IMPACT OF NON-PERFORMING LOAN ON FINANCIAL PERFORMANCE OF DEVELOPMENT BANKS IN NEPAL

A Thesis

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RECOMMENDATION

This is to certify that the thesis

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has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

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DECLARATION

I hereby declare that the work reported in this thesis entitled " **IMPACT OF NON-PERFORMING LOAN ON FINANCIAL PERFORMANCE OF DEVELOPMENT BANKS IN NEPAL**" submitted to Office of the Dean, Faculty of Management, Tribhuvan University is my original work conducted in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (M.B.S) under the supervision of respected supervisor Joginder Goet of Shanker Dev Campus, T.U.

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Perfection is anything can hardly be thought of knowing the universal fact "Human is Error", I Have taken utmost care to avoid errors, but I know they are inescapable, so I shall be obliged if they are forgiven.

Chudamani Khanal

Researcher

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ABBREVIATIONS

ABBS	Anywhere Branch Banking System
AM	Arithmetic Mean
CV	Coefficient of Variation
i.e	That is
JBBL	JyotiBikash Bank Limited
KSBBL	KamanaSewaBikash Bank Limited
LLP	Loan Loss Provision
Ltd.	Limited
MNBBL	MuktinathBikash Bank Limited
No.	Number
NPA	Non-Performing Asset
NPL	Non Performing Loan
NRB	Nepal Rastra Bank
PE	Probable Error
r	Correlation Coefficient
ROA	Return of Assets
ROE	Return on Equity
Rs.	Rupees
S.N	Serial Number
SD	Standard Deviation
SPSS	Statistical Package of Social Science
T.U.	Tribhuvan University

CHAPTER-I
INTRODUCTION

1.1 Background of the Study

Non-Performing Loan (NPL) poses a significant challenge within the Nepalese financial sector. In the current banking landscape, NPL has become a major concern for the industry. In a broader context, a non-performing loan refers to advances that fail to generate income or assets within a specific timeframe. When the credit extended by banks and financial institutions turns sour, it results in the creation of NPL. The percentage of NPL in an asset portfolio serves as an indicator of a bank's overall health. The performance of any financial institution is closely tied to the extent of NPL coverage within that institution. Given that banks primarily generate income through loans and advances, an escalation in non-performing assets can potentially push a bank to the brink of collapse (Nepal Rastra Bank, 2022). According to the regulations set by Nepal Rastra Bank, loans and advances that are overdue for three months or more are classified as NPL. Consequently, the study's significance is paramount for the banking sector. The major impact of NPL lies in its inability to generate income, rendering the credit idle. As the overdue period extends beyond three months, six months, and one year, provisions for income of 25%, 50%, and 100% respectively are required, significantly diminishing profits. Additionally, the cost of resources tied up in NPL, along with the missed opportunity to recycle funds, further contributes to the financial setback. This situation also leads to increased administrative, recovery, and legal costs. The repercussions extend to employee morale and decision-making processes, tarnishing the image and rating of the bank, and diminishing the confidence of investors and foreign aid agencies (Nepal Rastra Bank, 2022).

Non-Performing Loan (NPL) serves as a crucial financial metric in the banking and finance sector, offering insights into the quality of a bank's loan portfolio. An NPL refers to a loan on which the borrower has ceased repayments, typically for a specified period, often 90 days or more. These loans are viewed negatively as they can have adverse effects on a bank's profitability, liquidity, and overall financial well-being. Banks meticulously monitor their NPL ratios, representing the percentage of NPLs in their total loan portfolio. A heightened NPL ratio signals increased risk and potential financial instability for the bank.

Financial institutions actively employ various measures, including loan restructuring, recovery initiatives, and risk management strategies, to minimize their NPLs. In this context, NPL analysis involves examining textual data such as loan agreements, borrower communications, and economic indicators. This approach aids in predicting potential NPLs and assessing the sentiment surrounding loans, contributing to early detection and effective risk management. The study in question delves into the impact of non-performing loans on the profitability of banks in Nigeria. Regression statistical tools were used to analyze the data. The findings indicate that there is no discernible relationship between Non-Performing Loans and Return on Assets in Nigerian Banks, suggesting that the firms' asset values are not significantly affected by the level of NPL. However, the study reveals a relationship between Non-Performing Loans and Return on Equity in Nigerian Banks, indicating an impact on shareholder wealth maximization (Adebisi & Matthew, 2015).

These financial institutions also offer support in terms of technical and administrative aid to industries, trade, and businesses. In doing so, they exert influence over the financial aspects of the economy in diverse ways. Development banks essentially serve as economic drivers, akin to an economic heart, by actively shaping the financial landscape. Consequently, the scale and nature of their transactions serve as indicators, reflecting the direction and trends in the ongoing economic activities within the nation. It is worth noting that the failure of Development banks in Western economies during the 1930s, notably contributing to the Great Depression, underscored their pivotal role in global economic dynamics. Thus, Development banks play a crucial role in guiding the financing of trade and industry within the country.

Development banks encourage community savers to invest their savings in socially beneficial assets, with bank deposits being a crucial component. These banks channel community savings into the organized sector, distributing them across various economic activities based on profitability and priorities outlined by the Central Bank. In a mixed economy, Development banks face the challenge of balancing profitability and liquidity, while also adhering to government guidelines for directing credit towards priority sectors. The seamless and effective operation of Development banks is paramount in a modern economic system, as emphasized in the preceding sections. Hence, the absence of these intermediaries would render a modern economic system incapable of functioning even for a brief moment (Adebisi & Matthew, 2015).

The economic situation in the country is stagnant rather than flourishing, with no new avenues being explored. The rapid growth of banks and financial institutions has resulted in intense competition, where institutions vie for a share of a limited market. Traditional business margins have eroded, compelling banks to seek new markets and products to sustain profitability. Continuous efforts are necessary to explore opportunities for financing, even when choices are limited. As profit-driven entities, banks must prioritize achieving profit, with loans serving as a key determinant and representing a derivative of new competitive and high-yielding investment opportunities to optimize their investment portfolios (Adebisi & Matthew, 2015).

The scarcity of opportunities for loan floatation has forced banks to finance without being selective. This lack of selectivity compromises the quality of loans and advances, leading to increased risk. The bank's profit is contingent on the spreads it enjoys between the interest received from borrowers and that paid to depositors. Typically, around 70% of a bank's revenue is generated through lending. Well-managed lending contributes to higher profits. A loan is considered an asset for a bank, as the interest payments and repayment of the principal create a cash flow stream, forming the basis of its profits. Banks classify assets as non-performing if they are not serviced for some time, with late payments resulting in a loan being labeled as past due. If a payment is significantly overdue, typically exceeding 90 days, the loan is classified as non-performing.

Non-Performing Loans (NPLs) in modern times present a tangible economic burden, reflecting the allocation of limited capital and credit funds to unproductive purposes. This situation adversely impacts lending capacity by tying up funds, disrupting repayment, and incurring additional costs for intermediation and NPL realization. Consequently, this study aims to examine the influence of non-performing loans on the financial performance of development banks in Nepal. The primary objective is to establish the relationship and impact of total loans, non-performing loans, loan loss provisions, and interest rates on bank profitability. The central focus is to ascertain whether non-performing loans significantly affect the financial performance of Nepalese development banks, utilizing data from the period 2013/14 to 2022/23. According to the International Monetary Fund, an NPL is defined as payments of interest and principal being overdue by 90 days or more, interest payments being capitalized, refinanced, or delayed for at least 90 days by agreement, and payments

being less than 90 days overdue but with valid reasons to doubt full repayment.

1.2 Problem Statement

The primary function of core banking involves gathering deposits and channeling them into lending activities, particularly in the industrial sector. Encouraging lending is beneficial as it facilitates the transfer of funds from the system to productive purposes, fostering economic growth. Development banks, as financial institutions, play a crucial role in collecting dispersed surplus funds and deploying these funds into productive sectors as investments. The banking sector is often considered a reflection of the broader economy, establishing a direct relationship with various other sectors and providing insights into the dynamics of the overall economy.

In the current context, the Nepali banking sector is facing a critical juncture. Contrary to the challenges in the country's progress and the underperformance of the industrial sector, banks continue to report substantial profits. This is attributed to the stringent regulations set by regulators, ensuring transparency in banking operations.

However, the lending process comes with credit risk, arising from the borrower's failure to meet contractual obligations during transactions. It is a well-known fact that banks and financial institutions in Nepal grapple with the escalating issue of non-performing assets, and this problem is becoming increasingly difficult to manage.

The statements of problem of this study are mentioned below:

- What is the position of Non-Performing Loan, loan and advance and profitability of Jyoti Bikash, Muktinath Bikash and Kamana Sewa Bikash Bank?
- Is there any relationship between Bank Size, Capital Adequacy Ratio, NPL Ratio, LLP Ratio and ROE?
- What is the impact of bank size, Capital Adequacy Ratio, NPL Ratio, LLP Ratio on profitability?

1.3 Objectives of the Study

The primary aim of this study is to investigate and analyze the extent of non-performing loans concerning the total assets, total deposits, and total lending activities of Nepalese development banks. The dissertation is guided by the following objectives.

- To assess the position of non-performing loans, loan and advances and profitability of Nepalese Development banks.
- To examine the relationship between Bank Size, Capital Adequacy Ratio, NPL Ratio, LLP Ratio and ROE of sample development banks.
- To analyze impact of Bank Size, Capital Adequacy Ratio, LLP ratio and NPL ratio and ROE of these development banks.

1.4 Significance of the Study

Non-performing loans (NPLs) have emerged as a critical concern for financial institutions and regulatory bodies. The economic and financial ramifications associated with these non-performing loans are substantial. These loans have a detrimental effect on a firm's profitability due to the loss of interest income. Once a loan becomes non-performing, the likelihood of full repayment is considerably reduced. Non-performing loans pose significant challenges for lenders as they cease to generate income, representing funds that are likely unrecoverable and thereby creating cash flow issues for banks. This study aims to assess the importance of factors contributing to the non-performing loans issue in development banks in Nepal. The study's findings will assist policymakers in formulating robust policies related to interest rates, deposit volumes, and non-performing loans within Nepalese development banks.

1.5 Limitations of the Study

This investigation utilized panel data obtained from the financial statements of the banks under examination. A significant constraint in this study was the challenge in obtaining timely and pertinent data, attributed to delays in banks publishing their financial statements. The data provided by the institutions, endorsed by certified public accountants, is considered to be accurate, truthful, and fair.

The major limitations of the study are as follows:

- This study is mainly confined to JyotiBikash Bank, Muktinath Bikash Bank Ltd. and Kamana Sewa Bikash Bank Ltd.
- The study covers a period of 10 fiscal years which will be tabulated and processed for drawing conclusion.
- The accuracy of the research work will be dependent on data collected from annual reports of sample banks.

- Limited financial tools relating to non-performing loan management and profitability and limited statistical tools are used in this study.
- Time factor is major limitation of this study.

1.6 Organization of the study

The study is divided into the following five chapters.

Chapter i: Introduction

The first chapter dealt the background of the study, brief profile of the Jyoti Bikash Bank, Muktinath Bikash Bank Ltd. and Kamana Sewa Bikash Bank Ltd, statement of the problem, objectives of the study, significance of the study, limitations of the study and organization of the study etc.

Chapter ii: Review of Literature

The second chapter dealt with the review of available literature. It reviewed of related books, journals, articles and previous unpublished Master level Dissertation etc.

Chapter iii: Research Methodology

In the third chapter deals with the research methodology employed in this study. It included research design, population and sample, data collection procedure and sources of data, data analysis techniques etc.

Chapter iv: Data Presentation and Analysis

The fourth chapter is the important chapter of the study which implies the presentation and analysis of data as well as major findings of the study.

Chapter v: Summary, Conclusion and Recommendations

In the chapter five covered the summary of the study, the main conclusion that flows from the study and offered some recommendations as well as suggestions for further improvement.

CHAPTER –II
LITERATURE REVIEW

The literature review serves as the cornerstone of any research endeavor, providing essential insights for researchers to complete their studies. It is a fundamental and obligatory step in the research process, involving the examination of prior research studies or relevant propositions within the subject area. This enables the researcher to understand past studies, their conclusions, and shortcomings, thereby facilitating further research.

This chapter comprises a succinct presentation of the origin and concept of banking, the commercial bank concept, and the evolutionary trajectory of the banking sector in Nepal. Additionally, it offers a detailed profile of the sample banks under investigation. The literature review also delves into the theoretical underpinnings guiding the management of Non-Performing Assets (NPA). All studies pertinent to this thesis are categorized into two segments: Theoretical Review and Empirical Review.

2.1 Conceptual Review

The Theoretical Review serves the purpose of comprehending the research terrain, pinpointing research voids, and establishing a framework for systematically organizing the essential concepts, variables, and relationships to be explored in the research. This section will elucidate the concept and significance of certain terms employed in this study.

2.1.1 Concept and Classification of Loans and Advances

Loans and advances constitute the financial support provided by banks to the deficit group within society. The core function of banking involves accepting deposits from the surplus group in society (or those seeking lower risk with less return on their money) and channeling these funds to the deficit group or to entrepreneurs possessing skills and knowledge but lacking sufficient financial resources to execute viable projects. Nearly all banks consider loans and advances as their primary assets, with interest earnings from these instruments serving as a major income source. According to Dr. Walter Leaf, "In the item of 'advance to customers,' we have reached the central portion of the activity of the bank."

Dr. Leaf emphasizes the need for bankers to exercise both liberality and caution. Being too liberal may jeopardize profits through bad debts, while excessive timidity may result in an inadequate return on entrusted funds. Consequently, management consistently prioritizes the

quality of loans and advances. A well-known saying in the banking sector underscores that "A bad loan can erase the profit from a hundred good loans," underscoring the meticulous consideration undertaken by management before approving loans for customers. The Nepal Rastra Bank (NRB) has mandated all commercial banks to establish a lending policy, ensuring that all loans align with this established framework.

Loans and advances dominate the assets side of a bank's balance sheet and constitute a significant portion of the income statement. They also represent the least liquid assets within a bank. Loans and advances can take various forms and may be allowed against various types of securities, including loans, overdrafts, and discounting of bills of exchange. However, granting loans and advances always involves a certain degree of risk, making them the riskier assets of banks. In the context of Nepal, the Nepal Rastra Bank has issued directives for the classification of loans and advances, as well as their loss provision, to minimize potential risks in a bank's lending activities, as per the NRB directives of 2022. According to these directives, loans are classified into two categories (Nepal Rastra Bank, 2022):

- Performing Loan
- Non-Performing Loan

Performing Loan

Performing Loans are characterized by timely repayment of both principal and interest to the bank, facilitated by the cash flow generated. In simpler terms, these loans are considered productive assets that contribute to profit generation. Loans typically have a designated period within which the principal and interest must be repaid, and a loan is categorized as performing when it adheres to this repayment schedule. The criteria for classifying performing loans may vary among different countries. In the context of Nepal, loans falling under the 'pass and watchlist' category are deemed performing.

Performing loans represent one of the most profitable assets for banks and are indicative of their success. However, numerous banks are grappling with the challenge of non-repayment of loan amounts. A loan is considered performing when it is not in or near default. According to the International Monetary Fund, a performing loan is characterized by interest and principal payments being less than 90 days overdue, with refinancing, capitalization, or delayed interest agreement being less than 90 days. Anticipation of continued payment is also

a key factor. All these conditions must be met for a loan to be classified as performing. Essentially, performing loans are productive assets that contribute to profitability. The timely repayment of loans with interest is crucial in maintaining their performance status, making them the most valuable assets for banks. They play a pivotal role in sustaining the growth of the banking sector in this era of rapid competition (Choudhary, 2002).

Non-Performing Loan

A non-performing loan (NPL) is a sum of borrowed money for which the debtor has not made scheduled payments for at least three months. The details and standards for classifying non-performing loans may vary from country to country, as each country establishes norms based on the requirements of its banking system. In the context of Nepal, the three-month overdue rule has been adopted. It is crucial to comprehend the terms non-performing assets (NPA) and non-performing loans (NPL). Non-performing assets generally pertain to financial assets that are not performing well, defined as debt instruments whose obligors cannot meet their liabilities as they become due. The term "debt instrument" includes both loans and bonds, encompassing a broader range of the asset portfolio. Non-performing loans specifically refer to distressed loans classified according to the regulations of the central bank (Bindani, 2003).

NPLs are essentially considered bad debt, but in the banking sector, they comprise loans and advances that are not performing well and are likely to become bad loans. Managing non-performing assets/loans has become one of the most significant challenges for commercial banks. Therefore, banks need to exercise caution and diligence when dealing with such loans. Prudent and thorough assessments are necessary while granting loans to projects, investors, or business enterprises (Shrestha & Bhandari, 2004).

can be defined as the non-productive assets of banks, encompassing loans, bad debts, and doubtful debts that are not repaid in a timely manner. Generally, a loan not repaid within three months is classified as a non-performing loan. The amount of the loan not covered by collateral after selling is termed non-banking assets (NBA). Non-performing assets also include suspended interest, which becomes receivable. Unutilized assets and investments that do not generate cash or income for the bank are also considered non-performing assets (NPAs). Efficient management of these assets to generate income is known as the management of non-performing sets (Shrestha & Bhandari, 2004).

The definition of NPAs varies among countries, with some considering it as impaired loans and others focusing on overdue payments. The duration a payment should be in arrears before triggering a past-due status significantly differs among countries (Shrestha & Bhandari, 2004).

Under the current banking act, banks are required to make provisions for bad and doubtful debts. Net non-performing assets can be determined by deducting bad and doubtful debts from non-performing assets. According to the Nepal Rastra Bank (NRB), central banks classify NPAs based on the nature and timing of overdue loans and advances. The NRB has directed banks to maintain loan loss provisions according to an aging basis for risk mitigation. Loan provisions are to be maintained by debiting the profit account. Therefore, as the quality of loans degrades, the ratio of loan loss provisions increases, impacting the profitability of banks (Nepal Rastra Bank, 2022). Various factors contribute to the increase in NPAs/NPL, including:

- Reduced attention to borrowers (Hawthorne effect)
- Moving along the risk curve (Petroski effect)
- Lenders lack plans to deal with risk (Pollyanna effect)
- Borrowers probe a credit operation's weakness (Jurassic park effect)
- Rent-seekers capture the credit program.
- Lenders and project designers have low expectation.
- The lender is unwilling to collect.
- Lack of good models (High default culture effect)
- Loan sanctioned by corruption.
- Donors give loans to dominate.

Terms of Credit

Credit terms encompass the conditions that must be met for any credit arrangement. These conditions include the interest rate, collateral, documentation, and the method of repayment. However, the specific terms of credit can vary based on the characteristics of the lender, borrower, and the nature of the loan. Credit, in this context, refers to a loan—an agreement where the lender (creditor) provides the borrower with money, goods, or services to be repaid in the future. In addition to the interest rate and collateral, credit terms also encompass documentation and the chosen mode of repayment. These four elements constitute the terms of credit.

Loan Maturity

The loan maturity date refers to the deadline by which a borrower is required to make the final payment on their loan. Once this payment is completed, meeting all the agreed-upon repayment terms, the promissory note documenting the original debt is considered retired. In the context of a secured loan, the lender relinquishes any claim to the borrower's assets. If you have obtained a loan from a bank or another entity for the purpose of purchasing a house, it is typically referred to as a mortgage. A mortgage is a loan backed by the property, specifically the house that you have acquired and now own. As long as you consistently make the monthly payments, the loan remains in good standing. A mortgage is a fixed-term loan, with durations such as 10, 15, 20, or most commonly, 30 years. The conclusion of this term is identified as the maturity date.

Loan Loss Provision

Loan loss provision refers to the accumulated fund set aside to act as a safeguard, covering potential losses associated with individual loans classified by risk. Since every loan inherently carries some level of risk, provisioning serves as a buffer against potential losses, ensuring an accurate representation of the bank's asset status. In order to mitigate the risk of potential losses from loans, banks allocate funds as loan loss provisions.

Non-performing assets (NPAs) have adverse effects on the profitability of banks. These assets remain idle, generating no returns for the banks. The amount designated for provisioning depends on the extent and quality of NPAs. High-quality loans necessitate lower loan loss provisions, while bad loans require higher provisions. A minimum provision of one percent of the total credit is mandated, as every pass/good loan must be provisioned. However, the provision ratio may vary from one nation to another. In Nepal, the Nepal Rastra Bank (NRB) has prescribed provisions of 1%, 5 % 25%, 50%, and 100% for pass, substandard, doubtful, and loss loans, respectively. Loan loss provisions made for performing loans are referred to as 'general loan loss provisions,' while those made for non-performing loans are termed 'specific loan loss provisions.'

Assets play a crucial role in determining a bank's strength. Key factors to consider include the quality of the loan portfolio, the mix of risk assets, and the credit administration system. A lower non-performing loan (NPL) ratio indicates effective risk assessment and a robust credit

management system, while a higher ratio of loan loss provisions signifies subpar credit management. It also indicates an adequate reserve for potential loan losses, safeguarding the balance sheets of respective banks. Loan loss provisioning, based on the outstanding loans and advances and bills purchases classified according to directives, should be provided as follows:

Classification of Loan	**Loan Loss Provision**
Pass	1.25 Percent
Watchlist	5 Percent
Substandard	25 Percent
Doubtful	50 Percent
Loss	100 Percent

The provision set aside for performing loans is termed as 'General Loan Loss Provision,' while the provision allocated for non-performing loans is referred to as 'Specific Loan Loss Provision.'

In instances where banks make loan loss provisions exceeding the prescribed proportion according to NRB directives, the entire additional provisioning amount may be included in the General Loan Loss Provision as part of supplementary capital.

When a loan is granted solely based on a personal guarantee, a statement detailing the assets equivalent to the personal guarantee amount, not claimable by any other party, should be obtained. Such loans should be classified as per the aforementioned categories, including pass, substandard, and doubtful. In addition to the standard loan loss provision applicable to each category, an extra provision of 20 percent should be made.

Classifications for these loans and advances should be prepared separately. Consequently, the required loan loss provisions against personal guarantee loans would be 21%, 41%, and 70% for the Pass, Substandard, and Doubtful categories, respectively.

2.1.2 Non-Performing Loans in Nepalese Banks

Typically, non-performing loans are considered as problematic debts because the likelihood of recovering defaulted loan payments is minimal. However, a higher prevalence of non-performing loans negatively impacts a bank's cash flows and stock price. Consequently, banks with such loans on their books may take measures to facilitate the recovery of the

amounts owed.

One course of action available to lenders is seizing assets pledged as collateral for the loan. For instance, if a borrower used a motor vehicle as collateral, the lender would take possession of the vehicle and sell it to recoup any outstanding amounts.

In cases where borrowers fail to meet mortgage obligations, leading to repayments overdue for more than 90 days, banks may opt to foreclose on homes. Alternatively, lenders might sell non-performing loans to collection agencies. Additionally, a lender can enlist the services of a collection agency to enforce the recovery of a defaulted loan in exchange for a percentage of the amount recovered.

Facing a shortage of lendable funds, financial institutions have increased deposit rates to attract deposits, causing lending rates to rise. Concerns arose that the sudden surge in lending rates might erode the loan repayment capacity of many borrowers, leading to an increase in loan defaults. However, the decrease in non-performing loans suggests that the impact of rising lending rates on the asset quality of financial institutions has not been significant (Nepal Rastra Bank, 2022).

Some bankers attribute the decline in non-performing loans to improved macroeconomic indicators. Factors such as robust economic growth, coupled with the end of power outages, have contributed to the reduction in non-performing loans.

2.1.3 Impact of NPLs on Banks

Recording a significant portion of outstanding loans as non-performing loans (NPLs) can adversely impact a lender's financial performance. The primary source of income for banks is the interest earned from loans, and when they are unable to collect the owed interest payments from NPLs, it results in reduced funds available for creating new loans and covering operating costs.

The uncollected interest payments represent potential income loss, directly affecting the lender's profitability. This not only impacts the lender but also limits the borrowing options for potential borrowers seeking loans from that particular lender.

Maintaining a high proportion of NPLs relative to a company's total assets poses a substantial risk. Potential investors typically seek companies with sound financials, and an increasing percentage of non-performing loans negatively influences the lender's stock price. The more NPLs a bank holds, the less appealing it becomes to potential investors, as future profitability is at risk without income from the credit business.

Additionally, the lender is compelled to allocate a portion of its profits as provisions for bad debts in anticipation of potential write-offs. In the United States, banks with a significant percentage of non-performing loans are closely monitored by the Federal Deposit Insurance Corporation (FDIC) to safeguard depositors whose funds may be in jeopardy.

As a whole, the impact of NPA can be assessed with the following:

- Lower ROE and ROA
- Lower image and rating of banks
- Disclosure reduces investor’s confidences.
- Increases costs/difficulties in raising capital.
- NPA do not generate income They require provisioning.
- Borrowing cost of resources locked in
- Opportunity loss due to non-recycling of funds
- 100% risk weight on net NPA for CRR
- Capital gets blocked in NPA
- Utilizes capital but does not generate income to sustain the capital that is locked
- Recapitalization by government comes with string
- Administration and recovery costs of NPA
- Effects in employee morale and decision(Adebisi & Matthew, 2015)

2.1.4 Ways to recover Non-Performing Loan

This predicament has arisen from our own shortcomings, including a lack of knowledge, negligence, inefficiency, and a lack of commitment. Recognizing this as a societal challenge, it is imperative for us to steer clear of such issues. The following points are outlined as strategies to mitigate the recovery crisis (Adebisi & Matthew, 2015).

- Law and order situation
- Risk assessment
- Motivation
- Recovery agency
- Collateral management
- Developing Situation Specific Models
- Real Time Training
- Trade- Offs
- Monitoring

2.1.5 Problems Faced by Development Banks while Managing Loan

As stated in the development bank supervision report of NRB the banks have faced following issues while granting loan and collecting loan (Nepal Rastra Bank, 2022):

- Lack of robust credit appraisal system and absence of analysis of business plan.
- Lack of adequate documentation in credit files (e.g. credit information report, tax clearance certificate, audited financial statements, stock and project inspection report, frequent revaluation of property, inadequate insurance of collateral and assets, etc.).
- Wrong categorization of credit in sectorial classification and product wise classification.
- Loan not utilized on intended purpose.
- Short term loan provided for capital nature requirement such as land and building or development of real estate and long term loan disbursed for short term requirements. Personal loans are disbursed without proper assessment of the purpose. Disbursements of term loan without identifying needs of borrower.
- Lack of Credit Risk Management Policy.
- Lack of tagging the group exposure of related parties in core banking system and credit files.
- Absence of proactive and robust loan loss provisioning system.

- Weak post disbursement monitoring mechanism for working capital loans.
- Unrealistic presentation of financial projections of institutional borrowers.
- Deviation between Credit Policy Guidelines (CPG) and the NRB directives.
- Non-compliance of the NRB Directives regarding credit information and multiple banking. Credit information were not analyzed properly for renewal or extension of facilities.
- Inadequate monitoring of credit utilization by the customers.
- Unrealistic and mismatch in the financial statements of borrowers.
- Lack of adequate disclosure and transparency regarding fees, interest rate, penalties and other tariffs.
- Lapses in valuation of collateral with respect to rates, ownership pattern and road access.
- Lack of adequate monitoring mechanism and reporting of deprived sector loan.
- Irregularities in Credit Management Practice, lack of proper mechanism to identify, measure, monitor and control or mitigate the risks.
- BOD decisions against policy guidelines and manuals.
- Multiple periodic temporary extension of credit files.
- Under the circumstances assets that do not earn any income to the bank affect the profits in a number of ways, which are explained as follows (Singh, 1999): Impact on Profitability as;
- The resources locked up in NPA are borrowed at a cost and have to earn a minimum returns to service this cost.
- NPA on the one hand do not earn any income but on the other hand drain the profits earned by performing assets through the claim on provisioning requirements.
- Since they do not earn interest they bring down the yield on advances and the net interest margin or spread.
- NPA have a direct impact on assets and returns on equity, the two main parameters for measuring profitability of the commercial banks.
- Return on assets will be affected because while the total assets include the NPA they do not contribute to profits, which are the numerators in the ratio.
- Return on equity is also affected as provisioning eats more and more into profits earned.
- The cost of maintaining these include administration costs, legal costs and cost of

procuring the resources locked in them.

- NPA bring down the profits, affects the shareholders' value and thus, adversely affect the investor confidence.
- As a whole, the impact of NPA can be assessed with the following:
- Lower ROE and ROA
- Lower image and rating of banks
- Disclosure reduces investor's confidences.
- Increases costs/difficulties in raising capital.
- NPA do not generate income .They require provisioning.
- Borrowing cost of resources locked in
- Opportunity loss due to non-recycling of funds
- 100% risk weight on net NPA for CRR
- Capital gets blocked in NPA
- Utilizes capital but does not generate income to sustain the capital that is locked
- Recapitalization by government comes with string
- Administration and recovery costs of NPA
- Effects in employee morale and decision

2.2 Review Related Studies

2.2.1 Review of Journal of Articles

Conducting an empirical review of non-performing loans (NPLs) entails analyzing and consolidating the current empirical studies and research outcomes associated with the occurrence of NPLs within a particular country, region, or banking sector.

In the course of preparing this research, various books, journals, and publications were examined to develop insights into the subject matter. While specific books dedicated to NPA could not be identified, references were drawn from banking-related books to inform the study.

Anber and Alper (2011) analyzed Bank-specific and Macroeconomic Determinants of Banks' Profitability in Turkey. The research, covering the period from 2002 to 2010, assessed the profitability of banks using both Return on Assets (ROA) and Return on Equity (ROE). Employing a balanced panel data set, the findings indicate that the asset size and non-interest income positively and significantly influence bank profitability. Conversely, the size of the credit portfolio and loans under follow-up exhibit a negative and significant impact on bank

profitability. Among the macroeconomic variables, only the real interest rate demonstrates a positive effect on bank performance. These results suggest that banks can enhance their profitability by increasing their size and non-interest income, reducing the credit/asset ratio. Additionally, a higher real interest rate is associated with increased bank profitability.

Kaaya and Pastory (2013) researched Credit Risk and Commercial Banks Performance in Tanzania. The objective of the study was to explore the correlation between credit risk and bank performance, as measured by return on assets. A regression model was employed to establish the relationship between the identified indicators. The findings indicated that maintaining capital reserves serves as a protective measure for banks against future losses and contributes to enhancing credit risk management practices. In conclusion, an increase in credit risk was observed to have a detrimental effect on firm performance, as both indicators yielded negative coefficients that diminished profit levels. While credit risk is not inherently negative, as it is linked to bank returns, empirical evidence suggests that higher risk can lead to greater bank returns by enabling portfolio expansion. However, it is crucial for banks to strike a balance and anticipate returns. Therefore, maintaining a substantial amount of capital reserves is imperative to absorb credit risk in the event of failure. Additionally, banks should refine lending criteria, portfolio grading, and credit mitigation techniques to mitigate the likelihood of defaults.

Buchory (2014) examined Analysis of the Impact of Capital, Operational Efficiency, Credit Risk, and Profitability on the Implementation of Banking Intermediation Functions. The objective was to examine the factors influencing the implementation of banking intermediation, including capital, operational efficiency, credit risk, and profitability. The research employed descriptive and verificative techniques. The results indicated that both operational efficiency (OEOI) and return on assets (ROA) exerted positive and significant effects on loan-to-deposit ratio (LDR). Capital adequacy ratio (CAR) had a positive but statistically insignificant impact on LDR. On the other hand, non-performing loans (NPLs) demonstrated a negative but non-significant effect on LDR. When considered simultaneously, CAR, OEOI, NPL, and ROA collectively exhibited a significant influence on the level of impact on LDR.

Adebisi and Matthew (2015) analyzed the impact of Non-Performing Loans on Firm Profitability. The study focused on assessing the influence of non-performing loans on the profitability of banks' firms in Nigeria. Regression statistical tools were employed for data analysis. The findings indicated that there is no correlation between Non-Performing Loans (NPL) and Return on Assets (ROA) in Nigerian Banks. This implies that the firms' asset

values are not impacted by the NPL level. However, the study revealed a noteworthy relationship between Non-Performing Loans (NPL) and Return on Equity (ROE) of Nigerian Banks, signifying an impact on shareholders' wealth maximization.

Khaled (2016) examined Determinants of Non-Performing Loans in the Jordanian Banking Sector spanning the years 2008-2012. The study utilized both macroeconomic indicators and bank-specific factors to pinpoint the factors influencing the occurrence of non-performing loans (NPLs) in Jordanian banks. Employing panel data regression, the findings indicate that, concerning bank-specific factors, the lagged NPLs and the ratio of loans to total assets emerged as the most significant contributors positively affecting non-performing loans. However, in contrast to global patterns, our results suggest that the effectiveness of large banks in screening loan customers is not necessarily superior to that of their smaller counterparts. Regarding macroeconomic factors, the study revealed that economic growth and inflation rate exert a negative and significant influence on non-performing loans. Additionally, the global financial crisis was found to be associated with an increase in non-performing loans in Jordan.

John (2018) researched the impact of Non-Performing Loans on Bank Performance in Selected Commercial Banks in the Nigerian Banking Sector." This research aimed to investigate both bank-specific variables (return on assets) and macroeconomic factors (gross domestic product, unemployment rate, and exchange rate) that determine non-performing loans (NPLs) in commercial banks in Nigeria. Utilizing an explanatory research design, the study aimed to identify cause-and-effect relationships between NPLs and its determinants. The findings revealed a positive relationship between GDP ratio and return on assets (ROA), while exchange rate and unemployment rate showed a negative relationship with ROA. Consequently, the study recommended that the government maintain political stability and combat corruption, banks monitor customers' repayment records closely, and banks employ sustainable manpower practices.

Sofyan (2019) examined financial performance of Rural Banks in Indonesia." The primary objective of this study was to assess the impact of CAR, LDR, OCOI, and NPL on the ROA of rural banks in Indonesia. The research employed a quantitative approach, focusing on theory testing through the measurement of CAR, LDR, BOPO, and NPL variables to ascertain their influence on ROA in Indonesia. The findings indicated that CAR, LDR, and OER exert a significant impact on ROA. An increase in operating costs was associated with a decline in pre-tax profit, leading to a reduction in ROA. However, NPL showed no

significant effect on ROA, possibly due to the substantial CAR ratio in rural banks, serving as a buffer against credit risk.

Alshebmi et al. (2020) researched Non-Performing Loans and Their Impact on Bank Profitability: Empirical Evidence from the Saudi Arabia Banking Sector. The primary objective was to explore the connection between non-performing loans and specific determinants of banks (internal factors) as well as macroeconomic determinants (external factors) within the Saudi banking sector. The study utilized various statistical tools, including descriptive statistics, correlation, and regression analysis. The correlation results revealed a weak, negative, and statistically insignificant relationship between the non-performing loans ratio (NPLs) and the return on assets ratio (ROA), growth in gross domestic product (GGDP), bank liquidity risk (BLQ), and credit risk. Additionally, it indicated a weak, positive, and statistically insignificant relationship between NPLs and the capital adequacy ratio (CAR).

Koten (2021) analyzed the relationship between non-performing loans and profitability in the Turkish banking system using panel regression analysis. The study aimed to assess the impact of non-performing loans on the profitability of both public and private banks within the Turkish banking system through panel regression analysis. The results indicated a statistically significant relationship, indicating that an increase in the non-performing loans/total loans ratio led to a decrease in return on assets. Conversely, the loan/deposit ratio showed a statistically significant correlation with return on assets. The findings emphasized that a bank's profitability tends to decrease with a rise in non-performing loans. The study underscores the importance of effective debt collection and accurate decision-making in loan disbursement for banks aiming to enhance their market share.

Foglia (2022) examined nonperforming loans and macroeconomic factors. This study focused on examining the impact of macroeconomic determinants on non-performing loans (NPLs) within the Italian banking system from 2008Q3 to 2020Q4. This empirical article is a novel contribution to the literature as it explores this relationship in the Italian context during the recent period, offering fresh insights into the macroeconomic influences on NPLs, specifically the credit risk faced by Italian banks. Utilizing the Autoregressive Distributed Lag (ARDL) cointegration model, the study delves into both short and long-term effects of macroeconomic factors on NPLs. The results of the analysis reveal that gross domestic product and public debt have a negative impact on NPLs. Conversely, the unemployment rate and domestic credit exhibit a positive influence on impaired loans. Additionally, the study identifies evidence supporting the "gamble for resurrection" approach, suggesting that Italian banks tend to support "zombie firms."

Anita et al. (2023) investigated into the selected macroeconomic determinants of non-performing loans (NPLs) across a panel of eight South Asian Association for Regional Cooperation (SAARC) countries, namely Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan, and Sri Lanka. The study utilized annual data spanning from 2008 to 2019. Employing various analytical approaches, including the Ordinary Least Squares (OLS) model, fixed effect estimates, random effect estimates, and robust fixed effect estimates to address heteroscedasticity concerns, the research aimed to understand the association between macroeconomic factors and NPLs. The empirical findings of the study reinforced previous research, highlighting a significant positive association with the government budget balance and a notable inverse relationship with GDP, sovereign debt, inflation rate, and money supply. The study suggests that to mitigate aggregate NPLs in the South Asian Association for Regional Cooperation economy, governments should identify vulnerabilities within the financial sector and focus on promoting economic growth while maintaining a moderate level of money supply and controlling inflation. These findings offer valuable insights for shaping macro-prudential and fiscal policies to prevent potential shocks related to NPLs in SAARC countries.

2.2.2 Review of Nepalese context

Poudel (2012) examined the impact of credit risk management on the financial performance of banks in Nepal." This research aimed to explore various parameters relevant to credit risk management and their effects on banks' financial performance. Descriptive, correlation, and regression analyses were employed to analyze the data. The study found a negative beta coefficient, indicating an inverse relationship between the dependent variable and independent variables. The default rate, cost per loan, and capital adequacy ratio showed an inverse impact on the bank's financial performance. Given the significant contribution of risk management to bank performance, the study recommended that banks focus more on risk management, allocate funds to default rate management, and maintain an optimum level of capital adequacy to reduce risk on loans and achieve maximum performance.

Pradhan and Shrestha (2017) analyzed impact of capital adequacy and bank operating efficiency on the financial performance of Nepalese commercial banks." This research explored the impact of bank-specific factors on the profitability of Nepalese commercial banks. Results indicated positive relationships between bank operating efficiency, loan ratio, total deposit to assets, and loan loss provision to total equity with return on assets. Conversely, loan loss provision to total loan, core capital ratio, risk-weighted ratio, and total

capital ratio showed negative relationships with return on assets. The study suggested that higher bank operating efficiency, loan ratio, total deposit to assets, and loan loss provision to total equity contribute to higher return on assets.

Panta (2018) investigated bank-specific and macroeconomic determinants of non-performing loans and its impact on profitability." The study employed a fixed effect panel model, finding net interest margin and bank size as determinants of non-performing loans. It suggested that a higher net interest margin positively influenced profitability, while an increase in non-performing loans eroded interest income, reducing profitability. The study concluded that as the asset size increased, bad management practices also increased, hindering profitability.

Adhikari (2021) researched non-performing loan of commercial banks in Nepal. focusing on analyzing the NPL ratio, its trend, and its impact on the profitability of commercial banks. The study revealed an alarming NPL ratio in the Nepalese banking sector. It recommended that banks address NPL concerns promptly to avoid negative repercussions on income. Non-performing loans were defined as those where interest and principal payments were overdue for more than three months. The study showed a fluctuating trend in the NPL ratio, with minimal influence on return on assets.

Sah and Pradhan (2023) examined impact of financial ratios, operational efficiency, and non-performing loans on the profitability of Nepalese commercial banks. The study considered return on assets and return on equity as dependent variables and assessed their relationship with independent variables such as leverage, liquidity ratio, net interest margin, capital adequacy ratio, non-performing loans, and operating efficiency. Results indicated that leverage had a negative effect on return on assets, liquidity ratio had a positive impact on both return on assets and return on equity, net interest margin positively influenced both profitability measures, capital adequacy ratio positively affected return on assets, and non-performing loans negatively impacted return on equity. Operating efficiency had a negative impact on both return on assets and return on equity.

2.3 Research Gap

Management of non-performing loans (NPLs) is a sensitive subject for banks and financial institutions, as it has been a leading cause of increased losses and decreased profits. Efficient NPL management not only results in evident profits but, more importantly, fosters overall growth. While several studies have explored NPL management and credit risk, their limitations and findings have been reviewed in the empirical section of this study. In the Nepalese context, limited research has been conducted on the management of non-performing

loans and their impact on the financial performance of development banks.

This study aims to address this gap by examining the current situation of non-performing loans and the financial performance of development banks in Nepal. Previous research has focused on the implementation aspects of Nepal Rastra Bank (NRB) directives by development banks, as well as non-performing loans and loan loss provisioning. However, no research has specifically investigated the impact of non-performing loans and loan loss provisions on the performance of development banks, considering the required profitability and capital adequacy outlined in NRB directives. To bridge this research gap, the present study focuses on Muktinath Bikash Bank Limited, Jyoti Bank Limited, and Kamana Sewa Bank Limited.

The research aims to shed light on current issues, provide up-to-date information and data on loan classification, non-performing loans, loan loss provisioning, and relevant ratios. By examining the real-life scenarios of loan advances in Nepalese Development Banks, particularly with reference to the mentioned banks, this study builds upon previous NPA analyses and intensively analyzes the impact of NPA on the profitability of development banks. It contributes to a clearer conceptual understanding and knowledge of non-performing loans and the financial performance of development banks, addressing the existing gap in analysis to some extent (NRB, 2022)

CHAPTER- III

RESEARCH METHODOLOGY

Research is a methodical exploration of a specific topic, and methodology refers to the systematic approach to conducting research. Hence, research methodology is regarded as a structured method for systematically addressing problems. It is conside research methodology encompasses the systematic steps undertaken by a researcher to investigate a problem with specific objectives in mind. It concentrates on applying techniques and procedures to analyze relevant variables, establishing fundamental connections between pertinent topics. To fulfill the study's primary objectives, this chapter is organized into five sections. Section-1 outlines the research design, while section-2 delineates the nature and source of data obtained from relevant organizations or institutions. Section-3 details the sample and population size of Nepalese commercial banks. Section-4 elucidates the method of analysis employed in interpreting the data. Additionally, conclusions, results verification, and key term definitions are presented in section-

In essence, research is a systematic and meticulous exploration or inquiry into specific subject matters, involving the collection, compilation, presentation, and interpretation of relevant details or data. To enhance the comprehension of the analysis and presentation of collected data, and to ensure the validity of the findings, a thorough description of research methods is provided in this chapter. Red the science of examining how research is scientifically conducted.

3.1 Research Design

The objective of this study is to examine the non-performing loans and loan loss provisioning practices of development banks in Nepal and offer valuable recommendations. The research design incorporates analytical, descriptive, and causal comparative approaches, analyzing trends in non-performing assets, loan recovery, and the profitability status of commercial banks. The research methodology involves the collection of information from diverse sources, utilizing various financial and statistical tools to inform the design of this study.

3.2 Population and Sample

The population for this study is overall development banks in Nepal. As on 2023 prescribed by NRB on monthly banking statistics, there are 17 development banks in Nepal. The study selected three development banks are taken as sample for the study. .The study employed

convenience sampling .a type of .non-probability sampling method for analysis. The three banks are:

1. Muktinath Bikash Bank
2. Jyoti Bikash Bank
3. Kamana Sewa Bikash Bank

3.3 Nature and Sources of Data

This study relies entirely on secondary data, employing an analytical and empirical approach. The primary sources of secondary data include the annual reports of MNBBL, JBBL, and KSBBL spanning from the fiscal year 2014/15 to 2022/23. These reports were gathered from the official websites of the banks. Additionally, other relevant data was sourced from the official website of Nepal Rastra Bank.

3.4 Data Collection Technique

Data were gathered from diverse sources in raw form, encompassing the annual financial reports of the relevant banks, publications from Nepal Rastra Bank (NRB), and pertinent websites of the concerned banks. The data collection involved a combination of primary and secondary methods. Primary data were acquired through field visits and telephone inquiries, while secondary data were sourced from the annual reports of the concerned banks, obtained directly and downloaded from websites. Additionally, various reports, textbooks, journals, and unpublished dissertations were accessed by visiting TU Central Library, Nepal Commerce Campus, NRB Library, and Shanker Dev Campus.

Upon completing the data collection phase, all information was assembled, coded, categorized, and systematically recorded in both an E-views database and a Microsoft Excel file. Data processing ensured accuracy and consistency with the intended information. To address the research questions, several statistical tools were employed in data analysis, utilizing E-views database and Microsoft Excel. Presentation of data involved the use of tools such as tables and figures, while mean, standard deviation, and frequency distribution were executed to draw inferences from the collected responses. Microsoft Excel and E-views database were utilized for processing all collected data to derive the research results. The following tools were employed to analyze and interpret the research data.

Arithmetic Mean

Measures of central tendency are straightforward statistical methods applied to a distribution with the aim of identifying a singular value to characterize the entire dataset. It represents the most optimal value for a set of variables, serving as a singular representation of the entire group. In statistical analysis, the central value typically lies around the midpoint of the complete dataset. Among the various tools available for measuring central tendency, this analysis primarily utilizes the mean whenever deemed appropriate. The arithmetic mean is calculated from a given set of observations, serving as a representative value for the distribution.

$$\text{Mean } (\bar{X}) = \frac{\Sigma X}{n}$$

Standard Deviation

The Standard Deviation (SD) stands out as the most widely utilized and beneficial metric for quantifying dispersion or risk. It highlights the extent and magnitude of deviations from the central or mean value, signifying absolute dispersion. A greater standard deviation value indicates heightened variability, while a lower value suggests the opposite. Mathematically, it is the positive square root of the average sum of the squares of deviations of observations from the arithmetic mean of the distribution.

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$$\text{Standard Deviation} = \sqrt{\frac{\sum X-X)^2}{n-1}}$$

Correlation Analysis

In statistical analysis, inferential statistics typically play a crucial role, especially when the emphasis of the study is on understanding the connection between variables, making predictions, and similar objectives. This type of analysis aids in making inferences about the data. Inferential statistics assist in determining whether one should conclude that the observed relationship in the sample data is consistent with the relationship that could be identified if the entire population were examined.

$$\text{Correlation Coefficient (r)} = \frac{n\Sigma XY - \Sigma X\Sigma Y}{\sqrt{n\Sigma X_2 - (\Sigma X)2_{n\Sigma Y}2\sqrt{-(\Sigma Y)2}}}$$

Where,

X & Y = Variables i.e. bank size, capital adequacy ratio, credit deposit ratio, LLP ratio, NPL ratio, return on assets and return on equity of sample banks

Regression Analysis

Regression analysis is a statistical technique employed to explore the association between a dependent variable and an independent variable, facilitating the assessment of the strength of their relationship. This method is valuable for modeling potential future relationships between variables. In the realm of statistical modeling, regression analysis encompasses a range of statistical procedures aimed at estimating relationships among variables. It involves various techniques for modeling and scrutinizing multiple variables, particularly when the emphasis is on understanding the connection between a dependent variable (ROE) and independent variables (such as bank size, capital adequacy ratio, credit deposit ratio, LLP ratio, and NPL ratio of the banks). More precisely, regression analysis aids in comprehending how the average value of the dependent variable changes when adjusting any one of the independent variables, while keeping the other independent variables constant.

Regression Model for dependent variable ROE:

$ROE = b_0 + b_1SIZE + b2CAR + b_3CDR + b_4LLPR + b_5NPLR + e$

Where,

ROE = Return on Equity b_0 = Intercept of regression equation b_1 = Coefficient of Bank Size b_2 = Coefficient of Capital Adequacy Ratio b_3 = Coefficient of Credit Deposit Ratio b_4 = Coefficient of NPL Ratio b_5 = Coefficient of LLP Ratio SIZE = Bank Size

CAR = Capital Adequacy Ratio

CDR = Credit Deposit Ratio

NPLR = Non-performing Loan Ratio LLPR = Loan Loss Provision Ratio e = Error term of the regression equation

3.5 Research Framework and Definition of Variables

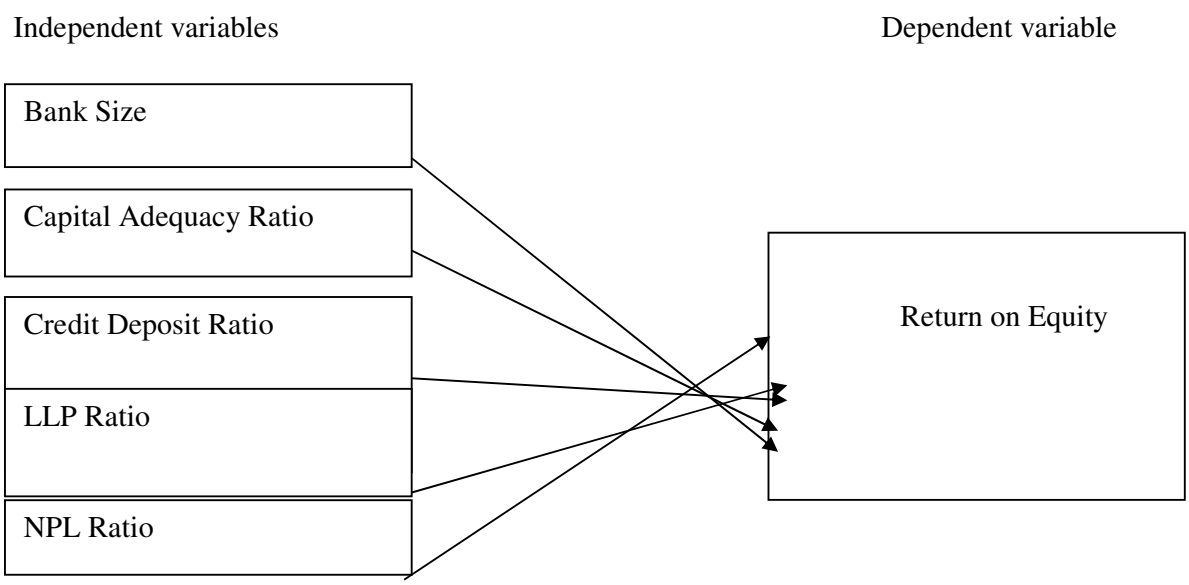
A research framework establishes a systematic structure for conducting and organizing key elements within a study. It delineates the overall approach, methodology, and conceptual framework employed to investigate a specific research problem or question. Typically, a research framework encompasses research objectives, theoretical background, research design, data collection methods, and data analysis techniques.

When defining variables in a research study, it is crucial to clearly articulate the concepts or phenomena being measured or observed. Variables, representing characteristics or attributes

subject to change in a study, serve to operationalize or quantify the concepts of interest. These variables can be categorized into independent variables, dependent variables, and control variables.

This study explores the impact of non-performing loan management on the financial performance of development banks, utilizing independent variables such as bank size, capital adequacy ratio, credit deposit ratio, LLP ratio, and NPL ratio, with the dependent variable being the ROE of the banks.

The conceptual framework for the study is presented below.



(Source: Anber & Alper, 2011)

Figure 3.1 Research Framework

Independent Variables

Bank Size

In this study the size of the bank can be measured with the natural logarithm of total assets. Bank size is used to capture the fact that larger firms are better placed than smaller firms in harnessing economies of scale in transactions and enjoy a higher level of profits.

Capital Adequacy Ratio

This is the formula utilized to describe the capital being held versus what's known as total risk-weighted assets (RWAs). The acceptable amount of total capital adequacy held by a bank is at least 8.5%. It is calculated as;

$$\text{Capital Adequacy Ratio} = \frac{\text{Total Capital}}{\text{Risk Weighted Assets}}$$

Credit Deposit Ratio

The loan-to-deposit ratio (LDR) is used to assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period. The LDR is expressed as a percentage. If the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements.

$$\text{Credit Deposit Ratio} = \frac{\text{Loan and Advance}}{\text{Total Deposit}}$$

Non-performing Loan Ratio

The non-performing loan ratio, better known as the NPL ratio, is the ratio of the amount of nonperforming loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans. The ratio of the amount of nonperforming loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans. It is calculated as:

$$\text{NPL Ratio} = \frac{\text{non-performing loan}}{\text{Loan and Advance}}$$

LLP Ratio

The ratio that indicates the capacity of bank to bear the loss on loan. Higher the rate means greater the ability of the banks to face the loan losses. A non-cash expense for FIs to account for future losses on loan defaults.

$$\text{LLP Ratio} = \frac{\text{Loan Loss Provision}}{\text{Non-performing Loan}}$$

Dependent Variable

Return on Equity

Return on equity or return on capital is the ratio of net income of a business during a year to its stockholders' equity during that year. It is a measure of profitability of stockholders' investments. It shows net income as percentage of shareholder equity.

$$\text{Return on Equity} = \frac{\text{Loan Loss Provision}}{\text{Non-performing Loan}}$$

CHAPTER- IV
DATA PRESENTATION AND ANALYSIS

This chapter is structured to showcase the outcomes, conduct analysis, and provide interpretations accordingly. Its primary goal is to present data, facts, and offer interpretations. The collected data from diverse sources were organized, categorized, and tabulated to meet the study's requirements and align with the nature of the collected data. Various financial and statistical tools have been employed in this chapter, and the data are analyzed utilizing Excel and SPSS software.

4.1 Data presentation and analysis

This section of the study employs descriptive statistics, correlation, and regression analysis to scrutinize and compare the financial indicators associated with non-performing loan management and the profitability of the banks.

4.1.1 Total Assets (Size) of the Banks

Asset size refers to the overall market value of securities within a fund. Total assets encompass various elements such as total earning assets, cash and due from banks, foreclosed real estate, fixed assets, goodwill, other intangibles, and current tax assets. The descriptive statistics of the composition of total assets for JBBL, MNBBL, and KSBBL throughout the study period are examined and compared using descriptive statistics. The analysis is conducted using Excel.

Table 4.1

Summary of Total Assets (Size)

(in million)

Year	JBBL	MNBBL	KSBBL
2013/14	4901.93	4465.99	2399.72
2014/15	6194.76	6029.43	3025.38
2015/16	7423.08	11477.1	3622.92
2016/17	8917.85	12936.75	5504.55
2017/18	13210.23	19592.34	8374.54
2018/19	23401.93	34649.27	19453.29
2019/20	36459.94	51991.4	26716.52
2020/21	42361.1	66348.09	36621.71
2021/22	59879.02	101131.72	51745.02
2022/23	71407.87	120226.58	59881.70
Mean	27415.77	42884.87	21734.53
SD	24063.16	41279.43	21347.10
CV	87.77	96.26	98.22
Maximum	71407.87	120226.58	59881.70
Minimum	4901.93	4465.99	2399.72

Source: Appendix- IV

Table 4.1 presents a summary of the descriptive statistics for total assets of JBBL, MNBBL, and KSBBL throughout the study period. The maximum asset values for JBBL, MNBBL, and KSBBL occurred in the year 2022/23, amounting to Rs. 71,407.87 million, Rs. 120,226.58 million, and Rs. 59,881.70 million, respectively. Conversely, the minimum total assets for the banks were observed in the year 2012/13, indicating an increasing trend in total assets over the study period. On average, MNBBL had the highest total assets, with an average of Rs. 41,279.43 million over the study period. The standard deviation in the assets of the banks reveals a greater variation in MNBBL's assets, with the highest standard deviation of Rs. 41,279.43 million, indicating a higher rate of change in total assets. In contrast, JBBL exhibited more consistency in total assets throughout the study period, as evidenced by a lower coefficient of variation (CV) of 87.77 percent. The lower CV value suggests less fluctuation in the increment of the bank's assets.

4.1.2 Capital Adequacy Ratio of the Banks

capital adequacy is an indicator of how well a bank can meet its obligation. It is used to protect depositors The descriptive statistics of the capital adequacy ratio of JBBL, MNBBL and KSBBL over the study period are analyzed and compared in with the help of descriptive statistics. The analysis in done with the help of excel software.

Table 4.2

Summary of Capital Adequacy Ratio

(in percent)

Year	JBBL	MNBBL	KSBBL
2013/14	22.93	12.14	13.61
2014/15	18.43	12.66	13.88
2015/16	17.4	13.17	13.98
2016/17	16.79	12.11	14.25
2017/18	12.3	14.96	12.76
2018/19	19.25	14.25	21.58
2019/20	16.23	13.44	16.81
2020/21	15.08	13.23	14.35
2021/22	13.04	11.16	13.78
2022/23	12.74	11.8	12.13
Mean	16.42	12.89	14.68
SD	3.32	1.16	2.71
CV	20.23	8.97	18.46
Maximum	22.93	14.96	21.58
Minimum	12.3	11.16	12.13

Source: Appendix - IV

Table 4.2 presents the descriptive statistics of capital adequacy ratio of JBBL, MNBBL and KSBBL over the study period. During the study period there is maximum level of capital adequacy ratio in year 2013/14in JBBL i.e. 22.93 percent and the minimum capital adequacy ratio of JBBL is in year 2017/18i.e. 12.3 percent. Similarly, there is maximum capital adequacy level in MNBBL in year 2016/17i.e14.96 percent and minimum capital adequacy ratio is in year 2021/22 i.e. 11.16 percent. Like wise, the maximum capital adequacy level of KSBBL is in year 2018/19i.e. 21.58 percent and minimum capital adequacy of the banks is in year 2022/23 i.e. 12.13 percent. On average there is highest capital adequacy ratio in JBBL

i.e. 16.42 percent while there is lowest capital adequacy ratio in MNBBL i.e. 12.89 percent. It is found that all three banks have maintained capital adequacy ratio as per the NRB guideline during the study period. The standard deviation in capital adequacy ratio of JBBL is highest among sample banks i.e. 3.32, meaning that there is higher variation in capital of JBBL. The mean in capital adequacy ratio JBBL 16.42 percent and coefficient of variation in capital adequacy ratio of JBBL is 12.89 percent.

4.1.3 Credit Deposit Ratio of the Banks

The descriptive statistics for the credit deposit ratio of JBBL, MNBBL, and KSBBL throughout the study period are examined and compared using descriptive statistics. The analysis is conducted utilizing Excel software.

Table 4.3

Summary of Credit Deposit Ratio

(in percent)

Year	JBBL	MNBBL	KSBBL
2013/14	91.66	81.86	85.18
2014/15	80.65	84.22	78.74
2015/16	78.27	85.14	81.51
2016/17	78.28	86.89	86.64
2017/18	86.9	90.37	87.53
2018/19	82.66	82.07	85.35
2019/20	88.84	82.61	94.67
2020/21	79.33	80.94	81.6
2021/22	83.49	82.76	87.26
2022/23	86.36	82.58	87.34
Mean	83.64	83.94	85.58
SD	4.66	2.86	4.38
CV	5.57	3.40	5.12
Maximum	91.66	90.37	94.67
Minimum	78.27	80.94	78.74

Source: Appendix - IV

Table 4.3 depicts the summary of credit deposit ratio of JBBL, MNBBL and KSBBL over the study period. During the study period there is maximum and minimum credit deposit ratio of JBBL in year 2021/22and 2016/17i.e. 94.42 percent and 78.27 Similarly, there is

maximum credit deposit ratio in MNBBL in year 2017/18i.e. 90.37 percent and minimum credit deposit ratio in year 2020/21i.e. 80.94 percent. Likewise, the maximum credit deposit ratio of KSBBL is in year 2019/20i.e. 88.45 percent and minimum in year 2011/12 i.e. 77.23 percent. On average there is highest credit deposit ratio in JBBL i.e. 85.17 percent while there is lowest credit deposit ratio in KSBBL i.e. 83.77 percent. It is found that all three banks have more than 80 percent threshold of credit deposit ratio as per the NRB guideline during the study period. The standard deviation in credit deposit ratio of JBBL is highest among sample banks i.e. 5.48, meaning that there is higher variation in credit flow of JBBL. On the other hand, there more consistency in credit deposit ratio of MNBBL, since there is lowest value of CV in the credit deposit ratio of the bank i.e. 3.51 percent.

4.1.4 Non-performing Loan Ratio of the Banks

The descriptive statistics of the non-performing loan ratio of JBBL, MNBBL and KSBBL over the study period are analyzed and compared in with the help of descriptive statistics. The analysis in done with the help of excel software.

Table 4.4 *Summary of Non-performing Loan Ratio*

(in percent)

Year	JBBL	MNBBL	KSBBL
2013/14	3.33	0.66	0.18
2014/15	2.67	0.44	0.17
2015/16	1.98	0.19	0.29
2016/17	1.39	0.09	1.03
2017/18	0.74	0.02	1.39
2018/19	0.4	0.004	1.13
2019/20	0.64	0.07	0.9
2020/21	0.92	0.46	1.79
2021/22	0.84	0.25	1.61
2022/23	1.47	0.21	2.31
Mean	1.44	0.24	1.08
SD	0.96	0.22	0.72
CV	66.47	90.64	66.87
Maximum	3.33	0.66	2.31
Minimum	0.4	0.004	0.17

Source: Appendix - IV

Table 4.4 represents the non-performing loan ratio of JBBL, MNBBL and KSBBL over the study period. During the study period there is maximum and minimum nonperforming loan ratio of JBBL in year 2013/14and 2018/19i.e. 3.33 percent and 0.40 Similarly, there is maximum non-performing loan ratio in MNBBL in year 2013/14i.e. 0.66 percent and minimum non-performing loan ratio in year 2018/19i.e. 0.004 percent. Likewise, the maximum non-performing loan ratio of KSBBL is in year 2022/23 i.e. 2.31 percent and minimum in year 2014/15i.e. 0.17 percent. On average there is highest non-performing loan ratio in JBBL i.e. 1.44 percent while there is lowest non-performing loan ratio in KSBBL i.e. 1.08 percent. It is found that all three banks have quite better lending policy since there are less than 5 percent non-performing loan ratios on average during the study period. The standard deviation in non-performing loan ratio of JBBL is highest among sample banks i.e. 0.96, meaning that there is higher variation in non-performing loan of JBBL. On the other hand, there more consistency in non-performing loan ratio of MNBBL, since there is lowest value of CV in the non-performing loan ratio of the bank i.e. 1.10 percent.

4.1.5 Loan Loss Provision Ratio of the Banks

The descriptive statistics of the loan loss provision ratio of JBBL, MNBBL and KSBBL over the study period are analyzed and compared in with the help of descriptive statistics. The analysis in done with the help of excel software.

Table 4.5

Summary of Loan Loss Provision Ratio

(in percent)

Year	JBBL	MNBBL	KSBBL
2013/14	83.1	229.11	644.38
2014/15	107.27	321.03	673.39
2015/16	107.67	625.52	463.53
2016/17	141.14	1165.35	154.26
2017/18	199.88	5433.48	147.57
2018/19	349.39	23213	144.21
2019/20	220.3	1598.15	171.8
2020/21	185.57	320.48	134
2021/22	159.35	647.94	126.47
2022/23	96.62	626.19	139.29
Mean	165.03	3418.03	279.89
SD	79.79	7125.16	230.32
CV	48.35	208.46	79.84
Maximum	349.39	23213	673.39
Minimum	83.1	229.11	59.78

Source: Appendix - IV

Table 4.5 displays the loan loss provision ratio for JBBL, MNBBL, and KSBBL throughout the study period. Over this period, JBBL exhibited its highest and lowest loan loss provision ratios in 2018/19 (349.39 percent) and 2013/14 (83.10 percent), respectively. Similarly, MNBBL showed its maximum loan loss provision ratio in 2018/19 (23213.00 percent) and minimum in 2013/14 (229.11 percent). Likewise, KSBBL had its peak loan loss provision ratio in 2014/15 (673.39 percent) and its minimum in 2022/23 (59.78 percent). On average, MNBBL had the highest loan loss provision ratio at 3418.03 percent, while JBBL had the lowest at 165.03 percent. It is evident that all three banks demonstrated effective loan management practices, as they consistently maintained higher loan loss provisions against

nonperforming loans throughout the study period. The standard deviation in the loan loss provision ratio of MNBBL was the highest among the sample banks at 7125.16, indicating greater variability in MNBBL's loan loss provisions. Conversely, KSBBL exhibited more consistency in its loan loss provision ratio, with the lowest coefficient of variation (CV) at 59.78 percent.

4.1.6 Return on Equity of the Banks

The descriptive statistics of the return on equity of JBBL, MNBBL and KSBBL over the study period are analyzed and compared in with the help of descriptive statistics.

The analysis in done with the help of excel software.

Table 4.6

Summary of Return on Equity

(in percent)

Year	JBBL	MNBBL	KSBBL
2012/13	7.87	24.6	1.89
2013/14	6.94	25.19	1.91
2014/15	10.24	24.09	20.28
2015/16	13.13	26.93	17.95
2016/17	8.82	24.62	9.65
2017/18	12.02	15.76	11.78
2018/19	13.47	19.24	8.77
2019/20	10.84	12.22	3.74
2020/21	12.46	16.91	17.77
2022/23	11.89	16.61	14
Mean	10.77	20.62	10.77
SD	2.25	5.06	6.79
CV	20.93	24.55	62.99
Maximum	13.47	26.93	20.28
Minimum	6.94	12.22	1.89

Source: Appendix - IV

Table 4.6 illustrates the return on equity (ROE) for JBBL, MNBBL, and KSBBL across the study period. Over this period, JBBL recorded its highest and lowest ROE in 2019/20(13.47 percent) and 2014/15(6.94 percent), respectively. Similarly, MNBBL achieved its maximum

ROE in 2016/17(26.93 percent) and minimum ROE in 2020/21(12.22 percent). Likewise, KSBBL's highest ROE occurred in 2015/16(20.28 percent), and its lowest was in 2013/14(1.89 percent). On average, MNBBL boasted the highest ROE at 20.62 percent, while KSBBL had the lowest at 10.77 percent. The ROE of the sample banks displayed a fluctuating trend throughout the study period, with MNBBL consistently outperforming JBBL and KSBBL in terms of earnings available for equity holders. The standard deviation in ROE for KSBBL was the highest among the sample banks at 6.79, indicating greater variability in KSBBL's ROE. Conversely, there was more consistency in KSBBL's ROE, as evidenced by the lowest coefficient of variation (CV) at 1.59 percent.

4.2 Descriptive Statistics

Descriptive statistics are calculated for a dataset comprising bank size, return on equity, capital adequacy ratio, loan loss provision, non-performing loan ratio, and credit deposit ratio. The study encompasses 30 observations, incorporating six variables from three development banks under examination.

Table 4.7

Structure of descriptive statistics of variable of sample development bank

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Bank_Size	30	23.72	12.58	30.39	30.21
CAR	30	11.16	22.93	14.66	2.87
CDR	30	78.27	94.67	84.39	3.99
NPLR	30	3.00	3.33	14.91	.849
LLPR	30	83.10	23.00	12.64	42.08
ROE	30	1.89	26.93	14.05	6.78
Valid N (listwise)	30				

Table 4.7 presents the descriptive statistics for the return on equity of three development banks over a 10-year period (2012/2013-2022/23). The mean value is 14.05%, ranging from a minimum of 1.89% to a maximum of 26.93%, which is considered unsatisfactory as it falls higher than the standard. The loan loss provision ratio ranges from a minimum of 83.10% to a maximum of 23.00%, exceeding the standard deviation and falling below the mean value. The non-performing loan ratio varies from 3.00% to 3.33%, with a mean of 14.91% and a

standard deviation from the mean of 0.849%, indicating a generally good performance. The credit deposit ratio ranges from a minimum of 78.27% to a maximum of 22.93%, with a mean of 14.66% and a standard deviation from the mean of 2.87%. However, the credit deposit ratio is at its highest standard, indicating a deviation. The average capital adequacy ratio over the three-year study period is 11.16%, with a range from 22.93 to 14.66 and a standard deviation from the mean of 2.87%, which is satisfactory but has a lower deviation compared to all other variables. For bank size, it has a minimum value of 23.72, a maximum of 12.58, a mean of 30.39, and a standard deviation of 30.21, but it is unsatisfactory in percentage terms.

4.3 Correlation Analysis

Correlation is a statistical tool used to assess the relationship between two or more variables within a population or a sample. It quantifies the extent to which one variable exhibits a linear association with another. The correlation coefficient gauges the strength of the relationship between two sets of data. Various methods can be employed to calculate the correlation coefficient, and its value always falls within the range of +1 to -1. A correlation coefficient of +1 signifies a perfect relationship between two variables, while a coefficient of -1 indicates the opposite. When the correlation coefficient is 0, it implies no relationship between the variables. In this section, the correlation between the return on equity (ROE) and its independent variables—bank size, capital adequacy ratio, credit deposit ratio, non-performing loan ratio, and loan loss provision ratio of the sampled banks is presented below:

Table 4.8

Correlation Analysis

Details	**ROE**	**NPLR**	**CDR**	**LLPR**	**CAR**	**SIZE**
ROE	1.					
NPLR	.666**	1.				
CDR	-.79**	-.74**	1			
LLPR	.404**	.416**	-.41**	1.		
CDR	-.89**	-.66**	.769**	-.43**	1.	
SIZE	.431**	.212	-.44**	.178	-.41**	1.
ISR	.572**	.427**	-.52**	-.030	-.53**	.402**
N	70	70	70	70	70	70

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The return on equity (ROE) is also showing positive correlation with ROA, NPLR, LLPR, SIZE and ISR, but a high degree of negative correlation with CDR and CAR.

Non-performing loan ratio (NPLR) is highly negatively correlated with credit to deposit ratio (CDR) and capital adequacy ratio (CAR). NPLR ratio is averagely positively correlated with ROE, LLPR, SIZE and NPLR ratio is and the ratio is low negatively correlated.

Credit to deposit ratio (CDR) is averagely negatively correlated with most of the ratio, except a high degree of positive correlation with capital adequacy ratio (CAR), having correlation coefficient of 0.769. The high negative correlation can be observed between CDR with ROE and NPLR.

The loan loss provision ratio (LLPR) is moderately positively correlated with ROE and NPLR ratio, LLPR is low positively correlated with SIZE, LLPR ratio is averagely negatively correlated with CDR and CAR. LLPR ratio has very low degree of negative correlation.

Capital adequacy ratio is negatively correlated with all of the calculated ratio, except a high degree of positive correlation with credit to deposit ratio (CDR). CAR ratio is very highly negatively correlated with return on equity (ROE) ratio. The Bank size (SIZE) is showing very ROE, NPLR but a low positive correlation with LLPR ratio with a correlation coefficient of 0.176.

Regression Analysis

Multiple regression is a tool used to analyze the relationship between dependent and independent variables. A statistical technique called multiple regression analysis is used to forecast an unknown variable's value based on the known values of two or more variables. It is employed to calculate the impact of one or more independent variables on a variable that is dependent. Regression analysis is a set of statistical procedures used in statistical modeling to estimate the relationships between one or more independent variables—also referred to as "predictors," "covariates," "explanatory variables," or "features"—and a dependent variable, also known as the "outcome" or "response" variable. Finding the line or a more complicated linear combination that most closely fits the data in accordance with a particular

mathematical criterion is the most popular type of regression analysis, known as linear regression.

Model Summary

Table 4.9

Model Summary

Model	R	R Square	Adjusted R Square	S.E. of the Estimate
1	0.921	0.849	0.832	5.3886

Predictors: (Constant), Non-Performing Loan Ratio, bank size, Loan Loss Provision ratio, Capital Adequacy Ratio, Credit to Deposits Ratio. This result is based on panel data of three development banks for the period of 2013/14 to 2022/23, by using linear regression model. The table reveals the regression analysis between dependent variable and independent variables. The dependent variable is ROE (return on equity) whereas the independent variables are NPLR, CDR, LLPR, CAR and SIZE.

The value of R^2 and adjusted R^2 are 0.849 and 0.832 respectively. The overall explanatory power of regression model is fair with adjusted R^2 of 0.83. This indicates, 83% of the sample variation in ROE is explained by independent variables

Table 4.10

ANOVA

Model	Sum of Squares	D.f.	Mean Square	F	Sig.
Regression	10130.880	7	1447.269	49.842	0.000
Residual	1800.292	62	29.037		
Total	11931.171	69			

Dependent Variable: Return on Equity

Predictors: (Constant), Non-Performing Loan Ratio (NPLR), bank size (SIZE), Loan Loss Provision ratio (LLPR), Interest Spread Rate (ISR), Capital Adequacy Ratio (CAR), Credit to Deposits Ratio (CDR).

The F test is a measure of the overall significance of the estimated regression. F significance in the model represent that the model is fairly fitted well since it is less than 0.01. Thus, the overall explanatory power of the regression model is fair and statistically fitted. The F-ratio is 49.866 with significance of less than 1 percent, indicating that, ROE is significantly dependent with the independent variables and also it is better fitted for the information.

Table 4.11

Regression coefficients

Model	Unst. Coefficients		St. Coeff.	T	Sig.
	B	Std. Error	Beta		
(Constant)	124.211	32.572		3.813	0.000
NPLR Ratio	-0.125	0.647	-0.016	-0.193	0.847
CDR	-0.315	0.120	-0.260	-2.612	0.011
LLPR ratio	2.832	3.274	0.053	0.865	0.390
CAR	-2.583	0.333	-0.656	-7.755	0.000
SIZE	-0.073	0.154	-0.030	-0.477	0.635

The result indicates that the coefficient of LLPR are non-significantly positive with ROE having regression coefficients of 2.934 and 1.642. The corresponding p-values are greater than 0.05, hence there is non-significant relationship between LLPR with ROE. It indicates that return on equity of selected commercial banks in Nepal non-significantly positively effect on loan loss provision ratio and interest spread rate. It indicates that, higher the LLPR, higher will be the return on equity ratio and vice versa. The corresponding p-values are 0.373 and 0.147 for LLPR with ROE.

The regression coefficient of ROE with CDR and CAR are significantly negative having coefficient of -0.314 and -2.581. The corresponding p-values are less than 0.05, with respective p-values of 0.011 and 0.000. The significant association of CDR and CAR on ROE with negative coefficient is favorable for the development banks.

The regression coefficient of NPLR is non-significantly negatively associated with ROE. The regression coefficient is -0.128 with corresponding p-value greater than 0.05, which shows there is not significant association between ROE with non-performing loan ratio. The non-

significant negative association between NPLR and ROE results that, increase in NPLR results decrease in ROE and vice versa, but the decrease will be non-significant. The p-value is 0.844 indicating non-significant relationship between NPLR and ROE.

The regression coefficient of SIZE is non-significantly negatively associated with ROE. The regression coefficient is -0.073 with corresponding p-value greater than 0.05, which shows there is not significant association between ROE and SIZE. The non-significant negative association between SIZE and ROE results that, increase in SIZE results decrease in ROE and vice versa, but the decrease will be non-significant. The corresponding p-value is 0.635 indicating non-significant relationship between SIZE and ROE.

4.5 Major Findings

- Total assets of JBBL, MNBBL, and KSBBL throughout the study period. The maximum asset values for JBBL, MNBBL, and KSBBL occurred in the year 2022/23, amounting to Rs. 71,407.87 million, Rs. 120,226.58 million, and Rs. 59,881.70 million, respectively.
- Similarly, there is maximum capital adequacy level in MNBBL in year 2016/17i.e14.96 percent and minimum capital adequacy ratio is in year 2021/22i.e. 11.16 percent. Like wise, the maximum capital adequacy level of KSBBL is in year 2018/19i.e. 21.58 percent and minimum capital adequacy of the banks is in year 2022/23 i.e. 12.13 percent. On average there is highest capital adequacy ratio in JBBL i.e. 16.42 percent while there is lowest capital adequacy ratio in MNBBL i.e. 12.89 percent. It is found that all three banks have maintained capital adequacy ratio as per the NRB guideline during the study period.
- Credit deposit ratio of JBBL, MNBBL and KSBBL over the study period. During the study period there is maximum and minimum credit deposit ratio of JBBL in year 2021/22and 2016/17i.e. 94.42 percent and 78.27 Similarly, there is maximum credit deposit ratio in MNBBL in year 2017/18i.e. 90.37 percent and minimum credit deposit ratio in year 2020/21i.e. 80.94 percent. Likewise, the maximum credit deposit ratio of KSBBL is in year 2019/20i.e. 88.45 percent and minimum in year 2011/12 i.e. 77.23 percent.
- Non-performing loan ratio of JBBL, MNBBL and KSBBL over the study period. During the study period there is maximum and minimum nonperforming loan ratio of

JBBL in year 2013/14 and 2018/19 i.e. 3.33 percent and 0.40. Similarly, there is maximum non-performing loan ratio in MNBBL in year 2013/14 i.e. 0.66 percent and minimum non-performing loan ratio in year 2018/19i.e. 0.004 percent.

- Loan loss provision ratio for JBBL, MNBBL, and KSBBL throughout the study period. Over this period, JBBL exhibited its highest and lowest loan loss provision ratios in 2018/19(349.39 percent) and 2013/14(83.10 percent), respectively. Similarly, MNBBL showed its maximum loan loss provision ratio in 2018/19(23213.00 percent) and minimum in 2013/14(229.11 percent). Likewise, KSBBL had its peak loan loss provision ratio in 2014/15(673.39 percent) and its minimum in 2022/23 (59.78 percent). On average, MNBBL had the highest loan loss provision ratio at 3418.03 percent, while JBBL had the lowest at 165.03 percent.
- The return on equity (ROE) for JBBL, MNBBL, and KSBBL across the study period. Over this period, JBBL recorded its highest and lowest ROE in 2019/20(13.47 percent) and 2014/15(6.94 percent), respectively. Similarly, MNBBL achieved its maximum ROE in 2016/17(26.93 percent) and minimum ROE in 2020/21(12.22 percent). Likewise, KSBBL's highest ROE occurred in 2015/16(20.28 percent), and its lowest was in 2013/14(1.89 percent). On average, MNBBL boasted the highest ROE at 20.62 percent, while KSBBL had the lowest at 10.77 percent.
- The descriptive statistics for the return on equity of three development banks over a 10-year period (2012/2013-2022/23). The mean value is 14.053%, ranging from a minimum of 1.89% to a maximum of 26.93%, which is considered unsatisfactory as it falls higher than the standard. The loan loss provision ratio ranges from a minimum of 83.10% to a maximum of 23213.00%, exceeding the standard deviation and falling below the mean value. The non-performing loan ratio varies from 0.00% to 3.33%, with a mean of 0.991% and a standard deviation from the mean of 0.84915%, indicating a generally good performance.
- Correlation analysis results of ROE of banks is positively correlated with bank size with coefficient 0.056, meaning that ROE of the banks increases when bank size increases. The correlation between ROE and bank size is statistically not significant at 5 percent level of significance since the p-value (0.767) of the coefficient is higher than 5 percent. On the other hand, ROE of the banks is negatively correlated with capital adequacy of the banks with the coefficient -0.348, meaning that ROE of the banks decreases when capital adequacy of the banks increases. In other words, higher levels of capital adequacy might be associated with lower profitability, and lower

capital adequacy might be linked to higher profitability.

- Regression analysis result for the dependent variable ROE of the banks and independent variables, SIZE, CAR, CDR, NPLR and LLPR over the study period. The regression result shows the R-squared value of 0.237, which means that 23.70 percent change in ROE of the banks is explained by bank size, capital adequacy ratio, credit deposit ratio, NPL ratio and LLP ratio of the banks and remaining 76.30 percent change in ROE of the banks is not affected by these variables.

CHAPTER –V
SUMMARY CONCLUSION AND RECOMMENDATIONS

This final chapter discusses summary of the findings of the study and conclusion of the study. Lastly, based on major findings and conclusion from the study the applicable implication if this study are presented.

5.1 Summary

The investments made by development banks in Nepal have faced challenges in terms of productivity, leading to various issues for these banks. Development banks typically expect timely loan repayments from borrowers, and this study aims to assess the impact of non-performing loans on the profitability of Nepalese development banks. The key objectives addressed include examining the status of non-performing loans and profitability in development banks in Nepal, exploring the relationship between non-performing loans and the profitability of these banks, and evaluating the effect of non-performing loans on the profitability of Nepalese development banks.

The study incorporates variables such as bank size, capital adequacy ratio, credit deposit ratio, loan loss provision ratio, non-performing loan ratio, and return on equity. Utilizing a combination of explanatory and causal research designs, the study focuses on three development banks Muktinath Development Bank, KamanaSewa Bikash Bank, and JyotiBikas Bank—selected through purposive sampling due to their recognition and status as top development banks in the market. The research relies entirely on secondary data collected from the annual reports of the sample banks spanning from the fiscal year 2013/14to 2022/23, encompassing the most recent ten years of data. Statistical data analysis is performed using Excel and SPSS software, with the results presented in Chapter Four of the study.

Descriptive data analysis reveals that Muktinath Development Bank (MNBBL) exhibits the highest average total assets over the study period, indicating substantial growth. JyotiBikas Bank Limited (JBBL) shows the highest capital adequacy ratio, suggesting adherence to NRB guidelines. KamanaSewa Bikash Bank Limited (KSBBL) demonstrates the highest credit deposit ratio during the study period, with all three banks maintaining ratios above the 80 percent threshold stipulated by NRB guidelines. The average non-performing loan ratio for all three banks remains below 5 percent, indicating sound lending policies. Furthermore, the

study finds that the sample banks exhibit robust loan management practices, maintaining higher loan loss provisions against non-performing loans. Profitability analysis reveals a fluctuating trend in the Return on Equity (ROE) of sample banks, with MNBBL outperforming JBBL and KSBBL in terms of earnings available for equity holders.

Statistical relationship analysis indicates negative correlations between capital adequacy ratio and non-performing loans with the return on equity of the banks. Conversely, bank size, credit deposit ratio, and loan loss provision ratio exhibit positive relations with the return on equity of the banks. Regression analysis identifies bank size, capital adequacy ratio, credit deposit ratio, non-performing loan ratio, and loan loss provision ratio as major factors influencing the profitability, represented by ROE, of development banks in Nepal. However, the study concludes that the loan loss provision ratio does not significantly impact the profitability of these banks.

5.2 Conclusion

The study concludes that all three banks exhibit robust lending policies, maintaining non-performing loan ratios below 5 percent on average throughout the study period. Similarly, it is observed that the banks demonstrate effective loan management practices, evidenced by the maintenance of higher loan loss provisions against non-performing loans over the study period. The analysis of profitability indicates a fluctuating trend in the Return on Equity (ROE) of sample banks, with MNBBL showing superior earnings from asset utilization.

Regarding the relationship between non-performing loans and the profitability of development banks in Nepal, considering independent variables such as bank size, capital adequacy ratio, credit deposit ratio, non-performing loan ratio, and loan loss provision ratio, the study concludes that bank size, capital adequacy ratio, credit deposit ratio, and non-performing loan ratio exhibit a positive correlation with the return on equity of the banks. Conversely, the loan loss provision ratio of the banks is positively correlated with the return on assets. Furthermore, capital adequacy ratio and non-performing loan ratio are negatively correlated with the return on equity of the banks, while bank size, credit deposit ratio, and loan loss provision ratio have a positive relationship with the return on equity of the banks.

The effects of bank size, capital adequacy ratio, credit deposit ratio, non-performing loan ratio, and loan loss provision ratio on return on equity, analyzed through multiple regression analysis in this study, conclude that these factors are significant determinants of the

profitability represented by ROE for the banks. An increase in bank size indicates broader coverage for the banks, but improper fund management can lead to decreased profitability. Increased credit contributes to higher interest income, positively impacting the profitability of the banks. The study emphasizes the importance of thorough financial analysis of borrowers before granting loans to mitigate the risk of higher non-performing loans. Banks with elevated levels of Non-Performing Assets (NPAs) are advised to take necessary actions to recover bad loans promptly. However, it is concluded that the loan loss provision ratio does not significantly influence the profitability of development banks in Nepal.

5.3 Recommendations

With this research on the impact of non-performing loan on profitability of development banks in Nepal, this area is ripe for future research. As is common in survey research, data are cross-sectional and self-report. There are several significant issues to be considered for future research.

- The regulatory authority should pay more attention to banks' compliance to relevant directives and prevailing rules and regulations regarding loan policies and loan management guidelines. Senior management must also ensure that there is a periodic independent internal assessment of the bank credit-granting and management functions.
- The result in this study therefore, suggested the need for strong credit risk and loan service process management must be adopted to keep the level of NPL as low as possible which will enable to maintain the high performance (profitability) of development banks in Nepal. The study also believes that extensive study with larger and more representative sample is important to give more generalized picture of the work activities performed in Nepalese context. Further research might be carried out with more sample of banks, as this study only based on three development banks of Nepal. It may give new understanding the subject phenomenon.
- This study is also hoped to be useful to academicians as a source of knowledge for further research. The study is concentrated on only five factors and thus, further study should be carried out on the topic to point out the other factors that enhance mitigation of non-performing loan management to improve profitability of Nepalese development banks.
- Last but not the least, the next few years are likely to see increased global competitiveness in the Nepalese development banks, and the banking sector will also

mature in terms of operational years. Therefore, it would be interesting to expand the survey to provide longitudinal survey of non-performing loans change documenting changes overtime in the adoption of strategy and significant influence of the profitability of the banks.

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APPENDICES

Appendix- I

Data of Jyoti Bikas Bank Limited

(in million)

Fiscal Years	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Total Assets	4901.93	6194.76	7423.08	8917.85	13210.23	23401.93	36459.94	42361.1	59879.02	71407.87
Total Equity	890.44	906.44	1005.42	1157.37	2590.46	2880.62	3945.80	4504.00	5326.57	5637.254139
Total Loan and Advance	3388.57	4182.25	4956.49	6009.53	9138.22	16235.35	26117.57	31433.17	46794.35	52059.143
Total Deposit	3697.07	5185.42	6332.90	7677.18	10516.01	19554.26	29238.93	37483.47	52138.859	56745.415
Net Profit	70.09	62.87	102.98	151.94	228.45	346.11	531.34	488.45	663.86	670.001
NPL% to total loan	3.33	2.67	1.98	1.39	0.74	0.4	0.64	0.92	0.84	1.47
LLP% to total NPL	83.10	107.27	107.67	141.14	199.88	349.39	220.30	185.57	159.35	96.62
Capital Adequacy Ratio	83.1	107.27	107.67	141.14	199.88	349.39	220.3	185.57	159.35	96.62
ROE	7.87	6.94	10.24	13.13	8.82	12.02	13.47	10.84	12.46	11.89

Source: Annual Reports of MNBBL from 2013/14 to 2022/23

Appendix- II

Data of MuktinathBikas Bank Limited

(in million)

Fiscal Years	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Total Assets	4465.99	6029.43	11477.1	12936.8	19592.34	34649.27	51991.4	66348.09	101131.72	120226.58
Total Equity	398.47	603.29	982.48	1341.81	1977.80	3651.93	4449.50	5790.91	6808.03	8076.591074
Total Loan and Advance	2998.20	4377.59	6625.26	9798.61	15159.39	25168.87	38144.32	48264.80	76402.86	89539
Total Deposit	3662.81	5197.88	7781.55	11276.65	16775.22	30668.91	46176.31	59633.13	92322.5	108425
Net Profit	98.01	151.99	236.71	361.37	486.93	575.52	856.17	707.40	1150.97	1342
NPL% to total loan	0.66	0.44	0.19	0.09	0.02	0.004	0.07	0.46	0.25	0.21

LLP% to total NPL	229.11	321.03	625.52	1165.35	5433.48	23213	1598.15	320.48	647.94	626.19
Capital Adequacy Ratio	12.14	12.66	13.17	12.11	14.96	14.25	13.44	13.23	11.16	11.8
ROE	24.6	25.19	24.09	26.93	24.62	15.76	19.24	12.22	16.91	16.61

Source: Annual Reports of MNBBL from 2013/14 to 2022/23

Appendix- III

Data of KamanaSewaBikas Bank Limited

(in million)

Fiscal Years	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Total Assets	2399.72	3025.38	3622.92	5504.55	8374.54	19453.29	26716.52	36621.71	51745.02	59881.70
Total Equity	2642.31	3305.95	401.42	953.42	1122.21	3182.19	3245.22	3204.05	3941.19	4364.58
Total Loan and Advance	178.76	2098.36	2561.53	5983.17	6112.31	13202.08	18906.60	25926.01	38829.18	44663.52
Total Deposit	2098.72	2664.76	3142.48	6906.14	6982.97	15750.25	21376.13	31905.97	44450.16	50560.00
Net Profit	50.02	63.30	81.39	171.18	108.26	374.73	284.58	119.71	527.52	146.72
NPL% to total loan	0.18	0.17	0.29	1.03	1.39	1.13	0.9	1.79	1.61	2.31
LLP% to total NPL	644.38	673.39	463.53	154.26	147.57	144.21	171.8	134	126.47	139.29
Capital Adequacy Ratio	13.61	13.88	13.98	14.25	12.76	21.58	16.81	14	13.78	12.13
ROE	1.89	1.91	20.28	17.95	9.65	11.78	8.77	3.74	17.77	14

Source: Annual Reports of MNBBL from 2013/14 to 2022/23

Appendix- IV

Descriptive Summary of Variables

Year	Total Assets			CAR			CDR		
	JBBL	MNBBL	KSBBL	JBBL	MNBBL	KSBBL	JBBL	MNBBL	KSBBL
2013/14	4901.93	4465.99	2399.72	22.93	12.14	13.61	91.66	81.86	85.18
2014/15	6194.76	6029.43	3025.38	18.43	12.66	13.88	80.65	84.22	78.74
2015/16	7423.8	11477.1	3622.92	17.4	13.17	13.98	78.27	85.14	81.51
2016/17	8917.85	129360.75	5504.55	16.79	12.11	14.25	78.28	86.89	86.64
2017/18	13210.23	195920.34	8374.54	12.3	14.96	12.76	86.9	90.37	87.53
2018/19	23401.93	346490.27	19453.3	19.25	14.25	21.58	82.66	82.07	85.35
2019/20	36459.94	519910.4	26716.5	16.23	13.44	16.81	88.84	82.61	94.67
2020/21	42361.1	663480.09	36621.7	15.08	13.23	14	79.33	80.94	81.6
2021/22	59879.02	101131.72	51745	13.04	11.16	13.78	83.49	82.76	87.26
2022/23	71407.87	120226.58	59881.70	12.74	11.8	12.13	86.36	82.58	87.34
Mean	27415.84	209849.27	21734.53	16.42	12.89	14.68	83.64	83.94	85.58
SD	24063.092	228568.02	21347.10	3.32	1.16	2.71	4.66	2.86	4.38
CV	87.77	108.92	98.22	20.23	8.97	18.46	5.57	3.40	5.12
Max	71407.87	663480.09	59881.7	22.93	14.96	21.58	91.66	90.37	94.67
Min	4901.93	4465.99	2399.72	12.3	11.16	12.13	78.27	80.94	78.74

NPLR			LLPR			ROE		
JBBL	MNBBL	KSBBL	JBBBL	MNBBL	KSBBL	JBBBL	MNBBL	KSBBL
3.33	0.66	0.18	83.1	229.11	644.38	7.87	24.6	1.89
2.67	0.44	0.17	107.27	321.3	673.39	6.94	25.19	1.91
1.98	0.19	0.29	107.67	625.52	463.53	10.24	24.09	20.28
1.39	0.09	1.03	141.14	1165.35	154.26	13.13	26.93	17.95
0.74	0.02	1.39	199.88	5433.48	147.57	8.82	24.62	9.65
0.4	0.004	1.13	349.39	23213	144.21	12.02	15.76	11.78
0.64	0.07	0.9	220.3	1598.15	171.8	13.47	19.24	8.77
0.92	0.46	1.79	185.57	320.48	134	10.84	12.22	3.74
0.84	0.25	1.61	159.35	647.94	126.47	12.46	16.91	17.77
1.47	0.21	2.31	96.62	626.19	139.29	11.89	16.61	14
1.44	0.24	1.08	165.03	3418.05	279.89	10.77	20.62	10.77
0.96	0.22	0.72	79.79	7125.14	223.46	2.25	5.06	6.79
66.47	90.64	66.87	48.35	208.46	79.84	20.93	24.55	62.99
3.33	0.66	2.31	349.39	23213	673.39	13.47	26.93	20.28
0.4	0.0004	0.17	83.1	229.11	126.47	6.94	12.22	1.89

Source: calculation from excel software

Correlation Calculation from SPSS software

Correlations

	ROE	Size	CAR	CDR	NPLR	LLPR
ROE	1					
Size	.056 (.767)	1				
CAR	-.348 (.060)	-.383* (.037)	1			
CDR	.113 (.553)	-.048 (.802)	.132 (.486)	1		
NPLR	-.416* (.022)	-.136 (.472)	.504** (.005)	.134 (.482)	1	
LLPR	.138 (.468)	.020 (.917)	-.050 (.794)	-.056 (.767)	-.293 (.117)	1

*. Correlation is significant at the 0.05 level (2-tailed)

**. Correlation is significant at the 0.01 level (2-tailed).

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	LLP, BankSize, CreditDeposit, NPL, CapitalAdequacy[b]	.	Enter

a. Dependent Variable: ROE

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.487[a]	.237	.079	6.51759

a. Predictors: (Constant), LLP, BankSize, CreditDeposit, NPL, CapitalAdequacy

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	317.482	5	63.496	1.495	.229[b]
	Residual	1019.495	24	42.479		
	Total	1336.976	29			

a. Dependent Variable: ROE

b. Predictors: (Constant), LLP, BankSize, CreditDeposit, NPL, CapitalAdequacy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.669	26.374		-.063	.950
	BankSize	-1.545E-005	.000	-.069	-.359	.723
	CapitalAdequacy	-.558	.529	-.236	-1.055	.302
	CreditDeposit	.316	.306	.186	1.030	.313
	NPL	-2.541	1.744	-.318	-1.457	.158
	LLP	7.132E-005	.000	.045	.238	.814

a. Dependent Variable: ROE

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Bank_Size	30	2399.72	120226.58	########	#########
CAR	30	11.16	22.93	14.6630	2.87441
CDR	30	78.27	94.67	84.3900	3.99781
NPLR	30	.00	3.33	.9191	.84915
LLPR	30	83.10	23213.00	1287.6480	4257.08730
ROE	30	1.89	26.93	14.0530	6.78989
Valid N (listwise)	30				

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