts was exemplary with reference to share capital and deposits. Kodagu and Bangalore rural districts registered fairly high CGR with reference to the other variables also. Uttar Kannada and Bidar districts ranked third.

Chitradurga district with a score of 15 is ranked last. It registered low CGR with reference to all variables except loans overdues. It has registered negative CGR with reference to share capital, deposits, working capital, loans advanced and loans recovered. Thus its performance was indigent.

The reasons for high CGR registered by top ranked districts with reference to different variables is that they had a low base to begin with. This ranking does not show the efficiency of each district with respect to cooperative activity. It only shows the progress of these districts regarding PACS during the study period 1986/87 to 1997/98. However, this analysis can be taken as a basis for analysing the poor status in some of the districts. This will, in turn, help in evolving suitable measures for improving the performance of PACS in these districts.

SUMMARY AND CONCLUSION

CHAPTER VI

SUMMARY AND CONCLUSION

Credit is the life blood of modern agriculture and one of the accelerators for any development programme. This is particularly true for rural development, which has as its goal the increase in higher agricultural productivity as well as the improvement of standard of living of rural people. The primary agricultural credit societies (PACS) form the basic foundation on which the entire cooperative credit structure is built. They are the institutions having direct contact with the farmers. Moreover, of the cooperative movement consisting of different types of cooperative societies, it is these societies that form the bulk. Performance analysis of these societies is of a greater concern during these years. Hence, it may not be an exaggeration to state that the success of the cooperative movement in general and cooperative credit structure in particular, depends to a very large extent on the success of these primaries. Since the performance of these societies is varied in nature many economists argue that these cooperatives have failed and doubts are raised about the efficient functioning of the cooperatives in India. Hence, the present study was under taken to examine the performance of PACS by considering selected indicators such as number of societies, membership, financial resources, credit activities and analysis of district-wise inequality in agricultural credit flow in Karnataka.

The present study is an attempt to analyze the performance of PACS in Karnataka with the following specific objectives: -

1. To evaluate the performance of PACS district-wise in Karnataka during the period 1986/87 to 1997/98.
2. To assess the growth of PACS district-wise in Karnataka during the period 1986/87 to 1997/98.

3. To compare the performance of PACS in different districts and to assess the inequality in their performance.
4. To identify the factors influencing short term credit flow into different districts.
5. To rank the districts based on growth registered by PACS with reference to different cooperative indicators.

The study was carried out for the state of Karnataka and covered a period of 12 years from 1986/87 to 1997/98. In this study, districts were considered as units of reference. For this purpose, data were collected from the annual reports (ANR tables) of Department of Cooperation Government of Karnataka. The data on other factors were collected from secondary sources viz., Directorate of Economics and Statistics, Bangalore and various issues of Fertilizer statistics and coffee board statistics.

The major techniques used in the analysis include tabular analysis, growth functions, coefficient of variation, Theils Entropy, lorenze curve, gini ratio and regression analysis to achieve the objectives of the study.

6.1 Summary

A brief account of the results emerging from the study are given in the subsequent paragraphs.

The performance of PACS based on the number of PACS criterion indicated decreasing trend significantly in all the districts over the years in different magnitude except in Kodagu, Bellary and Bidar which had the same number of PACS as of base year. The reduction in number of societies was mainly due to the reorganization process which was taken up by amalgamating the weaker societies.

An increasing trend in total membership of PACS was observed, except in Dharward. The membership per society also rose in all the districts over the years though in different magnitude. It may be inferred that the performance of PACS was reasonable and satisfactory in terms of total membership and membership per society in different districts of Karnataka. Large membership per society adds to its strength of activities. Larger the number of members, larger will be the quantum of its own fund, to give more financial / economic strength to function effectively by extending increased service.

The total share capital of PACS rose between 1986/87 and 1997/98 reflecting a move towards financial soundness of PACS in different districts of Karnataka state. The total share capital increased from Rs. 62.27 crores in 1986/87 to Rs. 170.43 crores in 1997/98. The CGR of total share capital ranged between 3.35 per cent in Bangalore urban district to 10.29 per cent in Mandya district.

The per society share capital also indicated an increasing trend in all the districts during the study period. The per member share capital also increased over the years. Government contribution to the total share capital of PACS had increased over the years from 19.11 per cent in 1986/87 to 22.85 per cent to 1997/98 in all the districts of Karnataka. The increase in total share capital of PACS in Karnataka over the years was mainly due to increased membership and increased contribution by Government to the total share capital. Percentage of share capital to working capital, which will determine the self reliance of PACS, declined from 11.53 per cent in 1986/87 to 11.23 per cent in 1997/98. The contribution of share capital to working capital was highest in Mandya district (23.12 per cent) and the least in Dakshina Kannada district (7.03 per cent). The percentage of share capital to working capital of PACS in Karnataka had decreased in all the districts except in Belgaum, Bijapur, Chikmagalur and Mysore.

The deposits position and its growth was similar to that of working capital. All the districts of the state, except Bidar had been able to increase their deposits during the study period. Chitradurga did not register a significant growth on deposits. The average deposit per member in 1997/98 was the highest in Dakishna Kannada (Rs. 7648.50) followed by Kodagu (Rs. 5235.80) and it was the least (Rs. 2.2) in Bidar.

The percentage of deposits to working capital of PACS in Karnataka decreased from 22.6 per cent in 1986/87 to 17.7 per cent in 1997/98. The performance in terms of self reliance in all the districts had worsened over the years, unlike the membership, share capital, working capital and deposits. Similar trend was also registered with regards to proportion of deposits to working capital. Obviously the performance of PACS in different districts over the years indicated a declining trend in terms of self reliance of funds. Dakishina Kannada topped the list in this respect in both the base and terminal years with 92.3 per cent and 50.2 per cent, respectively. Excepting Bangalore urban, Uttar Kannada, Dakishna Kannada, Kodagu, Mysore, Chikmangalur and Bijapur, all the other districts had below 10 per cent of deposits to working capital.

All the districts registered a gradual increase in the total working capital between 1986/87 and 1997/98. The districts of Bidar (14.11 per cent), Mandya (13.20 per cent), Dakishna Kannada (12.41 per cent), Uttar Kannada (12.19 per cent), Belgaum (11.07 per cent) and Kodagu (10.85 per cent) registered comparatively higher growth of working capital than the remaining districts. There was a gradual increase in total working capital of PACS in all the districts of Karnataka state except Chitradurga district. The improvement that was observed regarding working capital in most of the districts of Karnataka can be attributed to the improvement that has taken place with the components of working capital such as deposits and share capital. Working capital per member for the state as a whole increased from Rs. 313.7 in 1986/87 to Rs. 464 in 1997/98.

The amount of loans advanced, loans advanced per society as well as per member by PACS increased in all the districts of Karnataka state during the study period. Total loans (ST and MT) advanced by PACS for the state as a whole increased from Rs. 199.90 crores in 1986/87 to Rs. 1064.25 crores in 1997/98, yielding a CGR of 16.18 per cent. The loan advanced per member had increased from Rs. 478.36 in 1986/87 to Rs. 2108.12 in 1997/98. The per member advances was the highest in Kodagu district (Rs. 7331.85) and the least in Mysore district (Rs. 442.08) in 1997/98.

The percentage of short term loans out of the total loans provided by PACS during the base year (1986/87) indicated that four districts out of 20 provided more than 90 per cent, five districts provided more than 80 per cent, four districts provided more than 70 per cent, six districts provided more than 60 per cent and one district provided 49 per cent. In addition to this, during the base year of the study period, out of the total advances of Rs. 199.90 crores by PACS in Karnataka, short term advances accounted for Rs. 160.553 crores and medium term advances accounted for Rs. 39.34 crores the shares accounting to 80.32 per cent and 19.68 per cent to the total advances respectively.

The short term loans advanced by PACS in Karnataka state increased from 80 per cent of total loans in 1986/87 to 90 per cent in 1997/98, whereas the medium term loans advanced decreased from 20 per cent in 1986/87 to 10 per cent in 1997/98. This reflects that majority of lending by PACS was in the form of short term loans.

The total loans recovered by PACS in the state steadily increased from Rs. 166.16 crores in 1986/87 to Rs. 770.73 crores in 1997/98, recording a growth of 15.37 per cent. The districts of Uttar Kannada, Dharward, Kodagu and Belgaum registered higher growth with respect to loans recovered. Chitradurga district did not register any significant growth. Loans recovered per member by PACS in the state were

Rs. 313.7 in 1986/87 and increased to Rs. 464.00 in 1997/98. Dharward district topped the list throughout the study period.

From the increase of total loans outstanding it is quite understandable that there was a poor performance of PACS in the state. The total loans outstanding by PACS in Karnataka state has increased from Rs. 314.89 crores in 1986/87 to Rs. 984.18 crores in 1997/98. Loans outstanding per member of PACS in Karnataka state have increased from Rs. 753.3 in 1986/87 to Rs. 1949.5 in 1997/98. During the base year of the study period (1986/87), loans outstanding per member was the large in Kodagu district (Rs. 1630) and the least in the district of Hassan (Rs. 402.7). In the terminal year (1997/98) loans outstanding per member was relatively larger for Bidar district (Rs. 4649.8) and low in Mysore (Rs. 366.60).

The poor performance of PACS is quite understandable from the increase in the total overdues of PACS in the state from Rs. 131.09 crores in 1986/87 to Rs. 234.22 in 1997/98. During the study period overdues increased at 3.15 per cent annually and it was not significant. The growth of overdues ranged from 6.29 per cent in Dakishina Kannada to 12.41 per cent in Gulbarga,. Overdues per member of PACS in Karnataka state have increased from Rs. 313.7 in 1986/87 to Rs. 464.00 in 1997/98. In the terminal year of the study period (1997/98), overdues per member ranged between Rs. 167.9 in Mysore district to Rs. 1224.80 in Dharward district. During terminal year (1997/98) the percentage of overdues to outstanding loans was as high as 77.86 per cent in the district of Hassan followed by Shimoga (72.86 per cent), Gulbarga (59.90 per cent) and Chitradurga (55.29 per cent). Fifteen districts had an overdue position ranging from six to less than fifty five per cent. Six districts had an overdue percentage of less than the state average during the terminal year of the study period. This shows that a large number of societies, their management, were not in a position to recover the loans advanced previously.

The growth rate of working capital, loans advanced, loans outstanding and loans overdue were positive and increasing between 1986/87 and 1997/98, though the rates of increase were different between the districts. Since the growth rate of overdues was insignificant, no definite conclusion can be drawn on the performance except that PACS have recorded better performance, in respect of other parameters.

An inequality in the performance of the PACS based on per hectare credit flow was clearly visible and the inequality in the performance among different districts increased during the study period (1986/87 to 1997/98). The trend in inequality over the years for per hectare credit flow for all the districts reflected that the inequality in the performance of the PACS between the districts as well as within the district overseas had increased.

The district-wise inequality in per hectare credit flow both in short term and term credit had shown a tendency of increasing over the years as revealed by the increasing values of coefficients of variation and Theils entropy coefficients. In case of short term credit flow, coefficient of variation increased from 143.84 per cent in 1986/87 to 174.60 per cent in 1997/98 and the Theils entropy coefficient increased from 0.51 to 0.55. The trend equation were fitted by taking CV and I(V) as dependent variables and time as independent variable. The regression coefficients were negative and insignificant indicating that the district-wise inequality in short-term agricultural credit flow not increased over time.

In the case of term credit, the coefficient of variation increased from 109.54 per cent in 1986/87 to 177.15 per cent in 1997/98 and Theils entropy coefficient increased from 0.45 to 0.63. The linear trends fitted by taking CV and I(V) as dependent variables separately against time, showed that the district-wise inequality in term credit flow increased over time.

Lorenze curve and Gini ratio were used to measure the inequality of per hectare credit flow district-wise in Karnataka state. The Lorenze curve for short term agricultural credit and term agricultural credit were not nearer to the line of equal distribution (45° degree line) but are more bowed out, indicating that there is more unequal distribution of agricultural credit among districts during the study period.

The Gini ratio was calculated for per hectare short term and medium term agricultural credit flow for the base year, average year, and terminal year district-wise in the state. The Gini ratios were 0.57, 0.58 and 0.61 for the base year, average year and terminal year respectively for short term agricultural credit flow. The Gini ratios were 0.54, 0.59 and 0.61 for the base year, average year and terminal year respectively for term agricultural credit flow.

Factors like irrigation area under commercial crops, term agricultural credit area under high yield varies and deposits per member were found to be the important and significant variables in determining the flow of short term credit to agriculture by PACS. Fertilizer consumption and rainfall were the only variables which had no significant role in influencing the flow of short term credit to agriculture.

6.2 Conclusions and policy implication

The conclusions and policy implications that emerge from the study are presented below:

1. Though the reorganization process of PACS has been completed, still there is a decreasing trend in the number of PACS both at the state level and in districts. This may be because of some of the PACS are twinning defunct and are getting closed.

2. The problem of overdues is acute and requires greater attention on the part of government in formulating future policies and greater skill on the part of cooperative administration to bring down the menace. Even though the recovery performance of PACS has significantly improved, the concerned authorities should pay more attention towards furthering the recovery so as to be able to recycle large amount of credit.
3. The Economic viability of PACS mainly depends on its capital strength. Capital strength in turn depends on creation of deposits and augmentation of volume of share capital. Hence efforts should be made to bring more and more people under the activities of cooperative periphery in order to achieve viability of PACS.
4. In Karnataka most of the PACS made a poor performance in attracting deposits and their dependence on outside borrowings continues to be large.
5. The improvement that is observed regarding working capital in most of the districts can be attributed to the improvement that has taken place with the components of working capital such as share capital. Working capital per member for the state as a whole increased from Rs. 313.7 in 1986/87 to Rs. 464 in 1997/98.
6. An analysis of the performance of the districts with reference to overdues leads to the conclusion that some districts are getting burden with large overdues. The problem of overdues is acute and requires greater attention on the part of Government in formulating future policies and greater skill is required on the part of cooperative administration to bring down this menace.

7. The advances made to agriculture in Karnataka state by PACS has shown a significant growth over the study period. The growth pattern indicated that most of the low base districts registered high growth rates and high base districts registered fair growth rates. This growth should be sustained and enhanced, if feasible, to meet the increasing credit needs of farmers.
8. The inequality in per hectare credit flow between districts has increased over years. The cropping pattern, irrigation, intensity of production, etc., dictate the amount of credit per hectare. However, recovery status of PACS decides the amount of future fund flows from DCC banks. Hence, concerted efforts should be made to enhance the recovery status of PACS, so as to increase the per hectare availability of credit in some districts and thus realistically meet the genuine investment needs of farmers.
9. The flow of short term credit in the state was found to be significantly influenced by the factors at the ground level. The factors such as term agricultural credit, irrigation, commercial crops, HYVs, fertilizer consumption, rainfall and deposits together explained the short term credit flow across the districts. This shows that farm credit provides for infrastructure development in farms, which in turn calls for larger working capital use. Hence, PACS (or any other cooperative) should concentrate on term loans as well for achieving overall growth of agriculture. Irrigation facilities need to be enhanced, through increased irrigation infrastructure or through judicious use of existing irrigation, which will lead to faster growth. The positive impact of commercial crops, HYV and fertilizer use on ST credit use show that there exists a vast scope for intensification of production and commercialization of agriculture, both of which will result in enhancing farm incomes.

10. The above conclusions are arrived at by studying the PACS credit system mainly on the basis of secondary data for a limited period of time. In this regard, a comprehensive study can be made by considering both the lender and the borrower sides of the agricultural credit system in the districts to help draw precise conclusions for effective policy.

REFERENCES

Chapter VII

REFERENCES

- AGARWAL, R.C., PRASAD, B. AND ARORA, V.P.S., 1972, Problems and prospects of co-operative credit a case study. *Indian Co-operative. Review*, **9**: 417-22.
- ANGRISH, A.C., KUCHHADIYA, D.B. AND THUMAR, B.L., 1976, Growth rate of loans, recovery, outstanding of Gujarath state land Development Bank. *Indian Co-operative. Review*, **14**(3): 259-271.
- ANONYMOUS, 1966, *Review of Cooperative movement in India – 1962-64*. Reserve Bank of India, Bombay.
- ANONYMOUS, 1976, Agricultural Credit Institutions in Madhya Pradesh – Report of the study team – summary. *Reserve Bank of India Bulletin*, **30**(6): 410-415.
- ANONYMOUS, 1992, A review of Agricultural Credit system in India: Report of the Agricultural Credit (Khustro) Committee. *Indian Journal of Agricultural Economics.*, **47**(2):274-293.
- ANONYMOUS, 1995, *Agricultural policy*. The Director of printing stationary and publication, Government Press, Banglaore.
- ANONYMOUS, 1997, Trend and Progress of Banking in India. *Supplement to Reserve Bank of India Buletin*, **3**(2): 92-93.
- ANONYMOUS, 1998, *Karnataka at a glance, 1997-98*. Directorate of Economics and Statistics, Government of Karnataka, Bangalore.
- ARORA, V.P.S. AND TEWARI, S.K, 1978, Inter and intra state disparities in the low of cooperative credit in India. *Indian Co-operative. Review*, **27**(3): 221-230.
- ARUNKUMAR, K.S., LALITH, ACH⁰TH AND RAMANNA, R., 1987, *Growth of inputs in Karnataka's Agriculture position by 2000 AD*. UAS, Technical Series, University of Agricultural Science., Bangalore.

- BAHADUR, TEJ, 1976, Trend Analysis of Agricultural Cooperative Credit in Andhra Pradesh. *Indian Co-operative Review*, **13**(2): 111-127.
- BANSIL, P.C., 1971, Short term credit requirement at the end of the fourth plan. *Indian Journal of Agricultural Economics.*, **26**(4): 467-473.
- BARMAN, K. KANDARPA, 1994, Financial sector reforms some implications on rural credit. *Financing Agriculture*, **26**(4): 11-14.
- BASU, K. AND SUBHAS, 1980, Determinants of regional imbalance in banking development – An Econometric study. *Indian Journal of Regional Science.*, **12**(2): 121-130.
- BASU, SANTONN, 1999, Why Institutional Credit Agencies are Reluctant to lend to the Rural poor: A theoretical Analysis of the Indian Rural credit market. *National bank News Review*: **15**(1): 22-26.
- BHALE RAO, M.M. AND SRIVATSAVA, D.P., 1966, Serive cooperatives in Ballia. *Indian Cooperative Review.*, **3**: 1158-1170.
- BHALERAO, M.M., SINGH, R. MALATHI, 1988, Regional in equalities in long term Institutional Credit. A study of land development bank in India. *Indian Journal of Agricultural Economics.*, **43**(3): 432-433.
- BHAT, GAJANAN, 1991, Agricultural credit absorption in Karnataka. An inter-district analysis, M.Sc. Thesis (unpublished). *University of Agricultural Sciences.*, Banglaore.
- BHAT, RAMACHANDRA. AND RAO, ARUNA., 1982, The evaluation of growth of primary Agricultural Credit Societies in Karnataka. *Indian Co-operative Review.*, **19**(3): 251-263
- BHUYAN, BENUDAR AND MOHANTY, BEDABATI, 1975. An Analysis of primary credit cooperative societies in India (1957-59). *Indian Co-operative Review*, **23**(1): 49-53.
- BLYU, GEORGE, 1967, Measurement of Growth Rates in Agriculture. *Indian Journal of Agricultural Economics.*, **22**(1): 25-36.

- CHAUHAN, K.K.S., 1971, Small farmers and cooperatives. *Indian Co-operative Review*, **16**(1): 45-51.
- CHAMOLA, S.D. AND HASIJA, C., 1982, Trend Analysis of PACS in India. *Agricultural Banker*, **5**(20): 24-27.
- CHAMPERNOWNE, D.G., 1974, A comparison of measures of inequality of income distribution. *Economic Journal*, **84**(336): 787-816.
- CHIPPA, M.L. AND SUSHMASAGAR, 1981, Banking Development in India – A study into causes of regional differentials. *Indian Journal of Regional Science*, **13**(1): 86-90.
- CHOUBEY, B.N., 1977, Cooperative credit planning for Agricultural Development. *Indian Co-operative Review*, **14**(4): 273-288.
- DADIBHAVI, R.V., 1982, An analysis of inter taluk disparity and backwardness in Karnataka state. *Indian Journal of Regional Science*, **14**(2): 166-173.
- DADIBHAVI, R.V., 1988, Dimensions of regional disparities in Institutional credit to agriculture. *Indian Journal of Agricultural Economics*, **43**(3): 374-380.
- DANTAWALA, M.L., 1970, From stagnation to growth. *Indian Economic Journal*, **18**(2): 165.
- DAS, G.P. AND HANUMAPPA, M.G., 1967, A comparative study of the PACS in southern states. *Indian Journal of Agricultural Economics*, **5**(1): 111-118.
- DAS, P. AND SINGH, R.B., 1974, Progress of the central cooperative bank activities in an IADP district-A twelve years assessment. *Indian Co-operative Review*, **21**(1): 75-81.
- DESAI, B.M., 1979, Rural Banking in India: its performance and problems. *Prajnan*, **8**(2): 113-134.
- DESAI, D.K., 1988, Institutional credit requirement for agricultural production 2001 A.D. *Indian Journal of Agricultural Economics*, **43**(3): 326-356.

- DESINGARAO, N., 1977. Cooperative credit movement in Andhra Pradesh after 1959. *Indian Co-operative Review*, **24**(3): 229-241.
- DHONGADE, M.P. AND DANGATH, S.B., 1978, Regional disparities in farm finance the commercial banks in Maharashtra. *Indian Journal of Agricultural Economics*, **33**(4): 131-137.
- FREDERICKS, L.J., 1976, A trend analysis of the structure of the cooperative movement in west Malaysia (1922-1967). *Co-operative Information*, **52**(1): 13-44.
- GADGIL, M.V., 1986, Agricultural credit in India A review of performance and policies. *Indian Journal of Agricultural Economics*, **41**(3): 282-309.
- GADGIL, M.V., 1992, Future of Institutional agricultural credits in India: Likely impact of Narasimhan and Khusro committee reports. *Indian Journal of Agricultural Economics*, **47**(2): 255-273.
- GALGALIKAR, V.D. AND BHOLE, B.D., 1972, Institutional credit for Agricultural in Parbhani district. *Indian Co-operative Review*, **10**: 517-525.
- GAROIAN, L. AND CRAMER, G.L., 1968, Merger component of growth of Agricultural Cooperatives. *American Journal Agricultural Economics*, **50**: 546-63.
- GIRI, A.K. AND DASGUPTA, T., 1988, Some aspects of interstate and intrastate variation in the flow of Institutional agricultural credit. *Indian Journal of Agricultural Economics*, **43**(3): 364-373.
- GOYAL, M.K., 1979, Deposit mobilization by Apex Cooperative Banks in India. *Indian Co-operative Review*, **17**(1): 13-22.
- GRACY, C.P., 1983, *An analysis of performance of primary agricultural credit societies in different states of India*. M.Sc., Thesis (unpublished). University of Agricultural Science, Bangalore.
- GUPTA, S.B.L., BHALERAO, M.M. AND VENKATESHWARULU., 1978, Regional inequality in the supply of cooperative credit in India. *Indian Journal of Agricultural Economics*, **33**(4): 157-158.

- HAQUE, T. AND MAJI, C.C., 1978, Structure and flows of cooperative credit in India. *Indian Journal of Agricultural Economics.*, **33**(4): 72-78.
- HONNIAH, 1982, *Institutional investment finance for agriculture. A study in Kortegere Taluk of Tumkur district*. M.Sc. Thesis (unpublished), University of Agricultural Science, Bangalore.
- JADHAV, N. AND AJIT, D. 1996, The role of banks in economic development of India. *Prajnan.* **25**(3&4): 309-322.
- JAIN SUNIL, 1998, Credit still unfriendly to Indian Farmers. *Agriculture Today.* **1**(1): 61-62.
- JAIN, H.C., 1971, Growth and recent trends in the Institutional Credit in India. *Indian Journal of Agricultural Economics*, **26**(4): 555-556.
- JAYARAMAN, T.K., 1978, An analysis of overdues of primary Agricultural Cooperative Societies-A case study of Mahikadana project in Gujarat State. *Indian Journal of Agricultural Economics.*, **23**(3): 21-30.
- JAYARAMAN, T.K., 1980, An analysis of Inter-district variations in cooperative credit disbursement in Gujarat. *Artha Vikas*, **25**(1): 89-99.
- KAMAIAH, B., BALAIAH, D. AND MACHANE, D.M., 1987, Bank deposits in 2001 A.D. sometime series forecasts. *Prajnan*, **16**(2): 185-194.
- KARKAL, G.L., Issues in rural finance. *Prajnan.* **25**(3&4): 379-404.
- KOUTSOYIANNIS, A., 1977, *Theory of Econometrics* (second edition). MacMillan Press Ltd., London.
- KRISHNAJI, M., 1980, Measuring Agricultural Growth. *Indian Journal of Agricultural Economics.*, **35**(2): 31-41.
- KUZNETS 1963, "Quantitative Aspects of the Economic Growth of Nations: Distribution of Income by size". *Economic Development and Cultural Change*. MacMillan Press Ltd., London.

- LASLEY, R.P., 1982, Organizational structure and membership participation in farmer cooperatives. *Dissertation Abstracts International*, **42**(9): 4174.
- MAHAJAN, V.D. 1970, *Ancient Indian*. Cooperative Publication.: 126.
- MARIYAMANTHAN, A.A., 1974, Primary Agricultural Credit Societies, their progress, performance and problems. *Indian Co-operative Review*, **10**(1): 47-55.
- MEHTA, R.C. AND SIDHU, D.S., 1971, A study of impact of medium and long term loans on short term credit needs of Punjab farmers. *Indian Journal of Agricultural Economics*., **26**(4): 489-495.
- MEHTA, V.L. 1963, Trend in cooperative Banking. *Indian Co-operative Review*, **1**(1): 218-26.
- MINHAS, B.S., 1966, Measurement of Agricultural Growth. *Indian Journal of Agricultural Economics*. **27**(3): 165-182.
- MINOCHA, A.C., 1977, Short term agricultural credit in M.P-A study of regional variations. *Indian Journal of Regional Sciences*., **9**(1): 50-67.
- MITRA, A. AND SAIN, K., 1982, Financing of Agriculture by cooperative Banks in Burdwan district. *Indian Co-operative Review*, **20**(1): 25-31.
- MOHANAN, M., 1972, Cooperative overdues and small farmers. *Indian Co-operative Review*, **10**(1): 47-55.
- MOHANRAO, M. AND RAJU, K.S., 1978, Regional imbalances in the flow of Institutional credit. *Indian Journal of Agricultural Economics*.. **33**(4): 142-143.
- MUJUMDAR, N.A., 1999, New Architecture of the rural credit system. Special Millenium Issue. *Financing Agriculture*. **31**(3&4): 107-109.
- NAIR, T.G., 1976, Deposit mobilization by cooperatives in India – A review. *Indian Co-operative Review*, **13**(3): 241-249.
- NAKKIRAN, S., 1980, *Agricultural financing and rural banking in India*, Rainbow Publication., Coimbatore, Tamilnadu.

- NANDA, Y.C., 2000, *Role of banks in rural development in the New Millennium*. National Bank for Agricultural and Rural Development, Mumbai.
- PANDEY, U.K. AND ASHOK KUMAR, S. 1989, Economic evaluation of cooperative credit in Indian Agriculture. *Financing Agriculture.*, **21**(2): 22-29.
- PANDEY, U.K. AND ASHOK KUMAR, S. 1988, Study of growth and disparity in the flow of cooperative credit in India. *Indian Journal of Agricultural Economics.*, **43**(3): 416-417.
- PANDEY, U.K. AND MURALIDHARAN, M.A. 1977, Socio-economic factors affecting the overdues of PACS. *Indian Co-operative Review*, **14**(2): 141-150.
- PANDEY, U.K. AND MURALIDHARAN, M.A. 1978, Socio-economic factors influencing the overdues of PACS. *Indian Co-operative Review*, **15**(3): 355-364.
- PATEL, R.J. AND MAHESH, P., 1977, Performance of cooperative Agricultural Credit. *Indian Co-operative Review*, **14**(4): 361-372.
- PATWARDHAN, V.S. AND DHARMARAJ, M.S., 1966, Interstate comparison of PACS. *Indian Co-operative Review*, **3**(1): 1145-1157.
- PRABHAKARAN, P.V. AND UMADEVI, 1988, Regional distribution of agricultural credit by primary agricultural credit societies in Kerala. *Indian Journal of Agricultural Economics.*, **43**(3): 10-13.
- PUHAZHENDHI, V. AND BALAKRISHNAN, 1981, Pattern and flow of credit in hill farms of Tamilnadu. *Financing Agriculture.* **13**(2): 10-13.
- PUHAZHENDHI, V. AND JAYARAMAN, B., 1999, Rural credit delivery: Performance and challenges before banks. *Economic and Political Weekly.*, **34**(3&4): 175-182.
- RAMADAS, M., 1989, Equity and efficacy in flow of Institutional credit. *Financing Agriculture.*, **21**(3): 11-18.
- RANGACHAR, S.S. 1969, Cooperative credit for Agriculture in India. *Indian Co-operative Review*, **4**(2): 258-262.

- RAO, M. KUTUMBA, 1978, Reorganisation of primary Agricultural credit societies in Andhra Pradesh. *Indian Co-operative Review*, **5**(2): 137-160.
- RAO, M.C., 1980, Strategy for recovery of over dues in agricultural advances. *Agricultural Banker*, **3**(2): 22-26.
- RAO, R. HARISH, 1992, *Pattern and flow of Institutional credit to Agriculture in Karnataka-An inter-district Analysis*. M.Sc. Thesis (unpublished) University of Agricultural Sciences, Dharward.
- RAO, R.M. AND RAJU, K.S., 1978, Regional imbalances in the flow of Institutional Credit. *Indian Journal of Agricultural Economics.*, **33**(4): 142.
- REDDY, B.V., CHINNAPPA, 1981. *An analysis of overdues among farmers in Srinivasapur taluk of Kolar district, Karnataka*. M.Sc. (Ag.) thesis. (unpublished) University of Agricultural Sciences, Bangalore.
- REDDY, S. RAMI, 1978, Regional differences in the performance of the credit cooperatives. A case study in a region in Andhra Pradesh. *Indian Journal of Agricultural Economics.*, **33**(4): 141.
- SATYASAI, K.J.S. AND BADATYA, K.C., 2000, Restructuring Rural Credit Cooperative Institution. *Economic and Political Weekly*. **35**(5): 307-330.
- SHAJAHAN, K.M., 1999, Priority sector bank lending: How useful? *Economic and Political Weekly*. **34**(51): 3572-3574.
- SHIVAMAGGI, H.B., 1971, Reforms in Rural Banking. Need for Bolder Approach. *Economic and Political Weekly.*, **34**(2): 1714-1718.
- SHUKLA TARA, 1971, Regional analysis of Institutional finance for agriculture. *Indian Journal of Agricultural Economics.*, **26**(4): 542.
- SINGH, GURBACHAN, 1972, A study of the functioning of cooperative credit societies in Punjab. *Financing Agriculture*. **111**: pp. 17-20.

- SINGH, KARAM AND SINGH, BHUPINDER, 1978, Agricultural credit in a developing economy flow and spatial disparity and its determinants. *Indian Journal of Agricultural Economics*, **33**(4): 150-151.
- SINGH, MARWANT AND KAHLON, K.N., 1971, A study of credit requirements and Advances to farmers in Patiala District. *Indian Journal of Agricultural Economics*, **26**(4): 496.
- SINGH, T. 1996, An econometric analysis of commercial banks credit in India. *Asian Economic Review*, **30**(2): 178-217.
- SRIDHARAN, K., 1975, *An analysis of Business performance and growth of a service cooperative: A case study of Tudyalur Coimbatore Taluk, Tamilnadu*. M.Sc. (Ag.) thesis, University of Agricultural Sciences, Bangalore.
- SRIDHARAN, K., VENKATARAM, J.V. AND RAMANNA, R., 1976. Economic factors contributing to the business success of rural credit cooperative societies. *Indian Co-operative Review*, **13**(2): 147-153.
- SRINIVASAMURTHY, A.P., 1973, Pattern of credit cooperatives overdues: Views. *Indian Co-operative Review*, **10**(3): 371-376.
- SURYAPRAKASH, S., VENKATARAM, J.V. AND GRACY, C.P. 1993. *Imbalances in Agricultural Credit Absorption in Karnataka-An inter-district analysis*. (Research Report) University of Agricultural Sciences, Bangalore.
- THAKUR, D.S., 1973, Small farmers and cooperatives in India: *Indian Co-operative Review*, **10**(1): 223-224.
- THEIL, HENRY, 1967, *Economics and Information theory*, North Poland Publishing Company, Amsterdam.
- THIRLWAL, A.P., 1967, *Growth and Development with special reference to Developing Economics*. The MacMillan Press Ltd., London.
- THIUVENKTACHARI, K., 1978, Constraints in cooperative credit: An in-depth study of a Tamilnadu village. *Indian Journal of Agricultural Economics*, **33**(4): 138.

- TIWARI, S.P., 1969, Agricultural credit cooperatives. *Indian Co-operative Review*, **6**(2): 281-285.
- VAGGANER, M., 1981, How have PACS fared; a study. *Kurukshetra*, **29**(17): 4-10.
- VARDE, S.D. PALAV, S.M. AND SITA, M., 1975, Branch expression planning for the Banking Industry. *Prajnan*, **4**(2): 145-182.
- VARMA, N.K. 1980, Growth of Dairy Cooperative in India. *Indian Co-operative Review*, **18**(1): 45-50.
- VASUDEV, B.L., 1984, *An analysis of progress and performance of primary agricultural credit societies in Karnataka*. M.Sc., Thesis (unpublished). University of Agricultural Science, Bangalore.
- VENKATARAM, J.V. AND GOWDA, G.N., 1987, *Mobilization of financial resources for Agricultural development in Karnataka in 21st century*. UAS Tech. Series. University of Agricultural Sciences, Bangalore.
- VENKATARAM, J.V., 1975, Effect of external Finance on farm returns in Mandya district Karnataka. *Financing Agriculture*., **7**(1): 10-13.
- VENKATESWARLU, U. AND BHALERAO, M.M., 1980, Impact of cooperative Finance on Agriculture: An assessment in Andhra Pradesh. *Indian Co-operative Review*, **18**(1): 29-38.
- WINFRED, J., 1972, Mounting overdues in cooperatives. *Indian Co-operative Review*, **11**(3): 339-346.

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APPENDICES

APPENDICES

Appendix-I: District-wise compound growth rate of number of primary agricultural credit societies in Karnataka for the period 1986/87 to 1997/98.

District	CGR	b value	S.E.	R ²
Bangalore urban	-0.20	-0.002*	0.001	0.314*
Bangalore rural	-0.10	-0.001**	0.0078	0.365**
Chitradurga	-0.09	-0.00089*	0.00047	0.262*
Kolar	-0.99	-0.010***	0.0023	0.68***
Shimoga	-1.15	-0.0116***	0.002	0.758***
Tumkur	-0.27	-0.0027	0.0019	0.163
Belgaum	0.30	0.003	0.0023	0.164
Bijapur	-0.10	-0.001***	0.00025	0.76***
Dharward	-4.92	-0.0505**	0.0175	0.45**
Uttara Kannada	-0.20	-0.002***	0.0006	0.52***
Chikmagalur	-0.15	-0.0015**	0.000057	0.40**
Dakshina Kannada	-0.18	-0.0018**	0.00058	0.49**
Hassan	0.49	0.0049	0.003	0.207
Kodagu	0	0	0	0
Mandya	-0.20	-0.002**	0.00118	0.35**
Mysore	-0.90	-0.009***	0.0018	0.71***
Bellary	-0.07	-0.0007	0.0009	0.06
Bidar	0.32	0.0032	0.0076	0.017
Gulbarga	-0.31	-0.0031	0.0077	0.016
Raichur	-0.80	-0.008*	0.00369	0.3229*
Karnataka State	-0.87	-0.0087***	0.002	0.65***

CGR = Compound growth rate
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

(ii)

Appendix-II: District-wise compound growth rate of membership in Karnataka state for the period 1986/87 to 1997/98

District	CGR	b value	S.E.	R ²
Bangalore urban	2.31	0.0228	0.0024	0.89
Bangalore rural	2.85	0.0281	0.0034	0.86
Chitradurga	1.33	0.0132*	0.0069	0.26*
Kolar	2.18	0.0216***	0.005	0.64***
Shimoga	0.75	0.0075	0.006	0.13
Tumkur	2.77	0.0273	0.0031	0.88
Belgaum	1.66	0.0165***	0.0033	0.709***
Bijapur	2.44	0.0241	0.0027	0.88
Dharward	-0.59	-0.006	0.0071	0.0679
Uttara Kannada	2.53	0.025	0.0047	0.73
Chikmagalur	3.35	0.033	0.0037	0.88
Dakshina Kannada	4.26	0.0417**	0.0147	0.44**
Hassan	3.05	0.0300	0.0026	0.92
Kodagu	2.10	0.0208***	0.0047	0.65**
Mandya	0.80	0.0008	0.0044	0.0033
Mysore	1.33	0.0132***	0.0022	0.78***
Bellary	1.63	0.0162	0.0014	0.92
Bidar	4.14	0.0406**	0.0138	0.46**
Gulbarga	2.90	0.0286**	0.0125	0.34**
Raichur	0.60	0.006	0.0042	0.168
Karnataka State	2.03	0.0201	0.0015	0.94

CGR = Compound growth rate
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

(iii)

Appendix-III: District-wise compound growth rate of share capital of PACS in Karnataka for the period 1986/87 to 1997/98

District	CGR	b value	S.E.	R ²
Bangalore urban	3.35	0.033***	0.0066	0.71***
Bangalore rural	11.07	0.105	0.0079	0.94
Chitradurga	-9.79	-0.103	0.1066	0.086
Kolar	7.14	0.069	0.0057	0.93
Shimoga	4.50	0.044	0.0050	0.88
Tumkur	6.71	0.065***	0.0116	0.75***
Belgaum	10.74	0.102	0.0078	0.94
Bijapur	7.79	0.075	0.0104	0.83
Dharward	6.82	0.066	0.0085	0.85
Uttara Kannada	8.65	0.083	0.0061	0.94
Chikmagalur	12.64	0.119	0.0107	0.92
Dakshina Kannada	11.07	0.105	0.0080	0.94
Hassan	5.23	0.051***	0.0118	0.64***
Kodagu	8.76	0.084***	0.0046	0.97***
Mandya	10.29	0.098***	0.0279	0.55***
Mysore	4.39	0.043	0.0094	0.68
Bellary	5.02	0.049***	0.0080	0.79***
Bidar	10.40	0.099	0.008	0.92
Gulbarga	7.57	0.073	0.0068	0.92
Raichur	3.55	0.0349	0.0054	0.80
Karnataka State	8.11	0.078	0.0069	0.92

CGR = Compound growth rates
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

**Appendix-IV: District-wise compound growth rate of deposits of PACS in Karnataka
for the period 1986/87 to 1997/98**

District	CGR	b value	S.E.	R ²
Bangalore urban	12.74	0.120**	0.0439	0.42**
Bangalore rural	19.12	0.175*	0.0868	0.29*
Chitradurga	-7.6	-0.079	0.1241	0.039
Kolar	9.64	0.092***	0.0283	0.51***
Shimoga	6.18	0.060***	0.0169	0.56***
Tumkur	9.42	0.090***	0.0279	0.51***
Belgaum	13.20	0.124***	0.0295	0.64***
Bijapur	14.34	0.134**	0.0561	0.36**
Dharward	10.85	0.103**	0.0362	0.44**
Uttara Kannada	8.98	0.086***	0.0265	0.51***
Chikmagalur	13.54	0.127**	0.0511	0.38**
Dakshina Kannada	8.00	0.077***	0.0228	0.53***
Hassan	7.90	0.076***	0.0219	0.54***
Kodagu	11.40	0.108***	0.0300	0.56***
Mandya	13.20	0.124**	0.0471	0.41**
Mysore	10.63	0.101**	0.0337	0.47**
Bellary	9.42	0.090***	0.0284	0.50***
Bidar	6.50	0.063	0.1107	0.03
Gulbarga	12.86	0.121**	0.0457	0.41**
Raichur	12.98	0.122**	0.0511	0.36**
Karnataka State	9.42	0.090***	0.0257	0.55***

CGR = Compound growth rates
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

Appendix-V: District-wise compound growth rate of working capital of PACS in Karnataka for the period of 1986/87 to 1997/98

District	CGR	b value	S.E.	R ²
Bangalore urban	5.86	0.057**	0.0195	0.46**
Bangalore rural	9.63	0.092***	0.0225	0.62***
Chitradurga	-10.15	-0.107	0.1089	0.08
Kolar	6.82	0.066***	0.0130	0.72***
Shimoga	6.18	0.060***	0.0130	0.68***
Tumkur	6.71	0.065**	0.0169	0.59**
Belgaum	11.07	0.105***	0.0210	0.71***
Bijapur	5.76	0.056**	0.0205	0.43**
Dharward	3.04	0.030	0.0563	0.02
Uttara Kannada	12.19	0.115***	0.0188	0.78***
Chikmagalur	8.33	0.080**	0.0293	0.42**
Dakshina Kannada	12.41	0.117	0.0154	0.85
Hassan	4.18	0.041*	0.0208	0.28**
Kodagu	10.85	0.103***	0.0281	0.57***
Mandya	13.20	0.124***	0.0246	0.71***
Mysore	1.01	0.010	0.0269	0.01
Bellary	7.90	0.076	0.0612	0.13
Bidar	14.11	0.132***	0.0246	0.74***
Gulbarga	6.93	0.067***	0.0158	0.64***
Raichur	3.25	0.032*	0.0158	0.29*
Karnataka State	8.65	0.083***	0.0160	0.72***

CGR = Compound growth rates
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

**Appendix-VI: District-wise compound growth rate of loans advanced by PACS in
Karnataka for the period 1986/87 to 1997/98**

District	CGR	b value	S.E.	R²
Bangalore urban	4.18	0.041	0.0594	0.04
Bangalore rural	17.82	0.164	0.0948	0.23
Chitradurga	-0.90	-0.009	0.1557	0.0004
Kolar	14.57	0.136**	0.0535	0.39**
Shimoga	13.31	0.125	0.0911	0.15
Tumkur	8.55	0.082	0.0784	0.09
Belgaum	17.94	0.165***	0.0432	0.59***
Bijapur	20.80	0.189**	0.0750	0.38**
Dharward	22.88	0.206**	0.0787	0.40**
Uttara Kannada	23.99	0.215***	0.0515	0.63***
Chikmagalur	14.45	0.135*	0.0701	0.27*
Dakshina Kannada	15.26	0.142	0.0170	0.87
Hassan	14.34	0.134	0.0791	0.22
Kodagu	17.59	0.162***	0.0268	0.78***
Mandya	6.50	0.063	0.0604	0.09
Mysore	10.08	0.096	0.0636	0.18
Bellary	7.03	0.068	0.0430	0.20
Bidar	20.80	0.189***	0.0506	0.58***
Gulbarga	15.14	0.141	0.0985	0.16
Raichur	5.87	0.057	0.0830	0.04
Karnataka State	16.18	0.150***	0.0385	0.60***

CGR = Compound growth rates
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

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**Appendix-VII: District-wise compound growth rate of loans recovered by PACS
Karnataka, for the period 1986/87 to 1997/98**

District	CGR	b value	S.E.	R ²
Bangalore urban	6.61	0.064	0.0557	0.11
Bangalore rural	14.11	0.132*	0.0644	0.29*
Chitradurga	-5.92	-0.061	0.1286	0.022
Kolar	15.84	0.147**	0.0557	0.41**
Shimoga	16.07	0.149*	0.0686	0.32*
Tumkur	11.18	0.106*	0.0477	0.33*
Belgaum	18.06	0.166***	0.0374	0.66***
Bijapur	17.70	0.163***	0.0495	0.52***
Dharward	20.08	0.183**	0.0694	0.40**
Uttara Kannada	24.86	0.222***	0.0431	0.72***
Chikmagalur	15.26	0.142***	0.0394	0.56***
Dakshina Kannada	15.37	0.143	0.0154	0.89
Hassan	15.72	0.146**	0.0550	0.41**
Kodagu	18.41	0.169***	0.0214	0.86***
Mandya	0.10	0.001	0.0269	0.0002
Mysore	9.97	0.095*	0.0468	0.29*
Bellary	10.19	0.097*	0.0442	0.32*
Bidar	16.65	0.154**	0.0558	0.43**
Gulbarga	16.07	0.149	0.0907	0.21
Raichur	4.60	0.045	0.0534	0.06
Karnataka State	15.37	0.143**	0.0309	0.68***

CGR = Compound growth rates
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

**Appendix-VIII: District-wise compound growth rate of loans outstanding by PACS
in Karnataka for the period 1986/87 to 1997/98**

District	CGR	b value	S.E.	R ²
Bangalore urban	-0.79	-0.008	0.0095	0.08
Bangalore rural	8.22	0.079***	0.0204	0.60***
Chitradurga	-8.06	-0.084	0.1057	0.06
Kolar	3.46	0.034*	0.0172	0.28*
Shimoga	5.76	0.056*	0.0283	0.28*
Tumkur	4.60	0.045*	0.0231	0.28*
Belgaum	12.30	0.116***	0.0231	0.71***
Bijapur	5.76	0.056*	0.0276	0.29*
Dharward	5.02	0.049	0.0308	0.20
Uttara Kannada	11.96	0.113***	0.0210	0.74***
Chikmagalur	0.07	0.0007	0.0616	0.00001
Dakshina Kannada	14.00	0.131	0.0101	0.94
Hassan	1.51	0.015	0.0361	0.018
Kodagu	2.84	0.028	0.0329	0.06
Mandya	4.08	0.040	0.068	0.18
Mysore	-8.24	-0.086**	0.0329	0.40**
Bellary	4.08	0.040*	0.0197	0.29*
Bidar	16.07	0.149***	0.0214	0.82***
Gulbarga	6.18	0.069***	0.0178	0.53***
Raichur	2.22	0.022	0.0255	0.07
Karnataka State	7.57	0.073***	0.0181	0.62***

CGR = Compound growth rates
 *** = Significant at 1% level
 ** = Significant at 5% level
 * = Significant at 10% level
 S.E. = Standard error of mean

**Appendix-IX: District-wise compound growth rate of loans overdues of PACS in
Karnataka for the period 1986/87 to 1997/98**

District	CGR	b value	S.E.	R ²
Bangalore urban	-4.49	-0.046	0.0269	0.23
Bangalore rural	2.02	0.020	0.0301	0.04
Chitradurga	-8.61	-0.090	0.1063	0.06
Kolar	1.81	0.018	0.0243	0.057
Shimoga	10.30	0.098**	0.0421	0.35**
Tumkur	7.36	0.071*	0.0340	0.30*
Belgaum	-2.37	-0.024	0.0638	0.01
Bijapur	1.01	0.010	0.0311	0.01
Dharward	4.50	0.044	0.0331	0.15
Uttara Kannada	4.39	0.043	0.0452	0.08
Chikmagalur	3.35	0.033	0.0643	0.02
Dakshina Kannada	6.29	0.061*	0.0331	0.25*
Hassan	4.18	0.041	0.0602	0.04
Kodagu	-7.50	-0.078*	0.0405	0.27*
Mandya	4.50	0.044	0.0289	0.18
Mysore	-5.54	-0.057**	0.0224	0.40**
Bellary	4.60	0.045	0.0473	0.08
Bidar	9.31	0.089	0.0621	0.17
Gulbarga	12.41	0.117*	0.0558	0.30*
Raichur	-0.60	-0.006	0.0382	0.002
Karnataka State	3.15	0.031	0.0308	0.09

CGR = Compound growth rates

*** = Significant at 1% level

** = Significant at 5% level

* = Significant at 10% level

S.E. = Standard error of mean