

A study on causes and remedies for non performing assets in Indian public sector banks with special reference to agricultural development branch, state bank of Mysore

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ABSTRACT: *As per the statement given by Mr. A. Krishna Kumar, Managing Director, State Bank of India on March 31, 2012, SBI's slippages were at Rs 26,976 crore, up from Rs 18,145 crore in FY11. The bank's gross NPAs rose to 4.44 per cent (3.28 per cent in FY11), while net NPA was 1.82 per cent in FY12 (1.63 per cent in FY11). This proposed research paper identifies the effect of a set of micro economic variables like Age, Sex, Education and Marital status etc. of Indian farmers on the management of their credit. An attempt is made to find the causes of non performance by considering a set of 20 variables which have a major impact on the performance of farmers and also the remedies are designed to overcome these credit risks. Credit management includes planning, organizing, controlling, directing and co-coordinating the credit sanctioning policies in order to decrease the non performing assets. We know that NPA can only be reduced but it cannot be avoided. Even if the banks don't want to sanction the loans they are obligated by the government as it leads to investment of money for development purposes. Especially in agriculture sector sanctioning of credit is of utmost importance as agriculture is the backbone of India and a lot of scope has been given to agricultural sector.*

This paper makes an attempt to study the effect of different variables on the non performing farmers, as the main objective of our study is to know what are the difficulties faced by our Indian farmers in paying back the borrowed amount with regular payment of interest. We have used both the data collection methods and Telephonic interview method to collect sufficient information. Apart from these methods we have also used the chi square analysis test in order to know whether these variables have an effect on the nonpayment of interest. I have also tried to find out, are there any significant differences in our study? If yes, what is their significance level? In order to make my study more accurate we have considered 1% level of significance. After the study suggestions are given as to how the NPA's can be minimized by considering the 5 main functions of Management.

Keywords— *Agricultural Credit Analysis, Cash Credit (CC), Non Performing Assets (NPAs), Overdraft (OD).*

I. INTRODUCTION

The main business of a banking company is to receive deposits and lend money. Receiving deposit involves no risk, since it is the banker who owes a duty to repay the deposit, whenever it is demanded. On the other hand, lending always involves much risk because there is no certainty of repayment. A banker shall be very cautious in lending, because he is not lending money out of his own capital. A major portion of the money lent comes from the deposits received from the public. These deposits are mostly repayable on demand. Hence, while lending money, a banker should follow a very cautious policy. The risk involved in lending business makes it very important as it involves making prominent decisions. Therefore while sanctioning credit the banker should appraise the project reasonably or else it leads to the non-repayment of loans and advances. Most of the banks today in India are facing the default risk wherein some part of the profit is reserved for covering the non-performing assets.

II. NON-PERFORMING ASSETS IN STATE BANK OF MYSORE

Non Performing Asset means an asset or account of borrower, which has been categorized by a bank or financial institution as sub-standard, doubtful or loss asset, in accordance with the directions or guidelines relating to asset classification issued by The Reserve Bank of India.

2.1 Classification of Non Performing Assets in State Bank of Mysore (ADB)

a) Thirty days past due

An amount due under any credit facility is treated as "past due" when it has not been paid within 30 days from the due date. Due to the improvement in the payment and settlement systems, recovery climate, up gradation of technology in the banking system, etc., it was decided to dispense with 'past due' concept, with effect from March 31, 2001. Accordingly, as from that date, a Non performing asset (NPA) shall be an advance where:

- Interest and /or installment of principal remain overdue for a period of more than 180 days in respect of a Term Loan,
- The account remains 'out of order' for a period of more than 180 days, in respect of an overdraft/ cash Credit(OD/CC),
- The bill remains overdue for a period of more than 180 days in the case of bills purchased and discounted,
- Interest and/ or installment of principal remains overdue for two harvest seasons but for a period not exceeding two half years in the case of an advance granted for agricultural purpose, and
- Any amount to be received remains overdue for a period of more than 180 days in respect of other accounts.

The non-performing assets often include mortgage loans, car loans, credit card debt and installment loans.

b) Ninety days overdue

With a view to moving towards international best practices and to ensure greater transparency, it has been decided to adopt the '90 days overdue' norm for identification of NPAs, from the year ending March 31, 2004. Accordingly, with effect from March 31, 2004, a non-performing asset (NPA) shall be a loan or an advance where:

- Interest and /or installment of principal remain overdue for a period of more than 90 days in respect of a Term Loan,
- The account remains 'out of order' for a period of more than 90 days, in respect of an overdraft/ cash Credit(OD/CC),
- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted,
- Interest and/ or installment of principal remains overdue for two harvest seasons but for a period not exceeding two half years in the case of an advance granted for agricultural purpose.

c) Out of order

An account treated as 'out of order' if the outstanding balance remains continuously in excess of the sanctioned limit/ drawing power. In case where the outstanding balance in the principal operating account is less than the sanctioned limit/ drawing power, but there are no credits continuously for six months as on the date of balance sheet or credits are not enough to cover the interest debited during the same period, these account should be treated as 'out of order'.

2.2 Methodology

The research methodology followed in this project is Data Collection method which involves both monitoring and communication method.

1. Monitoring method of data collection includes studies in which the researcher inspects the activities of the subject or the nature of some material without attempting to elicit responses from anyone. In our project the monitoring method involves the collection of data about the farmers by using the application forms submitted by the farmer during applying for loan. (Refer Appendix)

2. In the communication study, the researcher questions the subjects and collects their responses by personal or impersonal means. The communication study followed in our project is Telephonic Interview wherein the farmers were interviewed through telephone. This method was appropriate as many of the farmers do not understand English, even though they understand they are comfortable to speak in kannada language. For this reason the questionnaire was prepared in kannada language in order to make the interview more responsive.

3. Chi Square (χ^2 test) as a test of independence was carried out in order to know about the whether the differences observed among effect of different variables on the non performing assets of a bank. The value of the test-statistic is:

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

where O_i is the observed frequency and E_i is the expected frequency.

The degrees of freedom are calculated by using the formula $(r-1)(c-1)$. Then the critical value is determined from the chi square normal distribution table. To make our study more accurate we have taken 1% level of significance. Then based on the critical value we have concluded whether sufficient data is available to accept the nul hypothesis or not.

2.3 Results

2.3.1 Survey conducted based on the details of the farmers collected from the application form:

Sample size: A sample size of 100 farmers was chosen randomly from all over 41 branches covering 5 regions namely Mysore, Mandya, Hassan, Mangalore, Chamarajanagara. Among these 100 farmers 50 are creditworthy borrowers who pay their interest properly and the other 50 farmers are nonperforming farmers who do not make any attempt to pay their interest on loan thereby contributing to generation of non-performing assets which will in turn reduce the profitability of the bank.

A set of 20 variables have been considered in our study contributes to the non creditworthiness of the farmers. Even though there are other factors which will contribute to the non repayment of interest and loans, the following variables have a major share. Let us see the impact of these variables on the Normal as well as the nonperforming farmers and what factors differentiates the two classes of farmers.

A. Effect of age

Table 1

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-Performing Farmers
Age	Interval	>25 yrs		
		25-35yrs	6	1
		35-45yrs	18	4
		45-55yrs	22	10
		55-65yrs	3	15
			1	20

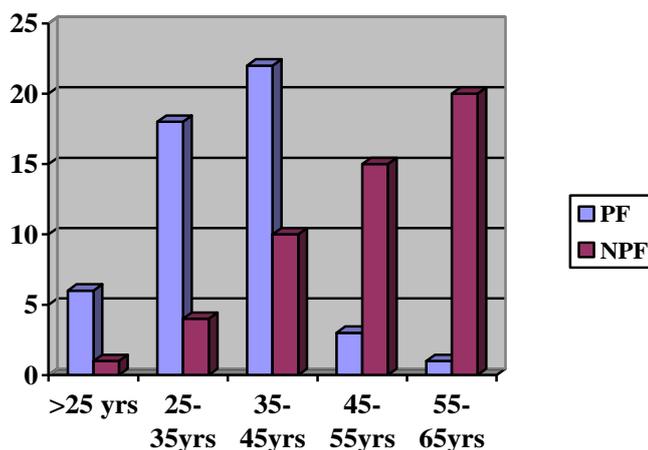


Figure 1

Results of Chi square analysis:

Nul Hypothesis (H0) : Performance of the farmer is independent of age.

Alternate hypothesis (H1) : Performance of farmer is dependent on age.

Chi square value	42.15
Critical value at 1% level of significance	13.277

The above result clearly indicates that we have enough evidence to reject the nul hypothesis. Therefore we reject nul hypothesis and accept alternate hypothesis stating that the age has its impact on the performance of farmers.

B. Effect of Sexual status

Table 2

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Sex	Categorical	Male	46	49
		Female	4	1

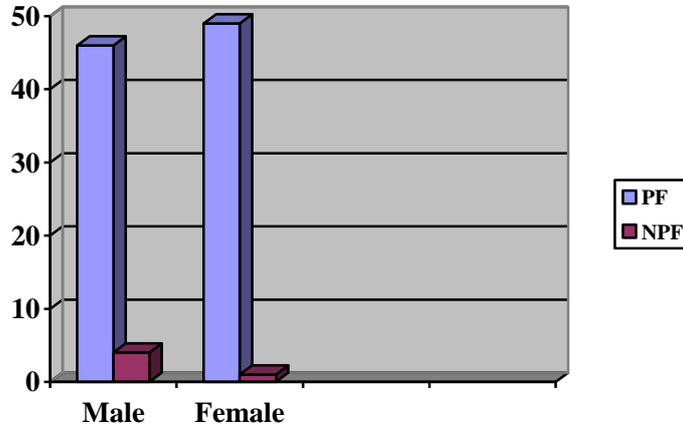


Figure 2

Results of chi square analysis:

Nul Hypothesis (H0) : Performance of the farmer is not dependent on the sexual status

Alternate hypothesis (H1) : Performance of farmer is dependent on sexual status.

Chi square value	1.89
Critical value at 1% level of significance	6.635

From the above result we can conclude that the nul hypothesis can be accepted as the chi square value falls within the range of critical value. Therefore we cannot conclude whether farmer performance and sexual status re dependent or independent.

C. Effect of Educational status:

Table 3

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Education	Categorical	Literate	48	14
		Illiterate	2	36

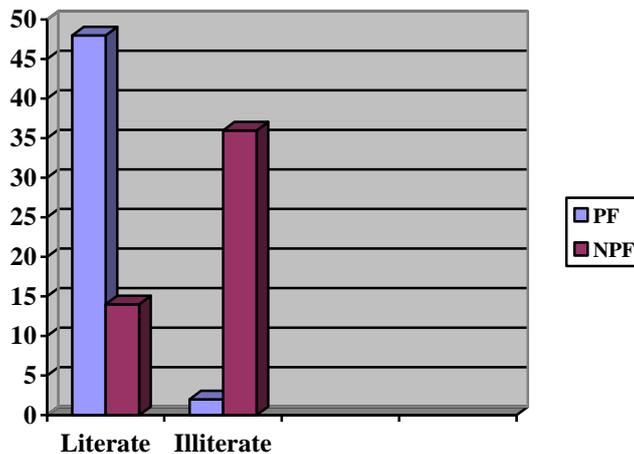


Figure 3

Results of chi square test:

Nul Hypothesis (H0) : Performance of farmer is independent on educational status.
Alternate hypothesis (H1) : Performance of farmer and his/her educational status are dependent.

Chi square value	49.06
Critical value at 1% level of significance	6.653

As the chi square value is greater than the critical value, we conclude that we have sufficient evidence to reject nul hypothesis and to accept alternate hypothesis. Thus we conclude the educational status and the farmer performance are dependent.

D. Effect of marital status:

Table 4

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Marital Status	Categorical	Married	16	48
		Unmarried	34	2

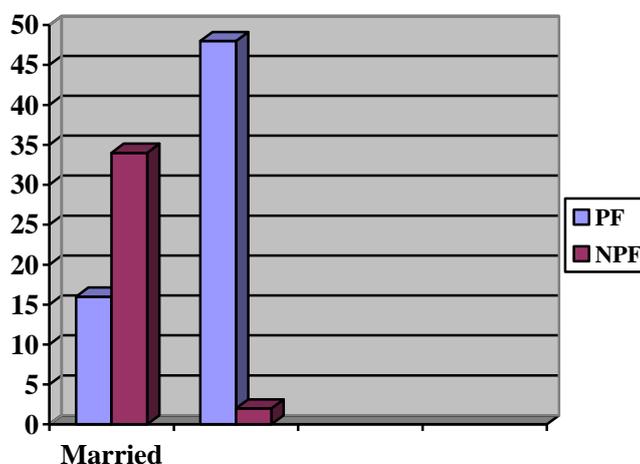


Figure 4:

Results of the chi square test:

Nul Hypothesis (H0) : Performance of farmer and marital status are independent.
Alternate hypothesis (H1) : Performance of farmer and marital status are dependent.

Chi square value	44.4
Critical value at 1% level of significance	6.635

From the above values we conclude that we have sufficient data to reject nul hypothesis. Therefore we accept alternate hypothesis. This shows that performance of farmer and marital status is dependent.

E. Effect of Family size:

Table 5

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Family members	Interval	Above 10 members	8	35
		5-10 members	14	8
		3-5 members	28	7

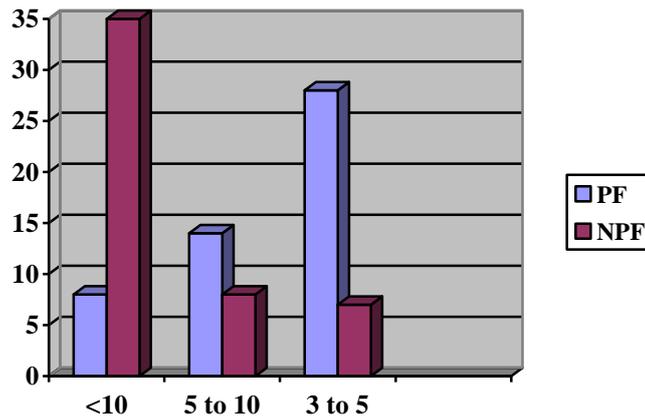


Figure 5

Results of chi square analysis:

Nul Hypothesis (H0) : Performance of farmer and family size are independent.
Alternate hypothesis (H1) : Performance of farmer and family size are dependent.

Chi square value	25.62
Critical value at 1% level of significance	9.210

From the above value we conclude that we have enough evidence to reject nul hypothesis. Therefore we accept alternate hypothesis. Hence farmer performance depends on family size.

F. Effect of Wealth status:

Table 6

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
BPL Type	Categorical	Green card	8	43
		Red card	40	4
		Yellow card	2	3

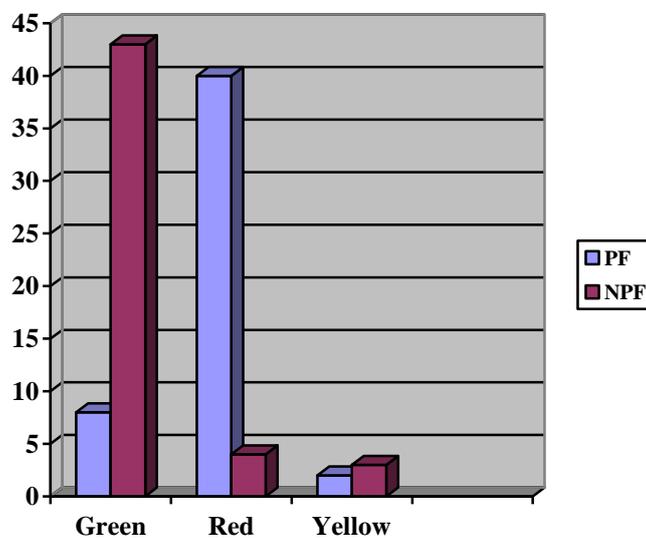


Figure 6

Results of chi square analysis:

Nul Hypothesis (H0) : Performance of farmer is independent of wealth status.

Alternate hypothesis (H1) : Performance of farmer is dependent on wealth status.

Chi square value	53.66
Critical value at 1% level of significance	9.210

We have sufficient data to reject nul hypothesis. Therefore we accept alternate hypothesis. This shows that wealth status and performance of a farmer are dependent.

G. Effect of religion:

Table 7

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Religion	Categorical	Hindu	43	40
		Muslim	5	6
		Christian	2	4
		Others	Nil	Nil

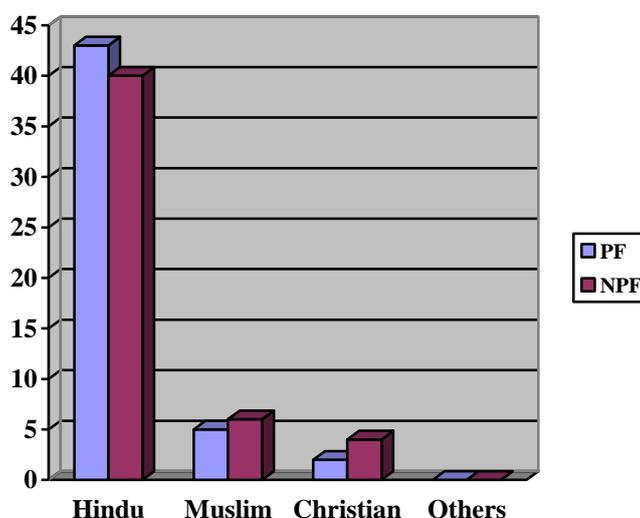


Figure 7

Results of the chi square analysis:

Nul Hypothesis (H0) : Performance of farmer and religion are independent.

Alternate hypothesis (H1) : Performance of farmer and religion are dependent.

Chi square value	0.85
Critical value at 1% level of significance	9.210

The chi square value comes within the critical value. Therefore we donot have sufficient evidence to reject nul hypothesis. Hence we accept nul hypothesis. That is we cannot conclude whether farmer performance and religion are dependent or independent.

H. Effect of caste:

Table 8

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Caste	Categorical	General	8	34
		OBC	30	10
		SC/ST	12	6
		Others	Nil	Nil

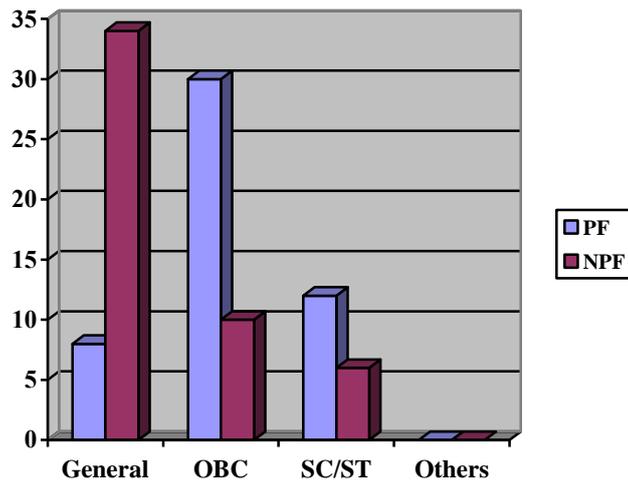


Figure 8

Results of the chi square analysis:

Nul Hypothesis (H0) : Performance of farmer and caste are independent.

Alternate hypothesis (H1) : Performance of farmer and caste are dependent.

Chi square value	28.1
Critical value at 1% level of significance	9.210

We have sufficient data to reject nul hypothesis and to accept alternate hypothesis which states that performance of farmer is dependent on caste.

I. Effect of money lenders:

Apart from the bank and other financial institutions there are private money lenders who will lend money to the farmers on the basis of mortgage provided by the farmer.

Table 9

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Money lender	Categorical	Yes	32	46
		No	18	4

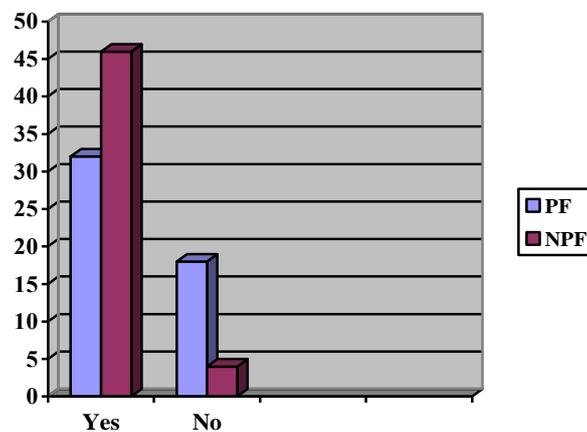


Figure 9

Results of chi square analysis:

Nul Hypothesis (H0) : Performance of farmer is independent of presence of moneylender.
Alternate hypothesis (H1) : Performance of farmer and presence of money lender are dependent.

Chi square value	11.52
Critical value at 1% level of significance	6.635

We have sufficient data to reject nul hypothesis. Therefore we accept alternate hypothesis. This shows that the presence of money lender is dependent on the performance on a farmer.

J. Effect of guarantor:

Table 10

Variable	Type of data	Description	Number Of Performing Farmers	Number Of Non-performing farmers
Guarantor	Categorical	Yes	46	6
		No	4	44

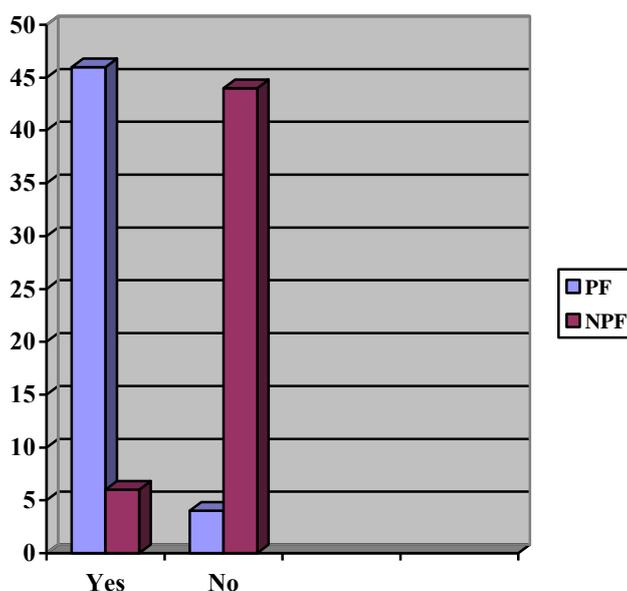


Figure 10

Results of chi square analysis:

Nul Hypothesis (H0) : Performance of farmer is independent of guarantor.
Alternate hypothesis (H1) : Performance of farmer is dependent on guarantor.

Chi square value	64.1
Critical value at 1% level of significance	9.210

We have sufficient data to reject nul hypothesis. Therefore we accept alternate hypothesis. Hence we say performance of farmer is affected by the presence of guarantor.

Likewise a set of 20 variables have been considered and a chi square test at 1% level of significance is conducted. The results of which are recorded in Table 11.

The following table gives us the overview of the type of correlation of variable with the Nul hypothesis.

Table 11

Variables which do not influence farmers performance	Variables which influence farmers performance
1) Sex	1) Age
2) Religion	2) Educational status
3) Security of other assets	3) Marital status
4) The volume of land owned by the farmer	4) Effect of family size
	5) Effect of wealth status
	6) Caste
	7) Money lender
	8) Guarantor
	9) Security of land
	10) Security of gold
	11) Experience
	12) Suitability of land to crop
	13) Type of farming
	14) Irrigation facility
	15) Any other source of income
	16) Subsidy

From the table we can conclude that we have got a positive result as 16 of our variables considered had their impact on the performance of the farmers. These significant differences are the one which will decide the creditworthiness of a borrower. A banker should consider these variables while sanctioning credit to the farmers in order to reduce NPAs.

2. Communication Study:

Interview of 100 farmers has been taken in telephone. Out of 100, 50 are credit worthy and 50 are non credit worthy borrowers. The questionnaire was conducted in kannada language, keeping in mind the educational and social mindset of farmers.

Data Collected from the telephonic interview:

Reasons Contributing to creditworthiness of the borrowers according to the Ranking Scale:

- The farmers used the entire credit amount for the purpose to which the credit has been sanctioned. There is no diversification of credit amount for other personal uses.
- Using advanced type of farming in agriculture like tractors, tillers etc.
- In addition to agriculture the farmers are involved in other allied activities which will contribute to their goodwill.
- Bank personnel will educate the farmers about the benefits of timely repayment of loan and also about the consequences of default. This will create awareness in the minds of the customers.
- The type of crop matches very well with the cultivation land.
- Availability of adequate irrigation facility.
- Highly fertile land will also contribute to the increased output.
- Use of good quality of seeds and also the bio-fertilizers which are eco-friendly.

The Following table represents some of the prominent reasons provided by the creditworthy farmers for the proper repayment of loans and advances along with interest:

Table 12

Code	Reasons	Percentage of farmers
A	Utilization of credit amount for the purpose to which it was sanctioned	26
B	Using advanced type of farming	22
C	Involvement in other allied activities	12
D	Motivation by the banker	11
E	Matching of crop with the cultivation land	10
F	Adequate irrigation facility	8
G	Highly fertile land	6
H	High quality seeds	5

Reasons contributing to the timely non-repayment of loans:

1. Farmers face difficulty in the repayment of loan due to crop failure. Indian farmers are mainly dependent on monsoon. Therefore the major cause of crop failure is the natural calamities.
2. Majority of the farmers still follow the traditional method of farming even though the technology is advanced. This will also contribute to reduction in the crop output.
3. Lack of labors at the right time to carry out the required operation will lead to delay in the harvesting of crops which in turn contributes to the crop destruction.
4. Lack of inputs like the seeds quality, availability and bio-fertilizers will also contribute to reduction in output.
5. To get a very high yield it is necessary to sow the crop that is suitable to the land. Mismatch between the crop and the cultivating land will also lead to crop failure.
6. Some of the crops need an adequate supply of water for their growth. In these cases lack of irrigation facility will also lead to crop failure.
7. Pests and diseases to the crops will lead to crop failure.
8. One more reason contributing to reduced profitability is the decrease in the marketability of the product due to i) low quality product or ii) bulk production.
9. Apart from inbound problems the personal obligation of the farmer and also the family commitments will also lead to the non-repayment/delayed payment of loan. For ex: Marriage, Funeral etc.

Table 14

Code	Reason	Percentage of farmers
A	Crop failure	23
B	Traditional cultivation methods	18
C	Lack of adequate labor	14
D	Lack of adequate inputs	13
E	Mismatch between the crop and the land	10
F	Inadequacy of irrigation facility	9
G	Improper maintenance of crops	8
H	Decrease in marketability	3
I	Personal problems	2

III. RESULTS AND DISCUSSIONS

From graph 1 it is clear that the young farmers have very less chance of defaulting the loan than the old aged farmers. From this we can predict that the age will contribute to the creditworthiness of farmers as the young farmers will work hard in the agricultural field rather than the old aged persons. This theory can be justified by considering the following reasons:

- a. Young farmers follow the advanced type of agricultural practices thereby getting better yield.
- b. Young farmers readily adapt and implement innovative ideas as well as the agricultural methods which will help them to get a good crop yield.

The percentage of women defaulting is rare because they are usually financed in groups called as the self help groups wherein each group has a leader and that leader will take the responsibility of the entire repayment of the loan amount.

From graph 3 it is clear that the most of the non performing farmers are illiterates. It means that the educational status will definitely have an impact on the performance of a farmer. There are 2 reasons which contribute to this interpretation:

- a. It is very difficult to change the mindset of the illiterate farmers as they take considerably long duration of time to accept the change.
- b. They are deprived of the information provided by news papers and other articles published in magazines which give updated knowledge about the advanced agricultural techniques.

Unmarried farmers are efficient in repaying the loan than the married persons. Since unmarried farmers are single they don't have any family related responsibilities. Therefore they can concentrate on agriculture. This shows that the married persons have family problems which will contribute to their non creditworthiness.

Farmers having more family members face difficulty in repayment of loan as they have to fulfill the needs of all the members in a family. This is where the utilization of the sanctioned credit amount for the purpose to which it has been taken comes into picture. Most of our farmers are not utilizing the credit amount in agriculture instead they use for the purpose of marriage, construction of new house and also buying some

physical assets like gold and vehicles. This will create a threat in the non repayment of interest as these investments don't fetch any profit to the farmer. Therefore while sanctioning the loan the banker will not sanction it at a time but it will be in the form of installments. They will also conduct post sanction survey to check whether the loan amount has been properly utilized or not.

BPL farmers will have more chances of default as they are in poverty. Poverty is a major problem in India, on which most of our politicians are working till today, to bring up the below poverty line people.

Religion does not have any impact on the repayment of loan as it is only concerned with the personal identity of a person.

When it comes to caste the people falling under the general category will face difficulty in repayment of loan as they did not receive any subsidy or other assistance from the government whereas the people belonging to backward community will receive certain privileges in the form of subsidies sanctioned by the government which will make them creditworthy.

According to our study the creditworthy farmers did not take any loan from outside because they have to payback the money at later stage. But in case of nonperforming farmers they take loan from wherever the money is made available as their job is to default.

A creditworthy borrower will maintain his goodwill and a disciplined code of conduct with the other persons in the society. As a result we find that the creditworthy borrowers have guarantors than the non creditworthy borrowers.

Creditworthy farmers will pay back the loan amount with interest properly. Therefore they will retain their collateral security; therefore they will provide the collateral security. Whereas the NPA farmers are not sure of paying back their interest as well as the loan amount, therefore they hesitate to give the collateral security. This fact is clearly reflected in our result.

The discussion obtained in case of the security of land can be implied in case of security of gold. The creditworthy farmers never mind providing gold as the security as they get back their gold after paying back their loan amount whereas the defaulters donot dare to provide security of gold.

The proportion of farmers giving the other assets as security is low as they have already given the primary as well as land and gold as the security.

The chances of defaulting are more in case of the farmers who have 5 or less than 5 acres of land. This makes sense because the profit obtained by these farmers is not sufficient to meet both their family requirement as well as their repayment of loan.

Experience counts a lot, not only in agriculture but in other occupations also. The farmers having more years of experience know the pros and cons of adapting a new technique in agriculture. This helps them to play safe in the cultivation activity. As a result their profitability increases.

Before cultivation the farmers have to decide on the crop that has to be grown in their area. If the proposed crop suits the land the quantity of crop increases. If a farmer commits any mistake in decision making then he will end up in loss. This clearly shows that decision making not only plays a vital role in management but also in agriculture.

Farmers following the advanced type of farming are more efficient in paying the interest than the farmers following old and traditional methods of cultivation.

According to our study the farmers having well irrigated land have higher yield which will contribute to their creditworthiness. For this reason only the bank sanctions separate loan to the irrigation purpose. Farmers having other source of income other than agriculture will utilize this income to pay their interest. Therefore they have less chances of defaulting.

Even though the government provides subsidy to both normal as well as non performing farmers the non performing farmers will wait for the subsidies. This will create delay on the part of the farmer in payment of interest.

IV LIMITATIONS

The main limitation of our sample size is this sample is taken from the State Bank Of Mysore Region office which has only 5 regions, namely Hassan, Mandya, Mysore, Chamarajanagara and Mangalore. This sample is very small compared to the entire agricultural sector of Karnataka. But there is no doubt that the results obtained from these sample studies represent the entire population of the farmers in Hassan SBM branch. Further a farmer who is creditworthy may not satisfy all the conditions given in the table. For ex: A creditworthy borrower may be literate, he provided collateral security and he has other source of income but if he is married the banker cannot avoid giving him the loan according to our study. This becomes vague. Therefore our study holds good only with combination of these variables, which are both satisfactory and in some cases unsatisfactory with respect to a single farmer.

The other limitation is a farmer may not be willing to reveal the correct information to a banker. He may have sufficient amount of money to pay the interest but he is not willing to pay it because he believe in

investing the same amount in some other developmental project. Therefore these results have to be verified under observational studies in order to check whether the information provided by the farmers is true or not.

V. CONCLUSION

Finally we can conclude that the bankers can avoid sanctioning loans to the non creditworthy borrowers by adopting certain measures. They are careful appraisal of the project which involves checking the economic viability of the project. A banker must consider the return on investment on a proposed project. If the calculated return is sufficiently higher than the credit amount he can sanction the loan. Secondly, he can constantly monitor the borrower in order to ensure that the amount sanctioned is utilized properly for the purpose to which it has been sanctioned. This involves the post sanction inspection by the banker. Thirdly, the banker should get both the formal and informal reports about the goodwill of the customer. If he had already proven as a defaulter then there is no question of sanctioning loan to him. Fourthly, the banker should motivate the farmer to pay the interest properly and in a timely manner. Fifthly, the banker also has to educate the farmer regarding the effects and consequences of defaulting. By considering all the above factors the banker can reduce the nonperforming assets in a bank.

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