International Journal of Management, IT & Engineering
Vol. 8 Issue 6, June 2018,
ISSN: 2249-0558 Impact Factor: 7.119
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

CREDIT RISK MANAGEMENT IN COOPERATIVE BANK OF MEERUT DIVISION, UTTAR PRADESH

Preety*

Dr. D.K.Maheshwari**

Abstract

Financial institutions have found difficulties over the years for a multitude of reasons; the major cause of serious banking problems continues to be directly related to lax credit standards for borrowers and counterparts or a lack of attention to changes in economic or other circumstances that can lead to deterioration in the credit standing of bank's counter parties.
The goal of Credit Risk Management is to maximize banks risk- adjusted rate of return by maintaining credit risk exposure within acceptable parameters.
The axle of this study is to have a clearer picture of how cooperative bank manage their credit risks.
The purpose of this study primary data was collected through 40 bank manager and 400 bank customers with the help of Structure questionnaire and descriptive research design was adopted. Secondary data was also used to collect information on performance of selected DCCBs in Meerut Division, Uttar Pradesh were used to analyze for five years (2011 – 2016). The variable of the study were Interest income, Recovery performance Return on Asset (ROA and NPL used as credit risk indicator. The regression model was used for hypothesis testing.

Keywords:

Credit risk management

Return on assets

Non performing loan

Interest Income

Recovery Performance

* **Research Scholar, Faculty of Management, Swami VivekanandSubharti University, Meerut, India**

** **Associate Professor, Faculty of Management, Swami VivekanandSubharti University, Meerut, India**

1. Introduction

Co-operative bank

Financial system is the most important institutional and functional vehicle for economic transformation of any country. The Indian banking system comprises RBI, the central bank of the country under which different types of banks such as commercial banks including public sector and private sector banks, foreign banks, regional rural banks as well as co-operative banks are functional.

Co-operative banks are small units organized in the co-operative sector in urban and rural area. In 1904, the co-operative credit society act was enacted to encourage co-operative movement in India. Co-operative banks are basically financial intermediaries - a significant amount of their borrowings is from the RBI, NABARD. Rural co-operative banks are functional at three tiers viz; State Co-operative Bank, District Co-operative Banks & Primary Agricultural. . The basic objective of Co-operative banks is to fulfill the credit requirements and need of people living in rural and urban area particularly for farming, cattle, milk, personal finance, home loans, some small scale business and industries. However, Loans issued not returned by borrowers is the biggest problem of co-operative banks. Non recovered amount create the credit risk to the bank.

Credit Risk

Credit risk is the risk of financial loss arising from the disappointment of a borrower or other money related counterparty to meet its statutory commitments to the Bank.Internal and External factor influence credit risk like Deficiencies in evaluation of credit proposals and in the assessment of credit estimation of money related quality of borrowers.

Credit Risk Management

Credit Risk in very simple terms, is the risk that promised cash flows from loans and securities held by the banks may not be paid in full and on time i.e., it is the possibility of default - non-payment or delayed payment. In a bank’s portfolio, losses stem from outright default due to inability or unwillingness of a customer or counterparty to meet commitments in relation to lending, trading, settlement and other financial transactionsAlternatively, losses result from reduction in portfolio value arising from actual or perceived deterioration in credit quality. Credit Risk Management (CRM) encompasses identification, measurement, monitoring and control of credit risk exposures.

2.Research Problem

In India the total NPL of DCCBs during 2011-2012 was Rs.27209Crore.Which has increased over the year and stood at Rs.40315crore in the year 2015-2016. Consequently, the total NPA were Rs.1678096.17crore.This has increased over the years and stood at Rs. 2240604.43crore DCCbank had 3315.6 lakh loan in 2015-2016 not return by borrower in Meerut division. The foremost among the challenges faced by the banking segment today is the challenge of understanding and serious concerns about how bank manage the credit (loan)they issue out to customer with particular emphasis on the loan they give and how efficiently they manage to recover such loan when the time is due.

3. Review of literature

A lot of studies have been conducted on various aspects of Credit risk management. A few of them has been discussed below.

Credit risk is the risk of a loss resulting from the debtor's failure to meet its obligations to the Bank in full when due under the terms agreed. [13]Credit risk has the highest weight among risks taken by the Bank in the course of its Banking activities.

Donald et al (1996) defines Credit risk simply as the prospective that a bank borrower or counterpart will fail to meet its obligations in accordance with agreed conditions. The purpose of management of credit risk is to make the most of a bank's risk-adjusted rate of return by maintaining credit risk exposure within suitable parameters. [6]

Kromschroder& Luck (1998) Risk identification is vital for effective mitigation of credit risk. In order to manage credit risks effectively, management of bank have to know what risks face the bank. The Significant thing during risk identification is not to miss any risks out and this can be done through establishing an appropriate credit risk environment. [7]

Coyle (2000) defines credit risk as a loss resulting from the denial or inability of credit customers to pay as much as they owe in full and in time. Credit risk is the exposure that banks face when a borrower fails to fulfill their debt obligations at maturity . This risk, indiscriminately called counterparty risk, can compromise the bank if it is not properly managed. [5]

Bagchi (2003) examined the management of credit risk in banks. It has examined risk identification, risk measurement, risk monitoring, risk management and risk review from basic considerations for credit risk management. The author concluded that adequate credit risk policies architecture and the framework for credit risk management, credit rating system, monitoring and control contributed to the accomplishment of the management of credit risk system. [3]

Nora (2008) Credit Risk Assessment In the environment where a bank operates there are many sources of risk that result in reduced profitability. These sources of risk should be identified, measured and carefully considered for the development of the overall monitoring strategy and discard the risks. Various sources of uncertainty exert profitability. [10]

Al-Khouri, R. (2011) defines credit risk as the chance that a debtor or issuer of a financial instrument whether an individual, a corporation, or a nation will not refund principal and other investment related cash flows according to the terms specified in a credit contract or agreement, credit risk means that payment may be delayed or destroyed, which can result to cash flow difficulties and influence a bank's liquidity. [1]

Alshatti (2015)has suggested that all banks need to establish an adequate risk environment; manage a credit grant process in a comprehensive way, preserving an applicable credit management that provides for adequate credit monitoring, management and control to create an effective management of credit risk system.[2]

Singh, V. and Bahadur, R. (Mar 2016)discussed the status and trend of NPAs in planned Indian commercial banks, the factors contributing to NPAs, the reasons for the high effect of NPAs on commercial banks scheduled in India and the recovery of NPA through various channels during the period of 14 years, ie from 2000 to 2014. The result shows that the degree of NPA is relatively high in public sector banks. Although the government has taken several measures to reduce the NPA, there is still much to be done to stop this problem. The NPA level of the commercial banks of Schedule remains high compared to foreign banks.[14]

4. Research Methodology

In the present study an effort is made to credit risk management of District Central Cooperative bank in Meerut Division ,Uttar Pradesh. For the purpose of study, secondary data was drawn from annual reports of District Central Cooperative Bank Published by NAFSCOB and Primary data .collect from survey method. For analysis of data, statistical tools i.e average, standard deviation, growth rate have been applied.

4.1 Research Objectives

The main objective of research is to have a bigger picture of how banks manage their credit risk. Thus attention is geared towards:

1. To study the current scenario of credit risk exposure in cooperative banks.
2. To study how banks use credit risk evaluation and assessment tools to mitigate their credit risk exposure.
3. To study the performance (e.g. ROA) of cooperative banks.
4. To propose credit risk management steps for reducing credit risk

4.2Hypothesis

H1: Banks with higher profitability (ROA) have lower loan losses (Non performing Loans/Total Loans).

H2: Banks with higher interest income (Interest income/total income) also have lower bad loans (NPL).

H3: There will be cooperative bank recovery performance inversely proportional to level of NPL.

4.3Data collection method

Primary Data: Primary data are collected with the help of the following:

1. Questionnaires- a questionnaire with a standard set of questions addressed to bank's employees and customers of bank.
2. Interview- both structured and an unstructured interview was conducted.

Secondary data RBI publications such as reports on trends and progress of banking in India and basic data on performance of District cooperative bank published by NAFSCOB from the period from 2011-2016, Reports of various Committees appointed by RBI and articles published in various Standard text books, Journals and Magazines.

4.4Sample Design

The survey is a systematic study to observe the problem and to find out the information relevant to the solution. For the study, the data will be collected by the respondents. The present study is based on both Analytical and Descriptive Research The present study attempts to analyze the Credit Risk Management practices followed by selected District Central Cooperative Banks operating in the Meerut Division namely, Meerut ,Bulandshahr, Ghizabad. The criteria considered for selecting the sample units include number of branches. The study consists of a sample of 40 branch managers and 400 borrowers from branches of DCCBsin Meerut division. The present study has select judgments sampling method. The borrowers of the banks from the study area were interviewed with the help of structured questionnaires and all the branch managers have been interviewed personally with the help of unstructured and structured interview schedule for the purpose of study

4.5Period of the study

The research period for the present study is considered from 2011-2012 to 2015-2016. The period of five years was considered for analysis.

4.6Limitations of the Study

Some limitations for present research work are as under.

1. Time, cost and location factors become major difficulties in completion of research.
2. Sample size may not be correct representative of the universe. There is possibility of some mistake to a restricted extent
3. Study totally relies upon the published financial data, so it is subject to all limitations that are intrinsic in the condensed published financial statements.
4. Once more difficulty was incorporating of some bank to taking time to answer the questionnaire

5. Analysis of non performing loan of District Central Cooperative bank of Meerut Division

The performance of the DCCBs is determined by the quantum of loans and advances issued recovery, profitability, NPL and repayment to the higher financial institutions etc. The analysis is based on the secondary data of District Central Cooperative Bank of Meerut Division Uttar Pradesh during the study period from 2011-12 to 2015-16. For this research work financial performance of banks is measured by selected financial Performance parameters such as management efficiency parameters, profitability parameters, Non Performing loan parameters,Recovery to demand ratio

5.1Profitability parameters

These set of parameters is for measuring the profitability of banks. There is vast difference between a term “profit” and “profitability”. Profit is a quantitative term which deals with numbers while profitability is a term which relates profit with other term such as assets, advance, investment etc because of which meaningful conclusion can be drawn.[9]

5.1.1Return on assets

Returns on asset ratio is the net income (profits) generated by the bank on its total assets. The higher the percentage of average earnings assets, the better are the returns on total assets. The return on assets is one of the important parameters for measuring the profitability of banks. This report indicates the return as a percentage of the total assets. The formula for calculating the return on assets is as follows:

Return on Assets (ROA) $= \frac{\text{Net income or Profit}}{\text{Total Assets}}$

(in lakhs)

Year	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
ROA	0.27	0.33	0.40	0.43	0.41

Source: Basic Data on performance of District Central Cooperative Bank published by NAFSCOB

It is clear table that the Return on assets position of the selected DCCBs had increased from Rs. 0.27 percent in 2011-2012 to Rs. 0.41 percent in 2015-2016.

5.2Management efficiency parameters

These set of ratios evaluate the management’s ability to utilize their assets for generating revenue in form of interest income.

5.2.1 Ratio of interest income to total assets

The ratio of interest income to total assets indicates interest income as percentage of total assets. It is also known as net interest margin. The formula to calculate ratio of interest income to total assets is as under.

Ratio of interest income to total assets $= \frac{\text{Interest income}}{\text{Total Assets}}$

(Rs.in lakh)

Year	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Interest Income	68	69	71	72	71

Source: Basic Data on performance of District Central Cooperative Bank published by NAFSCOB

It is clear table that the Interest income position of the selected DCCBs had increased from Rs 68 percent in 2011-2012 to Rs. 71 percent in 2015-2016

5.3Nonperforming loan parameters

The loan is said non-performing when it reaches more than 90 days late. This variable has to have an overview on a number of uncovered loans it's an indicator of the financial strength which demonstrates the quality of bank loans and therefore a crucial factor for credit risk management. When it increases, the risk increases and reduces the bank's expected inflow.

Non–Performing loan ratio $= \frac{\text{Non performing Loan}}{\text{Total Loan}}$

(Rs.in lakh)

Year	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
NPL	5.52	3.61	2.75	1.86	1.74

Source: Basic Data on performance of District Central Cooperative Bank published by NAFSCOB

The non- performing loan of the selected DCCbanks during the study period had decreased from 5.52percent in 2011-2012 to 1.74 percent in 2015-16.

5.4Recovery of loan

(Rs.in lakh)

Year	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Recovery of loan	89.79	92.53	93.45	93.66	93.58

Source: Basic Data on performance of District Central Cooperative Bank published by NAFSCOB

The above table depicts the recovery performance of selected DCCBs. Total recovery increase from 89.79 percent in 2011-2012 to 93.58 in 2015-2016

5.5Hypothesis testing

Prior research findings show that banks manage credit risk for two main purposes: to enhance interest income (profitability) and to reduce loan losses (bad debts) which results from credit defaults. Likewise, I expect that banks with better credit risk management practices have lower loan losses (non performing loans). I used profitability (ROA) as proxy for credit risk management indicators.

Thus I used the following regression model as test for the hypothesis.

P (ROA) = $\alpha + \beta NPL/TL + \mu$

II(II/TI) = $\alpha + \beta NPL/TL + \mu$

R = $\alpha + \beta NPL/TL + \mu$

Where, NPL denotes non performing loans TL denotes total loan, P denotes profitability (ROA), II denotes Interest Income, TI denotes total income and R denote recovery of loan Also, α is the intercept and β is the parameter of explanatory variable TI, ROA and μ represent the disturbance terms.

5.5.1 Hypothesis -1

Banks with higher profitability (ROA) have lower loan losses (Non performing Loans/Total Loans).

Table :1 Regression result of ROA on NPL/TL

Coefficients		Std. Error	t Stat	P value	R square
α	0.49721	0.019083	26.05512	0.000124	0.948324
NPL/TL	-.04173	0.005625	-7.41982	0.005065	
Adjusted R square	**0.9310**				
F –statistic	**55.05**				
Pro(F-statistic)	**0.005**				

Level of Significant at 1%

The regression table above shows the regression coefficients between ROA and loan loss (NPA/TLA) of DCCBs of Meerut Division. The intercept is 0.497 with a standard error of 0.019 and a slope of -0.041with standard error 0.005. The coefficient of loan losses (NPA/LA) is -0.041 implying that there is a negative relationship between Return on assets and loan loss. The term R-squared tells us the proportion of variability in the dependent variable (ROA) that is explained by the independent variable (loan losses). From the table above, the value corresponding to R squared is 0.948, implying that the variations in the ROA is been explained by 94.8 percent. The results verify our hypothesis that having a ROA to lower loan losses, thus an inverse relationship between net interest income and loan losses. This implies that, a unit decrease in loan loss accounts for an increase in the Profitability (ROA). The estimated F- value also suggested that the effect of the explanatory variable included in the model is significant at a level of 1%.

5.5.2 Hypothesis -2

Banks with higher interest income (Interest income/total income) have lower bad loans (NPL).

Table -2: Regression result Interest income on NPL/TL

Coefficients		Std. Error	t Stat	P value	R square
α	73.26702	0.734434	99.7598	2.2206	0.874697
NPL/TL	-0.99064	0.216475	-4.57623	0.019584	
Adjusted R square	**0.832929**				
F –statistic	**20.94**				
Pro(F-statistic)	**0.019584**				

Level of Significant at 1%

The regression table above shows the regression coefficients between net interest income and loan loss (NPL/TL) of Meerut Division. The intercept is 73.2 with a standard error of 0.73 and a slope of -0.99 with a standard error of 0.21. The coefficient of loan losses (NPL/TL) is -0.99 implying that there is a negative relationship between net interest income and loan loss. The term R-squared tells us the proportion of variability in the dependent variable (net interest income) that is explained by the independent variable (loan losses). From the table above, the value corresponding to R squared is 0.874, implying that the variations in the net interest income is been explained by 87.4 percent. The results verify our hypothesis that having a higher interest income amounts to lower loan losses, thus an inverse relationship between net interest income and loan losses. This implies that, a unit decrease in loan loss accounts for an increase in the net interest income. The estimated F- value also suggested that the effect of the explanatory variable included in the model is significant at a level of 1% percent.

5.5.3 Hypothesis-3

There will be inversely relationship between recovery performance and non performing loan of Cooperative Bank in Meerut Division.

Table-3 Regression result recovery performance on NPL/TL

Coefficients		***Std. Error***	**t Stat**	**P value**	**R square**
α	95.74188	0.551484	173.6077	4.2141	0.928362
NPL/TL	-1.01353	0.16255	-6.23516	0.00832	
Adjusted R square	**0.90448**				
F- Statistic	**38.87723**				
Prob.(F-Statistic)	**0.0083**				

Level of Significant at 1%

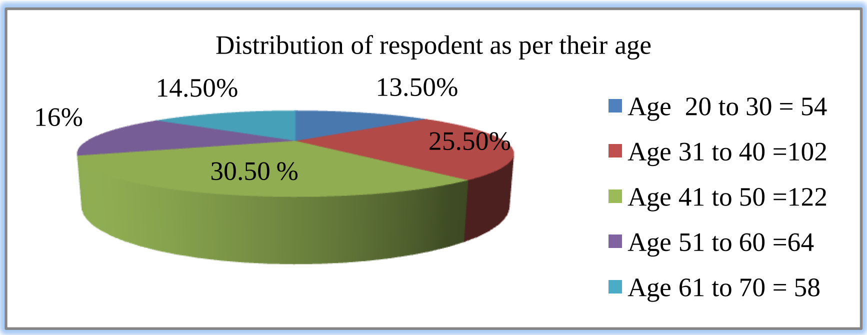
The regression table above shows the regression coefficients between recovery of loan and loan loss (NPA/TLA) of DCCBs of Meerut Division. The intercept is 95.74 with a standard error of 0.55 and a slope of -1.013 with standard error 0.16. The coefficient of loan losses (NPA/LA) is -1.01 implying that there is a negative relationship between Recovery and loan loss. The term R-squared tells us the proportion of variability in the dependent variable (Recovery of loan) that is explained by the independent variable (loan losses). From the table above, the value corresponding to R squared is 0.928, implying that the variations in the Recovery of loan is been explained by 92.8 percent. . The results verify our hypothesis that having a Recovery performance to lower loan losses, thus an inverse relationship between Recovery Performance and loan losses. This implies that, a unit decrease in loan loss accounts for an increase in the recovery performance .The estimated F- value also suggested that the effect of the explanatory variable included in the model is significant at a level of 1%.

6. Data Analysis

6.1Management of Credit risk -An analysis of opinion of borrowers

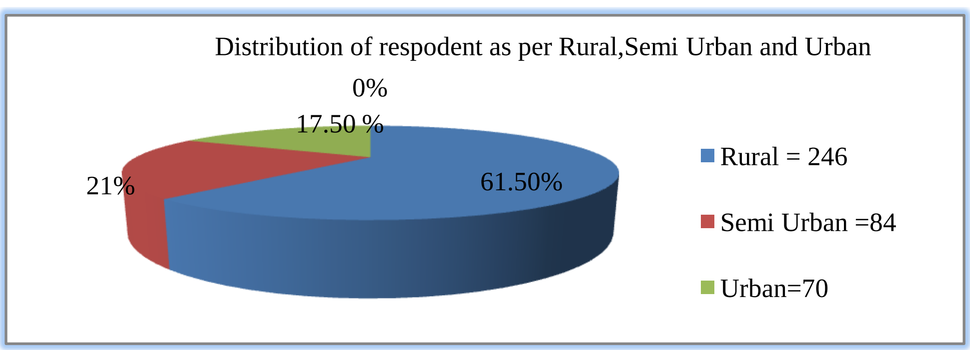
In the chapter an attempt has been made to study the opinion of branch managers and borrower of District Central Cooperative Banks on various issues relating to Credit Risk Management at branch level. For this purpose, field survey of 400 borrowers and 40 branch managers has been conducted.

Fig.1: Distribution of Sample Respondents as per their age



The above table- shows the data about the distribution of sample respondents as per their age. The table shows that highest number of respondents i.e. 122 (30.50 %) is from 41 to 50 age groups followed by 102 respondents (25.50 %) is selected from 31 to 40 age group, 64 (16%) respondents comes from the age group of 51 to 61, 58 (14.50%) respondents are belongs to 61 to 70 age group and lowest number of respondents i.e. 54 (13.50 %) are from 20 to 30 age group.

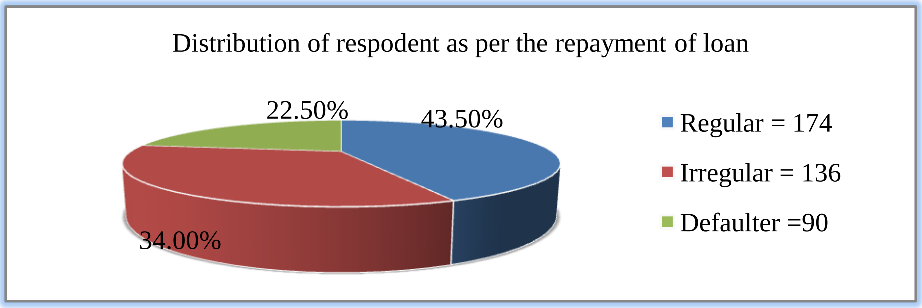
Fig.2: Distribution of Sample Respondents as per Rural, Semi Urban, Urban



The above Table shows the data about the distribution of sample respondents as per their demographic status. Out of 400 sample respondents 246 (61.5%) respondents were selected from rural area, 84(21%) respondent were selected from semi urban area remaining 70 (17.5%)

respondents were selected from urban area.

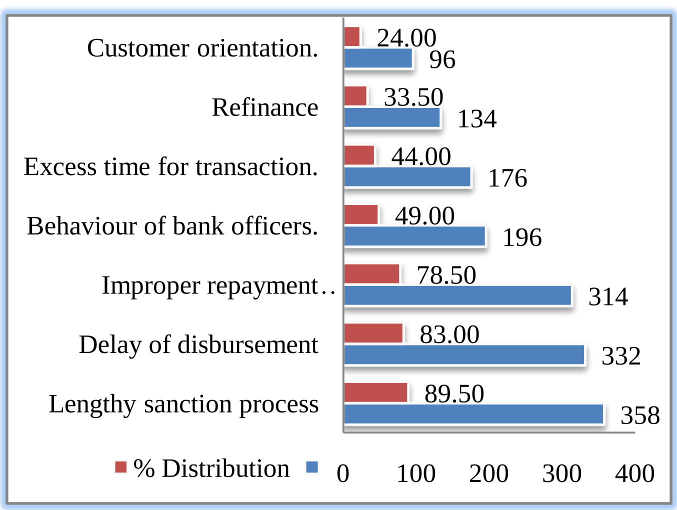
Fig.3:Distribution of Sample Respondents as per the repayment ofloan.



The above table shows the data about the distribution of sample respondents as per the repayment schedule of respondents. The table shows that highest number of respondents i.e. 174 (43.50%) were prompt in the repayment of loan, 136 (34%) respondents were irregular in repayment of loan while 90 (22.50%) respondents were told that they were declared as defaulter by the bank, they were not paid loan installment during the last six months

The above table shows the data about the distribution of sample respondents as per the repayment schedule of respondents. The table shows that highest number of respondents i.e. 174 (43.50%) were prompt in the repayment of loan, 136 (34%) respondents were irregular in repayment of loan while 90 (22.50%) respondents were told that they were declared as defaulter by the bank, they were not paid loan installment during the last six months

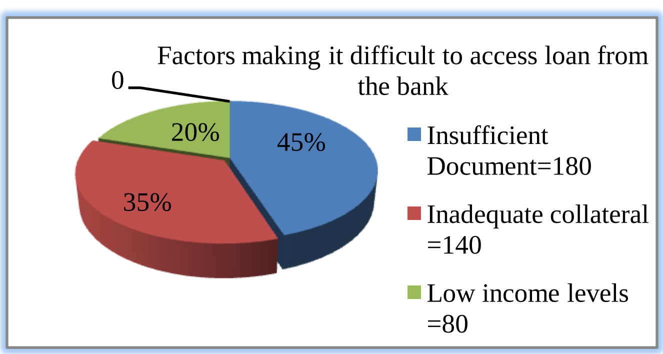
Fig.4: Problems faced by respondents



The above Table shows the data about the problems faced by selected respondents of District Cooperative bank. The researcher surveyed 400 borrowers of the banks. Every respondent are asked a question that they have faced any problems with the bank. The respondents ranked the above 7 problems. It is seen from the Table-6.12 that-

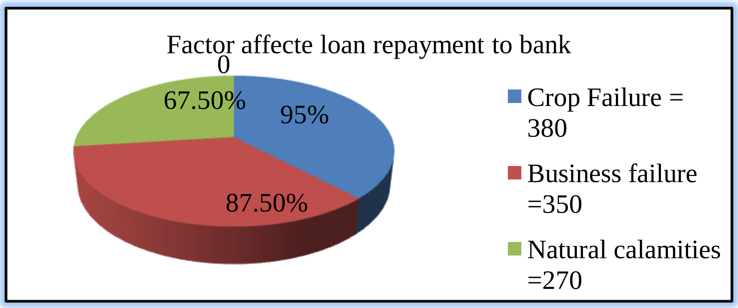
- 358 (89.50%) respondents told that the bank takes more time for sanctioning the loan. The delayed procedure will be impacted on the cropping pattern and other activities.
- 332 (83%) respondents told that after sanctioning of the loan the bank officers are not prompt in disbursement of the loan. Due to delayed disbursement they were takes the help of private money lenders.
- 314 (78.50%) respondents were dissatisfied of repayment schedule of the bank. The respondents told that all installments of the loans are prescribed as same amount. They have no money all the time. Hence they requested that modify the loan repayment schedule as per their convenience.
- 196 (49%) respondents told that the behaviour of bank officers is not good. Most of the respondents were illiterate or very less educated. They asked them some queries but the officers are not handled them properly.
- 176 (44%) respondent's complained that the bank officer takes more time to complete the transaction.
- 134 (33.50%) respondents were told that the bank will not sanction the loan up to the clearance of old loan. The respondents were expect that the bank will sanction them required amount of loan as a refinance.
- 96 (24%) respondents were told that they did not know the banking procedures and various schemes of Central and State Government. The DC bank not conducted any customer orientation programmers for customer of the bank

Fig.5:Factors making it difficult to Access Loan from the Bank



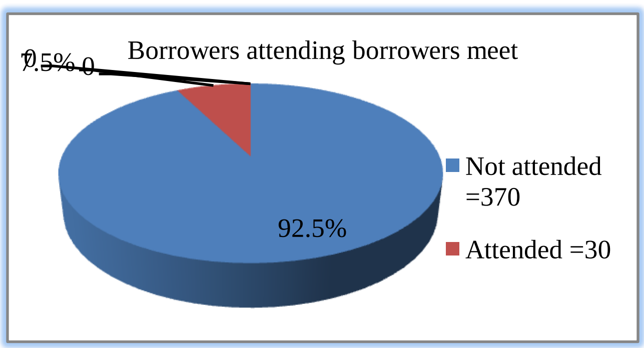
The above table shows the factors that respondents agree make it difficult to access a loan from their bank. Forty five percent of the customers revealed that insufficient documentation represented the major difficulty they faced in assessing loan whiles about 35 percent indicated that inadequate collateral makes it difficult to access. 20 percent indicated that low income levels of respondents make it difficult to access loan from banks.

Fig.6: Factor affects loan repayment to bank



The above table shows the data about the factor affected loan repayment by selected respondents' banks The table shows that highest number of respondents i.e.380 (95%) were told crop failure was the important factor of loan repayment to bank while 350 (87.5%) respondents were told that business failure and 270 (67.5%) respondents were told that natural calamities were the important factor affect loan repayment to banks.

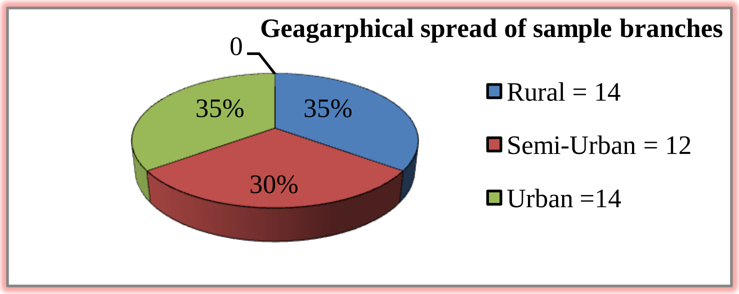
Fig.7:Borrowers attending the borrowers meet



From the above table it is observed that majority (92.5) percentage of borrowers have not attended the borrowers' meet). Therefore, it can be inferred from the study that majority 370(92.5 percent) of the borrower of selected banks not attended the borrowers' meet.

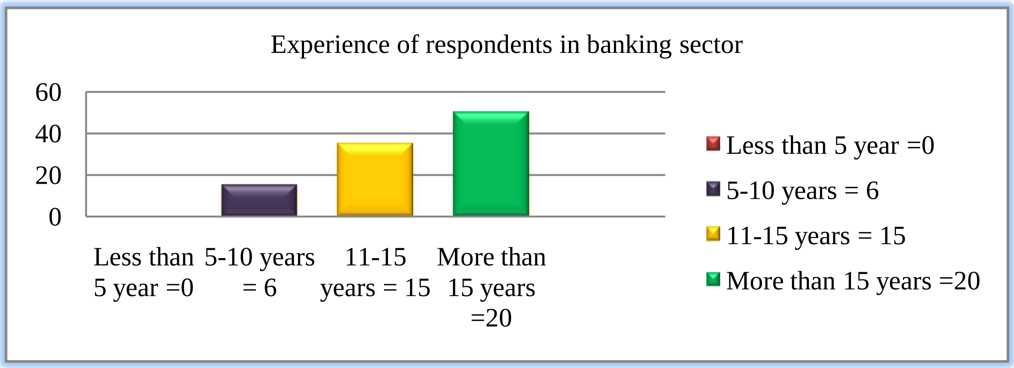
6.2: Management of credit risk-An analysis of opinion of branch manager

Fig.8:Geographical spread of sample branches



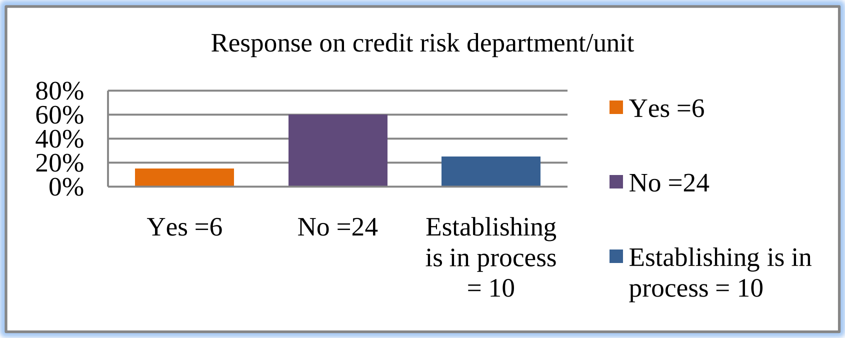
It was quite revealing to find from the above table 6.21 that branches from rural and urban area constitute 14 each (35 percent) respectively of the total sample branches of three District Central Cooperative banks(35 percent from Rural and 35 percent from Urban) . Semi Urban area constitutes 30 percent respectively of the sample branches of selected DCC banks.

Fig.9: Experience of respondents in banking sector



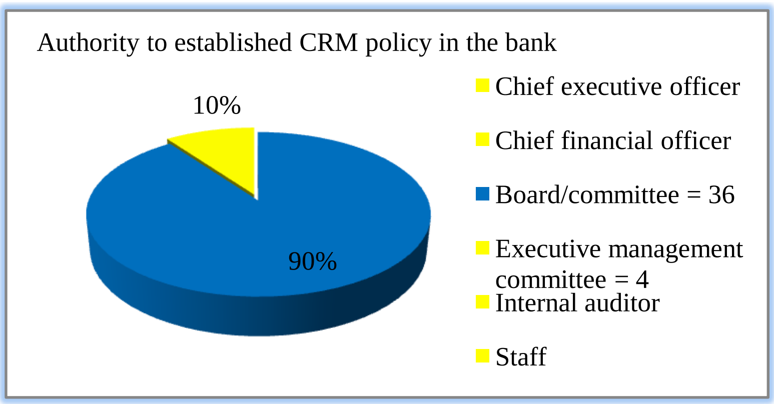
The above table shows the percentage of the years of experience the bank managers had working within the banks. The researcher asked this question because I wanted to know how experienced the respondents were in terms of banking sector. In the results, I notice that 20(50%) bank managers have experience working with in the banks more than 15 years. Whereas 14 (35 %) bank managers who have working experience in the bank ranging between 11 - 15 years. Only 6 (15%) bank managers who have working experience in the bank ranging between 5-10 years and less than five year was null.

Fig.10: Existing of credit risk management department



The above table showsthe percentage of the bank mangers response on credit risk department/unit in banks. Only 6(15percent) bank mangers said that there was a credit risk management department, 24 (60 percent)bank managers said that there wasn't and 10(25percent) bank managers confirmed that establishment was under process of credit risk management department /unit.

Fig.11: The authority to establish credit risk management in bank

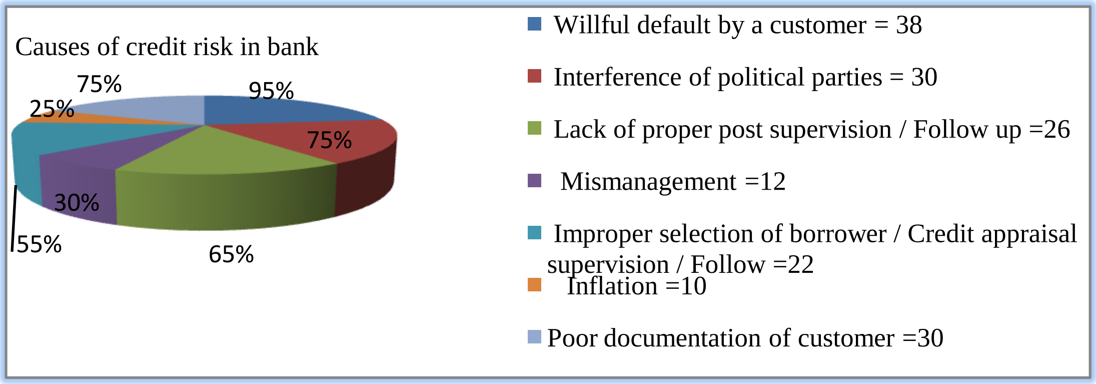


In the beginning, the researcher asked a question about commitment and support from top management. In the table above, the respondents asked to identify who has the authority to establish credit risk management in their organization. The results of this question were closely expected because it assumed the top-level should have the authority to establish credit risk management. As it can see in the table, the majority of the bank manages 34(85%) specify that the board and committee have the authority to establish credit risk management. Next was the executive management team 6(15%).

The surveys show that respondents identified commitment and support from top management as the most important. Top-level management responds to manages credit risk. Most of the banking organizations believe that it is the responsibility of the Board of Directors or Committee and

Executive Management team to establish credit risk management. Top management decides the objectives and strategies for credit risk management activities, mission and overall objectives.

Fig.12: Causes of credit risk in bank

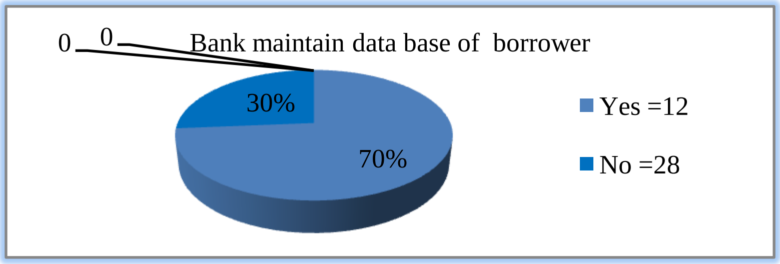


The above table shows the data about the cause of credit risk in selected banks. The researcher surveyed 40 bank managers of selected banks.38(95%) branch managers told that the willful defaulter was the important causes of credit risk in bank because borrowers does not repay the loan to the bank willingly. So willful defaulter was the important causes of credit risk.

- 30(75%) branch managers told interference of political was the second causes of credit risk in banks. Because interference of political parties (waive off borrower loan by political parties) influence the borrower for non repayment of loan to banks.
- 30(75%) branch managers told poor documentation of customer was also important causes of credit risk, It is observe poor documentation of borrowers fails bank to recover the loan because they do not have proper information about the loan status of borrower.
- 26(65%) branch managers told that lack of proper post supervision /follow up was the cause of credit risk. it is inferred that constant follows up of credit is essential for maintaining a healthy loan port folio.
- 26965%) branch managers told that lack of coordination among lending banks was the cause of credit risk.
- 22(55%) branch managers told that the major contributing factors for the loans turning into credit risk revealed that adequate and timely sanction of credit is essential as the borrower can utilize the funds for the intended purpose in a cost effective manner, which will in turn increase his cash inflow and the repaying capacity. It is also observed that adverse selection of borrowers on one side and inadequate and delayed disbursement of credit on the other are major contributory factors for advances becoming bad in India.

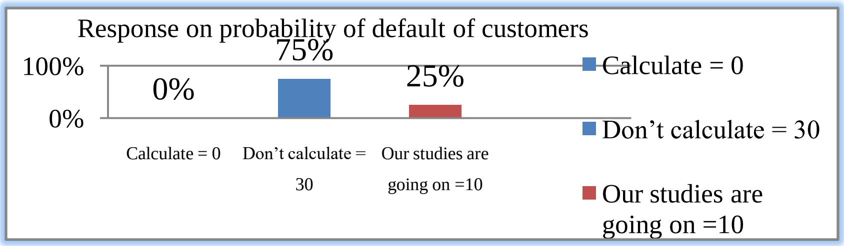
Source: Primary Data Analysis

Fig.13: Bank maintain data base of borrowers



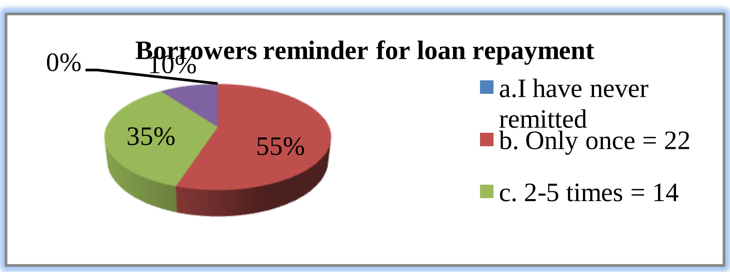
In above table showed 28 (70%) of bank managers told bank maintain data base of the borrowers. But 12(30%) told bank have not maintain database of borrower. It is observe that if bank does not have up-to date information about the borrower, bank fails to assess the credit risk.

Fig.14: Calculate probability of defaulter of customers



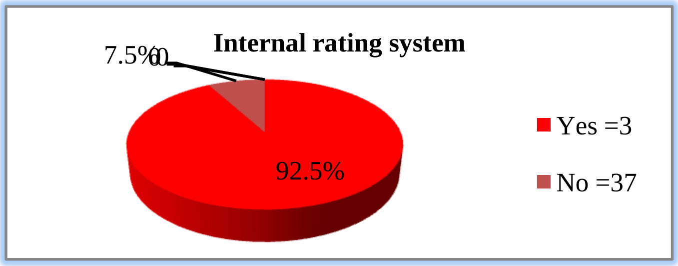
The Table above shows the Probability of default is one of the most important inputs, which is used in credit risk measurement. According to the survey, 30(75%) of the banks managers don't calculate probability of default and the remaining 10(25%) of banks managers said that their studies, which is related to calculating probability of default were still going on.

Fig.15: borrowers' reminder for loan repayment



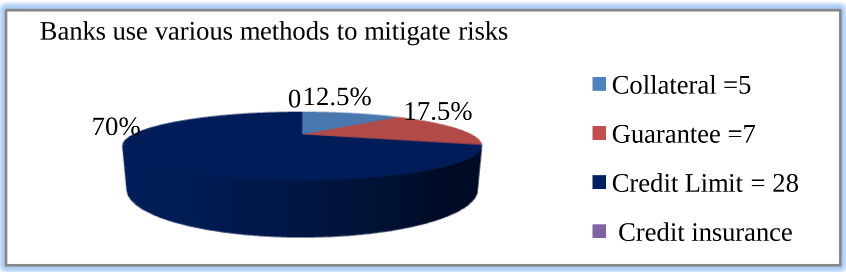
The above table show that 22(55%) bank managers give the reminder only one time for loan repayment to the borrowers, 14(35%) bank managers give the reminder 2-5 time for loan repayment to the borrowers, only 4(10%) respondent give reminder more than 5 for repayment of loan.

Fig.16:Banks have internal credit rating system



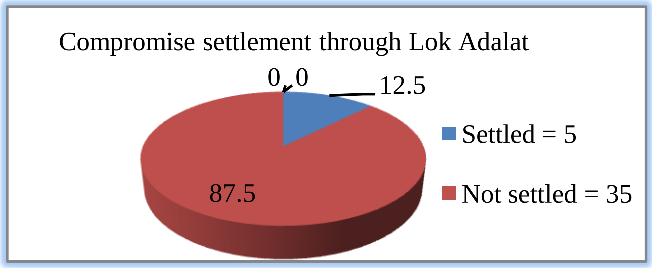
In above table showed 37(92.5%) bank manager told that bank do not have internal credit rating system. 3(7.5%) bank managers said that they have an internal rating system as a mechanism of credit risk measurement being used while assessing a loan. Internal ratings are consistent and accurately reflect the quality of individual credits, responsibility for setting or confirming such ratings should rest with a credit review function independent of that which originated the credit. It is also important that the consistency and accuracy of ratings to be examined periodically by an independent body. But, these were not true for the banks applying the methods, as the researcher confirmed while making the interview

Fig. - 17: banks use various tools to mitigate credit risk



The above table shows bank managers use various tools to mitigate credit risks such as credit limits, taking collateral and guarantee. 28(70 %) banks managers said that they used credit limit method, 7(17.5%) bank managers said that they used taking Guarantee and 5(12.5%) banks managers said that they used collateral in credit risk management. The banks mostly use taking credit limit, Guarantee and collateral.as per From the above that it is clear that bank use taking credit limit, Guarantee and collateral to mitigate credit risk but bank does not use Credit insurance method to mitigate credit risk. Credit insurance method is a important techniques to mitigate credit risk in banks

Fig. 18: Compromise settlement through LokAdalats



From the above table, it can be observed that 35(87.5 percent) branch managers have opined that they have not arrived at any compromise settlement through LokAdalats for recovery of overdues. It is observed from the study that almost all branch managers have not arrived at compromise settlement to recover the over dues through LokAdalats.

6.3PROPOSED STEPS FOR CREDIT RISK MANAGEMENT IN BANK

Taking risk is an integral element of banking operations. The risk on credit granting is that the borrower fails to meet its payment obligation to the bank.

Traditionally the bank management of credit risk has been related to the credit assessment of the individual customers. The basis for credit assessment is the customer financial situation, which gives of picture of the customer credit worthiness. A key issue for the bank is whether the customer has both the will and ability to full its obligation to the bank.

Technology progress in particular including improved possibilities for complex computation

There are five blocks in managing credit risks. We can show them in Figure

Fig.-19 Propose steps for credit risk Management

Step-1 Distinguishing credit risks

Distinguishing credit risks is the basis of risk management. If we can't recognize the risks, we are unable to find appropriate solutions to manage risks. For example, the The United States (U.S.) **subprime mortgage crisis** was a nationwide banking emergency, occurring between 2007-2010, which contributed to the U.S. recession of December 2007 – June 2009 was partly caused by that the financial institutions and regulators didn't recognize the mortgage securitization risks timely [20]. With credit risk management, we can make out some rules to distinguish credit risks, which are establishing one personal credit rating system for customers and setting up the data warehouse. We can use the system to analyze customers' credit index, customers' credit history and the possible changes which may incur risks. At the same time, we should also watch on the changes of customers' property and income to recognize potential risks.

Step-2 Assessing credit risks

After distinguishing the credit risks, we should assess the risk exposure, risk factors and potential losses and risks, and we should make out the clear links. The staffs in banking should use statistical methods and historical data to develop specific credit risks evaluation techniques and the regulators can establish credit assessment system and then set up one national credit assessment system. With the system and the method of risk assessment, the managers can evaluate the existing and emerging risk factors.

Step-3 Calculating credit risks

In the third step bank can use risk calculation range from simple procedures and adjustments for the addition of independent activities to more complex techniques including probability trees, Ratio analysis[58][83] The choice of risk technique depends on the risk definition of the project, its value and circumstances, perceived uncertainty and many other factors. There are many models, such as value-at-risk model (VaR), CAMEL model, KMV Moody should be use by bank manager for calculate the credit risk in bank.

Step-4 Reducing credit risks

After assessing and calculating credit risks, banks should make out countermeasures to reduce the risks.

These measures include :(1) Completing security system of loans. The banks should require customers to use the collateral and guarantees as the security for the repayment, and at the same time, banks should foster collateral market. Banks also require to calculate value of collateral, (2) Combining loans with insurance. Banks may require customers to buy a specific insurance. If the borrower doesn't repay the loans, banks can get the compensation from the insurance company.

Step-5 Managing credit risks and feeding back

A customer may have faming, cattle, milk, hatchery, personal finance. Small scale units, self employment, consumer finance and other loans and the banks can acquire the customer's credit information, credit history, credit status and economic background from assessing the risks of the customer based on the data the banks get. By assessing and calculating the risks of the customer, banks can expect the future behavior of the customers and provides different service for different customers. Banks can provide more value-added service to the customers who have high credit rates and restrict some business to the customers who have low credit rates. At the same time, banks should refuse to provide service to the customers who are blacklisted. Banks should set up the pre-warning and management mechanism and change the traditional ways which rely on remedial after the risks broke out. In order to set up the warning and feeding back mechanism, banks should score credit of the customers and then test the effectiveness and suitability of the measures, which banks use to mitigate risks. Finally, banks should update the data of the customers timely, bank should use CRM techniques for reducing credit risk.

7. Findings

The presentation of data can be summarized as of the following findings:

1. Return on Assets position

It was found that Return on assets position of selected DCCBs had increased from Rs. 0.27 percent in 2011-2012 to Rs. 0.41 percent in 2015-2016.

2. Proportion of Collection to Demand and Balance

It was found that recovery performance of selected DCCBs. increase from 89.79 percent in 2011-2012 to 93.58 in 2015-2016

3. Non –Performing Assets ratio

It was found that nonperforming loan ratio of the selected DCCBs during the study period had decrease from 5.52 percent in 2011-2012 to 1.74 percent in 2015-2016.

4. Interest Income

It was found that that the Interest income position of the selected DCCBs had increased from Rs 68 percent in 2011-2012 to Rs. 71 percent in 2015-2016.

5. It was found that there was a negative significant association between recovery and NPL in selected DCC banks i.e., the two variables are moving in opposite directions. Irrespective of the loans, the recovery and NPL had moved in opposite directions. In the hypothesis ‘recovery performance was inversely related to the level of NPL.

6. It was found that there is a significant relationship between bank performance (in terms of profitability) and ratio of non-performing loans to total loans in the sample bank i.e. the two

variable are moving in opposite direction. The bank performance had moved in opposite directions. In the hypothesis bank performance was inversely related to the level of NPL.

7. It was found that there was a negative significant association between Interest Income and NPL in selected District Central Cooperative Banks i.e. the two variables are moving in opposite directions. Irrespective of the loans, the recovery and NPLs had moved in opposite directions. In the hypothesis Interest Income was inversely related to the level of NPL.

8. The study shows that highest number of respondents i.e. 122 (30.50 %) is from 41 to 50 age groups followed by 102 respondents (25.50 %) is preferred from 31 to 40 age group, 64 (16%) respondents comes from the age group of 51 to 61, 58 (14.50%) respondents are belongs to 61 to 70 age group and lowest number of respondents i.e. 54 (13.50%) are from 20 to 30 age group.

9. Out of 400 sample respondents 246 (61.5%) respondents were preferred from rural area and remaining 70 (17.5%) respondents were preferred from urban area.

10. The highest number of respondents i.e. 174 (43.50%) were prompt in the repayment of loan, 136 (34%) respondents were irregular in repayment of loan while 90 (22.50%) respondents were told that they were declared as defaulter by the bank, they were not paid loan installment during the last six months358 (89.50%) respondents told that the bank takes more time for sanctioning the loan. The delayed procedure will be impacted on the cropping pattern and other activities.332 (83%) respondents told that after sanctioning of the loan the bank officers are not prompt in disbursement of the loan. Due to delayed disbursement they were takes the help of private money lenders. 314 (78.50%) respondents were dissatisfied of repayment schedule of the bank. The respondents told that all installments of the loans are prescribed as same amount. They have no money all the time. Hence they requested that modify the loan repayment schedule as per their convenience. 196 (49%) respondents told that the behaviour of bank officers is not good. Most of the respondents were illiterate or very less educated. They asked them some queries but the officers are not handled them properly. 176 (44%) respondent's complained that the bank officer takes more time to complete the transaction.134(33.50%) respondents were told that the bank will not sanction the loan up to the clearance of old loan. The respondents were expect that the bank will sanction them required amount of loan as a re-finance.96(24%) respondents were told that they did not know the entire banking procedures and various schemes

of Central and State Government. Banks not conducted any customer orientation programmes for customer of the bank.

11. The highest number of respondents 180 (45 percent) have insufficient document, 140(35 percent) have inadequate collateral and 80(20 percent) have low level income factors making it difficult to Access Loan from the banks.

12. The highest number of respondents 380 (95 percent) were told crop failure, 350 (87.5 percent) respondent were told that business failure and 270 (67.5 percent) respondents were told that natural calamities were the important factor affect loan repayment to banks

13. The highest number 370(92.5 percent) of the borrower of the selected banks have not attended borrowers meet. Only 30(7.5 percent) borrower have attended the borrower meet.

14. Large number of branch managers belongs to rural and urban areas accounting for 35 percent each respectively, (35 percent belong to rural area and urban area) While 30 percent belongs to semi-Urban areas. It shows that sample branch managers of both the sample banks are equally spread in rural and urban areas.

15. The highest number 20(50.0 percent) of the branch managers have experience ranges more than 15 years. Whereas, 14 (35 percent) branch managers have experience ranging between 11 -15 years. Only 6 (15%) branch managers have experience range between 5-10 years. It shows that experienced branch managers have many years of experience in all aspects of banking

16. The highest number 24(60 percent) of the branch managers strongly agreed that banks do not have credit risk management Department/Unit. Only 6(15%) banks have credit risk management Department/Unit and the rest 10(25%)confirmed that establishment was under process

Board Committee 32(80 percent) framed management of credit risk policy as per branch manager of banks and 8(20 percent) Executive management committee also framed credit risk management policy according to branch managers of selected banks.

The highest number 38 (95 percent) of branch managers have considered more number of willful default cases are the major reasons for problem of recovery credit risk, Poor documentation 30 (75 percent) and Interference of political parties30 (75 percent) were causes of credit risk.

The highest number 28 (70 percent) of bank managers have not proper data base of the borrowers. Only 12(30 percent) bank managers have proper data base of the borrowers.

A majority 30 (75 percent) of the bank managers does not calculate probability of defaulter. 10(25 percent) of bank managers calculate probability was still going on.

The highest number 37(92.5%) of branch managers told that bank do not have internal credit rating system. Only 3(7.5%) branch managers said that they have an internal rating system as a mechanism of credit risk measurement being used while assessing a loan.

The highest number 28(70 percent) of the bank managers used credit limit to mitigate credit risk. Only 7(17.5 percent) bank manger used credit Guarantee techniques to mitigate credit risk. Credit Insurance method was not used by bank managers to mitigate credit risk.

The highest number of 35(87.5 percent) of branch managers failed to arrive at any compromise settlement through LokAdalats

8. Conclusion

This study shows that there is a significant relationship between bank performance (in terms of profitability) and credit risk management (in terms of loan performance).Better credit risk management results in better bank performance. Thus, it is of crucial importance that banks practice prudent credit risk management and safeguarding the assets of the banks and protect the investors' interests.The study summarizes that banks used different credit risk management tools, techniques and assessment models to manage their credit risk and the banks don't use the other methods like credit insurance for mitigating credit risk. The most common and frequently occurring risk in the District cooperative banks is credit risk. The survey shows that the respondent recognized assurance and support from top management as the most important; Most of the organization believes that it is the responsibility of the Board of Directors of committee and Executive management team to established management of credit risk. Top management decides the objectives and strategies for organizational credit risk management activities, mission and overall objectives.

Co-operative Bank had credit policies forming part of their management strategies; most of them did not have stringent or well customized policies that could govern their actual loan processes to certainty. The study also reveals that banks with good or sound credit risk management policies

The study shows that there is a direct but inverse relationship between profitability (ROA) and the ratio of non-performing loans . These results are in line with our expectations and actually tallies with conventionalwisdom. This has led us to accept our hypothesis and conclusion that banks with higher interest income have lower non-performing loans, hence good credit risk management strategies.

9. Suggestion

On the basis of observation drawn the researcher has given the fruitful suggestions

1. As credit information is crucial for the development of the credit system and for addressing the problems of NPLs, banks should take the maximum caution in dissemination of credit information of borrowers
2. In order to maintain credit discipline and to enunciate management of credit risk and control process, the banks are advised to establish a separate department /unit Independent of the loan instigation function.
3. A through and systematic planning should be devised not only for the sanction of loan, but also for the recovery of the dues under this scheme.
4. Bank should drop scientific method to recover overdues and must maintain up to date record on a daily basis.
5. The branch managers must strengthen reminder system in banks along with credit Officers/Staff to send reminders on timely basis.
6. Training of lending and lawful officers on documentation and professional valuations. Developing skills and proficiency of lending officers to logically assess project practicability and customer integrity and training to the bank managers regarding the bad debts recognition and removal as to be extended. This will provide a long term benefit to the bank.
7. The bank should provide training and awareness programmes regarding the reimbursement of credits, valuable use of funds, repercussions of nonpayment etc., for successful utilization of accessible funds and for smooth recovery.
8. The bank has to maintain pleasant connection with the clients and conduct recovery camps for the effective recovery of loans. There must be an effective and regular follow-up with the customers and need to watch is there any recreation of funds. This process can be taken up at regular intervals.
9. Branch managers efforts should be strengthened in case of overdues of loan, installments, rescheduling of outstanding loan/ installments in respect of small advances especially due from sincere and hardworking borrowers and consideration must be given to rescheduling

of loan only to the borrowers who fail to pay loan installment due to natural calamities or for some other convincing reasons

10. A mechanism of independent audit and risk assessment function would facilitate that there are consistent principles for the origination, documentation and maintenance for extensions of credit to the clients as and when required.
11. In order to be effective, credit policies must be communicated all the way through the organization, implemented through appropriate procedures, monitored and from time to time revised to take into account changing internal and external situation.
12. Lack of sufficient data about credit risk measurement inputs is also one of these problems. Hence, its centralized credit information data base should also be reorganized to meet the requirements of banks.
13. A well-structured internal risk rating framework is a high-quality means of separating the level of credit risk in the diverse credit exposures of a bank. This will permit more exact assurance of the general qualities of the credit portfolio, focuses, issue credits and the sufficiency of loan loss reserves. Thus, all banks are expectant to create and use an internal risk rating framework to manage credit risk.
14. Follow up earlier with borrower. Some banks wait until an account is past due 30 days before they start to follow up with the borrower. As soon as a customer misses a payment a latter should be mailed reminding the customer to make their payment. The longer an account goes without a payment the more difficult it becomes to collect.
15. Information is very important, for that co-operative bank. In this case create an internet based information system. The goal is to let customers know their credit conditions from home without coming to the office.
16. Bank managers should put more efforts to the credit risk management, especially to control the non-performing loan (NPL) by extensively evaluating their credit customer's capacity to pay promptly both the principal and the interest before extending the facility.
17. Securities like collateral, guarantees, and insurance during and after the loan Credit risk can be well managed by improving the loan structure of the bank. The use of underwritten will cover the loss at a point of default.
18. Timely Review of borrowers' accounts must be given prominence so that these are completed before expiry of their limitation period. Irregular borderline loan accounts

must be closely monitored for evolving strategy / action to prevent their slippage to the NPA category.

19. Prompt repayment of loans by the borrowers should be recognized and rewarded by way of relief in interest, which would act as a motivational factor for repayment
20. The government should educate the public about the bank loan, overdues and NPAs for prompt repayment through the curricula of schools and colleges.
21. Bank should sanction adequate and timely finance to the borrowers and protect them from the private financial institutions and money lenders.
22. It is seen in the Co-operative banks that most of the borrowers are get the loans from the bank because of their relationship with the higher authorities of the particular banks. It should not be happened. Loans should be lent to the clients based on their credit worthiness.

10. Scope for further study

The study suggests that a further study should be done on the effect of other types of risks like market risk and liquidity risk, interest risk which are not considered in this study. Further studies can also be undertaken on risk management practices followed by cooperative bank whereby the study will aim to investigate on the awareness about risk management practices within the banking sector. Disintegration of total bad loans into these two components: bad loans due to internal factors and bad loans due to economic external factors, was also an area the researchers hoped to explore but failed to due to time constraint and the availability of data

11.REFERENCES

1. Al-Khouri, R. (2011),Assessing the Risk and Performance of the GCC Banking Sector, *International Journal of Finance and Economics*, 65(3), 72-80
2. Alshatti, A.S. (2015), The effect of credit risk management on financial performance of the Jordanian commercial bank- *Investment Management and Financial Innovations*, Volume 12, Issue 1, 2015, 12(1), 338-345
3. Bagchi S K (2003), *Credit Risk Management* – A Panacea or Conundrum, SBI Monthly Review, Vol. 42, No. 10, pp. 497-504.
4. Bakshi.G D Madan (2001),*Understanding the Role of Recovery in Default Risk Models:* Empirical Comparisons and Implied Recovery Rates, Finance and Economics Discussion.

5. Coyle, B. (2000),*Framework for Credit Risk Management*,*United Kingdom*: Chartered Institute of Bankers
6. Donald E. Fisher & Ronald J. Jordan, (1996), *Security Analysis and portfolio management*, Delhi, India. Prentice – Hall of India Private Limited., 6th Edition.
7. Kromschroder F and Luck, C (1998), "Optimal contract for Islamic banking: a survey of literature, Paper presented at the *International Conference on Islamic Economics* in the 21st Century.
8. Mago R.C (1972), *A Treatise on Pratical*, National Publishing House, New Delhi, 1972, P.7.
9. MdAminul Islam An Analysis of the Financial Performance of National Bank Limited Using Financial Ratio, *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport*, 2014, Vol. 2, No. 5, 121-129, doi: 10.12691/jbe-2-5-3.
10. Nora (2008), *Senior Lecturer Academy of Economic Studies Buchares*, Theoretical and Applied Economic edition .P 47-52.
11. Patnaik U.C and Roy A.K,(1988), *Cooperation and Cooperative Management*, Kalyani Publishers,24, Daryanganj, New Delhi
12. Prof.Bharati R. Hiremath(2014) the study of financial performance of cooperative bank-A study of Muddebihal Taluk, Bijapur District Karnataka, International, *Journal of Research in Computer Science and Management* Vol.1(2)July 2014,ISSN-2321-8088
13. Raghavan, RS (2005), Credit as well as *Credit Risk Management in Banks*, The Chartered Accountant, pp. 996- 1002
14. Singh, V. and Bahadur**,** R 2016), A Study of Non-Performing Assets of Commercial Banks and it's recovery in India, Annual Research Journal of SCMS, Pune, Vol. 4, ISSN 2348–0661
15. Thorne W.J (1962),Banking Oxford University Press London, P 135
16. www.nabard.org
17. www.nafscob.org
18. www.rbi.org
19. www.hindustantimes.com
20. www.en.wikipedia.org