IJNRD.ORG ISSN : 2456-4184
INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD) | IJNRD.ORG
An International Open Access, Peer-reviewed, Refereed Journal

IMPACT OF NPA ON THE PROFITABILITY OF SELECTED BANKS

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Abstract: The purpose of this study is to investigate the impact of NPA (Non-Performing Assets) on the profitability of banks using Correlation Analysis and Regression Analysis. To study the impact profitability ratio were taken which includes Net Profit Margin, Return on Assets, and Return on Capital employed. Return on Equity is used. For the study data of 10 years has been arranged from 2012-13 to 2021-2022. Three banks with the highest NPAs and two with the lowest NPAs were taken. A higher NPA shows the inefficiency of the bank and a lower NPA shows proper execution and fund management. The NPA must be reduced and controlled to boost banks' profitability and efficiency.

Index Terms - **Banking Sector, Public Sector, Non-Performing Assets (NPAs), Profitability, Correlation Analysis.**

I.INTRODUCTION

A nation's economic development is accelerated by the efficient movement and allocation of financial resources, from surplus to deficit units. The Indian financial system makes it easier to turn savings into investments, which helps the process of creating capital. Investors and savers *can* connect through it. It turns the scattered savers' savings into profitable investments. The financial system serves as an effective means of payment for the transfer of goods and services.

Banks play a significant role in the preparation and allotment of capital for the progress and advancement of an economy. Merchant banking, lease financing, housing finance, bill discounting, hire purchase and consumer credit, insurance services, factoring, stock broking and depository services, mutual funds, and venture capital are just some of the financial services that modern banking offers in addition to the traditional business of accepting deposits and lending money. Since finance is regarded as an economy's lifeblood, banks could be compared to their heart, which distributes finance like blood throughout the economy. Since finance is regarded as an economy's lifeblood, banks could be compared to their heart, which distributes finance like blood throughout the economy.

Banks are other financial institutions and the main business of banking is to acquire the deposit amount from the people and lend it to individuals, groups, business concerns, institutions, organizations, firms, etc. The lending contains risk. One of the risks in lending is associated with accounts becoming nonperforming assets.

Anyway, NPAs past a specific level turn into an issue of worry for everybody. NPAs have an impact on the flow of credit, which in turn has an impact on the growth and development of the economy. As a result, ensuring that credit flows properly is essential. Banks raise resources through new deposits as well as reuse the assets which they get from the borrowers. Thus, credit creation and credit reuse are affected when a customer does not return the money, resulting in an NPA. However, beyond a particular level of NPAs becomes a matter of concern for everyone.

Concept of NPA:
According to the Reserve Bank of India (RBI), Non-Performing Assets (NPAs), also known as bad loans, are defined as assets in the banking system that cease to generate income for the bank. In other words, an asset is classified as an NPA when it stops generating interest or principal repayments for a specified period.

The RBI has provided specific guidelines to classify an asset as an NPA based on the duration of its non-performance. As per the current guidelines, an asset is classified as an NPA if:

- For term loans (loans with fixed repayment schedules), the interest and/or installment of principal remain overdue for a period of 90 days or more.
- For agricultural loans, the interest and/or installment of principal remain overdue for two crop seasons.
- For short-duration crops, such as those with a crop season of up to one year, the interest and/or installment of principal remains overdue for two crop seasons.
- For long-duration crops, such as those with a crop season exceeding one year, the interest and/or installment of principal remain overdue for one crop season.

Factors responsible for NPAs

According to different studies conducted by researchers, the factors contributing to NPA are divided into three segments (i) internal factors (ii) external factors, and (iii) other factors.

1. **Internal Factors:**

- Inadequate credit monitoring and management.
- The most common factor contributing to an increase in NPA is selecting the wrong project.
- Project costs rise repeatedly as a result of financing delays, putting the borrower's ability to repay in jeopardy.
- At the time of sanction, the banks usually hold no direct inquiry or make field visits.
- Single borrower is sanctioned multiple loans which creates an excess burden of NPA.
- Effective management is absent.
- During the advancement of loans corruption creates a bad loan.

2. **External Factors:**

- Some borrowers are deliberately delaying loan repayment.
- The borrower uses the bank credit funds in a variety of ways without using them specifically.
- Mismanagement, outdated machinery, an out-of-date production method, and other factors contribute to the poor performance of some of the businesses that took out bank loans.
- The majority of education loans are declared NPAs because the borrower is unable to find employment following graduation and repay the loan.

3. **Other Factors**

- Changes in government policies frequently.
- Natural disasters like floods, cyclones, earthquakes, and tsunamis cause huge losses that make it harder for borrowers to pay, and banks bear the burden of NPA.
- Improper SWOT Analysis, outdated technology, economic crisis, etc.
- Due to undue political interference loan recovery has become a complex procedure.
- Various schemes launched by Central and State Governments.
- Changes in lending norms and other policy decisions by the RBI.

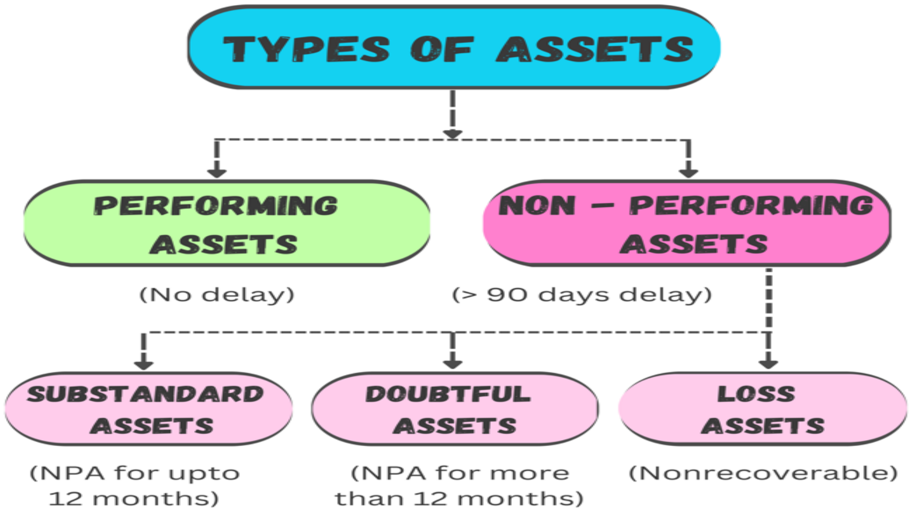
Classification of NPA

The performing asset (Standard asset) and non-performing asset (NPA) categories make up the majority of the banks' loan assets. Non-performing resources are additionally divided into substandard, doubtful, and loss assets.

1. Performing Assets or Standard Assets: Standard assets earn money on an ongoing basis and repay debts when they are due. Subsequently, a performing resource is a standard resource. These resources have a normal risk and are false NPAs. Standard Assets do not necessitate any unique provisions as a result.
2. Substandard asset: A substandard asset would be one that had remained NPA for less than or equal to one year as of March 31, 2005. An asset like this will have clearly defined credit weaknesses that jeopardize the debt's liquidation and make it very likely that the banks will lose money if deficiencies are not fixed. An asset that was deemed to be nonperforming for a full year or twelve months was considered to be substandard.
3. Doubtful assets: Since March 31, 2005, assets that have remained in the substandard category for a full year are considered to be in question. Based on the facts, conditions, and values that are currently known, collection or liquidation in full is highly questionable and improbable for a loan that has been classified as doubtful due to all of the assets' weaknesses that were classified as substandard.

Doubtful assets are any assets that have been considered to be non-performing for more than a year or 12 months.

4. A loss asset is one in which a loss has been identified by the bank, internal or external auditors, or RBI inspection, but the amount has not been entirely written off. In other words, even though it may have some salvage or recovery value, such an asset is deemed uncollectible and of such low value that its continued use as a bankable asset is unjustified.



II.NEED OF THE STUDY

NPA is a basic component that has unfavorably affected the financial sector in India. NPAs have an impact on the flow of credit, which in turn has an impact on the growth and development of the economy. India's financial sector has been negatively impacted by non-performing assets (NPA). NPAs beyond a specific level turn into a question of worry for everybody. In addition to making new deposits, banks also reuse the assets they acquire from borrowers. NPAs influence the benefits acquired by the banks as they need to make greater provision for doubtful and bad debts as a result, the purpose of the research will be to examine how NPA affects banks' profitability.

III.RESEARCH METHODOLOGY

1. Bhadoriya and Gupta (2021) in their study found that an elevated degree of nonperforming resources (NPAs) shows a high probability of countless credit defaults, which can influence a bank's profitability and liquidity. To boost profitability and productivity, NPAs must be organized. To address the NPA crisis, strict measures must be taken. Since the complete evacuation of NPA is exceptionally unrealistic, it must be controlled. Some of the areas of credit management that need to be improved to reduce NPAs include prompt loan recovery; implementation of new recovery schemes for overdue; tracking of defaulters' accounts; maintaining frequent communication with borrowers; adequate credit appraisals; disbursements; post-sanction follow-up; and need-based credit.

2. Sahoo (2020) in the research studied that It is from both the GNPA and NNPA trend analyses all banks have either a quadratic or exponential trend. This indicates an alarming rise in public sector banks' non-performing assets. This is because the exponential rate of growth is regarded as the highest rate of growth.
   This suggests that the profitability of banks is negatively impacted by GNPA and NNPA, and suggested that all defaulting units' strengths, weaknesses, opportunities, and threats be examined to determine whether they are genuine defaulting units or wilful defaulting units.

3. Arasu, Sridevi, Nageswari, and Ramya (2019) analyzed that Public and private sector banks' gross non-performing assets (GNPAs) and net non-performing assets (NPAs) are positively and negatively correlated, respectively, according to the study. The effect of possession (public and private sector banks) altogether impacts the Gross and Net NPA. That is, public sector banks had a higher net present value (NPV) than private sector banks.
   Gross NPA has a significant negative impact on ROA, while Net NPA has a positive impact on ROA for both public and private sector banks. Therefore, the study recommended that bank officials and regulators attempt to lower the level of non-performing loans and enhance the recovery mechanism.

4. Senthilrajaprabha. R and Thilkam C (2019) studied that India's public sector banks have always faced significant difficulties as a result of non-performing assets. It is a problem for the economy as well as the public sector banks. Because Indian banks rely heavily on interest income from loans, the money held in NPAs directly impacts the bank's profitability.
   Therefore, significant efforts are required to address the NPA issue; otherwise, NPAs will continue to reduce the profitability of public sector banks, which is detrimental to the expanding Indian economy.

5. Parab and Patil (2019) analyzed in the research that because of the size of NPAs, it was felt that assets at Credit Risk needed to be evaluated based on their quality. It was not sufficient to concentrate solely on the quality of Loan assets; it was necessary to comprehend the underlying causes and factors that influence Credit Risk. In addition, the effect of credit risk on Indian public and private bank performance was investigated.
   The Gross NPAs to Gross Loans and Advances Ratio, the Net NPAs to Net Advances Ratio, the Provision to Total Loans Ratio, the Ratio of GNPAs to Total Assets, the Ratio of NNPAs to Total Assets, the Total Investments to Total Assets Ratio, and the Slippage Ratio were all used in the trend analysis to examine the quality of the assets.

6. Gaba and Kumar(2018) researched that ROA and NPAs have a significant negative relationship. In addition, the ratios of non-performing assets of private sector banks, also known as the Gross NPA ratio and the Net NPA ratio showed a decreasing trend. This warrants that the banks ought to deal with the degree of NPAs adequately as it can influence the interest of different partners aversely. Despite non-performing resources being an unavoidable burden for the banking industry of a country, they ought to be contained as they can influence the productivity of banks. As a result, to keep NPAs under control, it is essential to alter the NPA curve by developing and implementing an efficient monitoring policy that is supported by the state's legal and regulatory framework. Even though it may appear to be difficult in the banking industry to eradicate all NPAs, effective measures can be taken to reduce their severity.

7. Sharma and Rathore (2018) the author studied that while dissecting the measurable examination of NPA between chosen public and private banks, 45 factors were thought of, out of which 25 factors had shown a huge distinction. The study also looked at how NPA affects profitability, which shows that NPA has hurt the profitability of the banks chosen for the study. Additionally, it was discovered that NPA deteriorates the quality of bank assets and other financial parameters.

8. Roy and Samanta (2017) revealed that the overall NPA position of all banks is deteriorating over time. It was discovered that there is a strong negative correlation between GPA and NP, and as the GNPA rises, profit gradually decreases. Additionally, point out that the majority of the banks' profit has decreased significantly. A portion of the banks have caused misfortunes as well. The misfortunes because of the increment of NPA can't be tried not to simply by making arrangements against NPA. Provisioning was suggested as a means of cushioning NPA losses, but it could not be considered a solution for growing NPAs in all selected PSBs. The banks that make loans should be careful enough to take into account the borrower's past and tighten the recovery process.

9. Mahesh. U. Daru. (2016), the author of a study on the NPA status of ten public and private sector banks suggests that the NPA must be reduced and controlled to increase banks' profitability and efficiency. The majority of Indian banks are facing difficulties related to non-performing loans (NPAs) in the current socioeconomic climate, which has made the issue a major concern for the Indian economy.

10. Zala and Shastri (2013) researched that non-performing assets are a problem for many banks, which makes it harder for them to do business. There is a fluctuating trend in all selected banks during the study period, but there is a high fluctuation in Indian Overseas Bank during the study period. Every bank may consider setting up specialized branches in all potential centers equipped with adequately trained manpower and infrastructure facilities. Due to NPA, the banks' income is reduced and they are required to make a large number of provisions that would curtail the banks' profit.

11. Samir and Deepa Kamra (2013) found that the problem of non-performing loans (NPA) is more prevalent in public sector banks. Similarly, the nonpriority sector is more affected by NPAs than the priority sector or the public sector. In addition, the SSI sector accounts for the majority of the priority sector's total NPA. Subsequently, the monetary strength of banks has been impacted antagonistically. To address the growing problem of non-performing loans (NPA), the study recommended that Indian banks employ the fundamentals of financial management to enhance recovery management, corporate governance, technological advancement, and other areas.

3.1 Population and Sample

The term "nationalized" refers to banks in which the government owns more than 50% of the shares. India currently has a total of twelve public sector banks. these banks are currently run by the Government and are nationalized. In this research paper, three banks with the highest NPAs and two with the lowest NPAs were taken, the bank with the highest NPAs are Punjab National Bank, Union Bank of India, and Canara Bank, the bank with the lowest NPAs are Punjab and Sind Bank and Bank of Maharashtra. On the average of five years of data, these banks are selected as samples for the study.

3.2 Data and Sources of Data

Secondary data has been collected for the study. The data was obtained from the different websites and annual reports of the individual bank sites. The study period was of 10 years that is from 2012-2013 to 2021-2022. The Financial ratios like Net profit Margin, Return on Assets (ROA), Return on Equity (ROE), and Return on Capital Employed (ROCE) were taken and two important variables were also taken Gross Non-Performing Assets (GNPA) and Net Non-Performing Assets (NNPA) for the research study.

3.3 Objective

1. To understand the concept of NPA
2. To determine the impact on the profitability of banks due to NPA.

3.4. Hypothesis

H_0: There is no significant impact of NPA on the Profitability of banks.
H_1: There is a significant impact of NPA on the Profitability of banks.

3.5 Type of Research

Type of Research: Descriptive research is used in this study. The research will make use of secondary data gathered from bank annual reports and the RBI website. Correlation and regression analysis will be used to determine the relationship and impact.

3.6 Statistical tools

Correlation Analysis: This technique is used to determine the relationship between Return on capital employed, Return on assets, Net Profit Margin, Return on Equity, Gross non-performing assets, and Net non-performing assets.

IV. RESULTS AND DISCUSSION

1. **Analysis of Punjab National Bank**

Punjab National Bank

CORRELATION	GNPA	NET PROFIT MARGIN	NNPA	ROA	ROCE	ROE
GNPA	1.0000	-0.7058	0.8807	-0.7475	-0.8332	-0.7258
NET PROFIT MARGIN	-0.7058	1.0000	-0.8277	0.9950	0.7736	0.9989
NNPA	0.8807	-0.8277	1.0000	-0.8454	-0.7110	-0.8366
ROA	-0.7475	0.9950	-0.8454	1.0000	0.8046	0.9971
ROCE	-0.8332	0.7736	-0.7110	0.8046	1.0000	0.7998
ROE	-0.7258	0.9989	-0.8366	0.9971	0.7998	1.0000

Table 1. Punjab National Bank -Correlation Analysis of profitability ratios 2012-13 to 2021-

From Table 1. Of Punjab National Bank it is clear that there is a high negative correlation between GNPA and Net Profit Margin, Return on Assets, Return on Capital Employed, and Return on Equity and a high positive correlation with NNPA. There is high negative correlation between Net Profit Margin and GNPA and NNPA, with a high positive correlation with Return on Assets, Return on Capital Employed, and Return on Equity. It can also be seen that there is a high negative correlation between NNPA and Net Profit Margin, Return on Assets, Return on Capital Employed, and Return on Equity and a high positive correlation with GNPA. It can also be analyzed that there is high positive correlation between return on Assets Return on Capital Employed, and Return on Equity. It can also be seen that there is high positive correlation between Return on Capital Employed with Return on Equity.

2. Analysis of Union Bank of India

Union Bank of India

CORRELATION	GNPA	NET PROFIT MARGIN	NNPA	ROA	ROCE	ROE
GNPA	1.0000	-0.7588	0.8708	-0.8103	0.0698	-0.8298
NET PROFIT MARGIN	-0.7588	1.0000	-0.8454	0.9955	0.3177	0.9911
NNPA	0.8708	-0.8454	1.0000	-0.8692	-0.2824	-0.8795
ROA	-0.8103	0.9955	-0.8692	1.0000	0.2689	0.9989
ROCE	0.0698	0.3177	-0.2824	0.2689	1.0000	0.2468
ROE	-0.8298	0.9911	-0.8795	0.9989	0.2468	1.0000

Table 2. Union Bank of India- Correlation Analysis of profitability ratios 2012-13 to 2021-22

From Table 2 of Union Bank of India, it is observed that there is a high negative correlation between GNPA and net profit margin, return on assets, and return on equity. There Is a high positive correlation between GNPA and NNPA and a very low positive correlation with return on capital employed. It is also observed that there's a high negative correlation between net profit margin and GNPA, NNPA, and high positive correlation with return on asset very low positive correlation with return on capital employed, and very high positive correlation with return on equity. In the given table it is observed that there is a high negative correlation between NNPA and return on asset, and low negative correlation with return on capital employed, and a very high negative correlation with return on equity. There is a very low positive correlation between return on asset and return on capital employed and a very high positive correlation between return on assets and return on equity. There is a low positive correlation between the return on capital employed and the return on equity.

3. Analysis of Canara Bank

Canara Bank

CORRELATION	GNPA	NET PROFIT MARGIN	NNPA	ROA	ROCE	ROE
GNPA	1.0000	-0.1580	0.8670	-0.2910	0.5699	-0.2992
NET PROFIT MARGIN	-0.1580	1.0000	-0.2366	0.9858	0.6409	0.9834
NNPA	0.8670	-0.2366	1.0000	-0.3276	0.3081	-0.3580
ROA	-0.2910	0.9858	-0.3276	1.0000	0.5143	0.9958
ROCE	0.5699	0.6409	0.3081	0.5143	1.0000	0.5156
ROE	-0.2992	0.9834	-0.358	0.9958	0.5156	1.0000

Table 3. Canara Bank -Correlation Analysis of profitability ratios 2012-13 to 2021-22

From Table 3 of Canara Bank, it is clear that there is a very high correlation Between GN PA and NNP, a Low negative correlation with return on assets and returns on equity as well as with net profit Margin. It is also observed that there is a low negative correlation between net profit Margin and NNPA and high positive correlation between Return on assets and return on Equity and a moderate positive correlation between Net profit margin and Return on capital employed. There is a low negative correlation between NNPA And return on asset and return on equity and a low positive correlation with return on capital employed. It is also observed dad there is a high positive correlation between return on assets and return on equity but a low positive correlation between return on assets and return on capital employed. there is a low positive correlation Between return on Equity and return on assets.

4. Analysis of Punjab and Sind Bank

Punjab and Sind Bank

CORRELATION	GNPA	NET PROFIT MARGIN	NNPA	ROA	ROCE	ROE
GNPA	1.0000	-0.5555	0.5892	-0.6202	0.0148	-0.7359
NET PROFIT MARGIN	-0.5555	1.0000	-0.2806	0.9953	0.4971	0.9595
NNPA	0.5892	-0.2806	1.0000	-0.3337	0.3920	-0.4183
ROA	-0.6202	0.9953	-0.3337	1.0000	0.4755	0.9818
ROCE	0.0148	0.4971	0.3920	0.4755	1.0000	0.4138
ROE	-0.7359	0.9595	-0.4183	0.9818	0.4138	1.0000

Table 4. Punjab and Sind Bank -Correlation Analysis of profitability ratios 2012-13 to 2021-22

From Table 4 of Punjab and Sind Bank, it is observed that there is a low negative correlation between GNPA and net profit margin and a moderate correlation between GNPA and Return on assets and returns on equity. Very low positive correlation between GNPA and Return on capital employed and a low positive correlation between GNPA and NNPA. It is also observed that there is a high positive correlation between net profit margin return on assets and return on equity and a low positive correlation between return on capital employed and a low negative correlation with NNPA. It is also observed that there is a low negative correlation between NNPA AND return on assets and return on equity, and a low positive correlation with return on capital employed. There is a high correlation between Return on assets and return on equity and a low positive correlation with return on capital employed. In the study of the f table, it is also observed that there is a low positive correlation between the Return on capital employed and the return on equity.

5. Analysis of Bank of Maharashtra

Bank of Maharashtra

Correlation	GNPA	NET PROFIT MARGIN	NNPA	ROA	ROCE	ROE
GNPA	1.0000	-0.3257	0.9229	-0.4285	-0.4173	-0.3792
NET PROFIT MARGIN	-0.3257	1.0000	-0.1675	0.9668	0.5466	0.9886
NNPA	0.9229	-0.1675	1.0000	-0.3459	-0.3832	-0.2485
ROA	-0.4285	0.9668	-0.3459	1.0000	0.5980	0.9815
ROCE	-0.4173	0.5466	-0.3832	0.5980	1.0000	0.4879
ROE	-0.3792	0.9886	-0.2485	0.9815	0.4879	1.0000

Table 5. Bank of Maharashtra -Correlation Analysis of profitability ratios 2012-13 to 2021-22

From Table 5 of the Bank of Maharashtra, it is found that there is a high positive correlation between NNPA And a low negative correlation with net profit margin, return on asset, return on capital employed, and return on equity. it is also observed that there is a high positive correlation between net profit margin and return on assets and return on equity and low positive correlation with return on capital employed and a very low negative correlation between net profit margin and NNPA and GNPA.

There's a low negative correlation between NNPA and return on assets, return on assets, return on equity, and return on capital employed. it is also observed that there is a high positive correlation between Return on assets and return on equity and a low positive correlation with return on capital employed, last but not least a low positive correlation between Return on capital employed and return on equity.

Findings

1. In the study it is found that in Punjab National Bank GNPA and NNPA, are negatively correlated with Net Profit Margin, Return on Assets, Return on Equity, and Return on Capital Employed with the increase in GNPA and NNPA will impact the profitability of the bank.

2. In the study of Union Bank of India, GNPA and NNPA are negatively correlated with Net Profit Margin, Return on Assets, Return on Equity, and Return on Capital Employed the increase in GNPA and NNPA will impact the profitability of the bank.

3. In Canara Bank it is observed that there is a negative correlation between GNPA, NNPA, Net Profit Margin, Return on Assets, and Return on Equity which means an increase in GNPA and NNPA will impact the profitability of the bank but there is a low positive correlation between GNPA, NNPA, and Return on Capital Employed.

4. Punjab and Sind Bank also observed that there is a negative correlation between GNPA, NNPA, and Net Profit Margin, Return on Assets, and Return on Equity which means an increase in GNPA and NNPA will impact the profitability of the bank but there is a low positive correlation between GNPA, NNPA and Return on Capital Employed.

5. Bank of Maharashtra also observed GNPA and NNPA, are negatively correlated with Net Profit Margin, Return on Assets, Return on Equity, and Return on Capital Employed with the increase in GNPA and NNPA will impact the profitability of the bank.

Suggestions

Banks can minimize future NPAs and manage existing ones through a variety of strategies. These are some of the measures:

1. Banks should regularly follow up on their customers to make sure they don't spend their money elsewhere.

2. All loan accounts ought to be reviewed regularly.

3. Banks should give their employees and staff the right training to get around the problems with credit appraisal and monitoring.

4. One-time settlement schemes or compromise settlement schemes may be used by banks. Lok Adalats, DRT, etc. are methods for recovering from an illness or injury. The SARFAESI Act is currently being utilized by banks to manage NPAs.

5. A legitimate action ought to be followed before giving credit.

6. Farmers frequently believe that bank loans for agriculture will be forgiven. As a result, the farmer who can repay the agricultural credit may not repay the loans on time as they believe that bank loans for agriculture will be waived off. Subsequently, they require lots of guidance and counseling and the bank officials who participated in this action ought to give financial advice and counseling.

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