MANAGEMENT APPRAISAL OF DISTRICT CENTERAL CO-OPERATIVE BANK – A CASE OF D.C.C. BANK SHIMOGA, KARNATAKA

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1. INTRODUCTION

Finance is an essential requirement for every productive activity. Agriculture in India needs more attention as it provides livelihood for 65 percent of population and directly contributing 20 percent to the national income. It is obvious that the contribution of agriculture sector to the national income is not in line with the number of people engaged in that sector, which calls for an immediate attention for increasing the production and hence for a prosperous agricultural economy (Javir *et al*,, 1998).

Agriculture in India has always been away of life, rather than a business and has suffered from stagnation due to low productivity arising from inadequate investment. The emergence of green revolution in India by the late sixties has radically changed the character of Indian agriculture, as seen by a growing tendency among the farmers to replace the traditional farming practices with scientific and modern practices evident by increasing use of HYV seeds, fertilizers, pesticides, irrigation, machinery and equipment etc., medium and long-term investments for land improvement, irrigation etc.

But, majority of farmers being small and marginal, they were unable to afford these investments from their own savings, as it has been rightly stated " the farmers in the under developed countries cannot expect their capital needs to come from savings, because their income from farm operations is barely sufficient to provide the minimum necessities of life" (Roy, 1994). This makes the farmers to go for borrowed funds to a large extent.

RURAL CREDIT SYSTEM

The rural credit system in the country has undergone radical changes in respect of focus, structure and approach overtime. Prior to the institutionalization of credit, the farmers where excessively dependent on the non-institutional credit sources especially an private money-lenders, who failed to provide the farmers the necessary and timely credit at appropriate cost.

In order to overcome the above hurdles and to supply the farmers with adequate and timely credit at appropriate costs, the institutionalization of credit was started with the establishment of cooperatives following the enactment of cooperative societies Act 1904, under which came the cooperative credit societies. Subsequently the nationalization of the banks was done for widening the role of commercial bank by urging them to open branches in the rural areas to meet credit needs of the rural people.

Both the cooperatives and commercial banks have made substantial progress over the years in providing credit to agriculture which has been classified as a " priority sector" under the credit policy formulated by the Reserve Bank of India.

The cooperative credit structure has two arms namely production credit (short-term credit structures) which comprises of Primary Agricultural Credit Societies (PACS) at the base level, District Central Cooperative Banks (DCCB) at the intermediate level and State Cooperative Banks (SCB) at the apex level and the investment credit (long-term credit structure) which comprises State Cooperative Agriculture and Rural Development Banks (SCARDB'S) which have a unitary structure with branches in some states or a federal structure supporting the Primary Cooperative Agriculture and Rural Development Banks (PCARDB'S) and their branches in other state. Commercial banks, another important constituent of the rural credit system have been extending all types of loans.

Establishment of DCC Banks

The introduction of the cooperative credit societies Act in 1904 for providing production credit to farmers marked the beginning of the institutionalization of cooperative banking system in India. The act of 1904 was amended in 1912 to facilitate the establishment of central cooperative banks at the district level, there by giving it a three tier federal character. After the independence of the country, at the recommendations of the A.D. Gorwala committee (1954) one central cooperative bank for each district became dictum, particularly in the bigger states with a view to provide stability and facilitate emergence of a strong and powerful cooperative credit structure for the development of all cooperative activities at the district level. The establishment of central cooperative banks (DCCBs) at the district level was to serve as a link between the ultimate credit disbursing outlets, viz., Primary

Agricultural Credit Societies (PACS) at the base level, District Central Cooperative Banks (DCCB) at the intermediate level and State Cooperative Banks (SCB) at the apex level. Until the nationalization of fourteen major commercial banks in 1969, DCCBs had the unique distinction of being the exclusive banking institution in the rural areas.

Until the introduction of financial sector reforms in the country, in the wake of the Implementation of the recommendations of Narasimhan committee (1991), the issues related to operational efficiency and financial viability of the banking institutions in India were generally subsumed under the social banking/ target oriented banking norms. In fact, even after the introduction of reforms in the banking sector in 1992-93, the application of prudential and other disclosure norms were restricted largely to the commercial banks (PSBs) in India. The cooperative banking sector in general, was excluded from its implementation in the initial few years, mainly in few of the states sponsored and state patronized character of the cooperatives in India. Now that the prudential norms are also made applicable to the cooperative banking sector, it is necessary to review the performance of the DCCBs and assess their substantiability or prospects to cope with the new reforms generated norms.

A strong network of DCC banks is a pre-requisite for sound performance of the cooperative credit structure. DCC banks not only provide the much-needed financial support to PACS, but also ensure the smooth flow of credit to various sectors in the district. They also ensure the strict implementation of the developmental schemes in the cooperative sector of the state and avoid the misuse of the funds by PACS or the select affluent sections of the rural society.

Karnataka is a predominantly agricultural state with 10 agro-climatic zones facilitating the cultivation of a wide range of crops. The cropping activities in the state needed to be supported with timely and adequate farm credit. There are 4392 PACS in the state operating at the village level, catering to the credit needs of the farming community. These PACS are affiliated to 19 DCCBs, which shoulder the responsibility of strengthening the primary units by providing them an effective linkage with the apex cooperative bank at the state level. The economic viability and the overall efficiency of the primary units depend to a great extent on the viability of the central cooperative banks. A critical evaluation of the working of the central units can shed light on the limitations and draw backs of these units, and help suggest ways to improve their functioning.

The Shimoga district cooperative central bank has been registered under Cooperatives Societies Act in the year 1953 vide register No: ARS/1041/18-10-1953 as a central financing agency of PACS. The area of operation of the bank is confined to Shimoga District consisting of 7 taluks. The district is divided into 2 revenue sub division, namely ; Malanad and semi malanad areas. The Malanad area is covered by Thirthahalli, Hosanagar, Sagar and Sorab taluks. The semimalanad area is covered by Shimoga, Bhadravathi and Shikaripura taluks. The financial needs of the farmers and the financial operations of the bank could vary across these regions. The enquiry into the working of the DCC bank could reveal interesting facts about the bank's performance according to the geographical variations. The present study seeks to the undertake a management appraisal of Shimoga District Central Cooperative Bank with the following specific objectives.

OBJECTIVES

1. To analyse the growth in the performance indicators of DCC Bank.
2. To study the financial management of DCC Bank.
3. To analyse the factors contributing to overall performance of the bank and
4. To examine the profile of defaulting societies and ascertain the causes thereof.

2. REVIEW OF LITERATURE

To devise the ways to evaluate the objectives of the study, it is necessary to have an idea of the methodology followed by the earlier related studies along with their findings. A review of literature connected with the working and performance of financial institutions in India and abroad was done, and is presented under the following heads.

2.1 Performance Evaluation through Growth Rate Analysis.

2.2 Performance Evaluation through Ratio Analysis.

2.3 Recovery and Overdue Analysis.

2.4 Performance Evaluation through Discriminant Analysis.

2.1 Performance Evaluation through Growth Rate Analysis

Reddy (1994) assessed the working of Malkanoor Cooperative Rural Bank considering the variables like share capital, reserve fund, deposits and borrowings for the period 1978-79 to 1992-93. The compound growth rates were calculated by fitting an exponential growth function. The study revealed that the growth rates were relatively higher for deposits, reserves and investments.

Palleri (1998) employed compound growth rate to evaluate the management of the credit distribution to agricultural sector by KCC Bank, Dharwad. The important indicators considered were amount of credit disbursed, amount of agricultural credit and non-agricultural credit, total deposits, number of beneficiaries, recovery performance and overdues.

Javir *et al.* (1998) examined the advances extended by Thane Grameena Bank, Maharashtra for the period 1987 to 1995. The required data were collected from the annual reports of the bank for the above period. It was found that the outstanding advances had increased from Rs 0.82 lakhs to 178.38 lakhs during the period of 1987 to1995 and the recovery position of the loan was found to be increasing. It was concluded that the bank had disbursed the credit to various sectors, various government schemes and social programme activities effectively.

Ramappa (1998) studied the extent of credit made available by Sree Anantha Grameena bank, Anathpur, its growth and recovery position of loans and found that it had made good progress in extending credit facilities from year to year. Further, the recovery performance was found to be better for non- agricultural sector compared to loans for allied activities.

Dayanandan and Shashikumar (1999) under took comparative analysis of DCBs in Kerala with the national level performance and revealed that the state level performance was behind the national level performance as regard to membership, own funds, borrowing loans advanced etc., where as deposits were slightly higher than the national level performance. But as long as there was no considerable decrease in rate of total loans overdue, profitability of the bank cannot be improved.

Various researchers opined that, the major variables which have impact on performance of any credit institutions were deposits, membership, recovery, profit/loss etc., It was found the most of by the studies that there was positive impact of credit on income and employment of borrowers.

Ramesh and Patil (1999) while explaining different analytical tools and techniques for measuring performance of co-operatives opined that co-operatives registered an excellent growth in all the selected variables. However, unstable profits, higher liquid assets, upward trend in over dues, decelerating trend in owned funds and regional imbalance in their distribution and growth were some of the major problems affecting badly the overall performance of co-operatives.Further It was revealed the important variables that determine the performance of the banks were share capital, loans, over dues profit and loss. There was a high growth in the a foresaid variables and mounting over dues was a common feature.

Saveeta (1999) studied the factors determining the profitability of public sector banks in India, by applying multiple Regression analysis. The study is confined to public sector banks comprising of state Bank of India (SBI) and its seven subsidiaries considering time

series data from 1971-1995. For improving the profitability of banks, it was recommended that the priority sector advances need to be curtailed and the cost of funds should he reduced by mobilizing more of current and saving deposits. In short it was suggested to reduce costs at all levels which would improving the profitability of banks.

Devaraja (2000) examined the performance of the Horticultural Producers Cooperative Marketing and Processing Society Limited in Karnataka, India, during the period 1958-59 to 1995-96. Physical and financial indicators of performance such as membership, retail outlets, share capital, owned funds, total assets, long-term investments, fixed assets, working capital, total liabilities, and sales were analysed. Results showed that there were substantial increases both in physical and financial indicators over the period of study.

Sarkar *et al.* (2001) examined the growth and functioning of Primary Agricultural Credit Societies in India during the period 1981-82 to 1995-96. The analysis revealed that the entire growth period could be broadly divided into 2 distinct phases with the period of truncation being 1989-90. The study revealed that although profits increased, the number of profit making societies had declined, mainly due to low borrowing membership, low business turnover and high level of overdues.

Aynew *et al.* (2002) analysed the loan delinquency, transaction/ administrative cost and recovery performance of Primary Land Development Banks (PLDBs) and analyses the factors affecting the overdues in PLDBs in Haryana, India. They reaveled that the amount of loan recovered by these banks in the state recorded a steady increase from Rs. 71.89 crores in 1988-89 to Rs.188.13 crores in 1997-98. The problem of chronic overdues seemed to be a serious case in these banks. The percentage of recovery to demand was the main significant factor influencing the overdues of long- term credit in the PLDBs over the study period.

Vivek *et al.* (2003) analysed the growth performance of all primary agricultural credit societies (PACS) in Haryana, India, based on secondary data for the years 1988/89-2000/01. Results revealed that the number of PACS increased from 2249 in 1998-99 to 2396 in 2000-01, with an annual growth rate of 0.52%. The total membership and the borrowing membership also increased over the study period.

Shekhar *et al.* (2003) used compound growth rates for selected physical and financial indicators of KDCCB for the period 1985-86 to1994-95. Among the physical indicators, the growth rates of number of branches and number of employees were statistically significant, while those of beneficiaries covered and total number of employees were not. Among the financial indicators, the growth rates of total share capital, paid-up share capital, borrowings, deposits mobilized, investments, total liabilities, current assets, current liabilities, income, expenditure, and outstanding advances were statistically significant, but growth rates of authorized share capital, credit disbursed and recovery percentage were not significant.

Anonymous (2004) analysed the achievements in credit provision during 2003-04 by India's National Bank for Agriculture and Rural Development (NABARD). The year 2003-04 witnessed a 3.11% growth over the previous year with the aggregate financial support provided to various banks and state governments amounting to Rs. 23, 402.66 crore [1 crore=Rs. 10 million] compared to Rs. 22 696.01 crore in 2002-03.

Reddy (2006) examined total factor productivity and technical and scale efficiency changes in Regional Rural Banks by using data from 192 banks for the period 1996 to 2002. Rural banks showed significant economies of scale in terms of assets and number of branches under each bank. Total factor productivity growth of rural banks was higher in profitability than in service provision during liberalization. Overall, there was a convergence of efficiency of rural banks during the study period. Parent public sector banks have no influence on the efficiency and productivity growth of rural banks. There is a justification for opening new banks in low banking density regions as efficiency and productivity growth of rural banks in these areas are high. There is also a case for mergers and enlargement of the asset base and the number of branches under each bank.

Namasivayam (2006) examined the working performance of the Madurai District Central Co-operative Bank ltd. The performance had been quite impressive in terms of deposit mobilization and credit deployment. He concluded that the success of the co-operative bank depends on effective manpower, planning and management.

Lakshmanan and Dharmendran (2007) examined the impact of NPAs on selected performance variables viz., net profit, Investments and legal expenses. The regression model was applied to analyse its impact on performance variables. The result showed that impact of NPAs on all the above performance variables of the bank was negative and insignificant at 5% level in all the equation. He concluded that efforts are required at RBI, NABARD and Bank level to control the management of NPAs and performance.

2.2 Performance Evaluation through Ratio Analysis

Hosamani (1995) used various ratios to evaluate the performance of Malaprabha Grameena Bank in Karnataka. Profitability ratios were negative (-43%) due to higher burden ratio (3.11%) compared to spread (2.96%).

Pathania and Sharma (1997) studied the working of Himachal Pradesh State Cooperative Agricultural and Rural Development Bank, which lends money on a long –term basis for a variety of end users. The financial durability of the bank was measured and data were presented on the long –term financial strength, debt to equity ratio, fixed assets to net worth ratio, the short- term financial performance, and the current ratio. It was concluded that the financial position of the bank was not sound, with liabilities exceeding equity.

Enugandula *et al.* (1998) used different financial ratios to evaluate performance of Karimnagar District co-operative central bank, Andhra Pradesh, and he concluded that the bank had not maintained a reasonable level of solvency position and was unable to cover its medium and long time obligations. The credit deposit ratio declined which indicated a better deposit mobilization. The gross ratio for the study period was 108.8, which reflected a higher level of expenditure over the gross income leading to losses for the bank. The net worth decreased over the years and the net capital ratio was unity indicating that the assets of the bank were not sufficient to cover its liabilities.

Shekhar *et al.* (1999) employed financial ratio analysis for the Karimnagar District Central Cooperative Bank in Andhra Pradesh, India. Financial ratios relating to solvency, liquidity, profitability, efficiency and strength of the bank were analysed for the period 1985/86-1994/95.

Ramesh and Patil (1999) while explaining different analytical tools and techniques for measuring performance of co-operatives opined that, ratio analysis was one of the most significant internationally used techniques for evaluating the performance of an enterprise. He also said that in most of the studies on co-operatives, the ratios were found not satisfactory.

Siddhanti (1999) used various financial ratios to analyze financial performance of Indian Farmers Fertilizers Co-operative and opined that the current ratio of the institution between 1987-88 and 1997-98 was ranging from 2.62 to 2.52 as against the standard norm of 2:1. The debt equity ratio during the period was between 1.05 and 1.07 as against standard norm of 1:1.

Patil (2000) used various financial ratios to evaluate the performance of Primary Co-operative Agricultural and Rural Development Banks in Dharwad district of Karnataka. The study revealed that the current ratio was more than unity and acid-test ratio was less than unity, while the net worth and profitability ratios were negative for all the banks in all the periods except for PCARDB, Dharwad.

Aynew (2003) estimated the Loan delinquencies and unit transaction costs of the Haryana State Cooperative Apex Bank (India) using secondary data for the period 1988/89-1997/98. Unit transaction costs varied between Rs. 0.002 and 0.004 and the delinquency rate was negative during the first three years of the period studied. Financial ratio analysis revealed that the total liability to owned-fund ratio ranged between 8.16 and 12.53, indicating the bank's inability to cover its short-term and medium-term obligations.

Suhag (2003) examined the loan recovery performance, management costs (i.e., unit transaction/administrative cost), and financial ratios of cooperative credit banks in Haryana, India. The study was based on secondary data for the period 1988-89 to 1997-98. The credit-deposit ratio was greater than unity throughout the study period, indicating a faster increase in the amount of loans advanced as compared to deposits mobilized. Chronic overdues ranged

between 2.21 to 8.96% of the total overdues over the period of 10 years. The management cost increased from Rs. 12.86 crores in 1988-89 to Rs. 41.42 crores in 1997-98. Loan delinquency rate ranged between 0.83 and 34.7% during the period under study. It was highest during the year 1989-90 and lowest in 1996-97.

Deepak (2004) evaluated the financial viability of two primary agricultural cooperative societies (PACS) in Kolhapur district, Maharashtra, India, using data covering seven years after (1992-98) and seven years before (1985-91) the economic reforms. The two PACS selected represent class A and B societies, respectively. Results showed a reduction in the operational efficiency of the selected PACS during the post-reform period compared to the pre-reform period. The selected PACS showed a decline in their current liquidity ratio, rate of return on assets, return on owner's equity, and marginal efficiency of capital. They also showed a higher dependency on lender's capital for their finances. This dependency was higher in the case of the class A society. Furthermore, although the class A society showed an improvement in its permanent capital, there was not much improvement in its net worth. It is concluded that the major reasons for the inefficient functioning of various PACS operating in Kolhapur district can be traced to the financial sector reforms introduced in the cooperative credit sector. Much of the rural finances extended through cooperatives are now going into investment rather than into loans to the farming sector.

2.3 Recovery and Overdue Analysis

Singhal (1998) considered two types of overdues – willful default and those beyond the control of borrower. The study suggested mechanisms for recovering overdues resulting from willful default. The study mentioned a need on the part of cooperatives to coordinate refinancing for borrowers with overdues beyond their control.

Gumaste *et al.* (1998) worked out cost of credit while studying the extent of borrowing, repayment and overdues of agricultural loans of farm facilities in Thane district of Maharastra state. The overall total cost of credit per borrower was Rs 3053.76. the over all traveling expenses per borrower was Rs 13.98, expenditure incured on certificate was Rs 11.19, loading and boarding expenses Rs 50.00 and overage interest paid by borrower was Rs 297.69.The lending norms for some of the sector were not mandatory. However, in the process of providing credit in the major components of cost were interest cost and non-interest cost.

Kulwantsingh and Singh (1998) studied the performance of the Himachal Pradesh co-operative banks. On the basis of certain indicators such as branch expansion, share capital, working capital, deposits mobilization, loan advancement and recovery. they concluded that the performance of the bank in terms of membership drive, share capital, deposit mobilization and working capital had improved over a period five years. However, recovery performance was unsatisfactory and overdues had increased steadily. This was due to the after effects of loan waiver scheme. The per member and per branch performance of the bank revealed that there was significant growth in share capital, deposits, borrowings advances and profits.

Shiyani and Sima (1999) while comparing performance of credit institutions in promoting agricultural development in Gujarat opined that the total overdue of agricultural and allied activities in Gujarat was as high as Rs 421.52 crores. The situation of agricultural overdues in co-operative banks was warranted and needed immediate action as its proportion in the total overdue of all banks of Gujarat was more than 65% Contrary to this, the shares of co-operative banks in total credit flow to the agricultural sector by all banks was only 36%.

Dinabandhu (2002) studied the Pune District Central Cooperative Bank Ltd. (PDCC) in Maharashtra, India. He is examined the impact of development action plans (DAPs) as a suitable mechanism through which the viability of rural financial institutions could be analysed and planned. The PDCCs resources, loan recovery performance, profitability, and productivity were examined. It was concluded that the bank's DAP has created some awareness in the bank. However, the increase in the bank's performance in all areas could not be totally attributed to the DAP.

Vivek *et al*. (2003) studied overdue loans in primary agricultural credit societies (PACS) in Punjab, India, during the period 1998-99 to 2000-01 based on secondary data. An increasing trend in the recovery of overdues was observed along with an increasing trend in the amount of overdues.

Aynew (2003) in his study opined that the soundness and success of the whole cooperative credit structure to a large extent depended on the immediate and timely recovery of loans. He studied the loan delinquency, transaction/administrative cost and recovery performance of Primary Land Development Banks (PLDBs) and analysed the factors affecting the overdues in PLDBs in Haryana, India. He revealed that the amount of loans recovered by these banks in the state recorded a steady increase from Rs. 71.89 crores in 1988-89 to Rs. 188.13 crores in 1997-98. The problem of chronic overdues seemed to be a serious case in these banks. The percentage of recovery to demand was the main significant factor influencing the overdues of long-term credit in the PLDBs over the study period.

Kulandaiswamy and Murugesan (2004) analysed the performance of primary agricultural cooperative credit societies (PACS) in India based on eight variables, namely, membership, share capital, working capital, loan disbursement, deposits, borrowings, demand and overdues. Of the 30 PACS studied, those showing good performance were only 7 (23.3%), while 12 units (40%) revealed moderate performance and as much as 11 (36.7%) were found to be poor. The empirical evidence calls for appropriate policy interventions to correct the deficiency by such measures as recapitalization, amalgamation, bringing down the overdues, and improving the overall efficiency.

Natarajan (2007) analysed the series problem of service co-operative bank in Kerala is the same common lacunae of overdue. He opined that co-operatives have to get a reasonable profit. Therefore, it is high time that the SCBs in Kerala have to analyse their profitability of each of their activity, plan their funds efficiently and effectively utilize their work force to the maximum in order to get a reasonable profit and survive in their competitive environment otherwise the loss scenario will eat away the capital of the banks held up to liquidation.

2.5 Performance Evaluation through Discriminant Analysis

Singh (1992) studied the random selection of 100 borrowers of dairy loans from the Bhojpur-Rohtas Gramin Bank in Bihar state, India, Discriminant function analysis was used to classify willful and non-willful defaulters on the basis of socioeconomic characteristics. 73 borrowers had defaulted. Of the total defaulters, 39 were willful and 34 non-willful defaulters. The results indicated that per capita expenditure on milk and milk products was the most important factor discriminating the non-willful defaulters from the willful defaulters. This was followed by expenditure as a proportion of total income, educational status and number of dairy animals. Predictive criteria on the basis of such factors could effectively be used in developing selective lending criteria to reduce the problem of overdues faced by lending institutions.

Reddy (1993) carried out discriminant analysis using variables which constituted different dimensions of the performance of co-operative agricultural and rural development banks (PCARDDBs) to classify the districts of Karnataka into relatively high and low performance districts. High performance districts were characterized with higher mean value (average of 15.63) with respect to all indicators as compared with low performing districts (average of 7.41). It was also seen that the contribution of these indicators to the distance between to the distance between the two groups was high with respect to working capital (49.69%), deposits (32.85%) and loan over due(26.49%).

Hosamani (1995) employed Discriminate between willful and non-willful defaulters for Malaprabha Grameena Bank, in Dharwad district Karnataka. The variables considered were education, family size, income level, family expenses and amount of over dues. Among these education and income levels were the two important characteristics, which explained the major proportion of the variation in discriminating the willful and non-willful defaulters.

Sivaprakasam (1996) study was conducted a study with a sample of short-term agricultural credit defaulters of the Gandhigram Sarvodaya Cooperative Agricultural Bank in Dindigual Anna district, Tamil Nadu, India (n=160, 1993). The study examined,

(1) socioeconomic and political characteristics of the defaulters.

(2) causes for the failure in repayment of loans within the prescribed time.

(3) attitudes of defaulters regarding repayment.

(4) concessions expected by the defaulters for the immediate payment of dues.

(5) agricultural credit needs of defaulters and the sources of credit and interest rates charged.

Suggestions were offered for reducing the overdue position and strengthening agricultural credit cooperatives.

Pandey and Muralidharan (1997) in their study, used discriminant function to develop a criterion for classifying borrowers according to their willingness to repay the loans on the basis of differences in their socio-economic characteristics in Banda district of Uttar Pradesh. Literacy, percentage of income from sources other than the crop production, total income, operational size of holding and percentage of cash expenditure were the major characteristics which classified defaulters in to willful and non-willful groups.

The variables considered were area of owned land, leased in land, area under HYV, quantity of plant protection measures, quantity of organic manure, amount of loan borrowed previous loan outstanding etc. They concluded that innovative attitude of farmers in terms of adoption of high yielding variety, plant protection measures and availability of short- term credit during the crop season were the important discriminating factors between fertilizer users and non- users.

Lekshmi *et al*. (1998) attempted to identify the characteristics responsible for default with particular reference to crop loans in Alappusha district of Kerala. For this , a two stage random sampling method was employed for sample selection with branches of the lead bank as primary units and borrowers as secondary units. Linear Discriminant function was the analytical tool employed for the study and concluded that market surplus, time of sowing and credit gap were the major characteristics which discriminated the borrowers of crop loan into defaulters and non defaulters.

Pouchepparadjou (1998) used discriminant analysis was used to analyse the variables that discriminate defaulting farmer borrowers from non-defaulting farmer borrowers. The analysis uses data from a sample of 60 farmer borrowers (20 large, 20 small and 20 marginal) in Karaikal region, chosen from a list obtained from the lead bank in Pondicherry, India. The sample comprised an equal number of defaulters and non-defaulters. The discriminate function effectively discriminated the two groups. The percentage contribution of each of the ten variables in the discriminate function to the total variation was calculated. The two most important variables were the ratio of dependents to total family members (39.5%) and age (38), followed by cropping intensity (21.07%) and total income (8.89%). It was inferred that borrowers with high cropping intensity, high total income and higher gross farm income would generally be non-defaulters.

Krishna (2000) used discriminant function to discriminate the good and lower performing banks, based on their characteristics namely, employee per branch, income to expenditure ratio, credit deposit ratio and borrowings and their discriminating powers were 55.16,12.70,14.12, and 17.96 percent respectively towards the total discrimination.

Patil (2000) used Discriminant function to discriminate the defaulters into willful and non-willful defaulter based on four characteristics namely, education, size of the farm, income and family expenditure. Among these four important characteristics discriminating the two groups, expenditure and income were found to be contributing to the extent of 36.56 percent and 31.06 percent, respectively towards the total discrimination.

Vallabhan (2001) examined the default patterns in agricultural loans in Tiruchirappalli district, Tamil Nadu, India, Data were obtained from 90 farmer defaulters. The analysis shows that the predominant reason for default or overdue is the expectation of waiver of loan or interest by the borrowers. This is followed by the practice of diverting funds earmarked for agricultural purposes to other priorities; the prevailing low agricultural prices; and crop failure. Other findings of the study were default was more among educated agricultural loan borrowers than illiterate agricultural borrowers; the attitude of default was more among the borrowers who are in the age group of 35-50 years, and default was least among those who are 35 years of age and below and political affiliations of the borrowers had significant impact on their repayment pattern.

Debabrata (2002) examined the impact of the Arunachal Pradesh State Cooperative Apex Bank's loans on rural development in the Indian state. Data were obtained from 200 tribal beneficiaries drawn from 10 branches of the bank. It was observed that the loans provided by the bank played an important role in improving the economic conditions of the borrowers. The bank's financing had significantly contributed to an increase in the annual income of the borrowers and generated employment in various activities. It also enabled the borrowers to raise their living standards.

Ramappa (2003) used discriminant function to discriminate between loose milk buyer and packed milk buyer based on their characteristics namely, expenditure on milk and milk products, expenditure on non- food products and income group, which were found to have discriminating powers were 40.14,39.84 and 20.02 percent, respectively towards the total discrimination.

Pandian etal (2004) employed Linear near descriminant function analysis to identify the variables that are important in discriminating non-defaulters and defaulters. Educational level of the borrower-farmer, family size, political influence, amount of loan borrowed, repayment capacity, total income of the family, family consumption expenditure, land holding category, caste and total asset of the family were included for analysis. Data pertaining to the financial year 1999-2000 were collected from a sample of 120 borrower livestock farmers in Kanchipuram district, Tamil Nadu, India. The results of the classification of cases based on the score obtained by the discriminant function had shown that among the non-defaulters 71.9% were predicted correctly by the model, while among the defaulters 87.9% were identified correctly. In total, 80% of the original grouped cases were correctly classified by the model.

Mishra and pattanaik, (2005) conducted a study based on data for the year 2001-02 collected from a sample of 80 households in Khurda block, Khurda district, Orissa, India. He examines:

(i) the sources of agricultural loans in the study area;

(ii) the extent of borrowing and the nature of the utilization of loans among different size groups of farms;

(iii) the extent of overdues and default among different categories of farmers

(iv) the factors associated with overdues among willful and non-willful defaulters

Satish (2005) studied the characteristics that distinguish commercial bank and cooperative sector borrowers. Data were collected in 2002 from a sample of 160 farm households (equally divided among bank and cooperative borrowers) in Punjab, India. The differences in characteristics are discussed in terms of land ownership, ownership of capital assets, farm expenditure, technology adoption, ownership of financial and other assets, and non-farm and subsidiary agricultural employment. It is revealed that cooperative borrowers were mainly small and marginal farmers with limited land and capital. Bank borrowers, on the other hand, are mainly commercial farmers who have larger land holdings and higher amounts of capital.

3. METHODOLOGY

This chapter deals with the description of the study area, sampling procedure employed, the nature and source of data, and various tools and techniques employed to accomplish the objectives of the study, At the end of the chapter, a few concepts are explained to facilitate a clear understanding of the issues with which the present study is concerned.

The methodology is presented under the following major heads.

3.1 Description of the study area

Shimoga district is situated in Southern transitional Agro Climatic Zone. The district lies between the latitudinal parallel of 13.27' North and the 39' North and longitudinal parallels of 74.38' East and 76.40' East. Shimoga is bounded district on North West by Haveri and Davanagere on the North and North East by Chikkamagalur on the South and Dakshinakannada on the South West. The Western parts of the district lying in the Malnad region (Western Ghats) are characterized by mountainous terrain and very high rainfall. The central belt is Semi Malnad while eastern part falls in plain region being very dry climate Zone.

3.1.1 Geographical and Demographic Features

Shimoga district has an area of 8.465 sq.km with Bhadravathi and Thirthahalli taluks occupying 690 sq.km and 1247 sq.km of area respectively. As per 2001 census, the total population of Shimoga district was 16.42 lakhs. The total population of Bhadravathi taluk was 3.38 lakhs and that of Thirthahalli taluk was 1.43 lakhs, respectively. The density of population in Shimoga was 194 per sq.km. The density of population in Bhadravathi and Thirthahalli taluks was 503 per sq.km. And 120 per sq.km., respectively. (Table 3.1).

3.1.2 Rainfall

The Western monsoon is crucial for Shimoga district. Average rainfall of the district is 1966.6 mm, whereas Bhadravathi and Thirthahalli taluks have an average rainfall of 774.2 mm and 3283.5 mm, respectively.

3.1.3 Soils

The soils in Shimoga district comprised of red lateritic and coastal alluvium soils. Similar types of soils were found in Bhadravathi and Thirthahalli taluks.

3.1.4 Land Utilization Pattern

The land utilization pattern of the district in general and the study taluks in particular is presented in table 3.2. In 2004-2005,the net sown area in the district was 218037 ha, and the net sown area of Bhadravathi and Thirthahalli was 29674 ha and 23492 ha respectively. The area under forest in the district was 276855 ha. The area under the forest was 18239 ha in Bhadravathi taluk and 47732 ha in Thirthahalli taluk. The fallow land in Bhadravathi and Thirthahalli taluks was 3628 ha.and 7807 ha respectively. About 13312 ha of land were not available for cultivation in the district. The land not available for cultivation in Bhadravathi and Thirthahalli taluk was to the extent of 8445 ha and 11711 ha.

Table 3.1. Salient Features of Shimoga District and Sample Taluks (2005-06)

Sl. No	Particulars	Shimoga	Sample taluks	
			Bhadravathi	Thirthahalli
1.	Geographical area (Sq.km)	8465	690	1247
2.	No. of inhabited villages	1443	138	245
3.	Total population (2001census) (In lakhs)	16.42	3.38	1.43
4.	Rural population (percent)	65.23	52.66	89.52
5.	Urban population (Percent)	34.77	47.34	10.48
6.	Male population (percent)	50.60	50.60	49.65
7.	Female population (percent)	49.40	49.40	50.35
8.	Population density	194	503	120
9.	Normal rainfall (mm)	1813*	957	3001
10.	Actual rainfall (mm)	1966.6*	774.2	3283.5

Source: Shimoga District at a Glance, 2005-2006
District Statistical Office, Shimoga

Table 3.2. Land Utilization Pattern in the Shimoga District and Sample Taluks (2005-06)

(ha)

Sl. No	Particulars	Shimoga	Sample taluks			
			Bhadravathi	% to district	Thirthahalli	% to district
I	Area under forests	276855	18239	6.58	47732	17.24
II	Land not available for cultivation					
	1) Non agricultural uses	88453	7656	8.65	10052	11.36
	2) Barren land	13312	789	5.92	1659	12.46
	Total	101765	8445	8.29	11711	11.50
III	Other un cultivable land					
	1) Cultivable waste	16467	650	3.94	1738	10.55
	2) Parmanent pasture	163461	8308	5.08	26472	16.19
	3) Trees and groove	26899	66	0.24	6425	23.88
	Total	206827	9024	4.36	34635	16.74
IV	Fallow land					
	1) Current fallow	10539	1386	13.15	1966	18.65
	2) Other fallow	33761	2242	6.64	5841	17.30
	Total	44300	3628	8.18	7807	17.62
V	Net sown area	218037	29674	13.60	23492	10.77
VI	Geographical area	847784	69010	8.14	125377	14.78

Source: Shimoga District at a Glance, 2005-06
District statistical Office, Shimoga

3.1.5 Cropping Pattern

The cropping pattern of Shimoga district as a whole and selected taluks in particular is presented in table 3.3. The crops of Shimoga district are paddy, ragi, and maize among the cereals; bengal gram, red gram and black gram among the pulses; chilli, ginger, cardamom, pepper among spice crops, and cotton and sugarcane among commercial crops. Besides, arecanut and coconut are also grown in the district as major plantation crops. Similar cropping pattern was observed in Bhadravathi and Thirthahalli taluks.

3.1.6 Irrigation Potential

The extent of area irrigated by different sources in Shimoga district and selected taluks is presented in Table 3.4. Major source of irrigation in Shimoga district are Canals, Tanks and Wells. The canal irrigation is not found in Thirthahalli taluk. The total area irrigated in the district was 122956 ha in 2004-2005. The area irrigated in Bhadravathi and Thirthahalli taluks was 26345 ha and 12158 ha respectively.

3.1.7 Financial Institutions

As on 31-3-2006, the total number of financial institutions in Shimoga district was 212 out of which, Bhadravathi and Thirthahalli taluks were having 32 and 27 institutions, respectively (Table 3.5). There were 136 commercial bank branches in the district, of which, 22 branches were in Bhadravathi taluk and 18 branches were in Thirthahalli taluk. There were 21 DCC bank branches located in the district. Bhadravathi and Thirthahalli taluks had 3 DCC bank branches each.

3.2 Sampling Procedure

3.2.1 Selection of Taluks

The theme of the study was to evaluate the performance of DCC Bank. The Shimoga District was purposively selected for the study, since such a study has not been conducted so far in the district. Of the 7 taluks of Shimoga district, Bhadravathi and Thirthahalli taluks were purposively selected for the study, which represent Malnad and Semi Malnad area respectively. Thus, besides investigating the working of the main branch, the study aims at evaluating the performance of the two branches located in the selected taluks.

3.2.2 Selection of Officials and Non-Officials

To assess the impact of personal and management traits of the officials and non-officials on the overall performance of the bank, the Chairman of the bank was selected to represent non- officials and the Managing Director and General Manager were selected to represent the officials. The selection was premised on the hypothesis that of all the officials and non-officials, the above three personnel had a greater role in the affairs of the bank.

3.2.3 Selection of societies

3.2.3.1 Study of profile of defaulting societies

For studying the profile of defaulting society's vis-à-vis non-defaulting societies, a list of all the societies was collected from the branch office of Thirthahalli taluk and Bhadravathi taluk. In the next stage two societies identified as defaulting ones and two societies identified as non- defaulting ones were selected from among the existing societies of each taluk.

3.2.3.2 Study of the Socio- economic characteristics of defaulters

It is of particular interest to examine whether a given defaulter defaulted in loan repayment inspite of his sound repayment capacity or his financial distress forced him to default. Thus, the study intented to analyze the socio- economic characteristics of the defaulters and relate them to the willful/ non- willful defaulting nature of the borrowers. For this purpose, the five defaulting societies were selected from each taluk. Then six defaulters were collected from each society. Hence total sample size accounts to 60 members.These defaulters were later classified in to willful defaulters and non –willful defaulters in consultation with the secretaries of the respective societies. This process led to the identification of 37 non- willful defaulter and 23 willful defaulters.

Table3.3. Cropping Pattern in Shimoga District and Sample taluks (2005-06)

(ha)

Sl. No	Particulars	Shimoga	Bhadravathi	% to District	Thirthahalli	% to District
I	Cereals					
	Paddy	123470	16444	13.32	15838	12.87
	Ragi	2776	835	30.07	-	-
	Jower	607	38	6.26	-	-
	Maize	44954	2150	4.78	-	-
	Total	171807	19467	11.33	15838	9.21
II	Pulses					
	Bengal gram	39	-	-	-	-
	Red gram	212	14	6.60	-	-
	Total	251	14	5.57	-	-
III	Spices					
	Chilli	906	11	1.21	-	-
	Ginger	1544	1	0.06	119	7.70
	Cardamom	289	8	2.76	135	46.71
	Pepper	814	7	0.85	371	45.57
	Total	3553	27	0.75	625	17.59
VI	Commercial crops					
	Sugarcane	9976	6831	68.47	51	0.51
	Cotton	3833	229	5.97	6	0.15
	Total	13809	7060	51.12	57	0.41
V	Arecanut	29150	9077	31.13	5625	19.29
VI	Coconut	6613	1989	30.07	646	9.76
VII	All crops	247656	38991	15.74	24966	10.08

Source: Shimoga District at a Glance, 2005-06
District statistical Office, Shimoga

Table3.4. Irrigation Potential (2004-05)

(ha)

Sl. No	Particulars	Shimoga District	Bhadravathi	Thirthahalli
1	Canals	43440 (35.3)	23495 (89.2)	-
2	Tanks	47950 (39.0)	472 (1.8)	5030 (41.8)
3	Wells	6573 (5.3)	612 (2.3)	1590 (12.9)
4	Bore wells	13242 (10.8)	1388 (5.3)	345 (2.8)
5	Lift Irrigation	5427 (4.4)	378 (1.4)	2665 (21.9)
6	Other source	6334 (5.2)	-	2528 (20.6)
7	Total	122956	26345	12158

Source: Shimoga District at a Glance, 2005-06

District Statistical Office, Shimoga

Note: Figures in the parentheses indicate the percentages to the total

Table 3.5. Financial Institution in the Shimoga District and the Sample Taluks

(No. of Branches)

Sl. No	**Bank**	**Shimoga District**	**Bhadravathi Taluk**	**Thirthahalli Taluk**
1	Commercial Bank	136	22	18
2	Grameena Bank	57	8	8
3	DCC Banks	21	3	3
4	Urban cooperative Bank	11	1	0
5	P.L.D Bank	8	1	1
6	Total	212	32	27

Source: Shimoga District at a Glance, 2005-06

District statistical Office, Shimoga

3.3 This Section Describes Nature and Sources of Data and in the Present Study for Accompling Various Objectives

3.3.1 Performance Indicators

3.3.1.1 Performance Indicators for the DCC Bank, Head Office

About 16 variables were identified as performance indicators having close association with the performance of the bank. Out of these, five were considered as physical indicators, viz., number of branches, number of employees, membership, number of loan accounts and number of deposit accounts. The remaining eleven variables, viz., share capital, borrowings, deposits, investment, advances, profit, reserve fund, other fund, working capital, total income and total expenditure were grouped as financial indicators.

3.3.1.2 Performance Indicators for the Selected DCC Bank Branches

Ten indicators were identified as the performance indicators of the selected DCC bank branches. Out of these, four were physical indicators, viz., membership, number of employees, number of deposit accounts and number of loan accounts. The other six indicators, viz., deposits, loan amount to individual, loan amount to societies, recovery amount, overdue amount and profit were the financial indicators.

For evaluating the objectives of the study , primary data relating to income, experience and training were collected from the selected official and non-officials of the bank for periods spanning from 1994-95 to 2004-05. An appropriate comprehensive questionnaire was used to elicit the opinion.

The secondary data on both physical and financial aspects of the bank were collected from the annual reports, monthly progress reports and other records of the bank. The period of the study was 15 years (1990-91 to 2004-05)

3.3.2 Personality Traits

The present study attempts to analyse the variables having a bearing on the composite performance (described in section 3.4). These variables relate to the officials and non- officials of D.C.C Bank (see section 3.2.2). These variables included age, education, experience, income and the training of the selected personnel. Since this analysis involves multiple regression not all these variables could be considered since there can be multicollinearity between age and experience and the variable education had little variation. Thus the study considered the variables like experience, training and income of chairman and managing director.

3.3.3 Profiles of societies

For the four societies (two defaulting and two non- defaulting) selected from each taluk, information pertaining to their characteristics was collected from the records of respective societies. These characteristics included year of establishment of the societies, share capital, membership details, loan advanced for various purposes and recovery position. The information collected pertained to year 2005-06.

3.3.4 Classification of defaulters.

Primary data on the socio-economic characteristics like age, education, family size and amount borrowed pertaining to the defaulters was collected for classifying them as willful and non-willful defaulter.

3.4 Composite Performance Indicator

To assess the overall performance of DCC bank, a composite performance indicator was calculated by assigning suitable weights to the selected physical and financial performance indicators. In other words the composite performance indicator was the weighted sum of the selected performance indicators.

For examining the impact of personality traits on overall performance of the bank, composite performance indicator was created in three different ways using the weights assigned by the Chairman, Managing Director and the General Manager to the selected

physical and financial indicators. The weights indicated by the chairman constituted scenario-I, while the weights indicated by the Managing Director and General Manager constituted scenario-II and scenario-III respectively. The weighting scenarios are presented in Table 3.6.

3.5 Analytical Techniques Employed

The data collected from the primary and the secondary sources were analysed in multiple stages. The data were subjected to statistical analysis through the following techniques.

1. Tabular analysis
2. Growth rate analysis
3. Ratio analysis
4. Multiple regression analysis
5. Discriminant analysis

3.5.1 Tabular Analysis

The technique of tabular analysis was used for computing average of the variables relating to the physical and financial performance of the bank and the profile of defaulting societies. Percentages were also worked out for the purpose of comparison.

3.5.2 Growth Rate Analysis

Growth rate analysis was undertaken with a view to studying changes in selected physical and financial variables related to the bank. The following conventional compound growth rate model was adopted for estimating the compound growth rate.

$$Yt = A B^t Vt \quad \text{.....(1)}$$

Where,

Yt = Physical/ Financial variables in time period't'

A = Y in the base year

t = Time period

Vt = Error term

B = 1+ g where g = growth rate

By taking the logarithm, equation (1) was reduced to the following form.

$$\log Yt = \log A + (\log B)\, t + \log Vt \quad \text{.....(2)}$$

Where log A and log B are the parameters of the function obtained by Ordinary Least Square (OLS) method

Defining,

Qt = log Y

Xt = t

A = log A

B = log B

Ut = log Vt

Equation (2) could be rewritten as follows:

$$Qt = A + BXt + Ut$$

Once the above equation is estimated, g can be computed as:

$$g = (\text{Antilog } b) - 1$$

Table 3.6. Weights Assigned by Chairman, Managing Director and General Manager

(Percent)

Indicators	Scenario- I	Scenario- II	Scenario- III
	Weights assigned by Chairman	Weights assigned by Managing Director	Weights assigned by General Manager
Number of branches	10	-	-
Number of employees	10	10	10
Number of membership	-	-	10
Number of deposit accounts	-	10	10
Number of loan accounts	-	10	10
Share capital	10	-	-
Borrowings	10	10	-
Deposits	15	10	10
Total income	15	10	10
Reserve fund	-	-	-
Other funds	-	-	-
Working capital	15	10	10
Total expenditure	15	-	10
Investments	-	10	-
Advances	-	10	10
Profit	-	10	10

The important physical indicators considered for analysis of growth rate were membership, branches, employees, deposit accounts and loan accounts. The important financial indicators considered were, share capital, borrowings, reserve funds, deposits, other funds, profit, investment, loan amount, working capital, total income, total expenditure, recovery amount and overdue amount.

3.5.3 Ratio Analysis

Ratios are important tools to analyse the performance of any business organizations. Relevant financial ratios were worked out for the DCC Bank, viz., liquidity, solvency, profitability and efficiency ratios.

3.5.3.1 Liquidity ratios

Liquidity ratios are used to measure the ability of the bank to possess adequate cash to meet immediate obligations.

3.5.3.1.1 Current Ratios

This ratio measures the degree of short term liquidity of the bank. It indicates whether the current assets are sufficient to meet the current liabilities.

$$\text{Current ratios} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

The current assets included in this study were cash at hand, balance with other banks (current account), money at call and short notice, short term advances and bills receivables. The current liabilities included borrowings and bills payables.

It is generally believed that a good current ratio should be between 1.5:1 and 2:1. Generally, higher the value of this ratio, greater will be the margin and financial solvency of the bank.

3.5.3.1.2 Liquid Assets to Total Assets Ratio

The degree of liquidity performance adopted by the bank is depicted by this ratio. It was computed as follows.

$$\text{Liquid Assets to Total Assets Ratio} = \frac{\text{Liquid Assets}}{\text{Total Assets}}$$

The liquid assets include cash in hand and cash at bank. Total assets include cash and bank balances, balance with bank investment, advances, fixed assets and other assets.

3.5.3.1.3 Acid- Test Ratio

This ratio is called quick ratio or near money ratio. This represents the ratio between quick assets and current liabilities and computed as follows

$$\text{Acid – Test Ratio} = \frac{\text{Quick Assets}}{\text{Total Liabilities}}$$

The quick assets include cash in hand, cash at bank and short term deposits. The current liabilities include bills payable, interest accrued, other provisions and interest paid.

3.5.3.1.4 Solvency Ratio

These ratios indicate banks involvement in the total resources and provide basis for measuring leverage ratio. The various ratios employed were as follows:

3.5.3.1.4.1 Debt- Equity Ratio

This ratio is called ‘leverage ratio’. This compares the banks stake in the business with outside term liabilities. Lower value of the ratio indicates that the leverage effect will be restricted to the minor role of debt and major capital being equity, the bank is supposed to be trading on thick equity.

$$\text{Debt- Equity Ratio} = \frac{\text{Long Term Liabilities}}{\text{Net worth}}$$

In the above ratio, debt represents only long term liabilities and not current liabilities, while equity refers to net worth after deducting intangible assets. Net worth includes statutory reserves, capital reserves, revenue and other reserves and share capital.

3.5.3.1.4.2 Indebtedness Ratio

The ratio indicates the amount owed by the bank to creditors. The ratio reflects the solvency position of the bank in a better way.

$$\text{Indebtedness Ratio} = \frac{\text{Total Liabilities}}{\text{Net Worth}}$$

The lower the ratio, the better is the solvency position. The total liabilities include statutory reserves, capital reserves, revenue reserves, borrowings, contingent liabilities, other liabilities and share capital.

3.5.3.2 Tests of Strength

3.5.3.2.1 Net Worth

It indicates what the bank owes to the owners of the business. It measures the excess of assets of assets over liabilities, which indicates the soundness of the bank.

$$\text{Net Worth} = \text{Total Assets} - \text{Total liabilities}$$

3.5.3.2.2 Net Capital Ratio

The ratio indicates the degree of liquidity of the bank in the long run. It measures the degree of availability of assets to payoff the long term liabilities.

$$\text{Net Capital Ratio} = \frac{\text{Total Assets}}{\text{Total liabilities}}$$

This ratio would throw light on the real financial strength of the bank.

3.5.3.3 Profitability Ratio

These ratios were used to compare the return to the investment. Following were the important ratios computed.

3.5.3.3.1 Net profit to Total Assets Ratio

This is ratio of profit on total assets of the bank and their employment.

$$\text{Net profit to Total Assets Ratio} = \frac{\text{Net Profit}}{\text{Total assets}}$$

An increasing trend over the years indicates the overall efficiency of the bank.

3.5.3.3.2 Net Profit to Net Worth Ratio

The ratio of net profit to net worth shows whether profitability is being maintained or not.

$$\text{Net Profit to Net Worth Ratio} = \frac{\text{Net Profit}}{\text{Net Worth}}$$

3.5.3.3.3 Net Profit to Fixed Assets Ratio

The ratio indicates whether the fixed assets are being used profitability. A decline in the ratio shows that either the assets are being kept idle or the business conditions are bad.

$$\text{Net Profit to Fixed Assets Ratio} = \frac{\text{Net Profit}}{\text{Fixed Assets}}$$

3.5.3.4 Efficiency Ratios

Two ratios were adopted to assess the efficiency of the bank, viz., gross ratio and operating ratio.

3.5.3.4.1 Gross Ratio

This ratio helps to ascertain how efficiently the gross income of the bank was earned. The ratio was computed as follows.

$$\text{Gross Ratio} = \frac{\text{Total Expenses}}{\text{Gross Income}} \times 100$$

3.5.3.4.2 Operating Ratio

This ratio indicates the proportion of gross income being used for meeting the operating expenses.

$$\text{Operating Ratio} = \frac{\text{Operating Expenses}}{\text{Gross Income}} \times 100$$

An increase in the ratio indicates a decline in the efficiency of the bank.

3.5.4 Multiple Regression Analysis

The multiple regression analysis was employed to explain the variation in overall performance of the bank (measured by the composite performance indicator) due to the variation in the variables like income and experience of, and the training undergone by the Chairman, Managing Director and General Manager.

The following model was specified.

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9 + e$$

Where,

Y	=	Composit Performance Indicador
X_1	=	Income level of Chairman
X_2	=	No. of years of experience of Chairman
X_3	=	No. of training undergone by Chairman
X_4	=	Income level of Managing Director
X_5	=	No. of years of experience of Managing Director
X_6	=	No. of training undergone by Managing Director
X_7	=	Income level of General Manager
X_8	=	No. of years of experience of General Manager
X_9	=	No. of training undergone by General Manager
e	=	Error term

3.5.5 Discriminant Function Analysis

Discriminant function is a statistical tool used to discriminate between the two or more classes of persons or objects on the basis of characteristics which are thought to be relevant. This analysis helps us to know the relative importance of different variables in regard to their power to discriminate between the groups. This function enables to know whether any borrower is likely to be a willful or non-willful defaulter on the basis of information on the selected variables. The relative importance of the variables in regard to their power to discriminate between the willful and non-willful defaulters can also be known with the help of Discriminant function. For the application of Discriminant function in the present study a defaulter, who did not have sufficient income to repay loan, was termed non- defaulting and classified in to group1. On the other hand a who could not repay loan despite having sufficient income was termed willful defaulter and classified in to group2. The Discriminant function used in the study could be mathematically represented as follows,

$$Z = L_1 X_{1+} L_2 X2 + \ldots\ldots\ldots\ldots + L_n X_n$$

Where,

Z = Total Discriminant score for willful and non-willful defaulters

$X_1 \ldots\ldots\ldots\ldots X_N$ = Characteristics of the respondents

$L_1 \ldots\ldots\ldots\ldots L_n$. = linear Discriminant coefficient.

The function is constructed by choosing values of L_i 's in such a way that the ratio:

Variation of 'Z' between the groups

---------- is maximized

Variation of 'Z' with in two groups

The Discriminant function was tested for the significant to know whether or not these selected variables taken together were sufficiently discriminating the two groups or not. The overall significance of the estimated Discriminant function was tested with the help of Fisher's 'F' is calculated as

$$F = \frac{R^2 (n-p-1)}{(1- R^2)(p)}$$

Where

$$R^2 = \alpha\, \theta \frac{(n_1\, n_2)}{(n_1 + n_2)}$$

$$\alpha = S^{-1}\, \theta$$

$$S = \begin{bmatrix} \Sigma X_1 & \Sigma X_1 X_2 \\ \Sigma X_1 X_2 & \Sigma X_2 \end{bmatrix}$$

$$\theta = \left[\frac{\overline{X_{11} - X_{12}}}{X_{21} - X_{22}} \right]$$

Where,

P = Number of variables considered in the function

n_1 = Number of willful defaulters

n_2 = Number of non- willful defaulters

The value of F is tested at P and $(n_1 + n_2 - p - 1)$ degrees of freedom.

3.6 Concepts Used in the Study

Advances

The amount of loan advanced by an institution, during a particular period, year or season.

Agricultural Credit

Credit provide for the purpose of agricultural operation.

Co-operative Credit

Credit provide by co-operative institution like, PACS, DCCB etc.

Current Assets

The assets that could be quickly converted into cash within a short time, usually a year. e.g., cash in hand, cash at bank.

Current Liabilities

The debt that must be paid in the very near future, e.g., bills payable, borrowings.

Overdues

The amount which was due to be paid on a particular date, but has not been repaid by the borrowers.

Recovery

The amount of loan which was recovered up to a point of time by the financial institutions.

Seasonal Agricultural Operation (S.A.O) Loan

These loans are intended to increase the production of the crops. These are also called as short term loans or crop loans. These loans are repayable with in period ranging from 6 months to 18 months in lump sum.

Medium-term Loans

The amount of credit made available for the purchase of pump set, bullocks, land improvement, spray pumps, carts etc, and to undertake irrigation activities. The period of repayment range from 18 months to 5 years.

Non-willful defaulter

A borrower did not have enough income to repay the loan was defined as non-Willful defaulter.

willful defaulter

A borrower who had sufficient income to repay the loan but did not repay it deliberately was defined as willful defaulter.

4. RESULTS

In accordance with the objectives of the study, the data collected from primary and secondary sources were analysed and interpreted. The findings of the study are presented in this chapter under the following heads.

4.1. Growth in physical and financial performance indicators of the DCC Bank

4.2. Financial Ratio analysis

4.3. Advances and recovery pattern of the bank

4.4. Overall performance of the bank

4.5. Profile of defaulting societies

4.1 Growth in physical and financial performance Indicators of the DCC Bank

For better insight into the working of the organization, analysis of its growth, development and other basic features becomes a pre-requisite step. The performance indicators of the DCC Bank are broadly categorized into physical and financial indicators.

Both physical and financial indicators were subjected to compound growth rate analysis for the period 1990-91 to 2005-06 in order to assess the performance of DCC Bank.

4.1.1 Growth in Physical Indicators

4.1.1.1 Growth in Physical Indicators of DCC Bank, Head Office

The growth in the number of deposit account was found to be highest (7.85%) among all physical performance indicators of DCC Bank, Head Office during the study period (Table 4.1). This was mainly the result of increase in the membership through expansion of area and diversification of business activities. The growth in the number of employees (6.01%) was also significant. This was due to an increase in the membership, which necessitated an increase in the number of employees at the head office. The growth in loan accounts (0.21%) was observed to be negative.

The growth in the number of branches (0.89%) was small as there was only a gradual increase in the number of branches in the district from 15 in 1990-91 to 21 in 2005-06.

4.1.1.2 Growth in the Physical Indicators of DCC Bank Branches

Table 4.2 presents the growth rates of selected physical indicators of the DCC Bank branches, namely Bhadravathi and Thirthahalli. It may be seen from the table that all the variables in respect of both the branches showed positive growth. However, only two variables, namely, number of employees and number of deposit accounts exhibited significant growth. The Thirthahalli branch recorded a maximum growth of 4.92 percent in respect of number of employees followed by Bhadravathi (3.89%). Similarly, Bhadravathi branch recorded highest growth rate of 1.52 percent in number of deposit account followed by Thirthahalli (1.18%). The lowest growth in Bhadravathi branch was observed with respect to number of membership (0.81%), whereas in case of Thirthahalli the minimum growth rate was observed with respect to number of loan accounts.

4.1.2 Growth in Financial Indicators

4.1.2.1 Growth in Financial Indicators of DCC Bank, Head Office

The growth pattern of the financial indicators of DCC Bank, Head Office is presented in Table 4.3. All the variables exhibited positive and significant growth.

The highest growth was observed with respect to advances (35.69%) followed by other funds (28.46%) investment (24.98%) and deposit (20.01%). Total income, total expenditure and working capital each had a growth rate of 18 percent. Profit and borrowings grew at around 14 percent each. reserve fund at (13.12%) and share capital at (11.27%).

Table 4.1. Compound Growth Rates of Physical Performance Indicators of DCC Bank, Head Office [1990-91 to 2005-06]

Sl. No.	Indicators	Compound growth rate [%]
1	Number of Branches	0.887*
2	Number of Employees	6.017*
3	Number of Membership	3.14*
4	Number of Deposit account	7.852*
5	Number of Loan account	-0.211

* Significant at 1 % level

Table 4.2. Compound Growth Rates of Physical Performance Indicators of Selected DCC Bank Branches [1990-91 to 2005-06]

Sl. No.	**Indicators**	**Compound growth rate [%]**
I	**Bhadravathi Branch**	
1	Number of employees	3.89*
2	Number of Membership	0.81
3	Number of Deposit a/c	1.52*
4	Number of Loan a/c	1.50
II	**Thirthahalli Branch**	
1	Number of employees	4.925*
2	Number of Membership	0.503
3	Number of Deposit a/c	1.184*
4	Number of Loan a/c	0.395

* Significant at 1 % level

Table 4.3. Compound Growth Rate of Financial Performance Indicators of DCC Bank Office [1990-91 to 2005-06]

Sl. No.	Indicators	Compound growth rate [%]
1	Share Capital	11.268*
2	Borrowings	14.087*
3	Reserve fund	13.124*
4	Other fund	28.464*
5	Advancement	35.689*
6	Deposit	20.006*
7	Working capital	17.9568*
8	Investment	24.980*
9	Profit	14.683*
10	Total Income	18.397*
11	Total expenditure	18.580*

* Significant at 1 % level

Table 4.4. Compound Growth Rates of Financial Performance Indicators of Selected DCC Bank Branches 1990-91 to 2005-06]

Sl. No.	Indicators	Compound growth rate [%]
I	Bhadravathi Branch	
1	Deposit	25.87*
2	Loan amount (Individual)	14.77*
3	Loan amount (Society)	20.47*
4	Recovery	13.54*
5	Over Due amount	12.16
6	Profit	31.59*
II	Thirthahalli Branch	
1	Deposit	15.728*
2	Loan amount (Individual)	16.492*
3	Loan amount (Society)	11.712*
4	Recovery	14.661*
5	Over Due amount	-2.162
6	Profit	17.263*

* Significant at 1 % level

4.1.2.2 Growth in Financial Indicators of DCC Bank Branches

Table 4.4 presents the growth in financial indicators of DCC Bank branches. In Bhadravathi branch, all the variables exhibited positive growth rate which was significant. with an exception of over due. Profit registered a maximum significant growth of 31.59 percent followed by Deposit (25.87%), loan amount to societies (20.47%), loan amount to individuals (14.77%) and recovery amount (13.54%).

In Thirthahalli branch also all the variables except overdue amount showed positive and significant growth. The growth in profits was highest at 17.26 percent. The over due amount registered negative growth of 2.16 percent.

4.2 Financial Ratio Analysis

The financial ratio represents the relationship between two accounting figures expressed mathematically. Ratio analysis technique is popular in the accounting system and helps in spotting the strengths and weakness of an enterprise. The financial ratios relevant to DCC Bank Shimoga are presented under different categories namely, liquidity ratios, solvency ratios, tests of strength, profitability ratio and efficiency ratios.

4.2.1 Liquidity Ratio

These ratios were computed to measure the ability of the bank to meet its short – term obligations. The results for following three liquidity ratios are presented in Table 4.5.

a) Current Ratio

b) Liquid Asset to Total Assets Ratio

c) Acid-Test Ratio

a) Current Ratio

The current ratio was found to be more than one for all the periods, and fluctuated over the years. The ratio was highest for the year 2001-02 (5.22) and lowest for the year 1992-93 (1.99).

b) Liquid Assets to Total Assets Ratio.

It may be seen from the table 4.5 that the ratio was invariably less than unity for all the years. The year 2005-06 showed the largest ratio (0.34) followed by 2003-04 (0.26), 2004-05 (0.25) and so on. The ratio was least in 1990-91 (0.10).

c) Acid-Test Ratio

The ratio was less than one during the entire study period. The magnitude of the ratio was largest in 2002-03 (0.99) and lowest in 1991-92 (0.151). For the remaining periods, the ratio ranged between 0.15-0.99.

4.2.2 Tests of solvency

Two types of ratios were computed to ascertain the solvency position of the bank. They are presented in Table 4.6.

a) Debt- Equity Ratio

It may be observed from the table that the ratio was found to be less than unity for all the periods. The first three years from1990-91 to 1992-93 registered the highest ratio of 0.99 followed by 2005-06 (0.98),1996-97 (0.94) and so on. The ratio was lowest in 2003-04 (0.09).

b) Indebtedness Ratio

As the table reveals, the ratio was greater than 1.0 in all cases except for 1993-94. The year 1996-97 registered the highest ratio of 1.79 followed by 2002-03 (1.38), 2003-04(1.36), 1992-93(1.34) and so on. The ratio was lowest in 1993-94 (0.96).

4.2.3 Tests of strength

Net worth and net capital ratio were used to assess the real strength of the bank, which are presented in Table 4.7.

Table 4.5. Liquidity Ratio of DCC Bank, Head Office

Sl No	Years	Current Ratio	Liquid asset to Total assets ratio	Acid Test Ratio
1	1990-91	4.10	0.10	0.17
2	1991-92	2.39	0.11	0.15
3	1992-93	1.99	0.18	0.24
4	1993-94	2.34	0.17	0.22
5	1994-95	2.96	0.24	0.80
6	1995-96	3.25	0.19	0.38
7	1996-97	4.79	0.14	0.41
8	1997-98	2.55	0.16	0.28
9	1998-99	3.45	0.14	0.27
10	1999-00	3.99	0.15	0.38
11	2000-01	2.60	0.18	0.40
12	2001-02	5.22	0.20	0.45
13	2002-03	4.56	0.25	0.99
14	2003-04	4.39	0.26	0.93
15	2004-05	4.71	0.25	0.93
16	2005-06	3.99	0.34	0.91

Table 4.6. Solvency Ratios of DCC Bank, Head Office

SL.No	Years	Debt – Equity Ratio	Indebtedness Ratio
1	1990-91	0.99	1.33
2	1991-92	0.99	1.29
3	1992-93	0.99	1.34
4	1993-94	0.89	0.96
5	1994-95	0.81	1.10
6	1995-96	0.86	1.26
7	1996-97	0.94	1.79
8	1997-98	0.83	1.15
9	1998-99	0.91	1.17
10	1999-00	0.98	1.34
11	2000-01	0.92	1.18
12	2001-02	0.86	1.00
13	2002-03	0.09	1.38
14	2003-04	0.09	1.36
15	2004-05	0.92	1.29
16	2005-06	0.98	1.31

Table 4.7. Indicators of Strength of DCC Bank, Head Office

Sl. No	Years	Net Worth (Rs. Lakhs)	Net Capital Ratio
1	1990-91	4.92	1.001
2	1991-92	22.23	1.006
3	1992-93	13.31	1.004
4	1993-94	5.62	1.002
5	1994-95	1.86	1.000
6	1995-96	4.95	1.001
7	1996-97	1.48	1.000
8	1997-98	23.92	1.002
9	1998-99	-3.92	0.948
10	1999-00	-7.2	0.958
11	2000-01	-17.4	0.921
12	2001-02	-10.73	0.925
13	2002-03	-8.42	0.964
14	2003-04	12.92	1.005
15	2004-05	16.01	1.006
16	2005-06	11.93	1.003

a) Net worth

The net worth position of the bank showed excess of liabilities over assets for five years from 1998-99 to 2001-02. For the remaining periods, net worth was positive. The net worth amount was highest in 1997-98 (Rs.23.92 lakhs) and lowest in 2000-01 (Rs.-17.4 lakhs).

b) Net capital Ratio

The ratio was ranges between 0.921 to 1.006 for the entire study period.

4.2.4 Profitability Ratios

Following profitability ratios were used to analyse the financial health of the DCC Bank, namely:

a) Net Profit to Total Assets Ratio

b) Net Profit to Net worth Ratio

c) Net profit to Fixed Assets Ratio

The results are presented in Table 4.8.

a) Net Profit to Total Assets Ratio

The ratio was positive and less than unity for all the years. It ranged between 0.002 to 0.011 during the entire study period.

b) Net profit to Net worth Ratio

The ratio was negative for five years (1998-99 to 2002-03) and positive for the remaining eleven years. The year 1994-95 registered the maximum positive ratio of 19.03, whereas the year 1991-92 registered the least positive ratio of 0.62. The negative ratios ranged from -9.26 in 1998-99 to -3.00 in 2000-01.

c) Net profit to Fixed Assets Ratio

The ratio was positive for all the years, and showed a mixed trend over the study period. It was found to be highest in 1995-96 (4.273) and lowest in 2002-03 (0.715).

4.2.5 Efficiency Ratio

Table 4.9 presents the efficiency ratio computed in the study.

a) Gross Ratio

The Gross Ratio of DCC Bank was found to be positive and fluctuating over the years. The ratio was more than 90 percent for all the years expect for five years (1995-96 and 2001-02 to 204-05). For these five years, the ratio was more than 85 percent.

b) Operating Ratio

The ratio ranged between 80.14 (1998-99) and 97.39 (1992-93). Its value was more than 85 percent in all the cases except for four years.

4.3 Advances and Recovery position of D.C.C. Bank.

4.3.1 Advances of Agriculture loan

4.3.1.1 D.C.C Bank. (Shimoga), Head office.

Table 4.10 presents the total agricultural advances by D.C.C Bank, Head office during the period 1990-91 to 2005-06. The total agricultural advances include S.A.O (Seasonal Agriculture Operation) loan and M.T (Medium Term) Agriculture loan. The total agricultural advances during 1990-91 amounted to Rs.1845.63 lakhs, and increased to Rs.11363.60 lakhs in 2005-06. There was a decline in agricultural advances in only two years. First, the advances decreased from Rs. 1845.63 lakhs in 1990-91 to Rs.1733.57 lakhs in 1991-92. Then they again decreased from Rs. 8735.86 lakhs in 2000-01 to Rs.6484.67 lakhs in 2001-02. The S.A.O loan stood at Rs.1637.82 lakhs in 1990-91 and rose to Rs.11070.06 lakhs in 2005-06.

Table 4.8. Profitability Ratio of DCC Bank, Head Office

SL. No	Years	Net profit to Total Asset Ratio	Net profit to Net worth ratio	Net profit to Fixed Asset Ratio
1	1990-91	0.004	2.522	0.873
2	1991-92	0.004	0.619	1.124
3	1992-93	0.005	1.162	0.963
4	1993-94	0.004	2.858	1.459
5	1994-95	0.007	19.027	3.102
6	1995-96	0.011	12.475	4.273
7	1996-97	0.002	12.081	1.035
8	1997-98	0.002	1.033	1.321
9	1998-99	0.003	-9.263	1.596
10	1999-00	0.003	-6.618	1.928
11	2000-01	0.002	-3.002	1.246
12	2001-02	0.003	-4.849	1.405
13	2002-03	0.002	-5.951	0.715
14	2003-04	0.002	5.558	1.209
15	2004-05	0.003	4.695	0.967
16	2005-06	0.006	13.799	1.885

Table 4.9. Efficiency Ratio of DCC Bank, Head Office

Sl. No	Years	Gross Ratio (%)	Operating Ratio
1	1990-91	95.60	86.35
2	1991-92	94.27	95.11
3	1992-93	97.96	97.39
4	1993-94	94.64	91.62
5	1994-95	98.33	84.51
6	1995-96	88.57	84.39
7	1996-97	96.87	85.95
8	1997-98	96.78	89.85
9	1998-99	96.64	80.14
10	1999-00	96.36	80.65
11	2000-01	97.07	85.69
12	2001-02	89.49	89.45
13	2002-03	85.97	90.58
14	2003-04	85.23	91.67
15	2004-05	86.48	89.78
16	2005-06	91.89	90.88

Table 4.10. Advances of Agricultural Loan, DCC bank, Head Office

(Rs. in lakhs)

Years	S.A.O Loan	M.T. (Agril). Loan	Total
1990-91	1637.82 (88.74)	207.81 (11.26)	1845.63 (100.00)
1991-92	1533.86 (88.48)	199.71 (11.52)	1733.57 (100.00)
1992-93	1679.90 (88.71)	213.79 (11.29)	1893.69 (100.00)
1993-94	1779.28 (89.21)	214.99 (10.79)	1994.27 (100.00)
1994-95	2111.31 (91.40)	198.89 (8.60)	2310.20 (100.00)
1995-96	2291.30 (96.13)	92.34 (3.87)	2383.64 (100.00)
1996-97	2679.19 (95.64)	121.90 (4.36)	2801.09 (100.00)
1997-98	3594.99 (95.40)	173.15 (4.60)	3768.14 (100.00)
1998-99	4949.32 (94.57)	284.49 (5.43)	5233.81 (100.00)
1999-00	6937.26 (95.68)	312.80 (4.32)	7250.06 (100.00)
2000-01	8343.40 (95.50)	392.46 (4.50)	8735.86 (100.00)
2001-02	6197.46 (95.57)	287.21 (4.43)	6484.67 (100.00)
2002-03	8433.57 (97.05)	256.32 (2.95)	8689.89 (100.00)
2003-04	8660.31 (96.74)	291.98 (3.26)	8952.29 (100.00)
2004-05	9601.77 (96.10)	389.99 (3.90)	9991.76 (100.00)
2005-06	11070.06 (97.41)	293.54 (2.59)	11363.60 (100.00)

The M.T (agriculture) loans which to the tune of Rs. 207.81 lakhs in 1990-91 touched the mark of Rs. 392 lakhs in 2000-01 and showed mixed trend there after.

4.3.1.2 Bhadravathi Branch.

The agricultural advances by Bhadravathi Branch are depicted in Table 4.11.

The table indicates that the total agricultural advances during 1990-91 totalled to Rs. 34.38 lakhs and increased persistently thereafter amounting to around Rs. 2761 lakhs during 2005-06.

In the total agricultural advances, the S.A.O loans accounted for more than 75 percent. The total advances of S.A.O. loan increased from Rs.26.90 lakhs in 1990-91 to Rs. 2231.38 lakhs in 2005-06.

M.T. (Agricultural) loans accounted for small percentage of total agricultural advances. During 1990-91, the amount advanced was Rs. 7.48 lakhs, and it rises to Rs. 530.45 lakhs in 2005-06.

4.3.1.3 Thirthahalli Branch

Table 4.12 represents the total agricultural advances by Thirthahalli branch. It may be seen from the table that there was a gradual increase in the total agricultural advances over years. The advances in 1990-91 amounted to Rs. 220.01 lakhs, and increased to Rs. 2304.88 lakhs in 2005-06. More than 75 percent of total agricultural loans were accounted for by S.A.O Loans. The S.A.O loans increased from Rs. 173.54 in 1990-91 to in Rs. 1847.31 lakhs in 2005-06.

The M.T (agricultural) loan contributed around 15 to 22 percent of the total agricultural advances. It showed an increasing trend over the years from a level of Rs. 46.47 lakhs during 1990-91 to Rs.457.57 lakhs in 2005-06.

4.3.2 Demand, Recovery and Balance position

4.3.2.1 D.C.C Bank, Head office.

Table 4.13 represents the demand, recovery and balance position of D.C.C. Bank, Head office. It is evident from the table that the demand for S.A.O loans increased from Rs. 1579.28 lakhs in 1990-91 to Rs.10930.60 lakhs in 2005-06. The trend in general was one of increasing except for the years 1991-92 and 2001-02. The table reveals a mixed trend with respect to recovery position between 1990-91 and 2005-06. The year 1990-91 recorded the lowest recovery (Rs. 202.78) and the year 2005-06 recorded the highest recovery (Rs. 8982.90 lakhs). The balance was highest in 2003-04 (Rs. 4602.52 lakhs) and lowest in 1994-95 (Rs. 673.72lakhs). As such, recovery percentage showed a fluctuating trend.

With respect to M.T (agricultural) loan, wide fluctuations were noticed in demand trend. Highest demand of Rs. 378.05 lakhs was noticed in 2004-05, while the lowest demand of Rs. 69.97 lakhs was observed in 1995-96. Recovary position also fluctuated over years. The balance was lowest in 1995-96 (41.40 lakhs) and largest in 2003-04 (Rs. 187.82 lakhs).

The loan recovery percentage was fluctuating over the years. Prior to the least recovery percentage was 6.59 percent, which occurred in 1991-92.

4.3.2.2 Bhadravathi Branch

Table 4.14 represents the demand, recovery and balance position of Bhadravathi branch. The demand for S.A.O loan increased from Rs.15.98 lakhs in 1990-91 to Rs. 1444.44 lakhs in 2005-06. The recovery position of the bank with respect to S.A.O loans improved in general during the study period.

The demand for M.T (agricultural) loan increased to Rs. 395.66 lakhs in 2005-06 from Rs.3.76 lakhs in 1990-91. Recovery percentage was fluctuating over the study period.

4.3.2.3 Thirthahalli Branch

The table 4.15 depicts the demand, recovery and balance position of Thirthahalli Branch.

Table 4.11. Advances of Agricultural loan by Bhadravathi Branch office

(Rs. in lakhs)

Years	S.A.O Loan	M.T. (Agril.) Loan	Total
1990-91	26.90 (78.1)	7.48 (21.9)	34.38 (100.00)
1991-92	26.92 (78.2)	7.49 (21.8)	34.41 (100.00)
1992-93	28.85 (79.2)	7.59 (20.8)	36.44 (100.00)
1993-94	93.62 (79.8)	23.64 (20.2)	117.26 (100.00)
1994-95	122.39 (79.3)	31.97 (20.7)	154.36 (100.00)
1995-96	148.92 (81.1)	34.60 (18.9)	183.52 (100.00)
1996-97	215.01 (85.1)	37.78 (14.9)	252.79 (100.00)
1997-98	361.61 (82.9)	74.68 (17.1)	436.29 (100.00)
1998-99	519.83 (80.9)	122.39 (19.1)	642.22 (100.00)
1999-00	786.32 (83.4)	156.03 (16.6)	942.35 (100.00)
2000-01	935.71 (81.2)	216.59 (18.8)	1152.30 (100.00)
2001-02	976.34 (81.4)	223.45 (18.6)	1199.79 (100.00)
2002-03	1234.01 (82.2)	266.79 (17.8)	1500.80 (100.00)
2003-04	1708.00 (82.0)	355.00 (18.00)	2063.00 (100.00)
2004-05	1713.52 (81.9)	379.86 (18.1)	2093.38 (100.00)
2005-06	2231.38 (80.8)	530.45 (19.2)	2761.83 (100.00)

Table 4.12. Advances of Agricultural loan by Thirthahalli Branch office

(Rs. in lakhs)

Years	S.A.O. Loan	M.T.(Agril.) Loan	Total
1990-91	173.54 (78.9)	46.47 (21.1)	220.01 (100.00)
1991-92	223.61 (79.8)	56.69 (20.2)	280.3 (100.00)
1992-93	310.52 (83.9)	59.43 (16.1)	369.95 (100.00)
1993-94	373.79 (87.5)	53.38 (12.5)	427.17 (100.00)
1994-95	451.22 (88.3)	59.63 (11.7)	510.85 (100.00)
1995-96	506.81 (84.6)	92.03 (15.4)	598.84 (100.00)
1996-97	599.72 (85.1)	104.87 (14.9)	704.59 (100.00)
1997-98	716.29 (84.7)	129.68 (15.3)	845.97 (100.00)
1998-99	783.91 (80.9)	185.01 (19.1)	968.92 (100.00)
1999-00	889.34 (80.0)	225.02 (20.0)	1111.36 (100.00)
2000-01	1035.36 (79.0)	275.45 (21.0)	1310.81 (100.00)
2001-02	1116.02 (78.8)	300.68 (21.2)	1416.7 (100.00)
2002-03	1193.96 (79.1)	316.40 (20.9)	1510.36 (100.00)
2003-04	1426.12 (81.4)	325.37 (18.6)	1751.49 (100.00)
2004-05	1683.48 (83.1)	342.98 (16.9)	2026.46 (100.00)
2005-06	1847.31 (80.1)	457.57 (19.9)	2304.88 (100.00)

Table 4.13. Demand, Recovery and Balance position of D.C.C. Bank, Head office

(Rs. in lakhs)

	S.A.O. Loan				M.T.(Agril) Loan			
Year	Demand	Recovery	Balance	% Recovery	Demand	Recovery	Balance	% Recovery
1990-91	1579.28	202.78	1376.5	12.8	197.88	83.97	113.91	42.43
1991-92	1406.68	280.87	1125.81	20	165.17	10.88	154.29	6.59
1992-93	1506.3	708.89	797.41	47.1	194.97	39.93	155.04	20.48
1993-94	1697.39	447.1	1250.29	26.3	172.7	15.47	157.23	8.96
1994-95	2001.75	1328.03	673.72	66.3	170.6	112.47	58.13	65.92
1995-96	2110.71	1206.99	903.72	57.2	69.97	28.57	41.4	40.83
1996-97	2598.19	1717.67	880.52	66.1	102.8	55.19	47.61	53.68
1997-98	3564.13	2485.9	1078.19	69.7	157.51	77.18	80.33	49
1998-99	4878.52	3568.72	1309.8	73.2	255.94	151.27	104.67	59.1
1999-00	6839.15	5109.12	1730.03	74.7	298.08	212.72	85.36	71.36
2000-01	8234.39	6488.91	1745.48	78.8	365.64	237.17	128.47	64.87
2001-02	5937.64	4687.25	1250.39	78.9	250.12	173.98	76.14	69.55
2002-03	8320.75	5861.98	2458.77	70.45	215.23	59.62	155.61	27.7
2003-04	8570.22	3967.2	4602.52	46.3	272.89	85.07	187.82	31.18
2004-05	9598.74	7709.84	1888.90	80.32	378.05	283.12	94.93	74.89
2005-06	10930.6	8982.90	1947.72	82.18	271.45	207.16	64.29	76.32

Table 4.14. Demand, Recovery and Balance position of D.C.C. Bank, Bhadravathi

(Rs. in lakhs)

S.A Loan					M.T Loan			
Year	Demand	Recovery	Balance	% Recovery	Demand	Recovery	Balance	% Recovery
1990-91	15.98	8.13	7.85	50.88	3.76	1.45	2.31	38.56
1991-92	17.18	6.39	10.79	37.19	5.09	1.13	3.96	22.2
1992-93	20.34	7.18	13.16	35.3	5.72	0.99	4.73	17.31
1993-94	83.77	30.31	53.46	36.18	15.27	3.3	11.97	21.61
1994-95	99.24	38.69	60.55	38.99	39.28	9.87	29.41	25.13
1995-96	133.79	43.11	90.68	32.22	46.57	12.11	34.46	26
1996-97	216.37	73.86	142.51	34.14	70.31	14.5	55.81	20.62
1997-98	250.39	106.37	144.02	42.48	82.41	16.26	66.15	19.73
1998-99	421.78	159.98	261.8	37.93	89.98	38.39	51.59	42.67
1999-00	573.21	251.61	321.6	43.96	134.96	41.91	93.05	31.05
2000-01	929.78	407.18	522.6	43.79	277.25	81.48	195.77	29.39
2001-02	798.32	312.73	485.59	39.17	226.67	83.7	142.97	36.93
2002-03	975.87	387.38	588.49	39.7	275.06	39.27	235.79	14.28
2003-04	983.91	496.38	487.53	50.45	302.63	139.54	163.09	46.11
2004-05	1045.33	776.32	269.01	74.26	366.01	207..69	158.32	56.74
2005-06	1444.44	1123.59	420.85	77.79	395.66	281.82	113.84	71.23

Table 4.15. Demand, Recovery and Balance position of D.C.C. Bank, Thirthahalli

(Rs. in lakhs)

S.A Loan					M.T Loan			
Year	Demand	Recovery	Balance	% Recovery	Demand	Recovery	Balance	% Recovery
1990-91	168.6	101.37	67.23	60.12	50.2	37.17	13.03	74.04
1991-92	222.79	153.17	69.62	68.75	56.42	42.46	13.96	75.26
1992-93	310.42	225.44	84.98	72.62	59.22	47.34	11.88	79.93
1993-94	363.31	263.78	99.53	72.6	63.19	50.9	12.29	80.55
1994-95	382.04	273.56	108.48	71.6	65.64	53.81	11.83	81.97
1995-96	460.26	339.13	121.13	73.68	67.43	54.69	12.74	81.1
1996-97	518.68	385.57	133.11	74.33	93.67	82.11	11.56	87.66
1997-98	563.39	426.73	136.66	75.74	109.81	89.99	19.82	81.95
1998-99	643.78	509.23	134.55	79.1	127.39	101.34	26.05	79.55
1999-00	724.51	600.03	124.48	82.81	169.44	128.49	40.95	75.83
2000-01	801.78	632.62	169.16	78.9	222.98	193.91	29.92	86.96
2001-02	826.05	639.3	186.75	77.39	223.01	198.09	24.92	88.82
2002-03	840.71	558.3	282.41	66.4	223.49	209.22	14.27	93.61
2003-04	1054.59	813.61	240.98	77.14	237.72	213.07	24.65	89.63
2004-05	1095.53	801.34	294.19	73.15	243.92	220.69	23.23	90.47
2005-06	1102.37	823.67	278.70	74.72	248.92	226.66	22.26	91.05

The demand for S.A.O loan showed a general increasing trend rising from Rs.168.60 lakhs in 1990-91 to Rs. 1102.37 lakhs in 2005-06. The recovery position was also increasing over the year.

The least recovery was noticed for the year 1990-91 (60.12%) with balance amounting to 67.23 lakhs.

With respect to M.T (agricultural) loan, the demand increased to Rs 248.92 lakhs in 2005-06 from Rs.50.20 lakhs in 1990-91. The loan recovery percentage was more than 75 percent over the years.

4.4 Determinants of the Overall Performance of the DCC Bank

As discussed in the methodology section, the overall performance of the bank was measured in terms of a composite index number computed as the weighted sum of the physical and financial indicators of bank's performance. Table 4.16 presents the composite index numbers for the three different scenarios computed with the weights assigned by the Chairman, Managing Director and the General Manager of the bank.The study attempted to explain the variation in the composite index number with the changing personality traits like the income level and the experience of, and the number of trainings undergone by the Chairman, the Managing Director and the General Manager. Step wise multiple regression model was run for each of the three scenarios. The results are presented in Table 4.17.

As the table reveals, in each scenario, two variables concerning Chairman (training and experience) and two variables concerning Managing director (training and experience) were found to positively and significantly influence the composite performance indicator of the bank. None of the remaining variables considered appeared in the model estimated by step wise regression. The R^2 values for each scenario were pretty high at 95 percent for scenario 1 and 3 and 96 percent for scenario 2. The F values were high for each scenario implying statistical significance of overall model fitness.

4.5 Profile of Societies and Classification of Defaulters

Under this section, first, general features of the societies selected from two study taluks are outlined.

The results of the Discriminant analysis conducted to classify the defaulter in to willful and non- willful defaulters are presented Table 4.18 and 4.19 provide an overview of the general features of the societies in two taluks namely, Bhadravathi and Thirthahalli. It can be observed from table 4.18 that the two non- defaulting societies in Bhadravathi taluk were established prior to the other two societies which were societies considered as defaulting societies by the D.C.C Bank. Similar observation could be made with respect to the year of establishment of the societies labeled as defaulting and non-defaulting societies. With respect to share capital, it can be noticed from the table 4.18 that non – defaulting societies were having larger amount of share capital than the defaulting societies in both taluks. For example, in Bhadravathi taluk, while the two selected defaulting societies namely, Singnmane and Harkere had share capital of Rs. 6 lakhs and Rs.8 lakhs respectively, the non-defaulting societies namely, Hanveri and Heriur had a larger share capital of Rs.10 lakhs and Rs. 13 lakhs respectively. In respect of membership, the non- defaulting societies in Bhadravathi taluk had lager membership than the defaulting societies. However, in respect of Thirthahalli taluk similar observation could not be made.

Table 4.19 presents position of the selected societies with respect to advances and recovery. It can be seen that in the total amount of loan (Short term+ Medium term) advanced by the societies the share of the short term loans was significantly higher that of Medium term loans being very low. In Bhadravathi taluk major proportion of total short term loans advanced by the defaulting societies was accounted for by arecanut. In the case of non-defaulting societies, arecanut advances were less than the other advances (advances for paddy + advances for sugarcane). However, in respect of Thirthahalli taluk the advances for arecanut exceeded the advances for the other crop, that is, paddy both for defaulting and non-defaulting societies. The table also reveals that the societies in both the taluks which were labeled "defaulting societies" had lower recovery of the loans they had advanced to their individual members when compared to recovery position in non- defaulting societies.

Table 4.16. Composite Index Numbers

Year	Scenario –I (Weighting by Chairman)	Scenario –II (Weighting by Managing Director)	Scenario –III (Weighting by General Manager)
1990-91	785.21	809.48	835.25
1991-92	869.32	816.61	901.48
1992-93	899.33	887.98	912.35
1993-94	918.25	911.25	921.61
1994-95	932.56	954.89	932.56
1995-96	984.57	997.61	998.65
1996-97	1025.36	1125.36	1045.51
1997-98	1198.54	1358.91	1254.89
1998-99	1458.78	1547.33	1589.65
1999-00	1798.45	1689.65	1748.89
2000-01	2041.14	1896.69	1823.62
2001-02	2104.25	2014.56	2014.64
2002-03	2114.58	2115.36	2119.82
2003-04	2198.36	2198.78	2196.84
2004-05	2254.96	2284.18	2356.54
2005-06	2489.78	2587.69	2489.87

Table 4.17. Estimated Model for Composite Performance Indicator

Variables	Estimated Regression Coefficient
SCENARIO I	
Intercept	-4527.16
Training of Chairman	50.53**
Experience of Chairman	89.78**
Training of Managing Director	48.02*
Experience of Managing Director	57.85**
F- Value	43.98*
R- Square[percent]	0.95
SCENARIO II	
Intercept	-4163.08
Training of Chairman	41.04**
Experience of Chairman	56.49**
Training of Managing Director	53.98*
Experience of Managing Director	70.72*
F- Value	21.97*
R- Square[percent]	0.96
SCENARIO III	
Intercept	-4220.75
Training of Chairman	43.37*
Experience of Chairman	70.47*
Training of Managing Director	49.92**
Experience of Managing Director	64.07**
F- Value	61.78*
R- Square[percent]	0.95

* Significant at 1 % level
** Significant at 5 % level

Table 4.18. General Features of selected societies

Sl. No	Taluk	Name of Society	Year of establishment	Share capital (lakhs)	Membership		
					Male	Female	Total
1	Bhadravathi	Hanveri	1965	10	760	64	824
		Heriure	1958	13	2500	450	2950
		Signamane	1985	6	150	40	190
		Harkere	1982	8	720	50	770
2	Thirthahalli	Kasabha	1963	13	1100	280	1380
		Hedehalli	1967	12	318	165	583
		Salgadi	1976	7	642	192	734
		Heddur	1971	8	708	273	981

Table 4.19. Advances and Recovery position of the Selected Societies

(Rs. lakhs)

Name of Society	Advances (lakhs)										Recovery (lakhs)				Remarks
	Short Term loan for				Medium Term loan for					Grand Total (S.T.+ M.T.)	S.T.	MT	Total (S.T.+ M.T.)	Recovery Percent	
	Areca Nut	Paddy	Sugar cane	Total S.T.	Vanilla	Drip Irr.	Pump set	Dairy	Total M.T.						
Bhadravati (Taluk)															
Hanveri	9	23	42	74	-	19	-	3	22	96	68	18	86	89	*ND
Heriure	27	87	15	129	-	55	-	-	55	184	122	52	174	94	ND
Signamane	30	20	-	50	-	2.5	-	-	2.5	52.5	40	0.5	40.5	77	D
Harkere	50	25	20	95	-	2	-	1.5	3.5	98.5	82	1.2	83.2	84	D
Thirthahalli (Taluk)															
Khasabha	63	11	-	74	-	2.5	-	-	2.5	76.5	71	1	72	94	ND
Hedehalli	26	12	-	38	-	1.5	1	-	2.5	40.5	34	1.5	35.5	87	ND
Salgadi	40	17	-	57	2	-	-	-	2	59	48	-	48	81	D
Heddur	60	6	-	66	-	1	1	-	2	68	58	0.5	58.5	86	D

* Classified as defaulting and non- defaulting societies by the District Central Co-operative Bank.

4.20. Group Means of Socio- Economic Characteristics of Willful Defaulters and Non-willful Defaulter

Characters	Mean for Non-Willful defaulter	Mean for willful defaulter	F- Value	df1	df2	Significance Level.
Education	2.20	4.83	36.089	1	58	0.0001
Family size	3.24	1.39	34.286	1	58	0.0001
Income	1.32	3.04	17.260	1	58	0.0001
Amount Borrowed	0.85	0.74	0.123	1	58	0.7280

Note : * df – degrees of freedom

4.21. Relative Contribution of Socio- Economic Characteristics to the Discrimination between willful and non-willful

Sl No.	Socio –economic Characteristics of defaulters	Standardized co-efficient	Mean difference	Co-efficient X mean difference (3)* (4)	Relative contribution %
(1)	(2)	(3)	(4)	(5)	(6)
1	Education	0.701	-2.63	-1.84	49.19
2	Family size	-0.597	1.85	-1.10	29.47
3	Income	0.460	-1.72	-0.79	21.12
4	Amount Borrowed	-0.152	0.11	-0.01	0.27

Table 4.22. The Test Classification of the Defaulters by the Model

Original group	No. of defaulters	Model prediction	
		Predicted group	No. of defaulter
Non- willful defaulters	37	Non- willful defaulters	33 (89.2)*
		willful defaulters	4 (10.8)**
Willful defaulters	23	Non- willful defaulters	2 (8.7)**
		willful defaulters	21 (91.3)*
		Overall correct predicted	90.0*** percent

* Percentage of correct prediction

** Percentage of incorrect prediction

*** Calculated as (33+21)/60

4.5.1 Defaulters and non-defaulters

The Discriminant function estimated to classify the defaulters in to willful and non-willful defaulters with the selected socio-economic variable was as follows:

Z = -1.433 +0.603 *Education -0.501 * Family size +0.295 * Income – 0.127 * Amount borrowed

Of the four explanatory variables three were highly significant (Table 4.20). The calculated F value worked out to be 0.998 and higher than the table value of 1.56 with 1 and 58 degree of freedom at 1 percent significant level. This indicated that the estimated Discriminant function was significant.

Table 4.21 shows relative contribution of each of the four variables to the discriminating power of the model. Specially, the table shows that the education of the defaulter had a Discriminant power of 49.19 percent followed by family size (29.42%), income (21.12%) and amount borrowed (0.27%) respectively.

The estimated model was tested for its validity by calculating the number of cases that were correctly classified and misclassified by the function. Table 4.22 shows the classification results. As revealed by the table 89.2 percent of the cases in first group and 91.3 percent of the cases in the second groups were correctly classified by the model. Overall, the correct prediction of the model was 90.0 percent.

5. DISCUSSION

The results of the study presented in the previous chapter are discussed below under the following heads.

5.1 Growth in Physical Performance Indicators

5.2 Financial Ratio Analysis

5.3 Advances and Recovery position of the Bank

5.4 Overall performance of the D.C.C Bank

5.5 Profile of societies and classification of defaulters

5.1 Growth in Physical Performance Indicators

5.1.1 Growth in Physical Performance Indicators of DCC Bank, Head Office

The growth in the number of deposit account was found to be highest (7.85%) among all physical performance indicators of DCC Bank, Head Office during the study period (Table 4.1). This was mainly the result of both growths in membership and the number of branches. The growth in loan accounts (0.21%) was observed to be negative and non significant. This reflected mounting over dues, non- repayment of loan amount, and hence curtailment of lending activities.

The growth in the number of employees (6.02%) was positive and significant. This was due to an increase in business transactions and the membership of the bank and the business transaction as indicated by a large growth in deposit accounts. The growth in the number of branches (0.89%) was also positive and significant. There was a gradual increase in the number of branches in the district from 15 in 1990-91 to in 21 in 2005-06.

5.1.2 Growth in Physical Indicators of DCC Bank Branches

The growth in the number of employees was 3.89 percent and 4.92 percent for both Bhadravathi and Thirthahalli branches, respectively. This was due to higher growth in loan amount, which necessitated increase in the number of employees of DCC Bank branch to man affairs of banking activities hance; recruitments were higher during these periods.

With respect to the number of deposit account, Bhadravathi branch registered a positive and significant growth rate of 1.52 percent. This was mainly the result of increase in the membership through expansion of area and diversification of business activities.

The number of membership per branch showed a positive growth to the tune of 0.81 percent and 0.50 percent respectively for the two branches. However, these growth rates were statistically non – significant.

The loan accounts per branch showed positive, but non-significant growth rates of 1.50 percent and 0.39 percent respectively for Bhadravathi and Thirthahalli branches. For overall period the growth rate of all the physical variables was found to be positive and significant for the Head office expect the growth in number of loan accounts.

5.1.3 Growth in Financial Indicators

5.1.3.1 Growth in Financial Indicators of DCC Bank, Head Office

The details of the growth in financial indicators of the DCC Bank, Head Office are shown in table 4.3.

Among all the financial indicators, advances showed the highest and significant growth rate of around 36 percent during the study period. This was due to the coverage of large area under lending programme and wide range of advances to both agricultural and non-agricultural purposes.

Investment showed a positive and significant growth pattern (around 25%). This was mainly due to the increase in the profitable investment of the bank in IFFCO, KRIBHCO, FCI, etc., during the study period.

The growth in the working capital of the bank was found to be significantly positive (around18%). This was mainly because of the increase in the business transaction, increase in the membership of the bank, and increase in the non- agricultural operations.

The growth in the total income of the bank was found to be significantly positive (18.40%). This might be due to the relatively better recovery performance.

The expenditure showed a positive growth of about 19 percent. This was mainly because of bank was attributed to increase in the expenses for creating necessary infrastructure.

Borrowings registered the positive growth rate of 14 percent, which was significant. This reflected an increase in the borrowings of the bank from the sources like Apex Bank and NABARD on account of insignificant deposit mobilization.

Other fund, deposit, profit and reserve fund showed positive and significant growth (28.46%, 20.01%, 14.68% and 13.12% respectively) due to increase in advances both for agricultural and non-agricultural purposes and improved recovery percentage.

Share capital registered the lowest growth rate of 11.27% during the study period. This could be attributed to the low growth of membership for Head Office. These results are on par with Patil (2000) who linked the growth in the share capital with membership of Primary Co-operative Agricultural and Rural Development Banks in Dharwad District.

5.1.3.2 Growth in financial Indicators of DCC Bank Branches

The branch wise growth in financial indicators is presented in Table 4.4. The growth rate of profit was high and significant for both Bhadravathi (31.59%) and Thirthahalli (17.26%) branches. The high growth rate for these branches was due to the increase in the advances of the bank, expansion of business network and improvement in loan recovery.

The growth in deposit was found to be positive and significant for Bhadravathi (25.87%) and Thirthahalli (15.72%) branches, which was mainly due to rapid increase in deposit mobilization through increase in area under operation and also rise in membership in Bhadravathi and Thirthahalli branches,

The growth rate in overdue amount was 12.16 percent for Bhadravathi branch. It was negative for Thirthahalli (around – 2.2%) branch. The growth in overdue was however non significant for both branches. Intensive efforts were made by the staff to recover loans in these areas.

There was a positive and significant growth in respect of loan amount to societies from both the branches. The growth rates were 20.47 percent and 11.71 percent respectively for Bhadravathi and Thirthahalli branches. This was mainly due to increase in the membership of PACS and non-agricultural co-operative societies. Hosamani (1995), in his study on Malaprabha Grameena Bank in Karnataka expressed similar views.

5.2 Financial Ratio Analysis

Financial ratios explain in detail the ultimate financial position of the bank. For this purpose, some relevant ratios were worked out and presented in Table 4.5 which is discussed here under.

5.2.1 Liquidity Ratios

Liquidity ratios were worked out to study financial soundness of the bank. The concept of liquidity is highly relevant for a financial institution as it indicates the ability of the bank to meet its short- term obligations out of its own short- term resources.

a) Current Ratio

The current ratio has been regarded as an important barometer of the liquidity position of any business concern. It indicates the ability of an organization to meet its short- term commitments as and when they fall due. If this ratio happens to be greater than one (Hosamani, 1995), it could be presumed that the institution had sufficient current assets to meet its current obligations. Generally a current ratio of two has been regarded ideal (Patil 2000 and Vishvanath 2000).

It could be seen from the Table 4.5 that the current ratio of the bank was greater than unity in all the years of the study, and ranged between 1.99 to 5.22. This showed that the bank had sufficient current assets to meet the current liabilities.

b) Liquid Assets to Total Assets Ratio

The ratio was observed to be the lowest in 1990-91 (0.10) and the highest in 2005-06 (0.34). The low ratios were mainly due to increase in the accumulation of the fixed assets. Sukumaran and Shaheena (1991) observed that the Palghat (Kerala) district co-operative bank had maintained high level of liquid assets in the form of cash reserves above the norms prescribed by the RBI, which adversely affected its profitability. The ratio in the present case indicates that the DCC bank has been efficiently managing the liquid assets.

c) Acid-test Ratio

This ratio has been regarded as a refined measure of liquidity and is able to assess how liquid the bank would be if the business operations come to an abrupt halt. The ratio was observed to be less than unity in all periods (Table 4.5).Though it improved and approached unity in the recent years.

This indicated that the bank in general did not possess enough liquid reserves to fulfill short term obligations.

5.2.2 Solvency Ratios

In order to find out the extent of contribution of the DCC bank in relation to funds provided by the creditors, the solvency ratios were worked out and presented in Table 4.6, which are discussed here under.

a) Debt- Equity Ratio

It represents the ratio of long term borrowed funds to owner's capital. The optimum dept equity ratio varies from organization to organization. While the ratio may be 2:1 in manufacturing concerns, it may be as high as 10:1 in banking organization as in the case of PACS (Nirangan Raj Urs, 1998).

It is evident from table 4.6 that the ratio was found to be less than unity for all the periods. It implied that the bank had sufficient funds for its expansion and developmental activities in the district. It reflects small borrowings from external sources like the Apex bank and NABARD.

b) Indebtedness Ratio

The indebtedness ratio indicates the extent of debt per rupee of owned funds. It implies the extent of bank's reliance on the outside capital. The prescribed norm has been 3:1, which implies that the external funds to the extent of three times the owned funds may be used.

The ratio was observed to be less than the prescribed norm (Table 4.6) thus it is apparent that the bank is entirely dependent on external funds for the banking business and borrowings from NABARD has become inevitable in order to meet the long –term credit requirements of the farmers. The results are in line with Patil (2000) who assed the performance of primary Co-operative Agricultural and Rural Development Bank in Dharwad.

5.2.3 Tests of Strength

The net worth and net capital ratios indicate the long run liquidity position of the business or real worth of the institution.

a) Net worth

Net worth is the difference between the assets and liabilities of the bank. A large positive net worth indicates a favorable situation for the bank. It can be seen form Table 4.7 that the net worth of the bank was negative from 1998-99 to 2002-03. This was mainly due to an increase in the borrowed funds of the bank for expanding its area under operation by establishing the branches in the district and increasing the business transactions during this period.

b) Net capital Ratio

The net capital ratio indicates the degree of liquidity of the bank in the long run. The ratio was found to be more than unity except five years. Indicating that the assets of the bank were sufficient enough to cover the liabilities for these years.

5.2.4 Profitability Ratios

Profitability ratios are helpful in assessing the financial health of the institution (Table 4.8).

a) Net Profit to Total Assets Ratio

The ratio of net profit to total assets was positive for all the years and ranged between 0.002 to 0.011 over the study period. Patil (2000) suggested that the ratio should be two percent for the efficient utilization of asset. The results thus call for the efforts by the bank to increase profits by reducing costs so as to achieve at least the standard norms of two percent.

b) Net Profit to Net worth Ratio

The ratio shows the rate of return on the equity capital of the bank. The ratio was negative for five years from 1998-99 to 2002-03 since the net worth it self was negative for this period. However, the ratio was positive for remaining years and showed mixed trend. The maximum ratio during the study period was 19.03 in 1994-95,

c) Net Profit to Fixed Assets Ratio

The ratio indicates the extent of profitable use of fixed assets of the bank. It can be noticed from Table 4.8 that the ratio was positive with a mixed trend for the study period. The ratio was more than unity for a total of twelve years indicating that each rupee of fixed investment earned a net profit of more than one rupee.

5.2.5 Efficiency Ratios

The following efficiency ratios were computed and presented in Table 4.9.

a) Gross Ratio

This ratio compares the total expenses of the bank to its gross income earned during the year. It is evident from the table that the ratio was more than 85 percent in most cases implying excess of total income of the bank over its total expenditure.

b) Operating Ratio

The ratio implies the operating efficiency. The ratio is important to management in evaluating its operations. The ratio was more than 85 percent for twelve years of the sixteen years studied due to increase in banks operating expenses and expansion in the area of operation in the district through additional branch offices. The result is in par with Krishna (2000) who studied Growth and development dimensions of Regional Rural Banks in Karnataka.

5.3 Advances and Recovery position of the bank

5.3.1 Advances of Agricultural loan

The bank advanced agricultural loans both for seasonal Agricultural operations (S.A.O) and Medium Term (Agricultural) purposes, covering large area in the district. The agricultural advances by the DCC Bank, Head Office and selected branches are discussed below.

5.3.1.1 DCC Bank, Head Office

Table 4.10 depicts the agricultural advances by DCC Bank, Head Office. The advances showed an increasing trend during the study period. This trend was mainly due to the expanding business activities in agricultural sector and an increase in the number of branches in the district.

From table, it can be observed that the S.A.O loans showed a rising trend from 1990-91 to 2005-06. During this period, the bank advanced increasing amounts of crop loans at a

low rate of interest. The increasing trend in S.A.O. loans was also due to the bank concentrating more on advances for small and marginal farmers. Only a small amount of loan was lent for M.T. (agricultural) purposes. The advance was made mainly for bore wells, electricity, fencing, irrigation, etc.

5.3.1.2 Bhadravathi Branch

As revealed by the Table 4.11, the agricultural advances increased from Rs.34.38 lakhs to Rs.2761.83 lakhs during the study period. The S.A.O. loan advances also showed a rising trend for all the years. The increasing trend was mainly because of the rise in the membership of the bank and increasing area of operation of the bank. Similar trend was observed in the case of M.T. (agricultural) purpose also.

5.3.1.3 Thirthahalli Branch

It could be seen from Table 4.12 that, the S.A.O. loan accounted for more than 75 percent of total agricultural advances and Medium Term (agricultural) loan accounted for around 25 percent of total agricultural advances during the study period. The M.T. (Agricultural) loan was found to exhibit increasing trend from 1990-91 (Rs.46.47 lakhs) to Rs.457.57 lakhs in 2005-06, due to satisfactory recovery of loan during the year. Vishvanath (2000), while studying Management appraisal of D.C.C. Bank, Uttar Kannada expressed similar views on loan advances.

5.3.2 Demand, Recovery and Balance position of the Bank

5.3.2.1 Demand, Recovery and Balance position of DCC Bank, Head Office

While the demand position of the bank improved over years, the recovery and balance position fluctuated (Table 4.13). The recovery percentage was highest in 2005-06 (82.18%) as the bank made special officers for the recovery by recruiting the special officers for the recovery purpose. The lowest recovery percentage was in 1990-91 (12.8%) due to the non- repayment of loan on account of some unforeseen conditions like low rains, changes in climatic conditions etc, that prevailed during the year.

With respect to M.T. (agricultural) loan, wide fluctuations were seen in demand trend. Similar type of trend can be noticed in recovery position. The highest recovery was in the year 2005-06 (76.32%). This was mainly because of the bank official making special efforts for the recovery of loan in the district with recovery camps, execution of petition against willful defaulters, etc.

5.3.2.2 Demand, Recovery and Balance position of Bhadravathi Branch

The demand for S.A.O. loan increased from Rs.15.98 lakhs in 1990-91 to Rs. 1444.44 lakhs in 2005-06 (Table 4.14). Similar type of trend can be noticed in recovery and balance position. Good recovery percentage in recent years was mainly because of the holding of recovery camps and appointment of task force for the recovery of loan amount.

In case of M.T. (Agricultural) loan also, demand and recovery position consistently improved expect for a marginal decline in 2001-02. The recovery percentage was 71.23 percent in the year 2005-06 because of the engagement of task force for loan recoveries.

5.3.2.3 Demand, Recovery and balance position of Thirthahalli Branch.

The demand, recovery and balance position of Thirthahalli Branch was presented in Table 4.15. The demand for S.A.O. loan gradually increased from Rs.168.6 lakhs to Rs.1102.37 lakhs. The highest recovery was in the year 1999-2000 (82.81%). Similar trend was also noticed in M.T.(Agricultural) loans with 93.61 percent loan recovery in the year 2002-03. This was achieved as a result of the serious steps taken by the bank, which included recruitment of special task force for loan recovery.

5.4 Overall performance of DCC Bank

The composite performance indicator was constructed to study the overall performance of DCC Bank as influenced by the personality traits of the selected officials and non-officials of the bank. Scenario –I was created using the weights indicated by the chairman of the bank, whereas Scenarios –II and III were constructed with the weights revealed by the Managing Director and the General Manager. Different Scenarios were analysed to examine

how the explanatory variables would impact the overall performance of the bank measured by the composite performance indicator depending up on changes in weighting systems. In all the three Scenarios, major weighting was on the financial indicators of the bank. While Scenario –I and II and III showed 20 percent, 30 percent and 40 percent weight respectively, however, within each group of indicators (i.e., Physical and Financial), there was a wide variation in the scheme of weighting across the scenarios (Table 3.6).

The regression analysis (Table 4.17) with composite performance indicator as the dependent variable showed that experience of and the training undergone by both the Chairman and the Managing Director had a positive and significant impact on the overall performance of the bank in respect of the scenarios. R^2 values were high in all scenarios and F values were significant. The results indicated that increase in the number of trainings undergone by Chairman and the Managing Director and larger experience of these two persons would imply better overall performance of the D.C.C Bank as reflected by large value of composite performance indicator.

5.5 Profile of societies and classification of defaulters

As revealed by the results, older societies happened to be non-defaulting and the ones established more recently were labeled as defaulting societies. This observation was true of both the taluks. A possible interpretation of this could be societies that are in existence for a long number of years have accumulated vast experience that enabled them in the proper management of their lending activities and prompt repayment of the loans, which they borrowed from the central bank. It was also revealed from the results that the societies with larger share capital did not default with the central bank. Whereas the ones with smaller amount of share capital defaulted. Results indicated that the strong equity capital base enhanced the financial strength of the societies and enabled them to repay. At least another important thing revealed by the results was that the societies, which were considered 'defaulting societies' had lower rate of recovery of the loans they had advanced to their members. This phenomenon was observed in both the taluks. This observation sugested that the societies with a good recovery of their lendings were in a comfortable position financially and hence, could promptly fulfill their obligations to the central bank.

The discriminant analysis conducted to classify the defaulters into willful and non-willful defaulters revealed that the variables like education of the defaulter, his family size, income level and amount borrowed played significant role in deciding whether a particular borrower defaulted willfully or non-willfully. Further the results suggested that the contribution of education to the discriminating power of estimated model was maximum at around 49% followed by the contributions of family size (29.47%), income (12.12%) and amount borrowed (0.27%).

The overall discriminant score calculated based on the mean values of the variables and the estimated discriminant function co-efficients happened to be –0.013. The scores for the group of non-willful defaulter and willful defaulter happened to be –0.983 and 1.587 respectively. This showed that in respect of a defaulter for whom the discriminant score happens to be more than the overall score, it is likely that he is a willful defaulter and for the one with score less than the overall score, it is likely that he is a non-willful defaulter. The estimated discriminant function was $Z = - 1.433 + 0.603 \times \text{Education} - 0.501 \times \text{family size} + 0.295 \times \text{income} - 0.127 \times \text{amount borrowed}$.

The sign of the estimated co-efficients of education variable indicated that higher the education, higher the discriminants scores and more likely that the defaulter in question is a willful defaulter. On similar lines a defaulter with large income is more likely to be a willful defaulter. However, accordingly to the results, it is more likely that the defaulters with large family size and huge amount of loan are non-willful defaulters.

The above findings are in line with what is generally observed among the defaulter turned borrowers. When a borrower defaults despite being economically well off and well educated it implies that his defaulting behaviour is not out of his distress but more likely a deliberate action. It may also be noted that the awareness about possible loan waiver schemes that comes with education may also induce a borrower to default deliberately. However, when family size is large and borrowed amount is huge, the borrower is under a lot of pressure and likely to default with no alternative.

6. SUMMARYAND POLICY IMPLICATIONS

Agriculture remains to be the mainstay of Indian economy providing livelihood to about 65 percent of the people and contributing about 26 percent to the Gross Domestic Product (GDP). In the last five decades there was a tremendous increase in agricultural production which was evident from the increase in food grain production from just 50 million tones during 1995-51 to 206 million tones in 2005-06. However in the last decades, signs of stagnation and even some degree of declaration in few crops have become visible and call for immediate attention. Further, growth in agriculture requires larger investment enabling better use of resources. But the fact is that, the rate of investment in agriculture has declined in the recent years.

With the advent of green revolution, the Indian agricultural scenario changed from subsistence to commercial, which led to more demand for capital to purchase various inputs. Though co-operatives were pioneering institutional agencies in the sphere of agricultural credit, subsequently various institutional agencies made their entry in the field of agricultural finance. Inspite of it co-operative movement has given much impetus to the development of agriculture in India. It also created new hopes and inspirations in the minds of rural community.

Institutionalization of agricultural credit in India began with the passing of the co-operative societies Act, 1904. Co-operatives are the vital organisations not only in ensuring smooth flow of agricultural credit, but also in the development of rural economy. They help in mobilizing human resource and political power for achieving their goals and identifying and developing local leaders through democratic process. Co-operatives help in horizontal and vertical integration of production, procurement, processing and marketing functions and achieving equitable distribution of developmental benefits.

The three tiered co-operative credit structure consists of primary Agricultural credit societies at village level, the Central Co-operative Banks (CCBs) at district level and the State Co-operatives Apex Banks (SCBs) at the state level. The DCCBs ensure the strict implementation of developmental schemes in the Co-operative sector and also avoid misuse of funds by PACS or the affluent sections of the rural society.

Karnataka is a predominantly agricultural state with 10 Agro Climatic Zones facilitating the cultivation of wide range of crops. There are 19 DCCBs functioning with the main purpose of strengthening the 4392 PACS in the state. The economic viability and overall efficiency of these PACS depends to a great extent on the viability of the DCCBs. A critical evaluation of these central units can shed light on their strengths, limitations and drawbacks. The present study was taken up with the overall objectives of carrying out the management appraisal of Shimoga District Central Co-operative Bank (DCCB), with following specific objectives

1. To analyse the growth in the performance indicators of DCC Bank
2. To study the financial management of DCC Bank
3. To analyse the factors contributing to overall performance of the bank and
4. To examine the profile of defaulting societies and ascertain the causes thereof

METHODOLOGY

The present study pertains to Shimoga District, which is situated in Southern Transitional Agro Climatic Zone. The district consists of 7 taluks of which two taluks were randomly selected to represent two different geographical regions of the district, namely, Malnad (Thirthahalli) and Semi Malnad (Bhadravathi). Two DCC bank branches located in these taluks were purposively selected for the study.

Information on the personal and managerial traits from the non-officials (chairman) and officials (Managing Director and General Manager) was collected to ascertain their impact on the overall performance of the bank.

Nature and Sources of Data

The primary data relating to income level, experience and number of trainings undergone were collected from the selected officials and non-officials of the bank, with respect to three management periods from 1990-91 to 2005-06.

A multi stage random sampling procedure was adopted for the present study as the first stage the two taluks were purposively selected for the study, as it represents two different agro-climatic zones. At the next stage five defaulting societies were selected from each taluks. In the third stage, six defaulters were collected from each society A well structured and pretested schedule was used to elicit the primary data on age, education, family size, total income, total expenditure, amount over due and type of crops grown. The total sample size was 60 defaulters.

Secondary data on physical and financial aspects of the bank were collected from the annual report and audit reports for a period of 16 years from 1990-91 to2005-06.

Analytical Tools Employed

Tabular analysis was used for computing averages of the variables relating to physical and financial performance of the bank. Percentages were worked out for the purpose of comparison.

Compound growth rate analysis was employed to study the changes in selected physical and financial indictors of the bank.

Ratio analysis was used to analyse the performance of the bank.

Multiple regression analysis was employed to assess the impact of personal and managerial traits of the selected officials and non- officials of the bank on the overall performance of the bank.

Discriminant Analysis was employed to assess the impact of defaulters of the selected societies were employed to discriminate the willful and non- willful defaulters of the societies.

Findings of the study

1) Growth Rate Analysis.

a) Growth in physical Indicators

The compound growth rates of selected physical indicators were worked out for DCC bank, Head Office. The growth in the number of branches, employees, membership and deposit account was found to be positive and significant. the growth pattern in employees and deposit accounts was observed to be positive and highly significant for the selected DCC Bank branches, namely Bhadravathi and Thirthahalli.

b) Growth in Financial Indicators

All the financial indicators of DCC Bank, Head Office showed positive and significant growth.

In Bhadravathi branch, the growth in profit was highest compared to the growth in other indicators. Similar type of growth pattern was found in Thirthalli branch.

2. Financial Ratio Analysis

a) Current ratio was more than unity for the entire period study, indicating that the bank had maintained a reasonable level of liquidity. The acid- test ratio was less than unity.

b) Debt – Equity ratio was less than unity during the study period. The indebtedness ratio ranged between 1.000 and 1.789 and showed fluctuating trend.

c) The net worth was found to be negative from 1998-99 to 2002-03, and positive for the remaining periods. Net capital ratio was positive for all the years.

d) The ratio of net profit to total assets was found be less than unity and ranged between 0.002 and 0.011.

The net profit to net worth ratio was negative for the middle five years and positive for the remaining years.

Net profit to fixed assets ratio was observed to be positive for all the years and was found to be highest in 1995-96 (4.275).

e) The average value of gross ratio was high and stood at more than 85 percent. The operating ratio was also high during the study period.

3. Advances and Recovery position of the Bank.

a) Agricultural Advances

The agricultural advance by DCC Bank, Head Office showed increasing trend over the years expect 1991-92 and 2001-02. Similar trend was showed in the S.A.O. loans and M.T (agricultural) loans.

In Bhadravathi branch, the S.A.O. loans contributed major portion to the total agricultural advances. The agricultural advances increased during the study period.

Around 75 percent of the total agricultural advances was accounted for the S.A.O.loans in Thirthahalli branch and remaining 25 percent by M.T.(agricultural) loans. Over the years, the advances to agricultural sector showed increasing trend.

b) Demand, Recovery and Balance position

The demand and recovery position was increasing for S.A.O. loans and fluctuating trend for M.T.loans of DCC Bank, Head Office. The recovery percentage was highest in 2005-06 (82.18%) for S.A.O.loans and in 2005-06 (76.32%) for M.T. (agricultural) loans.

With respect to Bhadravathi branch, the recovery percentage was 77.79 percent in 2005-06. The M.T. (agricultural) loans showed 71.23 percent recovery from 2005-06.

In Thirthahalli branch, the recovery percentage was found to be moderately increasing for both S.A.O.loans and M.T. (agricultural) loans.

4. Overall Performance of the Bank

The regression analysis suggested that the variables, namely experience and training undergone by Chairman and Managing Director positively and significantly influenced the overall performance of the bank. The R^2 was large and highly significant as indicated by F-value, for all weighting scenarios.

5. Profile of societies and classification of defaulters

The profile of the societies was studied using general features like year of establishment of the society, share capital, membership details, advances and recovery position of the societies.

Education, family size and income of the defaulters were the most important variables identified by the Discriminating function which discriminated the willful and non- willful defaulters.

POLICY IMPLICATION

1. The result indicated very high operating ratio of more than 85 percent for most of the year of study period. Thus, efforts are needed to reduce the operating costs so that the profit of the bank can be boosted up.
2. As suggested by the results, the overall performance of the D.C.C Bank was largely influenced by the experience and training undergone by chairman and Managing Director. Thus the bank would benefit if a person with high experience in banking and who has undergone adequate number of trainings were in the position of Chairman and Managing director.
3. One of the findings of the study was that borrowers with high education were more likely to default deliberately. This observation calls for close followup in respect of loan advances to well educated borrowers.

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MANAGEMENT APPRAISAL OF DISTRICT CENTRAL CO-OPERATIVE BANK – A CASE OF DCC BANK SHIMOGA, KARNATAKA

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ABSTRACT

Farm credit is a strategic input and demand for it steadily increased with the advent of modern technology. Among the various financial institutions, the co-operatives have emerged as a major source of agricultural credit. A three- tier system of co-operative credit structure came into existence to meet short term and medium term credit requirements of the farmers. An enquiry into the working of DCC bank Shimoga could reveal interesting facts about the bank's performance according to geographical variations.

Two DCC bank branches were selected for the study, which represented two different geographical regions. The study was based on both primary and secondary data.

The growth in the number of branches, employees, membership and deposit account was positive and significant. Except the number of loan account and over due amount all the other financial variables showed positive and significant growth. The liquidity and solvency position of the bank was found to be sound. However, the net profit to net worth ratio was found to be negative from 1998-99 to 2002-03. The recovery percentage for the selected DCC bank branches increased over the years. The regression analysis suggested that the variables, namely experience and training undergone by Chairman and Managing Director positively and significantly influenced the overall performance of the bank. The discriminant function indicated that higher level of education and family size tended to increase the number of willful defaulters.