# CHAPTER- I

# INTRODUCTION

## 1.1 Background

The world is changing at a fastest rate. Developed and leading countries like USA, China, Japan, Europe, India etc. are the leading examples of this. Intense competition, globalization, standardization, free trade policy, different human rights, development in technology is the crucial factor for change. One of the main factors to measure the development of a country is economic factor.

Nepal, a land locked country with agro based economy, known for its Great Himalayas, beautiful temples, masterpiece arts and sculptures, is the ninth poorest country of the world. Though tremendous natural resources exit they have not been fully or partially utilized. Political instability, low economic growth rate, medium literate population, unawareness are the factors for this. The total population of Nepal is 29,391,883 (July 2011 est.) & its growth rate is 1.596% (2011est.). The economic growth rate of Nepal is very low. The important components of economic dimensions of an economy are Gross Domestic product (GDP), Per Capita income, personal consumption expenditure, unit labor cost & private investment. GDP (Purchasing power parity) of Nepal is US $35.81 billion (2010 est.). Per capita income of a country can be used as an indicator of the purchasing power of its people. Nepal's per capita income is US $ 472, the revised macro economic indicator reveals, which is one of the lowest in the world. This is also the lowest among the SAARC countries.

Financial institution is one of the sinequanon factors to measure the economic development of a country. It is reckoned as a barometer to measure the economic growth and also the hub of a financial system. Any organization or institution which is engaged in any type of financial activities is known as financial institution. They accept savings of public as deposit and mobilize such deposit providing loan against security deposit or on the guarantee of group to the needy person, business and industries. According to NRB Act 2012 "Financial

Institution means a financial institution established under the prevailing laws with the objectives of providing loans for agriculture, co-operative, industry for any other specific economic purpose of collecting deposits from the general public and the word also includes an institution prescribed as financial institution by Government of Nepal by publishing notice in the Nepal Gazette".

The economic development of any country is supported by financial infrastructure of that country. A small financial institution is a vital contributor to the financial health of the national economic. The financial institutions are often fragile and susceptible to failure because of poor management particularly financial management. Financial infrastructure indicates the financial strength, position and environment of the institutions. They are currently viewed as catalyst in the process of economic growth of a country. The importance of financial intermediaries has been stressed by these words "Economists and historians agree that the process of modern economic growth has been closely associated with the expansion and increasing diversification of financial intermediation". The key factor in the development of an economy is the mobilization of the domestic resources. A sound healthy, efficient and secured financial system helps accelerate the dynamics of an economy and thus plays a significant role as a growth facilitator. The Nepalese financial sector is composed of banking sector and non-banking sector. Banking sector comprises of Nepal Rastra Bank and commercial banks. Nepal Bank Limited (NBL) is the first Bank of Nepal. According to Dictionary of Banking and Finance (P.H. Collin, reprint 1997, "Business which holds money for its clients, which lends money at interests and trades generally in money" is bank. The non-banking sector includes development banks, micro-credit development banks, finance companies, co-operative financial institutions, non-government organizations (NGOs) performing limited banking activities. Other financial institutions comprise of insurance companies, employees provident fund, citizen investment trust, postal saving offices and Nepal Stock exchange. The restoration of multiparty democracy and government major step to take liberal policy buttressed the banking sector. As a result of this, there is an increment in the number of commercial banks and its branches in context to Nepal within the last five years.

Banks are such types of institutions, which deals in money and substitute for money. They deal with credit and credit instruments. The most important thing for the bank is good circulation of credit. Banking plays a significant role in the development of national economic; it is a financial institution which primary classes in borrowing and lending. Modern bank prefers varieties of function therefore it is difficult to decide the function of a modern bank because of their complexity and versatility in operation. Various authors have defined the word "Bank" in different ways. "A commercial bank is dealer of money and it substitutes for money such a check or bills of exchange, it also provides a variety of financial service" - (The new Encyclopedia of Britannica, Vol. 4:1985; 600).

In Nepal, formal banking commenced with the establishment of Nepal Bank Limited (NBL) in 1937. The central bank was established in 1956 after nearly two decades of the start of commercial banking by NBL. Then a decade later, Rastriya Banijya Bank (RBB) was established by the government. Following the financial liberalization in the 1990s, Nepal Arab Bank Ltd (now NABIL Bank Ltd) was established, making it the first foreign joint venture bank in Nepal. After mid-1990s, the number of BFIs increased multifold. In 1983 and 1993 there were two and eight commercial banks respectively; and by 2006, there were 18. Currently, there are over 292 BFIs, including 31 commercial banks, 79 finance companies, and 18 microfinance institutions.

The total deposits at commercial banks stand at around Rs. 642 billion (as of April 2011), development banks and finance companies have deposits around Rs. 56 billion and 67 billion respectively (as of mid-July 2009). Of the total commercial banks' deposits, demand deposits, saving deposits, and fixed deposits stand at 12%, 36% and 52% respectively. They have liquid finds of Rs. 114 billion (cash in hand is just 16.2 billion, and deposits with NRB Rs. 39.3 billion). More than Rs.110 billion is invested in real estate by the commercial banks alone. Over 72%of commercial banks' credit flows against fixed assets. Loans and advances of commercial banks (without claims on government) stand at Rs. 572 billion (as of April 2011). Meanwhile, loans and advances of development banks and advances of development banks and finance companies stand at Rs. 52 billion and 70 billion respectively (as of mid July 2009). As

a share of gross domestic product (GDP), total deposit, total credit (including claims on government) and private sector credit are 51%, 54.9%, and 43.6% respectively.

Total assets of bank can be divided into two parts performing assets and non performing assets/loan. Performing assets are those assets which direct generates cash to organization or indirectly helps to generate cash or it facilitates the set ups for better productivity. Loan and advances is direct contributor to banks income whereas cash in vault balance in other bank, fixed assets and other assets are the facilitators which helps the daily operation of bank. Performing assets add positive value to bank as well as to nation. Performing assets are those loans that repay principle and interest to the bank from the cash flow it generates. Non-performing assets can be defined as those assets that cannot be used productively. Non-performing assets is the outdated loan, and bad and doubtful debts. Non-performing assets could wreak banks profitability both through a loss of interest income and write off the principal loan amount.

Non performing Assets (NPA) can be defined as a loan or lease that is not meeting its stated principal and interest payments. Non performing assets are commercial loans and consumer loans which have not been paid until the time to pay loan is overdue. For a bank, a Non Performing Asset (NPA) or bad debt is usually a loan that is not producing income. Earlier it was largely applicable to businesses. But things have changed with banks widely extending consumer loans (home, car, personal and education, among others) and strict asset classification norms. Banks usually classify as nonperforming assets as any commercial loans which are more than 90 days over due and any consumer loans which are more than 180 days overdue. More generally, it is an asset which is not producing income. If a borrower misses paying his equated monthly installment (EMI) the loan is considered bad, or an NPA. High NPA's are a sign of bad financial health. This has wide-ranging ramifications for a bank, especially in the stock market and money market. So, as soon as a debt goes bad, the banks want it either made better or taken out of their books.

According to the issue published by **Reserve Bank of India (RBI):** "Non Performing Asset means an asset or account of borrower, which has been classified by a bank or financial institution as sub-standard, doubtful or loss asset, in accordance with the directions or guidelines relating to asset classification."

NPA may be defined broadly as the bad debt; however, in terms of banking sector consists of those loans and advances which are not performing well and likely to be turn as bad debt. NPA as per the current directives of Nepal Rastra Bank (NRB) has been categorized as classified loans and advances. NPA has severe impacts on the financial institutions. On the one hand, the investment becomes worthless as expected return cannot be realized and on the other due to the provision required for the risk mitigation the profitability is directly affected. The existence of the bank can be questioned in this situation. Thus, interest along with principal has to be recovered timely and without any obstacles.

"Non-performing assets could wreck bank's profitability both through a loss of interest income and need to write off the principal loan amount. It tackles the subject of an entire starting from the stage of their identification till the recovery of dues in such amount". (Bindani, 2003: 36-38).

"To start with performance in terms of profitability in a benchmark for any business enterprises, including the banking industry, however increasing non performing assets have a direct impact on bank's profitability as legally banks are not allowed to book income on such accounts and at the same time banks are forced to make provisions on such assets." (Manamohan, 2002: 06).

Loan and advances dominates the assets side of balance sheet of any bank. Similarly, earning from such loans and advances occupy major space in income statement of the bank. Lending can be said to be raison de enter of the bank. The objectives of loan policy are to maintain the financial health of the banks, which result in safety of depositor's money and increase in the returns to the shareholders. Since the loan is a risky asset there is inherent risk in every loans, however, the bank should not take risk above the certain degree irrespective of the returns prospects. Most of the bank

failures is due to shrinkage in the value of the loan and advances. Hence loan is known as risky assets. Risk of non-payment of loan is known as credit risk or default risk.

## 1.2 Statement of the Problems:

Financial companies and institutions are nowadays facing a major problem of managing the Non Performing Assets (NPA) as these assets are proving to become a major setback for the growth of the economy. Undoubtedly, the world economy has slowed down. Globally stock markets have tumbled and business itself is getting hard to do with the simple reason that the banks (creditor) money in the form of funds gets blocked. Under such a situation, it goes without saying that banks are no exception and are bound to face the heat of a global downturn.

Assets are the most critical factor in determining the strength of any bank. The primary factors that can be considered are the quality of the loan portfolio, mix of risk assets and the credit administration system. The lower NPL ratio indicates better risk assessment and robust credit management system are in place and vice-versa. At the same time higher loan loss provisions indicate poor credit management; it also indicates adequate reserve for possible loan loss, protecting the balance sheets of respective banks.

**PROBLEMS DUE TO NPA:**

1. Owners do not receive a market return on their capital in the worst case, if the banks fails, owners loose their assets. In modern times this may affect a broad pool of shareholders.

2. Depositors do not receive a market return on saving. In the worst case if the bank fails, depositors loose their assets or uninsured balance.

3. Banks redistribute losses to other borrowers by charging higher interest rates, lower deposit rates and higher lending rates repress saving and financial market, which hamper economic growth.

4. Non performing loans symbolize bad investment. They misallocate credit from good projects, which do not receive funding, to failed projects. Bad investment ends up in misallocation of capital, and by extension, labor and natural resources.

5. Non performing asset may spill over the banking system and contract the money stock, which may lead to economic contraction. This spill over effect can channelized through liquidity or bank insolvency.

As the bank has to meet various challenges this study will be helpful to the bank to identify and solve some of its weakness and problems. In every organization, the resources are scare and out of these scare resources, the objective of the organizations is to be accomplished. Increase in revenue and control over expenditure significantly contributes to improve the profitability as well as the over all financial performance of an organization by the help of the best utilization of resources.

This study will investigate the effects of Non-Performing Assets of the bank on its total lending policy and its profitability. The investigation will be conducted on a "real work" setting and will use a computer – based task. A sample of 4 commercial banks among 26 commercial banks is taken. Thus, this study makes a modest attempt to analyze the non-performing assets of the banks.

### 1.3.1 Research Questions:

Currently the banking sector is facing various problems. One of them is the banking has been becoming a victim of huge non-performing assets. Non-performing assets are one of the serious problems faced by the commercial banks. There are four research questions in this study to find out the effect of NPA on the bank.

1) What is the overall impact of the NPA on the profitability of the Commercial Banks under study?
2) Is there any relationship between NPA and the profitability of the Commercial Banks and the other Non-Banking Assets, [NBA]?

3) What might be the other factors that influence the non-performing assets of the Commercial Banks in the banking industry of Nepal?
4) What percentage of total assets and total lending is occupying by non-performing assets of Nepalese commercial banks?
5) Whether or not Nepalese commercial banks is following NRB's regulation regarding their lending's, especially to maintain the provision for non-performing assets?
6) Are there any internal factors of the individual Commercial Banks in increment of the non-performing assets of them?

## 1.4 Objectives of the Study:

The improper strength, weakness, opportunity and threat analysis is another reason for rise in NPA. Increase in NPA has now become the major issue for every commercial bank. Every bank now has put the NPA management under the top priority and is functioning to reduce the major part of it from the assets side of their balance sheet. The main objective of this research is to examine and study of level of non-performing loans in total assets, total deposit and total lending of Nepalese commercial banks. The specific objectives are as follows:

- To examine the proportion of non-performing loan in the selected commercial banks.
- To analyze the level of non-performing loans in total assets, total deposit and total lending of Nepalese commercial banks.
- To examine the relationship between loan and loan loss provision in the commercial bank.
- To analyze the impact of loan loss provision on the profitability of the commercial banks.
- To recommend for the improvement of the management of NPA on the basis of the findings of the study.

## 1.5 Significance of the Study

The success and prosperity of the bank heavily depends upon the successful implementation and investment is collected resources, which develops the economy of the country. Good investment policy of the bank has positive impact on economic development of the country and vice versa. Therefore success of any bank does not depend upon how much money a bank able to lend? But it depends upon the quality of loan. So success of any bank depends upon the amount of performing loan/assets. Performing assets are those loans that repay principal and interest to the bank from the cash flow it generates.

Increasing non-performance loan followed by increasing loans and loan loss provision is one of the challenges faced by commercial banks in the present context. Proper loan provision and loan loss provision helps to get financial strength of the bank. The research will be able to give the some of the present issued, latest information and data regarding non-performing loan and loan loss provision. Not only that, this study gives the real picture of the current non-performance assets to its shareholders.

This study mainly concerned with the analysis of level of non-performance assets, total deposit and total lending of different Nepalese commercial banks. Therefore, it is significant to find out the level of non-performing assets and to find out whether the banks maintained loan loss provision in accordance to NRB's directives or not. It also examines the effects of NPA in ROE and ROA of the bank and points out the defect inherent in it and provide package of suggestion for its improvement if found any.

## 1.6 Research Methodology:

For this study, both Field and Desk research will have been adopted. The fieldwork will have been conducted to collect necessary information, while deskwork has been conducted to analyze and interpret the information so collected. Since the basic objective of this study is to analyze the non-performing loan of commercial banks. Therefore, suitable research methodology as demanded by the study is followed. It is intended to use simple and lucid methodology which is presented in third chapter in detail.

### 1.6.1 Population and Sample:

There are many financial institutions in Nepal. This study focuses on the non-performing assets of sampled commercial banks in Nepalese banking industry. The population of the study is the total numbers of commercial banks, which are 26 banks. The following are the banks, selected as sample for the study.

- Nabil Bank Limited
- Agriculture Development Bank Limited.
- Nepal Investment Bank Limited
- Kumari Bank Limited

### 1.6.2 Sources of Information:

The main sources of information are their published documents, NRB and its published documents, expert's views, newspapers; others published and unpublished documents and many others secondary data have been collected for analysis. The major sources of secondary data are as follows:

- Economic survey, HMG Ministry of Finance.
- Nepal Rastra Bank directives.
- Nepal Rastra Bank news.
- Annual general reports of the concerned Commercial Banks.
- National and international newspaper, journals, magazines etc.
- Many other books as far as possible.
- Different web-sites

## 1.7 Limitations of the Study:

This study is simply a partial study for the fulfillment of M.B.S. degree, which had to be finished within limited period. Hence this study is not far from several limitation of its own kind, which weakens the heart of the study. It has certain limitations as follows:

- This study has employed secondary data published by and collected from selected banks.

- The study is focused on the Nepalese commercial banks only. Hence, the findings may not be applicable to all other banks finance companies and other companies of Nepal.
- The study covers a period of 5 fiscal years which will be tabulated and processed for drawing conclusion.
- The accuracy of the research work will be dependent on data provided by concerned organization.
- Time factor is major limitation of this study.
- This study concentrates only on those factors, which are related with nonperforming assets of Nepalese commercial banks. It does not consider other aspects of the banks.
- Profitability of an organization is caused by many factors. This study, however, covers only those factors, that are directly affected by the non-performing assets of the Commercial Banks.

## 1.8 Organization of the Study:

To make the study precise and attractive in presentation, this research work has been divided into five chapter namely Introduction, Review of literature, Research methodology, data presentation and analysis and finally summary, conclusion and recommendation.

**Chapter I: Introduction**

The first chapter includes narrow aspects of this study like General background of the study, Statement of the problem, Objective of the study, Focus of the study, Significance of the study along with limitation of the study.

**Chapter II: Review of Literature**

The second chapter incorporates that the conceptual thoughts and related study regarding the subject matter.

**Chapter III: Research Methodology**

The third chapter discussed the "Research Methodology" used in the study. In comprise research design, nature & source of data, data gathering method along with different statistical and financial tools used.

**Chapter IV: Presentation and Analysis of Data**

The fourth chapter deals with the "Data presentation and analysis" of data and scoring the empirical finding out the study through definite course of research methodology.

**Chapter V: Summary, Conclusion & Recommendation**

The last chapter named as "Summary, Conclusion & Recommendation" is followed by the basic conclusion of the study based in the fourth chapter. On the basis of the summary, conclusion is taken out and recommendation has also been presented for consideration.

# CHAPTER II

# REVIEW OF LITERATURE

## 2.1 Origin and concept of the bank

The word bank was borrowed in Middle English from Middle French banque, from Old Italian banca, from Old High German banc, bank "bench, counter". Benches were used as desks or exchange counters during the Renaissance by Florentine bankers, who used to make their transactions atop desks covered by green tablecloths.

Banking in the modern sense of the word can be traced to medieval and early Renaissance Italy, to the rich cities in the north like Florence, Venice and Genoa. The Bardi and Peruzzi families dominated banking in 14th century Florence, establishing branches in many other parts of Europe. Perhaps the most famous Italian bank was the Medici bank, set up by Giovanni Medici in 1397. The earliest known state deposit bank, Banco di San Giorgio (Bank of St. George), was founded in 1407 at Genoa, Italy.

The earliest evidence of money-changing activity is depicted on a silver Greek drachm coin from ancient Hellenic colony Trapezus on the Black Sea, modern Trabzon, c. 350–325 BC, presented in the British Museum in London. The coin shows a banker's table (trapeza) laden with coins, a pun on the name of the city. In fact, even today in Modern Greek the word Trapeza means both a table and a bank.

The first banks were the merchants of ancient world that made loans to farmers and traders that carried goods between cities. The first records of such activity dates back to around 2000 BC in Assyria and Babylonia. Later in ancient Greece and during the Roman Empire lender based in temples would make loans but also added two important innovations that of accepted deposits and changing money. During this period there is similar evidence of the independent development of lending of money in ancient China and separately in ancient India.

The development of banking spread through Europe and a number of important innovations took place in Amsterdam during the Dutch Republic in the 16th century

and in London in the 17th century. During the 20th century developments in telecommunications and computing resulting in major changes to way banks operated and allowing them dramatically increase in size and geographic spread. The Late-2000s financial crisis saw significant number of bank failures, including some of the world's largest banks and much debate about bank regulation.

### 2.1.1 Earliest forms of banking

The history of banking is closely related to the history of money but banking transactions probably predate the invention of money. Deposits initially consisted of grain and later other goods including cattle, agricultural implements, and eventually precious metals such as gold, in the form of easy-to-carry compressed plates. Temples and palaces were the safest places to store gold as they were constantly attended and well built. As sacred places, temples presented an extra deterrent to would-be thieves.

In Egypt, from early times, grain had been used as a form of money in addition to precious metals, and state granaries functioned as banks. When Egypt fell under the rule of a Greek dynasty, the Ptolemies (332-30 BC), the numerous scattered government granaries were transformed into a network of grain banks, centralized in Alexandria where the main accounts from all the state granary banks were recorded. This banking network functioned as a trade credit system in which payments were effected by transfer from one account to another without money passing. In the late 3rd century BC, the barren Aegean island of Delos, known for its magnificent harbor and famous temple of Apollo, became a prominent banking center. As in Egypt, cash transactions were replaced by real credit receipts and payments were made based on simple instructions with accounts kept for each client. With the defeat of its main rivals, Carthage and Corinth, by the Romans, the importance of Delos increased. Consequently it was natural that the bank of Delos should become the model most closely imitated by the banks of Rome.

In ancient India during the Maurya dynasty, an instrument called adesha was in use, which was an order on a banker desiring him to pay the money of the note to a third person, which corresponds to the definition of a bill of exchange as we understand it today. During the Buddhist period, there was considerable use of these instruments. Merchants in large towns gave letters of credit to one another.

In ancient China starting in the Qin Dynasty (221 to 206 BC) the Chinese currency developed with the introduction of standardized coins which allowed the much easier trade across china and led to the development of letters of credit. These letters were issued by merchants that acted in ways that today we would understand as banks.

The concept of modern commercial bank came into existence by the emergence of the bank of England in 1964 with a capital of 1.2 million pound by a group of wealthy London merchants and financiers. Since at that time, there was no concept of joint stock Company, it was necessary to obtain a special charter from the crown to poll their money in common venture. King William ill was too pleased to grant a royal charter to Bank of England, because in return a capital subscribed of 1.2 million pound was lent to him to finance his war against France. The charter also gave the new bank the right to issue notes, payable on demand, up to the amount of loan to the King (Joshi, 2001).

### 2.1.2 Concept of Commercial Bank and Historical Review in Nepalese Perspective

The evolution of banking industry had started a long time back, during ancient times. Nepal has been ruled over by many rulers like Kirati, Lichhavi, Malla, Ranas and Shahs. Mostly Kirati, Lichhavi, and Malla regimes were concerned with the construction of temples, pati, pouwa, chautari etc. At that period neither the people nor the government were interested to think about the economic development of the country. According to ancient "vanshawali" in fourteenth century, the ruler of the Kathmandu Jayasthiti Malla segregated the local domiciles into 64 different classes according to profession they had undertaken. Tankadhari was one of those classes who used to deal in coins and precious metals such as gold. These Tankadhari's were said to have carried out the borrowings and lending on money (coins). Hence, Tankadhari's can be regarded as the traditional bankers of Nepal (Singh and Khadka, 2056).

Like many other countries, goldsmiths, merchants and money lenders were the ancient bankers of Nepal. **"Tejarath Adda"** was established in 1880 during the period of Prime Minister Ranoddip Singh was the first step towards the institutional development of banking in Nepal. Some historians says that **Kaushi Tosha Khana**

established during the time of king Prithivi Narayan Shah (1723-1755) is the first banking institution but there is very little known about it. Tejarath Adda did not collect deposits from the public but provided loans to public under the security of gold and silver to the public and to the government employees against the security of their salary. Since the interest rate of Tejarath Adda was just 5% beneficiaries were very much relieved of exorbitant interest rate being charged by the traditional bankers. The government established its various branches and sub-branches at different places of the country for the sake of benefits of people. In the overall development of the banking system in Nepal, the Tejarath Adda may be regarded as the father of modern banking institutions and for a quite long time it provided a good service to government employee as well as to the general public.

Banking in modern sense started with the inception of Nepal Bank Limited (NBL) on 15 November 1937 under Nepal Bank Act 1937 though in Europe modern banks were setup in the 12th century itself. NBL was set up with cooperation of Imperial Bank of India. The bank was inaugurated by the then king Trivhuwan. It was established with the purpose of supplying loan to industries and commerce providing banking facilities to the people such as collecting deposits provide long term and short term loan against collateral and guarantee. The bank has dominance role in banking transactions all over the country. The shareholders of bank consists Nepal Government and general public.

Nepal Bank Limited, the first commercial bank of the country had a Herculean responsibility of attracting the people toward the banking sector from pre-dominant money lenders' net and expanding banking services to various parts of the country. It could not open the branches across the country due to various factors. It had only 12 branches till 1956. Nepal bank limited was also serving as the central bank of the country before the establishment of Nepal Rastra Bank. However the stand of Nepal Bank Limited alone in total monetary and financial sector was not sufficient and satisfactory In 2013.01.14 .Nepal Rastra Bank was set up to work as a central bank of the country under Nepal Rastra Bank acts 2012 B.S. The capital of this bank was fully subscribed by Nepal Government. Similarly on 2022.10.10 Rastriya Banijya Bank was established as a fully government owned commercial bank. With the emergence of RBB, banking service spread to both the urban and rural areas but customers failed

to have taste of quality/competitive service because of excessive political and bureaucratic interference. For industrial development, industrial development center was set up in 2013 B.S. which was converted to Nepal Industrial Development Corporation (NIDC) in 2016 B.S. Similarly Agriculture Development Bank (ADB) was established in 2024.10.07 with an objective to promote agriculture products so that agricultural productivity could be enhanced through introduction of modern agricultural techniques. The government introduced Commercial Bank act in Nepal in 2033 B.S. to cover the vast field of financial sector. This act has helped to emerge number of commercial bank with a view to maintain the economic interest in comfort of the public in general facilitated to provide loan for agriculture, industry and trade and make a available banking services to the country and people.

Along vacuum in the banking sector got some rays of hope only when the government forwarded the economic liberalization policy in 2039 B.S. and decided to allow foreign banks to operate their activities in Nepal in "joint venture model". "Joint venture banks can be defined as an association of two or more parties having common objectives and goals so as to get maximum satisfaction. Basically at that time, it was envisioned that joint venture banks would support the country in various ways".

The NABIL Bank Ltd is the first joint venture bank established in 2041 B.S. and started its operation with modern banking services. In the same way, Nepal Indosuez Bank (present Nepal Investment Bank), the second joint venture bank established in 2042 B.S. with an objective to encourage efficient banking services and facilities. Likewise Standard Chartered Bank is operated under the direction of Indian management.

With the satisfactory result of Joint-venture Banks, Nepalese promoters are highly encouraged and as a result, commercial banks are introduced with cent percent domestic investment. At present, Nepal Industrial and Commercial Bank (NIC), Lumbini Bank Ltd., Machhapuchhre Bank Ltd., Kumari Bank Ltd, Laxmi Bank Ltd, Siddhartha Bank Ltd., Bank of Kathmandu, Nepal Credit and Commerce Bank Ltd., came into operation with cent percent domestic investment by Nepalese promoters which is the plus point of development of banking sector of Nepal. Now, there is a

strong competition between commercial banks for their existence so that the growing needs of the customers can easily be achieved.

## 2.2. Definition of loans and advances

Banks accepts deposit from the surplus group of society (or from those who want less risk to their money with less return) and supply those fund to the deficit group of society or to those entrepreneurs who have skill and knowledge but less financial resources to implement those viable project. Almost all banks have the loan and advances as their prime assets and interest earning from loan and advances are the major sources of income. This asset constitute primary source of income to banks.

Loan is defined as a sum of money transferred to another for temporary use, to be repaid with or without interest according to terms of the loan agreement written in the accompanying bond, note, mortgage or other document of indebtedness. However, in financial terms loan or debt means principal or interest availed of to the borrower against the security. Debt means the money that bank owes or lends to individual or person. Likewise, the term loan is defined as a lending, a sum of money, and delivery by one party and receipt by another party upon agreement expressed to implied, to repay it with or without interest (Boerne Vs. Colwell Co., 1997: 125-129). Any thing furnished for temporary use to a person at his request on condition that it shall be returned, or it's equivalent in kind, with or without compensation for its use.

Debt means "Principal and interest provided to debtor by banks or financial institutions, with or without the pledge of immovable or movable property or other securities or guarantees or without guarantee, and the word also mean over dues of the transactions beyond balance or fees, commission and interest incurred in that relation."(Debt Recovery 2058 Act.79).

Loans and advances dominate the assets side of the balance sheet of any bank. Similarly, earning from such loans and advances occupy a major space in income statement of the bank. They are also the least liquid of the bank's entire assets. Loans and advances may take different forms and are allowed against various types of securities. Loans, overdrafts, discounting of bills of exchange etc. are some of the forms of bank lending. Granting loans and advances always carries a certain degree of risk. Loans and advances are regarded as the risky asses of the banks.

The supreme court of India has defined the debt during the decision of the case of United Bank of India vs. DRT. Sudhir Gupta states that “In the case in hand, there cannot be any dispute that the expression „debt“ has to be given the widest amplitude to mean any liability which is alleged as dues from any person by a bank during the course of any business activities undertaken by the bank either in cash or otherwise, whether secured or unsecured, whether payable under a decree or order of any court or otherwise and legally recoverable on the date of the application (Ghimire, 2005: 17).

### 2.2.1 The loan Policy

The loan policy is the primary means by which senior management and the board guide lending activities. Although the policy primarily imposes standards, it also is a statement of the bank’s basic credit philosophy. It provides a framework for achieving asset quality and earnings objectives, sets risk tolerance levels, and guides the bank’s lending activities in a manner consistent with the bank’s strategic direction. Loan policy sets standards for portfolio composition, individual credit decisions, fair lending and compliance management.

“Loan policies vary in length, organization, degree of detail and breadth of topics, there is no ideal format. Frequently the bank’s general lending policy will be supplemented by more detailed underwriting standards, guidelines and procedures. Within the same banking company, certain aspects of the policy may vary because of factors such as geographic location, economic conditions, personnel, or portfolio objectives. The format should be tailored to fit the needs of a particular bank, and the scope and detail should be commensurate with the complexity of the bank’s lending activities.” (William: 1960: 104)

“For the policy to be an effective risk management tool, it must clearly establish the responsibilities of those involved in the lending process. For example, who is authorized to approve a covenant violation, who arbitrates risk rating differences, can a credit-scored decision be overridden? Lenders must know what is expected of them, when policy is vague or too broad, credit standards may be unclear and virtually nothing may be regarded as an exception. If the policy states that a bank will extend credit to established business, almost any company would qualify. But a policy further

requiring the business to be profitable, in operation for at least two years, and located within the bank's community is providing meaningful guidance." (Grywinski: 1991: 77)

#### 2.2.1.1 Loan Policy Topics

"While the form and contents of loan policies and procedures will vary from bank to bank, there are some topics that should be covered in all cases. These are - (Chopra: 1989: 17)

- Loan authorities
- Limits on aggregate loans and commitments
- Portfolio distribution by loan category and product
- Geographic limits
- Desirable types of loans
- Underwriting criteria
- Financial information and analysis requirements
- Collateral and structure requirements
- Margin requirements
- Pricing guidelines
- Documentation standards
- Collections and charge- offs
- Reporting requirements
- Guidelines for loan participants
- Off balance sheet exposure

The policy may also address insider transactions, affiliate transactions, conflicts of interest, the code of ethics, community support, appraisal requirements, environmental assessment requirements, relevant accounting issues (such as charge-off loans, non-performing loans, and debt restructuring) and the allowance for loan and lease losses. Any administrative requirements for granting loans should be covered in the policy. Policies and procedures should also ensure compliance with laws and regulations.

## 2.3 Definition of Non-Performing Assets

NPA means booking of money in terms of bad asset, which occurred due to wrong choice of client. Because of the money getting blocked the prodigality of bank decreases not only by the amount of NPA but NPA lead to opportunity cost also as that much of profit invested in some return earning project/asset. So NPA doesn't affect current profit but also future stream of profit, which may lead to loss of some long-term beneficial opportunity. Another impact of reduction in profitability is low ROI (return on investment), which adversely affect current earning of bank.

Non-performing loan (NPL) can be defined as the non-productive assets of the banks. An asset is known as non-performing assets (NPA's) if the borrower does not pay the dues in the form of principal and interest in time. However with effect from March 2004, default status would be given to a borrower if dues are not paid for 90 days. If any advances or credit facilities granted by bank to a borrower becomes non-performing, then the bank will have to treat all the advances/ credit facilities granted to that borrower as nonperforming without having any regard to the fact that there may still exist certain advances/credit facilities having performing status. It is considered as one of the key economic indicator for financial stability and sustainable economic development.

The higher the non-performing assets/loans the lower the return to the organization, therefore management always focuses to utilize the deployed assets in maximum and reduce the level of non-performing assets. So, that a sustainable income is generated. Non-performing loans could wreck bank's profitability both through a loss of interest income and write of the principal loan amount. It tackles the subject of an entire starting from the stage of their identification till the recovery of such account. The standard international percentage of NPA is 5 %.

## 2.4 NRB Directives

The world has witnessed many financial crises and devastating consequences due to huge financial and economic losses that resulted from each episode. Every crisis was sudden in onset and their magnitude of losses was much larger than expected. If we go back to the history, then on 3rd March 1997, the Asian crisis began in the form of liquidity problem of two finance companies. Later this spread over to other financial

intuition within the Thai financial system. Simultaneously, crisis began to cover Malaysian, Indonesian and South Korean financial statement and loomed in the form of Asian crisis so this Asian crisis appealed the whole world for regular and timely supervision and assessment of financial system, its soundness and vulnerabilities. This event forced the regulatory authorities for the enforcement of prudential measures on order to avoid further crisis review and revision in prudential regulations such as capital adequacy ratio, asset classification. Provisioning for impaired assets, exposures limit and enforcement of international accounting standard etc. have now become common issue all over the world since the late 1990s.

Similarly, in our country too, commercial banks could not recognize the importance of the quality credit and banking sector failed to witness the expected developments. Subsequently, the banking sector faced the problem of bad debts, overdue loans, accrued interest, accumulation of non-banking assets and excess liquidity in the banking system. In addition to these expected happenings new challenger were added to the Nepalese banking sector due to the adverse development in the domestic economy resulting from deteriorating peace and security situation and continuous persistence of natural calamities inside the country on one hand and the global recession primarily caused by international terrorism on the other. Viewing the need of structural reform amidst these adverse implications, NRB issued directives to run commercial banks in a healthy competitive manner to ensure the sustainable development of the overall banking system

.

The financial sector reform of Nepal was initiated in mid 1980s. Since then NRB has been playing pioneer role in regulation, supervision and monitoring of commercial banks by issuing directives. At present the number of guidelines issued by NRB to commercial bank reaches sixteen which are listed as follows:

1) The provision of minimum capital fund to be maintained by the commercial bank.
2) The provision of loan classifications and loan loss provisioning on the credit.
3) The provision relating to limit on credit exposures and facilities to a single borrower, group of related borrowers and single sector of the economy.

4) The provision relating to accounting policy and the structure of financial statements to be followed by the commercial banks.
5) Regulation relating to minimization of risk inherent in the activities of commercial banks.
6) The provision of institutional good governance to be followed by commercial banks.
7) Time frame for implementation of regulatory directives issued in connection with inspection and supervision of commercial banks.
8) Regulation relating to investment in shares and securities by commercial banks.
9) The provision of submission of statistical data to the NRB, banking management division and inspection and supervision division.
10) Regulation relating to sale and ownership transfer of promoters shares.
11) Regulation relating to stringent blacklisting procedure for loan defaulters.
12) The provision relating to compulsory deposited amount of NRB.
13) Regulation relating to developing the branch office of commercial banks.
14) Provision relating to interest rates.
15) Provision relating to collection of financial sources.
16) Provision relating to consortium financing.

### 2.4.1 NRB Directives Relating to Loan Classification and loan Loss provision (www.nrb.org.np)

#### 2.4.1.1 Classification of Loan and advances:

Nepal Rastra Bank (NRB) has provided following directives for classification of loan and advances and its loss provisioning for the purpose of minimizing possible risk in bank's lending by using the authority given by sub section 1 of section 23 of NRB act 2012 (revised) and section 19(ka) 0f commercial bank act 2031 (Revised).

**a. Pass**

Loans or assets in this category are fully protected by the current sound worth and paying capacity of the obligor or the collateral pledged, are performing in accordance with contractual terms, and are expected to continue doing so. (Sitaula, 2066)

- Any asset which is past due period up to 90 days shall be classified as Pass.

**b. Substandard**

Loans or assets in this category are not adequately protected by the current sound worth and paying capacity of the obligor. The primary source of repayment is not sufficient to service the debt, and the financial institution must rely on secondary sources such as realizing on collateral, sale of fixed assets, refinancing, or capital injections from external sources. Substandard assets have well-defined weaknesses that jeopardize the orderly repayment of the debt. These assets may, or may not, be past due but have a higher than normal risk due to absence of current credit documentation. There is a distinct possibility that the financial institution will sustain loss if deficiencies are not corrected. (Sitaula, 2066)

- Any asset which is past due 90 days or more but less than 180 days shall be classified as Substandard, at a minimum.
- Re-negotiated and restructured loans shall be graded Substandard unless

i. All past due interest is paid in cash at the time of restructuring,
ii. All principal and interest payments have been made according to the modified repayment schedule for at least six consecutive months from the date the loan was re-structured, and
iii. The terms and conditions of the restructured loan comply with the loan policy.

**c. Doubtful**

Loans and assets in this category have all the weaknesses inherent in substandard assets but the loans are not well-secured. Weaknesses make collection in full highly questionable and improbable on the basis of existing facts, conditions, and value. The possibility of loss is high, but the actual amount of loss cannot be fully determined because specific pending factors may mitigate. Pending factors may include a merger, acquisition, or

liquidation; a capital injection; obtaining additional collateral; or refinancing. If pending events do not occur within 180 days and repayment must again be deferred, Loss classification is warranted. (Sitaula, 2066)

- Any asset which is past due 180 days or more but less than 360 days shall be classified as Doubtful, unless

i. The asset is well-secured,
ii. Legal action has commenced, and
iii. The time to realize on collateral or on a guarantee does not exceed 180 days.

**d. Loss**

Loans and assets in this category are deemed uncollectible or of such little value that carrying on the books is no longer warranted. Loss classification does not mean there will never be a recovery, but rather that it is no longer appropriate to defer writing off the asset. Losses shall be taken when identified as uncollectible and shall not remain on the books while pursuing long-term recovery efforts. (Sitaula, 2066)

- Any asset which is past due 360 days or more shall be classified as Loss, unless

i. The asset is well-secured,
ii. Legal action has commenced, and
iii. The time to realize on collateral or on a guarantee does not exceed 180 days.

In some cases, a reduced carrying value or partial write-down is justified. If a partial write down is taken, the remaining book value must be supported by tangible facts.

Loans and advances falling in the category of Sub-standard, Doubtful and loss are classified and defined as Non-Performing Loan.

*Note:*

i. If it is appropriate in the views of the bark management there is not restriction in classifying the loan and advances from low risk category to high risk category. For instance, loans falling under substandard may be

classified into doubtful or loss and loans and loans falling under doubtful may be classified into loss category.

ii. The term ‘loan and advances’ also includes Bill purchased and Discounted.(Kandel,2066)

**Historical Provisions Relating to Loan classification is depicted in the following table:**

**For the fiscal year 2001/2002 A.D. (2058/2059 B.S.)**

| | |
|---|---|
| Pass Loan | Loans and advances not past due and past due up to 3 months. |
| Sub-standard loan | Loans and advances past due for a period of over 3 months to 1 year. |
| Doubtful Loan | Loans and advances past due for a period of over 3 months to 1 year. |
| Loss | Loans and advances past due for a period of over 3 years. |

**For the fiscal year 2002/2003 A.D. (2059/2060 B.S.)**

| | |
|---|---|
| Pass Loan | Loans and advances not past due and past due up to 3 months. |
| Sub-standard loan | Loans and advances past due for a period of over 3 months to 1year. |
| Doubtful Loan | Loans and advances past due for a period of over 1 year to 3 years. |
| Loss | Loans and advances past due for a period of over 3 years. |

**For the fiscal year 2003/2004 A.D. (2060/2061 B.S.)**

| | |
|---|---|
| Pass Loan | Loans and advances not past due and past due up to 3 months. |
| Sub-standard loan | Loans and advances past due for a period of over 3 months to 9months. |
| Doubtful Loan | Loans and advances past due for a period of over 9 months to 2 years. |
| Loss | Loans and advances past due for a period of over 2 years. |

**Classification of NPA as per NRB directives from 2004 to till date**

| | |
|---|---|
| Pass Loan | Loans and advances not past due and past due up to 3 months. |
| Sub-standard loan | Loans and advances past due for a period of over 3 months to 6 months. |
| Doubtful Loan | Loans and advances past due for a period of over 6 months to 1 year. |
| Loss | Loans and advances past due for a period of over 1 years. |

### 2.4.1.2 Additional Arrangement in Respect of Pass Loan:

Loan and advances fully secured by gold, silver, fixed deposit receipts, credit cards and government securities shall be include under "Pass" category. Loans against fixed deposit receipts of other banks shall also qualify for inclusion under pass loan. However, where collateral of fixed receipt or government securities or NRB bonds is placed as extra security, such loan has to be classified on the basis of clause 1 to clause 7. While renewing working capital loan having maturity period up to one year can be classified as pass loan. If the interest of working capital nature loans and advance is not regular, such loan and advances should be classified on the basis of interest outstanding period.

### 2.4.1.3. Additional Arrangement in respect of loss loan:

Even if the loan is not past due, loans having any or all of the following discrepancies shall be classified as "Loss".

a. Security is not sufficient.
b. The borrower has been declared bankrupt
c. The borrower is absconding or cannot be found.
d. Purchased or discounted bills are not realized within 90 days from the due date and non fund based letter of credit and guarantees etc. are not realized within 90 days.
e. The credit has not been used for the purpose originally intended

f. Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation.

g. Loan provided to the borrowers included in the blacklist of credit information center (CIC)

h. Project or business is not in operative conditions, project or business is not in operation

i. Credit card loan is not written off within 90 days from past due date.

**2.4.1.4. Additional Arrangement in Respect of Term Loan**:

In respect of term loans, the classification shall be made against the entire outstanding loan on the basis of the past due period of overdue installment.

**2.4.1.5. Prohibition to Recover Principal and Interest by Overdrawing the Current Account and Exceeding the Overdraft Limit:**

Principal and interest on loans and advance shall not be recovered by overdrawing the borrower's current account or where overdraft facility has been extended, by overdrawing such limit. However, this arrangement shall not be constructed as prohibitive for recovering the principal and interest by debiting the customer's account. Where a system in the bank exits as to recovery of principal and interest by debiting the customers account, and recovery is made as such resulting in overdraft, which is not settled within one month, such overdrawn principal amount shall also be liable to be include under the outstanding loan and such loan shall be downgraded by one step from its current classification. In respects, if recognition of interest, the same shall be as per the clause relating to income recognition mentioned in directives no. 4.

**2.4.1.6. Letter of Credit and Guarantees:**

If letter of credit and guarantees and other contingent liabilities converted into fund based liabilities and have to be paid, in such condition such loan shall be classified as pass loan within 90 days from date of conversion into fund based. After 90 days such loan shall be classified as loss loan.

**2.4.1.7. Rescheduling and Restructuring of the Loan:**

If the bank is confident on the following bases of written plan of action submitted by borrower, it may reschedule or restructure the loans and advances. Clear bases of rescheduling or restructuring should be attached with loan files

a. If there is proof of adequate documents and collateral security relating to loan.
b. If the bank is confident in recovery of restructured or rescheduled loans and advances.

In addition to written plan of action for rescheduling or restructuring of loan, payment of at least 25 percent of total accrued interest up to the date of rescheduling of restructuring should have been collected.

**2.4.1.8. Loan Loss Provisioning:**

The loan loss provisioning, on the basis of the outstanding loans and advances and bills purchases classified as per this directives shall be provided as follows.

| Classification of Loan | Loan Loss Provision |
|---|---|
| Pass Loan | 1% |
| Sub – Standard loan | 25% |
| Doubtful loan | 50% |
| Loss | 100% |

**Effects of NPA on Profitability of the Banks**

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:

**Profitability Impact:**

- The resources locked up in NPA are borrowed at a cost and have to earn a minimum return 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 return 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 numerator 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, his 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-making (Ghimire, 2005:21).
- It will lose its goodwill and brand image and credit which have negative impact to the people who are putting their money in the banks.
- Time and efforts of management is another indirect cost which bank has to bear due to NPA.

## 2.5 Review of Previous Studies

On the way to prepare this research work some books, journals and publications have been studied to formulate ideas about the subject matter. Although, the specific books reading the NPA could not be found, however some banking related books have been consulted.

### 2.5.1. Review of Articles

**July 1, 1995,** *"The People's Republic of China Commercial Bank Law"* was promulgated, formally defined as the nature of commercial banks in financial firms. Since it is a business, of course we wanted to pursue profit maximization as its operating principles and the ultimate goal to "make their own decisions, self-financing, self-risk," As a result, the banking sector non-performing assets become increasingly apparent. In the banking system before the transition is not bad assets, but this risks the country, the banking sector, the exposure to the country under the umbrella; mechanism for the transition, the non-performing assets to themselves and resolved by the banking sector, banking left the "umbrella", then the risk of non-performing assets also exposed. China has joined the WTO, countries want development, we must move forward with ease; the banking industry to develop and compete with foreign banks, we must improve the "body", the key lies in doing the banking sector non-performing assets disposal. "Solution-maker," and in order to effectively dispose of non-performing assets, we must thoroughly understand the root cause of the problem, the eradication of bad assets of soil, blocking the source of bad assets. Non-performing assets like fire accidents, we can not bear to prevent the occurrence of fire accidents, but the accident rate can be reduced to a minimum. What caused the non-performing assets of the banking industry into being? Writer after in-depth reflection that the non-performing assets of the banking sector problems arise deep root system, where the existing system of property rights reasons, but also the credit system and institutional reasons. In the final analysis is the inefficient allocation of financial resources results.

The disposal of non-performing assets should be divided into two, on the one hand to block the source of bad assets, that is incremental to solve problems; the other hand, has been formed for the effective disposal of non-performing assets, that is to solve

the problem of stock. In the incremental and stock issues should insist on treating the symptoms, clear the stock of non-performing assets, treatment is standard, while the control of the new non-performing assets continue to generate is the. Banking non-performing assets should not be a good and bad assets, the accounting rates, non-performing assets and asset stripping of the packaging and sale of a simple process, which also includes institutional reforms, banking system reform, reconstruction of the relationship between banks and enterprises, etc. , in particular the production of non-performing assets of banking system has profound roots, only deepening the reform of banking systems in order to achieve the purpose of effecting a permanent cure.

**Pradhan (2058**) in his article "*NPA: Some Suggestions to Tackle Them*" found saying that unless the growth in NPA is kept in control, it has the potential to cause systematic crisis. He has mentioned that a dream of globalization led to huge investment which unfortunately could not be utilized properly due to hesitant liberalization policies. Large corporate misused the credits and delayed payments and contributed indirectly for enhancing NPA ratio. He further argues the lack of vision in appraisal of proposal while loan sanctioning, reviewing or enhancing credit limits, absence of risk management policy of financing, concentration of credit in few group of parties and sector. Lack of initiatives to take timely action against willful defaulters, indecision on existing out of bad loans for fear of investigating agencies like special police, CIAA, Public Accounts committee of the parliament have also contributed in whatsoever measures to the worsening situation of NPA front. He further pointed out that most crucial reason for the increase in the NPA is the shabby and defaulter friendly legal system. Suggesting the remedy of NPA he adds that administrative system should be strengthened, Legal reforms should be made and Assets Reconstruction Company should be formed, Henderson (2003), CEO of RBB turn around is restructuring and collection of NPA.

Though these studies are found to be quite useful in their own side but the question of NPA and its cause as well as effect on various aspects in commercial banks is yet to be reviewed. In view of these, this study has been based on the various contributing factors that increase NPA level in commercial banks in Nepalese perspective and its effect on profitability position of the banks.

**Dhungana, (2006),** in his well article, "*Problems of NPL's and the need of Financial Discipline in the Nepalese Banking System"*, has concluded that poor credit management and deterioration in the quality of loans give birth to non-performing assets. The internal measures play significance role to control the growth of NPL. Best credit practices, culture and policies are required to strengthen the internal factors. The banks should have a proper system and competency on risk management and should ensure that risk are accurately identified, assessed and controlled properly. A proper risk management is undoubtly an important tool for a good banking and NPL management.

He further states that it can be expected that the financial sector reforms will lower down the level of NPL from the existing level and strengthening the banks and financial institution internally to manage the credit portfolio efficiently and support will be continued to make a good credit culture in the system.

**High Non-Performing Loan (NPL) and many Problematic Financial Institutions**
***(Numanath Poudel, Nepal Rastra Bank 54th anniversary special issue)***

The best indicator of the health of the banking industry in a country is its level of NPL. Given this fact, Nepalese banks and financial institutions seem to be placed in a vulnerable to the high credit risk than they were in the past. Credit forms major source of income and its share of gross credit in total earning asset of all commercial bank are above 54 percent (2008 July). However, average NPL level of banking industry was at 6.08 percent (2008), which is higher as compared to internationally accepted form of 5 percent. Such higher level of NPL required banks to provide for such provisions which consumed earnings and deteriorated the capital in cases of few commercial banks. If we analyze further, we can find that poor corporate governance and poor risk management practices as the major reason for high NPL and cause of negative capital in problematic banks. Other external causes of high NPL are economic slowdown, legal hurdles for recovery, defaulting attitude of borrower and deficiency in enforcement of supervisory authority by central bank. Management practices in banks with higher NPL are still very weak in areas of credit analysis, credit administration, risk management and internal control system. Other reasons for increase in NPL are multiple banking, non-existing of system for registration of

hypothecated current assets, poor credit information and lack of disclosures by borrowers.

High level of NPL ultimately caused reform program for government owned banks and financial institutions and similar caused force NRB to take control over management of couple of banks. And ever growing NPL in private sector banks is subject of major concern for central bank as well as other stakeholders.

Rapid credit growth and loan losses have caused banking crisis in many countries and recent banking crisis in USA is an instance for this. As the competition for credit growth is high in Nepalese banking industry, it is possible that banking crisis may creep into Nepal also. This is the stage, where comprehensive credit risk management guideline should be issued by Nepal Rastra Bank to improve credit risk management practices in banking industry and to prevent deterioration in quality of credit. Creation of asset management companies may play an important role in reducing the NPL in the banking systems. However, a centralized, government-owned asset management company in Nepal is not likely to solve the NPL problem if it will merely transfer the NPL from one institution to another.

**Shrestha** *ex-governor of Nepal Rastra Bank* in his article published in The Boss magazine says the management of bad loan is a high prioritized exercise in the country for past 10 years. But the remarkable achievements have not been sighted yet. Handover of management of two big government banks is an example of financial sector reform action in the country. It has been almost 4 years of handover of management of two big government banks to the foreign expert but the achievement is not satisfactory. He identifies not only government banks but private sector banks are also slowly affected by the non-performing loan. Therefore a strong focus should made by management to reduce the level of NPL. He believes in co-ordination between the borrower and the lender. He further says if a viable project is not being completed in time and not being able to pay its interest in time the bank and the project owner should sit together and find out the way to complete it rather than blacklisting and running towards the legal action.

### 2.5.2. Review of related thesis

**Suneja (1992)** pointed out the causes of NPA that the risk connected with lending to business depends on an enormous number of factors. For any particular type of business the risk failure is affected. The state of economy trend in demand for the product or service provided competition from any other suppliers, financial resources are too limited and management skills are lacking. Reiterating the difficulties that Suneja says probably the most difficult decision facing a banker is to determine when it becomes necessary to recall a loan and to begin the process of liquidating the security. Further she suggests that if a customer fails to make repayment on the due date, the bank has to consider what steps need be taken to recover the debt.

**Pradhan (2058)** expressed that unless the growth of NPA is kept in control, it has the potential to cause systematic crisis. He has mentioned that a dream of globalization led to huge investment which unfortunately could not be utilized properly due to hesitant liberalization policies. Large corporate bodies misused the credits and delayed payments and contributed indirectly for enhancing NPA ratio. He further argues that lack of vision in appraisal of proposal while loan sanctioning, reviewing or enhancing credit limits, absence of risk management policy of financing, concentration of credit in few group or parties and sector, lack of coordination among various financiers, lack of initiatives to take timely action against willful defaulters, indecision on existing out of bad loans for fear of investigating agencies like special police, CIAA, Public Accounts Committee of the parliament have also contributed in whatsoever measures to the worsening situation of NPA front. He further pointed out that most crucial reason for the increase in the NPA is the shabby and defaulter friendly legal system. Suggesting the remedy of NPA, he adds that administrative system should be strengthened. Legal reforms should be made and Assets Reconstruction Company should be formed. Henderson (2003) CEO of RBB during his interview to New Business Age agrees that the challenging target of RBB turn around in restructuring and collection of NPA.

**Khadka (2004)** has explained about the topics in which he had objectives to study and examine the level of NPA's in total assets, total deposits and total lending of commercial banks. He also had studied whether the Nepalese Commercial Banks have been following the directives of NRB regarding loan loss provision for non-performing loan/ assets or not. He had taken sample banks as Nepal SBI Bank

Limited, Nepal Investment Bank limited, Nepal Bangladesh Bank limited, Bank of Kathmandu limited, and Nabil Bank Limited. From his studies, it is found that the level of NPA of Nepal Bangladesh limited seemed greater than all of the other banks under his study. Similarly, Nepal SBI Bank and Bank of Kathmandu stand at second and third position respectively. The position of Nabil Bank limited seemed to be quite satisfactory because, the bank has been reducing its NPA every year. NPA of Nepal Investment Bank stands at minimum than that of all the other banks. From the study it has also been found that none of the banks have been following the directives of NRB regarding the loan loss provision. Despite of high level of NPA the loan loss provision made by the Nepal Bangladesh Bank seemed to be quite satisfactory than any of the other banks. Despite of the outstanding success in managing the NPA the loan loss provision made by Nepal Investment Bank is not considerable. It meant the loan loss provision of Nepal Investment Bank is very less than the requirement.

**Ghimire (2005)**, studied about the internal and the external factors that affect the nonperforming assets to increase from the loan and advances. The internal factors that influence and the effective management of the NPA and its increment. The objective of his studies is also to find out the relationship between the non- banking assets ands the Non-Performing Assets, in which he was able to find out very much important result from the survey. The study was able to find out the internal responsible factors that contribute turning good loan into bad loans, bad intention, weak monitoring and miss management are the most responsible factors. Similarly, weak legal provision and credit concentration are also found as the least preferred factors in turning good loans into bad loans. Some factors such as lack of portfolio analysis, not having effective credit policy and shortfall on security were identified as having average effect on NPA growth. In connection to the external factors it has been found that recession, political and legal issues are more relevant factors in turning good lo9ans into bad one. Like wise legal provision for recovery as a reason for increment in NPA in Nepalese Banks have been found the factors having less impact. Supervision and monitoring system have been identified as average factors. It is there fore, can be generalized that economic and industrial recession and not having strong legal provision for loan recovery are the major external factors that have major contribution for the increment of NPA.

It has also been concluded in the study that Nepalese Commercial Banks gave must priority to trade sector for lending its resources, at the same time it is found that service sectors are not being given that much emphasis. He had recommended to the sample banks, Nepal Bangladesh Bank Ltd, Nepal SBI Bank Ltd, and Bank of Kathmandu Ltd, as on different headings, subject matter such as financial strength, personal integrity and security, monitoring and control system, avoidance of credit concentration, strong legal system, assets management company, avoidance of undue pressure, etc.

**Kumar (2006)** has conducted thesis titled "*A Study of Non-Performing Assets of Commercial Banks of Nepal"* with reference to Nepal Bank Limited, Rastriya Banijya Bank, Nepal Bangladesh Bank, Everest Bank and Standard Chartered Bank Nepal Limited. The main objectives of his study are to find out the proportion of nonperforming loan and the level of NPA's in total assets total deposit and total lending, evaluate the relationship between loan and loan loss provision , present the trend line of the NPA, loan and advances, loan loss provision of selected commercial bank.

**Pradhan (2006)** concludes, improper credit policy and credit appraisal system, lack of Supervision and monitoring, economic slowdown, overvaluation of collateral, borrower's misconduct, political pressure to lend for un-creditworthy parties, etc. are the major causes of occurring NPA's.

He has concluded that Nepalese banks have to remain focused in their efforts to recover their spiraling bad loans, or non-performing assets, to sustain the positive trend of improving asset quality. Better risk management techniques, compliance with the core principles for effective banking supervision, skill building and training and transparency in transaction could be the solution remove of non-performing loans from the banking system even through government or quasi government funds at times, is essential. But official assistance should be so structures as to avoid moral hazard. To conclude with, till recent past, corporate borrowers even after defaulting continuously never had any real fear of bank taking any action to recover their due despite the fact that their entire assets were hypothecated to the banks. This is because there was no legal Act framed to safeguard the real interest of banks. While NPA cannot be eliminated, but can only be contained, it has to be done not a heavy cost of

provisioning and increasing the portfolio of credit. Along with recovery fresh inflow of NPA should be bought down at a level much less than the quantum of its exit. IF this specific goal is reached, there is an eventual solution for this problem. Good conveyance is essential for the success in NPA management.

**Sitaula (2009),** in her thesis concludes High level of non-performing assets not only decreases the profitability of the banks but also affect the entire financial as well as operational health of the country. If the NPA were not controlled immediately, it would be proved as a curse for the banks in near future. Therefore, following are some of the recommendations, which will help to reduce the level of NPA of the Nepalese commercial banks:

- Take necessary step towards recovering bad debt
- Take proper control over loan management
- Manage Control mechanism of the bank
- Manage the diversification of loan of individual banks.

## 2.6. Research Gap

The performance of a bank and financial institution is largely affected by the NPA directly and indirectly. Banks main function is to earn profit and the percentage of NPA directly affects the profit margin of the banks. From the review of previous research and study it has been found that increasing nonperforming loan is one of the most challenging problems faced by existing commercial banks in the current scenario. Some researchers have studied on implementation aspects of NRB directives by commercial banks while some other studied non-performing loan and loan loss provisioning of commercial banks. No research has been found on the impact of the non-performing loan and loan loss provision on the performance of commercial banks, required profitability and capital adequacy of commercial banks as per NRB directives.

According to the Non Performing loan status of Commercial banks published by NRB, the overall NPL to total gross loan percentage has been decreased from 3.53 in 2009 to 3.01 in mid January 2010.However, if we see individually we can see that

some banks NPL to total gross loan% is decreasing while some banks are increasing and some have constant rate. Here in this study we are focusing on the banks whose NPL to total gross loan% are in increasing trend, decreasing trend and constant. The data obtained from this will help us to know and analyze the reason behind the data obtained. Therefore, this research is made to fulfill the research gap by taking the reference of NABIL Bank Limited, Agriculture Development Bank Limited, Nepal Investment Bank Limited, and Kumari Bank Limited.

# CHAPTER-III

# RESEARCH METHODOLOGY

## 3.1 Introduction

Research methodology is the way to solve systematically about the research problem. It is compose of two words, search and methodology which means the process of investigating in values a series of well thought and activates in gathering, recording, analyzing and interpreting the data with the purpose of finding answers to the problem. The entire process by which we attempt to solve the problem is called research while methodology is the method used to list the hypothesis.

Advanced learner's Dictionary of current English defined research as "a careful Investigation or inquiry especially through search for new facts in any branch ok knowledge". Research is a systematic inquiry of any particular topic and methodology is the method of doing research in well manner. Thus research methodology is a way to solve the problem systematically. It is understood as a science of studying how research is done scientifically. It is analysis of specific topic by a proper method. "Research may be defines as the systematic method of discovering new facts or verifying old facts, their sequences, interrelationship causal explanation and the natural laws which govern them."(P.V. Young).

### 3.2 Research Design

"Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances. The plan is the overall scheme or program of the research." (Kerlinger, 1986: 116).

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Claire Selltiz, 1962:52).

In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constitute a research design. As such the design includes an outline of hat the researcher will do from writing the hypothesis and its operational implications to the final analysis of data. Preparation of the research design should be done with great care as any error in it may upset the entire project. Research design, in fact, has a great bearing reliability of the result arrived at and as such constitutes the firm foundation of the entire edifice of the research work.

For this study, both field and desk research has been adopted. The fieldwork has been conducted to collect necessary information and published documents from the experts and officials concerned, while deskwork has been conducted to analyze and interpret the information so collected. In order to make the report meaningful and purposeful the following procedural methodology will have been adopted.

### 3.3 Populations and Sample

The term population for research means all the members or any well defined class of people, event or object. It means that the entire group of people, events or things of interest that a researcher wishes to investigate. A sample is a collection of items or elements from population or universe. Hence, a sample is only a portion or subset of the universe or population. It comprises some observations selected from the population. Sampling may be defined as the selection of some part of an aggregate or totality on the basis of which judgment or inference about the aggregate or totality is made.

The population of the present study is listed as under, the commercial banks operating in banking industry of Nepal.

**Table 3.1**

**List of Licensed Commercial Banks in Nepal**

| S. N. | Names | Operation date(A.D.) | Head Office | Paid up capital(million) |
|---|---|---|---|---|
| 1 | Nepal Bank Limited | 1937/11/15 | Kathmandu | 380.40 |
| 2 | Rastriya Banijya Bank | 1966/01/23 | Kathmandu | 1172.30 |
| 3 | ADB Ltd. | 1968/01/02 | Kathmandu | 10777.50 |
| 4 | NABIL Bank Limited | 1984/07/16 | Kathmandu | 965.75 |
| 5 | NIB Limited | 1986/02/27 | Kathmandu | 2407.10 |
| 6 | SCB Nepal Limited. | 1987/01/30 | Kathmandu | 932.00 |
| 7 | Himalayan Bank Limited | 1993/01/18 | Kathmandu | 1216.20 |
| 8 | Nepal SBI Bank Limited | 1993/07/07 | Kathmandu | 874.50 |
| 9 | NB Bank Limited | 05/06/1994 | Kathmandu | 1822.70 |
| 10 | Everest Bank Limited | 1994/10/18 | Kathmandu | 838.80 |
| 11 | Bank of Ktm Limited | 1995/03/12 | Kathmandu | 844.40 |
| 12 | NCC Bank Limited | 1996/10/14 | Rupendehi | 1399.50 |
| 13 | Lumbini Bank Limited | 1998/07/17 | Chitwan | 1096.10 |
| 14 | NIC Bank Limited | 1998/07/21 | Biratnagar | 1140.50 |
| 15 | Machhapuchhre Bank Ltd | 2000/10/03 | Pokhara | 1479.10 |
| 16 | Kumari Bank Limited | 2001/04/03 | Kathmandu | 1186.00 |
| 17 | Laxmi Bank Limited | 2002/04/03 | Birgunj | 1098.10 |
| 18 | Siddhartha Bank Limited | 2002/12/24 | Kathmandu | 952.20 |
| 19 | Global Bank Ltd. | 2007/01/02 | Birgunj | 1000.00 |
| 20 | Citizens Bank Int. Ltd | 2007/6/21 | Kathmandu | 1000.00 |
| 21 | Prime Commercial Bank | 2007/9/24 | Kathmandu | 700.00 |
| 22 | Sunrise Bank Ltd. | 2007/10/12 | Kathmandu | 875.50 |
| 23 | Bank of Asia Nepal Ltd. | 2007/10/12 | Kathmandu | 1000.00 |
| 24 | DevelopmentCredit Bank | 2001/01/23 | Kathmandu | 1655.30 |
| 25 | NMB Bank Ltd. | 1996/11/26 | Kathmandu | 1424.60 |
| 26 | Kist Bank Ltd. | 2003/02/21 | Kathmandu | 2000.00 |

*Source: www.nrb.org.np*

As this study is about non-performing loans and profitability of commercial banks, all 26 commercial banks of Nepal is taken into account as population and out of the total population four following commercial banks are selected as sample for this study.

- Nabil Bank Limited
- Agriculture Development Bank Limited.
- Nepal Investment Bank Limited
- Kumari Bank Limited

### 3.3.1 Nabil Bank Limited

Nabil Bank the first foreign joint venture commercial bank of Nepal was established in 11 May 1984 under the company Act 1964. It started banking work in the same year by joint investment of Dubai Bank Limited and Nepalese promoters. The authorized share capital of the bank was Rs. 50 Million and paid up capital and issued capital of Rs. 30 Million at the time of establishment.

Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world-renowned software from Infosys Technologies System, Bangalore, India, Internet banking system and Telebanking system.

Nabil states “We are a service industry and our motto is service at all times. All that we do is with a customer focused approach and the end-result of what we do must create some values for our customers. That drove us to be result-oriented. We reach our ends through professional and innovative skills and strategies with a team spirit.” NABIL serves all from the grassroots to colossal corporate bodies, covering all the stratums of society through its 49 points of representation and a chain of 63 ATMs service outlets throughout the nation.

**Table: 3.2**

Share capital structure

| | |
|---|---|
| Authorized Capital | Rs. 1,600,000,000 |
| Issued Capital | Rs.1,449,124,000 |
| Paid up Capital | Rs.1,449,124,000 |
| Value per share | Rs. 100 |
| Incorporation year | 1984/07/16 A.D. |

Source: *www.nabilbank.com*

**Table: 3.3**

Share Ownership

| **Particulars** | **percentage** |
|---|---|
| 1. Local Ownership | 50.00 |
| 1.1 Government of Nepal | - |
| 1.2 "ka" Class Licensed Institutions | - |
| 1.3 Other licensed institutions | 6.15 |
| 1.4 Other Entities | 10.00 |
| 1.5 General Public | 30.00 |
| 1.6 Others* | 3.85 |
| 2. Foreign Ownership | 50.00 |
| Total | 100.00 |

*others include promoter's shares divested by NIDC, which is freely traded in stock exchange, NEPSE.

### 3.3.2 Agriculture Development Bank Limited (ADBL)

With the main objective of providing institutional credit for enhancing the production and productivity of the agricultural sector in the country, the Agricultural Development Bank, Nepal was established in 1968 under the ADBN Act 1967, as successor to the cooperative Bank. The Land Reform Savings Corporation was merged with ADBN in 1973. Subsequent amendments to the Act empowered the bank to extend credit to small farmers under group liability and expand the scope of financing to promote cottage industries. The amendments also permitted the bank to engage in commercial banking activities for the mobilization of domestic resources.

Agricultural Development Bank Limited (ADBL) is an autonomous organization largely owned by Government of Nepal. The bank has been working as a premier rural credit institution since the last three decades, contributing a more than 67 percent of institutional credit supply in the country. Hence, rural finance is the principal operational area of ADBL. Besides, it has also been executing Small Farmer Development Program (SFDP), the major poverty alleviation program launched in the country. Furthermore, the bank has also been involved in commercial banking operations since 1984.

The enactment of Bank and Financial Institution Ordinance (BAFIO) in February 2004 abolished all Acts related to financial institutions including the ADBN Act, 1967. In line with the BAFIO, ADBL has been incorporated as a public limited company on July 14, 2005. Thus, ADBL operates as a "A" category financial Institution under the legal framework of BAFIO and the Company Act, 2053.

**Table: 3.4**

Share capital structure

| | |
|---|---|
| Authorized Capital | Rs. 13,000,000,000 |
| Issued Capital | Rs.9,600,000,000 |
| Paid up Capital | Rs.9,437,500,000 |
| Value per share | Rs. 100 |
| Incorporation year | 1968/01/02 A.D. |

Source: *www.adbl.gov.np*

**Table: 3.5**

Share Ownership

| **Particulars** | **percentage** |
|---|---|
| 1.Local Ownership | - |
| 2.Government of Nepal | 53.50 |
| 3."ka" Class Licensed Institutions | - |
| 4.Other licensed institutions | - |
| 5.Other Entities | - |
| 7.Others | - |
| 8.foreign Ownership | |
| 9.General Public | 46.50 |
| Total | 100.00 |

### 3.3.3. Nepal Investment Bank Limited

Nepal Investment Bank Ltd. (NIBL), previously Nepal Indosuez Bank Ltd., was established in 1986 as a joint venture between Nepali and French partners. The French partner (holding 50%) of the capital) was Credit Agricole Indosuez, a subsidiary of one of the largest banking groups in the world. When Credit Agricole Indosuez decided to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen acquired 50% of the holdings of Credit Agricole Indosuez in Nepal Indosuez Bank in April 2002. The name of the Bank was changed to Nepal Investment Bank Ltd. upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's Office.

NIBL states, "We believe that NIBL, being managed by a team of experienced bankers and professionals with a proven track record, can match your particular needs. We are sure that your choice of bank will be guided, among other things, by its reliability and professionalism."

**Table: 3.6**

Share capital structure

| | |
|---|---|
| Authorized Capital | Rs. 4,000,000,000 |
| Issued Capital | Rs. 2,409,097,700 |
| Paid up Capital | Rs. 2,409,097,700 |
| Value per share | Rs. 100 |
| Incorporation year | 1986/02/27A.D. |

Source: *www.nibl.com*

**Table: 3.7**

Share Ownership

| **Particulars** | **percentage** |
|---|---|
| A. Promoters | 80.00 |
| 1.1Government of Nepal | - |
| 1.2 Foreign Institutions | - |
| 1.3"ka" Class Licensed Institutions | 15.00<br>15.00 |
| 1.4. Insurance Company | 50.00 |
| 1.5 Organized Institutions | - |
| 1.6 Individuals | - |
| 1.7 Others | |
| 2 General Public | 20.00 |
| Total | 100.00 |

### 3.3.4. Kumari Bank Limited (KBL)

Kumari Bank Limited**,** came into existence as the fifteenth commercial bank of Nepal by starting its banking operations from Chaitra 21, 2057 B.S (April 03, 2001) with an objective of providing competitive and modern banking services in the Nepalese financial market. The bank has paid up capital of Rs. 1,485,000,000 of which 70% is contributed from promoters and remaining from public.

**Kumari Bank Ltd** has been providing wide - range of modern banking services through 28 points of representations located in various urban and semi urban part of the country, 19 outside and 9 inside the valley. The bank is pioneer in providing some of the latest / lucrative banking services like E-Banking and SMS Banking services in Nepal. The bank always focus on building sound technology driven internal system to cater the changing needs of the customers that enhance high comfort and value. The adoption of modern Globus Software, developed by Temenos NV, Switzerland and arrangement of centralized data base system enables customer to make highly secured transactions in any branch regardless of having account with particular branch. Similarly the bank has been providing 365 days banking facilities, extended banking hours till 7 PM in the evening, Utility Bill Payment Services, Inward and Outward Remittance services, Online remit Services and various other banking services.

Visa Electron Debit Card, which is accessible in entire VISA linked ATMs (including 30 own ATMs) and POS (Point of Sale) terminals both in Nepal and India, has also added convenience to the customers. The bank has been able to get recognition as an innovative and fast growing institution striving to enhance customer value and satisfaction by backing transparent business practice, professional management, corporate governance and total quality management as the organizational mission.

The key focus of the bank is always center on serving unfulfilled needs of all classes of customers located in various parts of the country by offering modern and competitive banking products and services in their door step. The bank always prioritizes the priorities of the valued customers.

**Table: 3.8**

Share capital structure

| | |
|---|---|
| Authorized Capital | Rs. 1,600,000,000 |
| Issued Capital | Rs. 1,485,000,000 |
| Paid up Capital | Rs. 1,485,000,000 |
| Value per share | Rs. 100 |
| Incorporation year | 2001/04/03 A.D. |

**Table: 3.9**

Share Ownership

| **Particulars** | **percentage** |
|---|---|
| A. Promoters | 70.00 |
| 1.1Government of Nepal | - |
| 1.3 Foreign Institutions | - |
| 1.3“ka” Class Licensed Institutions | - |
| 1.4. Insurance Company | - |
| 2.5 Organized Institutions | - |
| 2.6 Individuals | - |
| 2.7 Others | |
| 3 General Public | 30.00 |
| Total | 100.00 |

Source: *www.kumaribank.com*

### 3.4 Data Collection Techniques

Data are collected from various sources were in raw from, which are included the annual financial report of concerned banks, the related publications of NRB and relevant websites of concerned banks. Data are collected using both primary and secondary data. Primary data have been obtained through field visit and telephone inquiries. While secondary data are collected through the annual repots of concerned banks which were collected from concerned banks and other reports were downloaded from websites. Various publications of NRB were collected from concerned department of NRB. Various reports, textbooks, journals and unpublished dissertation have been used for analysis.

### 3.5 Data Analysis Tools

The data collected from different sources are recorded systematically and identified after collection of research data, an analysis of data and interpretation result are necessary. Applying different financial and statistical tool made data analysis. Further to represent the data in simple form bar diagram and graphs have also been used.

#### 3.5.1 Financial Tools

While adopting financial tools, a ratio is used as a barrack for evaluating the financial position and performance to any firm. Financial analysis is the process of identifying the financial strength and weakness of balance sheet and profit and loss account (Party, 1999: 108).

Financial analysis's the use of financial statement to analyze a company's financial position and performance (Wild, Stemma & Halsey, 2003).

**Ratio Analysis**

Ratio analysis is a tool for scanning the financial statement of the firm. A ratio analysis is the widely used tool of financial analysis. A ratio is simply one number expressed in terms of another and as such it expresses the numerical or quantitative relationship between two variables. Ratio analysis reflects the relative strengths and weakness of any organization and also indicates the operating and financial growth of the organization.

"Ratio helps to summarize large quantities of financial data and to make quantitative judgment about the firm's financial performance. The relationship between two accounting figure expressed mathematically is known as financial ratio". (Pandey. Op cit p.10). Even though there are many ratio, only these ratios have been calculated which are related to the subject matter. Following ratios have been computed and analyzed in this study.

**NPA to total lending ratio:**

This ratio determines the proportion of non performing assets to total lending of the bank. Higher ratio indicates bad effect and decrease in the profitability of the bank and lower ratio indicates better performance and increase in the profitability. It is calculated as under:

$$NPA\ to\ total\ lending\ ratio = \frac{Non\ performing\ assets}{Toal\ lending}$$

**Total lending to total deposit ratio:**

This ratio determines the proportion of total lending to total deposit ratio. Loans and advances yield high rate of return but liquidity requirements also needs due consideration. Greater ratio implies the better utilization of total deposits and better earning. Hence 70-80% ratio is considered as appropriate. This ratio is calculated as follows:

$$Total\ lending\ to\ total\ deposit\ ratio = \frac{Total\ lending}{Total\ deposit}$$

**Net profit to total assets ratio:**

This ratio determines the proportion of total net profit to total assets ratio. Higher the ratio indicates the better performance of the bank and lower the ratio indicates low performance of the bank. It is calculated as under:

$$Net\ profit\ to\ total\ assets\ ratio = \frac{Net\ Profit}{Total\ Assets}$$

### 3.5.2 Statistical Tools

Statistical tools are the mathematical techniques used to facilitate the analysis and interpretation of numerical data. “Statistical analysis is one particular language, which describes the data and makes possible to talk about the relations and the difference of the variables”. Following statistical tools have been used in this study.

#### 3.2.2.1Arithmetic Mean

The arithmetic mean or simple mean of a set of observation is the sum of all the observation divided by the number of observation. It is the best possible value of a group of variables that singly represents to whole group. In the statistical analysis the central value falls within the approximately middle value of the whole data. Mean is the arithmetic average of a variable. Arithmetic mean of a series is given by:

$$Mean = \frac{\sum X}{N}$$

#### 3.5.2.2: Correlation Analysis:

Correlation is a statistical tool that can be used to describe the degree of linear relationship of one variable to other variables. Correlation analysis is another important tool of statistic. It descries the relationship between variables and shows the degree of dependency of one variable with another variable. Two variables are said to be correlated when the change in one variable result in change in other variables. There are five types of correlation coefficient which are Positive correlation, negative correlation, linear correlation, non-linear or partial correlation and multiple correlations. The coefficient of correlation measures the linear association between variable. Different models for correlation analysis has been formulated and we have used Karl Pearson’s coefficient of correlation to determine the relationship between variables studied.

Probable error of correlation coefficient is an old measure for testing the reliability of an observed correlation coefficient. If r < P.E., there is no evidence of correlation i.e. correlation is not significant. If r > P.E., there is evidence of significant i.e. correlation is significant (Three Writer 2007).

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

The Karl Pearson Coefficient always falls between -1 to +1. The value of correlation in negative signifies, the negative correlation and in plus signifies the positive correlation. If,

r = 0, there is no relationship between the variables.
r < 0, there is negative relationship between the variables.
r > 0, there is positive relationship between the variables.
r = +1, the relation is perfectively positive.
r = -1, the relation is perfectively negative.

### 3.5.2.3 Test of Hypothesis

Hypothesis means the presumption or quantitative statement of the population parameter which may be true or false. In order to make proper decision about the quantitative statement of the population, testing of hypothesis is carried out by using sample information**.**

The main objective of this test is to test the significance regarding the parameters of the population on the basis of sample drawn from the population. In this study we set the following hypothesis:

- Is there any significant relation between total lending of Commercial Bank and the amount of the non-performing assets?

➢ Null Hypothesis, H0: $\mu_x = \mu_y$ , i.e. there is significant relation between total lending of Commercial Bank and the amount of the non-performing assets.

➢ Alternative hypothesis, $H_1$ : $\mu_x < \mu_y$ , i.e. there is not any significant relation between total lending of Commercial Bank and the amount of the non-performing assets.

● Is there any significant relation between the amount of non-performing assets of sample banks and the population?

➢ Null hypothesis, $H_0$: $\mu_x = \mu_y$ ,i.e. there is significant relation between the amount of non-performing assets of sample banks and the population.

➢ Alternative hypothesis, $H_1$:, i.e. $\mu_x < \mu_y$ there is not any significant relation between the amount of non-performing assets of sample banks and the population.

For calculating the value of't' following formulae are used.

$$S=\sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}}$$

$$t=\frac{\bar{X}-\bar{Y}}{\sqrt{s^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}$$

degree of freedom= $n_1$+$n_2$-2

# CHAPTER- IV

# DATA PRESENTATION AND ANALYSIS

Simple percentage is used to analyze the data as arithmetic tools. Karl's Pearson's correlation coefficient is used to analyze the data as statistical tool. Nowadays Non-Performing Assets/Loan (NPA/L) has been occupying major space in the total assets and total lending of the bank.

Keeping this fact into consideration, a provision has been set up by Nepal Rastra Bank to control the level of NPA of Nepalese Commercial Banks in FY 2057/58. According to that provision, every bank has to classify its total loan and advances [including purchased and discounted bills] as pass loan, substandard loan, doubtful loan and bad loan, on the basis of overdue aging schedule. Commercial Banks are also directed to maintain loan loss provision as stated in section 11 of directives No. 2 of NRB's directives for Commercial Banks 2059. Main purpose was to find out the level of NPA in Nepalese Commercial Banks and to take necessary steps to control the level in future.

Data of five FY starting from FY 2062/63 to 2066/67 have been presented to analyze the level of NPA in total assets, total lending and total deposits of the commercial banks. Data are also presented to analyze the effects to NPA on the profitability of the banks under the study.

## 4.1 Data presentation and analysis of sample banks

### A) Nabil Bank Limited

**Table 4.1**

**Relation between NPA, Net profit, Total Lending and Total deposits**

| Year/Ratios | 2062/2063 | 2063/2064 | 2064/2065 | 2065/2066 | 2066/2067 |
|---|---|---|---|---|---|
| **NPA to total lending ratio** | 1.38 | 1.12 | 0.74 | 0.80 | 1.47 |
| **Total lending to total deposit ratio** | 68.63 | 68.13 | 61.18 | 78.87 | 69.53 |
| **Net profit to total assets ratio** | 3.23 | 2.72 | 2.32 | 2.55 | 2.37 |

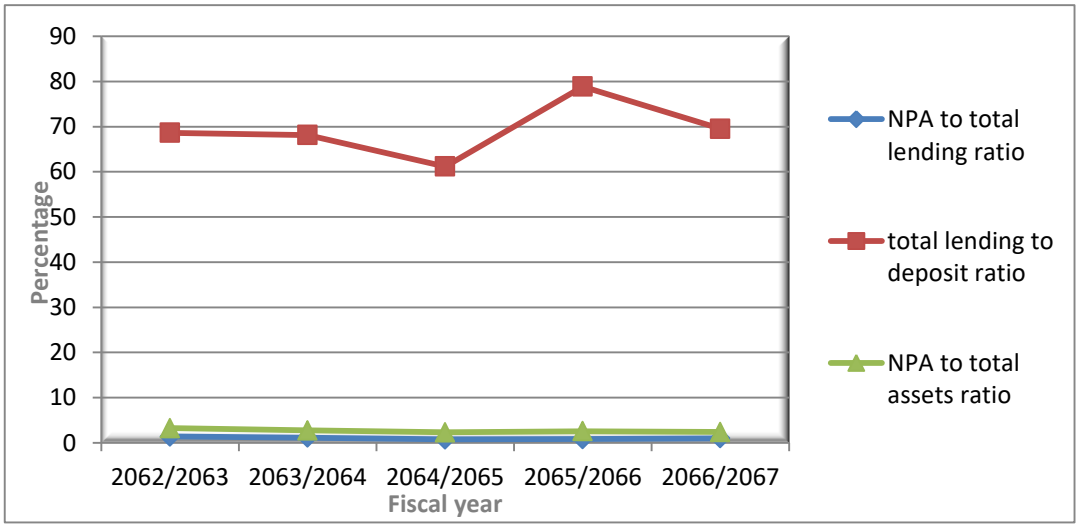
*Source: Annual reports of FY: 2062-2067*

The above figure displays the information related to NPA to total lending ratio, total lending to total deposit ratio and net profit to total assets ratio from the fiscal year 2062 to 2067.

There is decrement in NPA to total lending ratio till year 2064-2065, NPA has increased in year 2065-2066 which reached at 1.47% in year 2066-2067. Similarly, total lending has been decreased till year 2064-2065 from 68.63% to 61.18%. In year 2065-2066, there is increase in the lending and in the year 2066-2067 there is decrease in the lending which is 69.53%.Total lending is in decreasing trend. The overall five year table above shows there is decrement in the net profit to total assets from year 2062-2063 at 3.23% to 2.37% in the year 2066-2067.

**Figure: 4.1**

**Trend Analysis of Level of NPA, ROA & Loan-Deposit Ratio (NABIL)**




The total lending to total deposit ratio is maximum in the FY 2065-2066 at 78.87%.Total lending is decreasing in 2066-2067, this shows there is fluctuation in the total lending to total deposit. NPA to total lending ratio is decreasing till 2064-2065 and is in increasing trend in 2066-2067 i.e.1.47% which shows the efforts to manage the NPA of banks is inefficient. Net profit to total assets ratio is maximum in year 2062/2063 at 3.23% and is in decreasing trend the year ahead.

**Table 4.2**

**Total Assets, Total Deposits, Total Lending and Total NPA (NABIL)**

**(In million)**

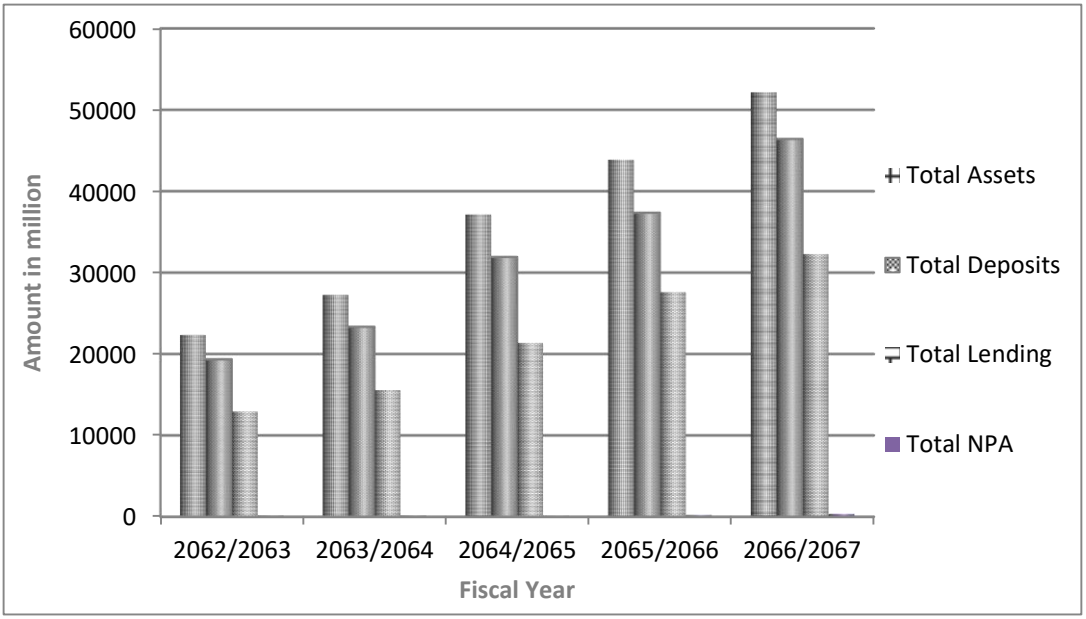
| Fiscal Year | Total Asset | Total Deposit | Total lending | Total NPA |
|---|---|---|---|---|
| **2062/2063** | 22330 | 19347 | 12923 | 183 |
| **2063/2064** | 27253 | 23342 | 15546 | 178 |
| **2064/2065** | 37133 | 31915 | 21365 | 171 |
| **2065/2066** | 43867 | 37348 | 27590 | 221 |
| **2066/2067** | 52150 | 46411 | 32269 | 339 |

*Source: Annual Reports of FY 2062/63-2066/67*

The above table shows that the total asset is increasing. From the fiscal year 2062-2063 to the fiscal year 2066-2067, the asset has been increased by 29820 millions which was 22330 millions in 2062-2063 and 52150 millions in year 2066-2067. The total deposit in the FY 2062-2063 was 19347 millions which is in increasing trend and has reach 46411 millions in the FY 2066-2067. Similarly, the total lending is also in the increasing trend which was 12923 millions in FY 2062-2063 and 32269 millions in FY 2066-2067. Total NPA decreased till 2064/2065 FY and has been increasing constantly and reached to 339 in FY 2066/2067.

**Figure 4.2**

**Graphical Representation of TA, TD, TL and TNPA (NABIL)**




The above chart displays the relation between total assets, total deposits, total lending and total non-performing assets. The above chart shows that the total asset is in increasing trend. The total lending is also in increasing trend while the total NPA is fluctuating reaching highest in FY 2065/2066.The total deposit is also in the increasing trend.

**Table 4.3**
**Net Profit and Total NPA (NABIL)**

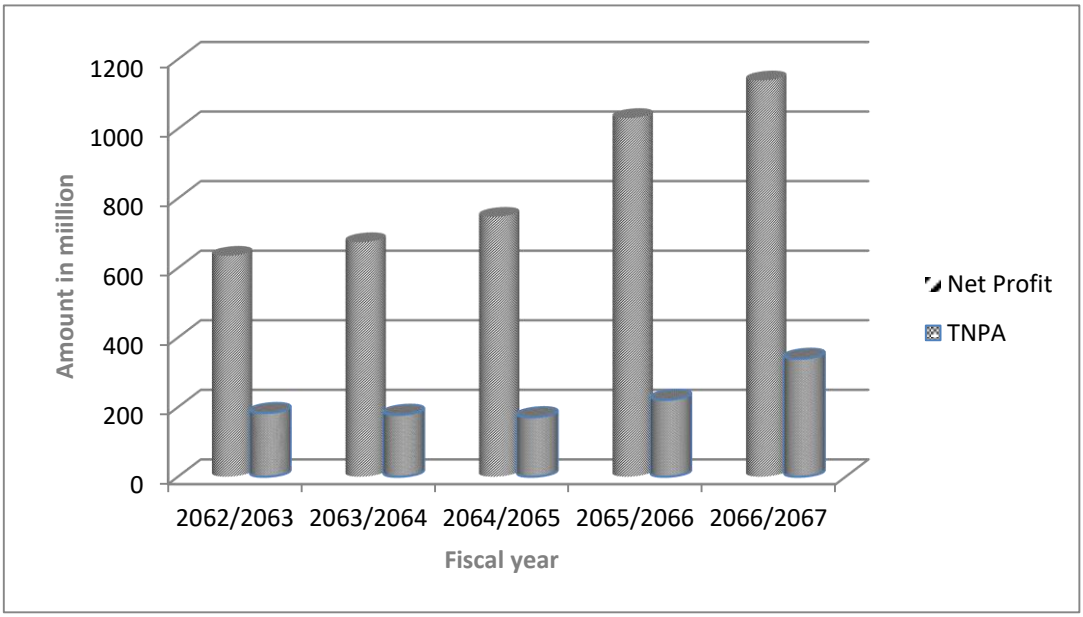
**(In millions)**

| Fiscal Year | Net Profit | TNPA |
|---|---|---|
| **2062/2063** | 635 | 183 |
| **2063/2064** | 674 | 178 |
| **2064/2065** | 747 | 171 |
| **2065/2066** | 1031 | 221 |
| **2066/2067** | 1139 | 339 |

From the above table we find the net profit of FY 2062/2063 is 635 m which has almost doubled to 1139 m in FY 2066/2067. The NPA is fluctuating which has decreased till year 2064/2065 and then has increased to 339 m in FY 2066/2067.

**Figure 4.3**

**Graphical Representation of Net Profit and TNPA (NABIL)**




The above chart displays the information about the net profit and total NPA. The profit is in increasing trend which is a good indicator for the bank but the level of NPA is fluctuating making it reach highest in the FY 2066/2067. This show the bank measures to control level of NPA are not satisfactory.

**B) Agricultural Development Bank Limited**

**Table 4.4**

**Relation between NPA, Net profit, Total Lending and Total deposits (ADBL)**

| Year/Ratios | 2062/2063 | 2063/2064 | 2064/2065 | 2065/2066 | 2066/2067 |
|---|---|---|---|---|---|
| **NPA to total lending ratio** | 20.59 | 17.96 | 11.69 | 9.71 | 8.36 |
| **Total lending to total deposit ratio** | 112.2 | 106.24 | 112.44 | 108.93 | 121.90 |
| **Net profit to total assets ratio** | 1.00 | 2.77 | 1.53 | 2.04 | 3.50 |

*Source: Annual reports of FY: 2062-2067*

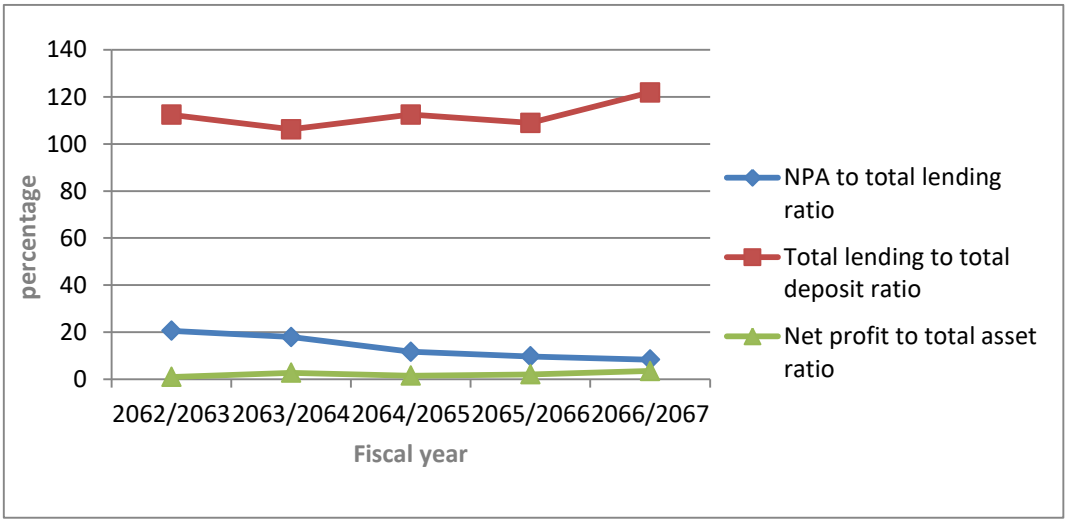
According to the above table of ADBL bank, the NPA to total lending ratio has been decreasing each year from FY 2062/2063 to 2066/2067 from 20.59% to 8.36% respectively.

The total lending to total deposit ratio is not constant. In FY 2062/2063 total lending is 112.42 and in FY 2063/2064 it is 106.24 which shows is in decreasing trend. Again from FY 2064/2065 total lending increased at 112.44 and decreased in FY 2065/2066 at 108.93. And in FY 2066/2067 there is increase in lending at 121.90.

Similarly, the ratio of Net profit to total asset is also not constant. In FY 2062/2063 and 2064/2065 net profit is decreased at 1% and 1.53% respectively. Net profit then has been increasing from FY 2065/2066 which is 2.04% and in FY 2066/2067 net profit is 3.50%.

**Figure 4.4**

**Trend Analysis of Level of NPA, ROA & Loan-Deposit Ratio (ADBL)**




The above figure shows the relationship between NPA, total lending and net profit of ADBL bank. The chart shows there is fluctuation in the total lending to total deposit ratio. It is increasing and decreasing which is maximum in FY 2066/2067 and minimum in FY2063/2064. The NPA to total lending ratio is decreasing. This shows the effectiveness of the bank. Net profit to total asset is less in FY 2064/2065 and is in increasing from FY 2065/2066.

**Table 4.5**

**Total Assets, Total Deposits, Total Lending and Total NPA (ADBL)**

**(In millions)**

| Fiscal Year | Total Asset | Total Deposit | Total lending | Total NPA |
|---|---|---|---|---|
| **2062/2063** | 35298 | 29632 | 24901 | 6859 |
| **2063/2064** | 38160 | 32416 | 27252 | 6185 |
| **2064/2065** | 44085 | 32553 | 30589 | 4256 |
| **2065/2066** | 51819 | 35159 | 32603 | 2876 |
| **2066/2067** | 54020 | 32473 | 33879 | 3110 |

*Source: Annual Reports of FY 2062/63-2066/67*

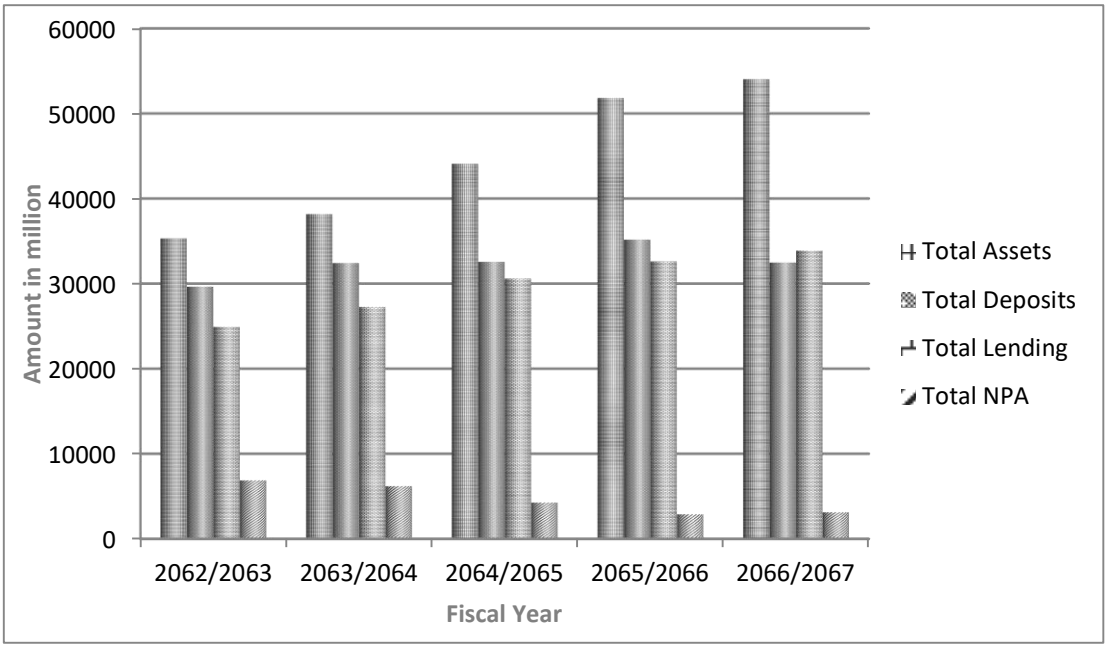
The above table gives information on asset, deposit, lending and NPA of ADBL bank. From the above table we find the total asset has been continuously increasing from FY 2062 to 2067 from 35298 millions to 54020 millions respectively.

The total deposit has been increasing from FY 2062 at 29632 millions to FY 2066 at 35159m. But then total deposit has decreased to 32473 m which shows the interest of public in the bank is decreasing.

The total lending of the bank has also been increasing tremendously. The lending was 24901m in FY 2062/2064 and has reached to 33879m in year 2066/2067. Similarly, the total NPA has also been decreasing. It was lowest at 2876m in FY 2065/2066.

**Figure 4.5**

**Graphical Representation of TA, TD, TL and TNPA (ADBL)**




The above chart displays information on total asset, total deposit, total lending and total NPA. The total asset is in increasing trend. There is no much increase in the total lending of the bank. Similarly the NPA is decreasing till FY2065/2066n then it has increased. The total deposit is also fluctuating which is less in the FY 2066/2067 then previous year.

**Table 4.6**
**Net Profit and Total NPA (ADBL)**

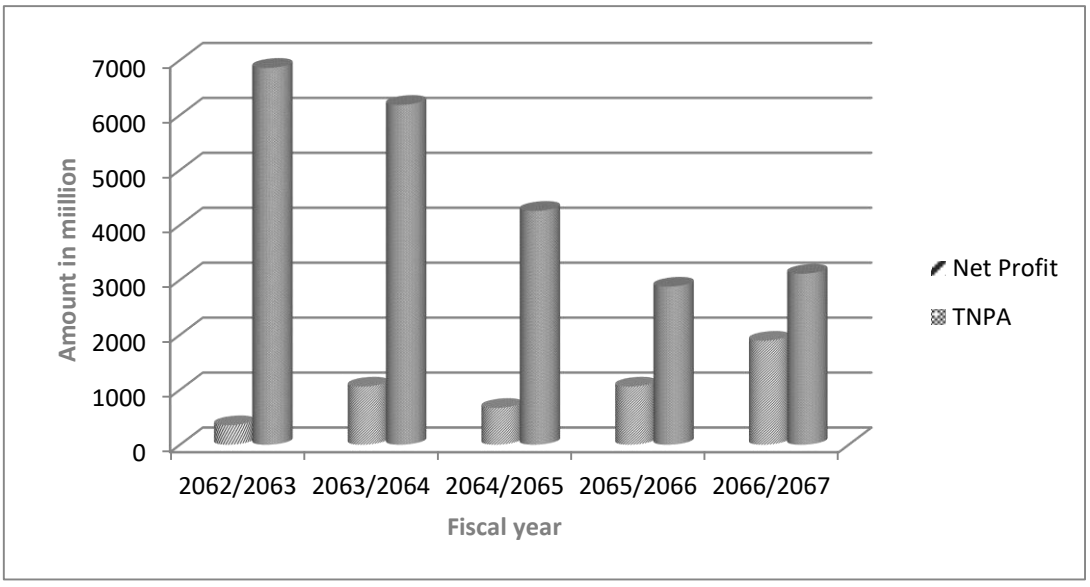
**(In millions)**

| Fiscal Year | Net Profit | TNPA |
|---|---|---|
| **2062/2063** | 354 | 6859 |
| **2063/2064** | 1058 | 6185 |
| **2064/2065** | 669 | 4256 |
| **2065/2066** | 1058 | 2876 |
| **2066/2067** | 1892 | 3111 |

*Source: Annual reports of FY: 2062-2067*

The above table gives the information on the net profit and total NPA of ADBL. The net profit in the FY 2062/2063 is 354m which has increased by almost 6 times in the FY 2066/2067. The level of NPA is highest i.e. 6859m in FY 2062/2063 which has decrease to 3111m in FY 2066/2067 which shows the measures of the bank to reduce its NPA is satisfactory.

**Figure 4.6**
**Graphical Representation of Net Profit and TNPA (ADBL)**



The above chart displays the relation of net profit and total NPA. NPA is higher than net profit and the level of difference is less in the FY 2066/2067.Net profit is fluctuating but has reach its maximum level in FY 2066/2067. The level of NPA is also decreasing but has slightly increased in FY 2066/2067 than previous year.

**C) Nepal Investment Bank Limited (NIBL)**

**Table: 4.7**

**Relation between NPA, Net profit, Total Lending and Total deposits (NIBL)**

| Year/Ratios | 2062/2063 | 2063/2064 | 2064/2065 | 2065/2066 | 2066/2067 |
|---|---|---|---|---|---|
| **NPA to total lending ratio** | 2.07 | 2.37 | 1.12 | 0.58 | 0.62 |
| **Total lending to total deposit ratio** | 69.63 | 72.56 | 79.91 | 78.86 | 81.74 |
| **Net profit to total assets ratio** | 1.61 | 1.79 | 1.77 | 1.68 | 2.19 |

*Source: Annual reports of FY: 2062-2067*

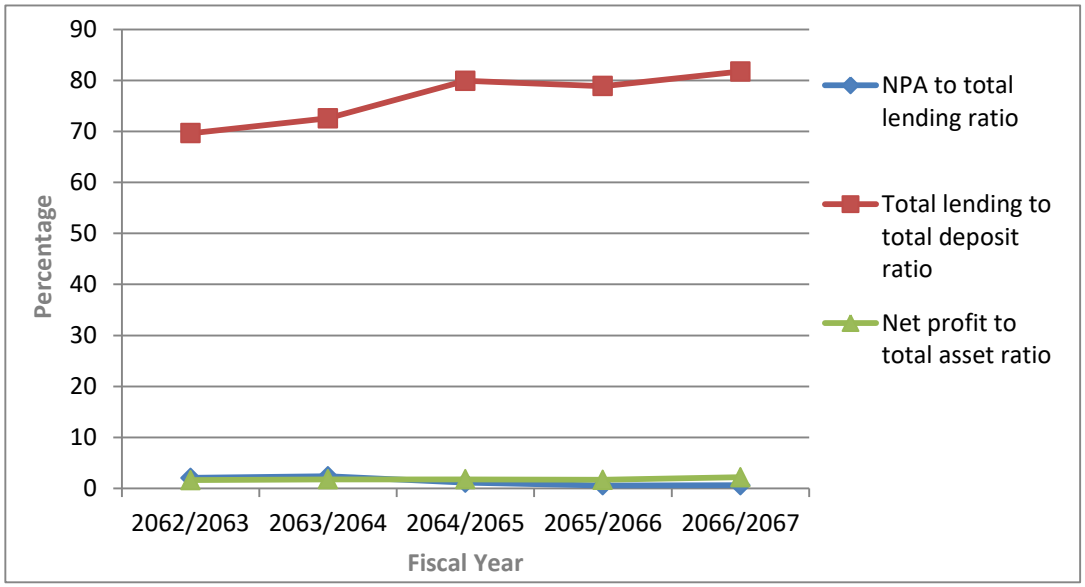
The above table shows the relationship between NPA, net profit, total lending and total deposit. The NPA to total lending ratio in FY 2062/2063 is 2.07% and in FY 2066/2067 NPA is 0.62%. In the FY 2063/2064 it is 2.37% which is increasing and in FY 2064/2065 to 2065/2066 NPA is decreasing from 1.12% to 0.58% respectively.

The total lending to total deposit ratio has been constantly increasing. In FY 2062/2063 total lending was 69.63% which increased every year and in FY 2066/2067 total lending reach to 81.74%.

The net profit to total assets ratio is not constant. In the FY 2064/2065 net profit is 1.77% and in FY 2065/2066 net profit is 1.68% which is decreasing in comparison to the previous year 2063/2064 which is 1.79%. But in the FY 2066/2067 net profit has increased to 2.19%.This shows the profit is in increasing trend.

**Figure: 4.7**

**Trend Analysis of Level of NPA, ROA & Loan-Deposit Ratio (NIBL)**




The above chart shows the trend line of NPA, total lending and net profit of NIBL bank. Total lending to total deposit ratio is increasing till year 2064/2065 and again decreasing and then increasing in FY 2066/2067. NPA to total lending ratio is decreasing and slightly increasing in FY 2066/2067. The net profit to total asset is also increasing except in the FY 2065/2066**.**

**Table 4.8**

**Total Assets, Total Deposits, Total Lending and Total NPA (NIBL)**

**(In million)**

| Fiscal Year | Total Asset | Total Deposit | Total lending | Total NPA |
|---|---|---|---|---|
| **2062/2063** | 21330 | 18927 | 13178 | 272 |
| **2063/2064** | 27591 | 24489 | 17769 | 422 |
| **2064/2065** | 38873 | 34452 | 27529 | 309 |
| **2065/2066** | 53011 | 46698 | 36827 | 307 |
| **2066/2067** | 57305 | 50095 | 40319 | 355 |

*Source: Annual Reports of FY 2062/63-2066/67*

The above table gives the information on total asset, total deposit, total lending and total NPA of NIBL bank. The total asset has been increasing at a faster rate. It was 21330m in the FY 2062/2063 and has reached to 57305m in the FY 2066/2067.

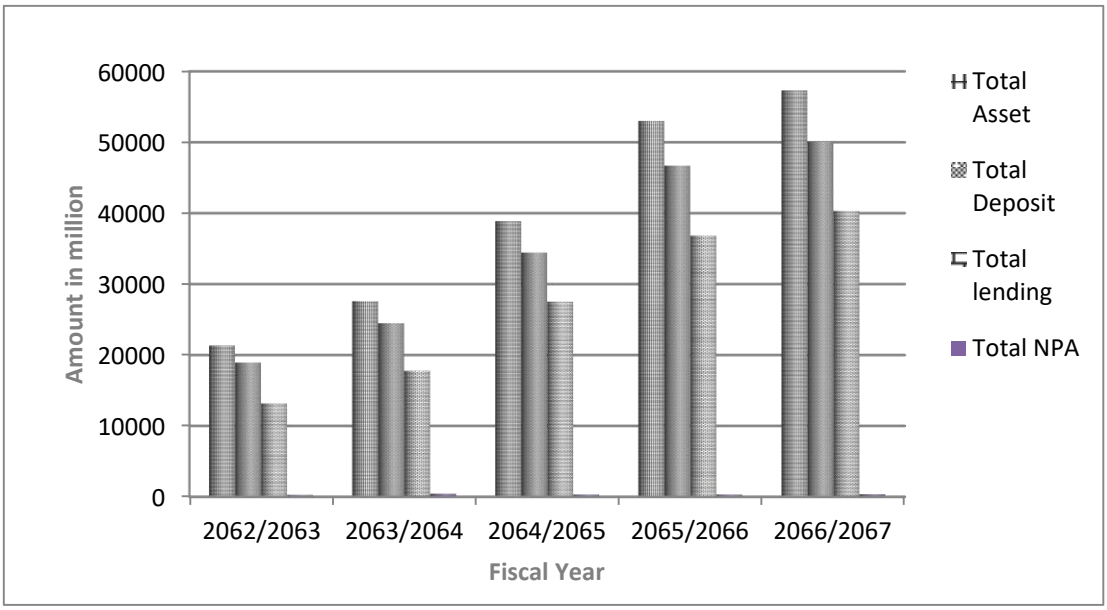
The total deposit of the bank has also been increasing. It was 18927m in the fiscal year 2062/2063. Till the FY 2066/2067 the deposit has reached to 50095m. This shows the interest of public in the bank.

The total lending of the bank also has been increasing. It was 13178m in the FY 2062/2063 which increased continuously and reached to 40319m in the FY 2066/2067.

The level of NPA is fluctuating. It increased and reached to 422m in FY 2063/2064. The level of NPA from then has been decreasing till FY 2065/2066 to 307m. Again the NPA has increased to 355m in FY 2066/2067.

**Figure 4.8**

**Graphical Representation of TA, TD, TL and TNPA (NIBL)**



The above figure shows the relationship between total asset, deposit, lending and total NPA of the corresponding years. The total asset of the bank has been increasing tremendously. Similarly the total deposit and total lending of the bank are also increasing. There is fluctuation in the level of NPA which is highest in the FY 2066/2067.

**Table 4.9**
**Net Profit and Total NPA (NIBL)**
**(In million)**

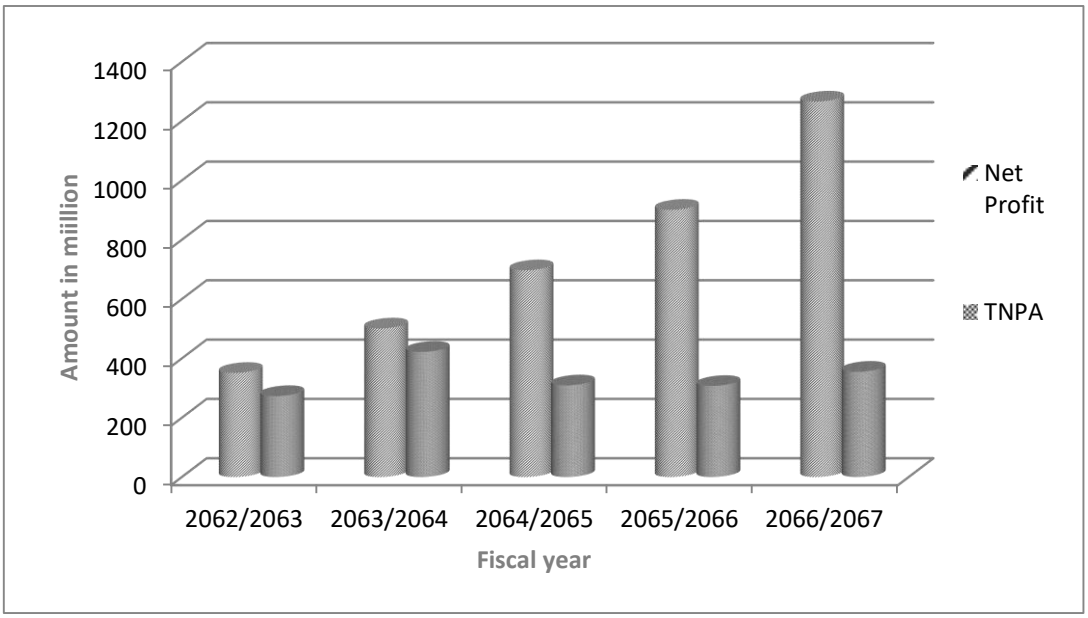
| Fiscal Year | Net Profit | TNPA |
|---|---|---|
| **2062/2063** | 351 | 273 |
| **2063/2064** | 501 | 422 |
| **2064/2065** | 697 | 309 |
| **2065/2066** | 901 | 307 |
| **2066/2067** | 1266 | 355 |

*Source: Annual reports of FY: 2062-2067*

The above table gives the information on the net profit and TNPA of NIBL. The net profit in FY 2062/2063 is 351m which increased about 4 times and reached to 1266 m in FY 2066/2067. The NPA is fluctuating in the 5 year period. It has increased than the previous years which shows the measures of bank to balance level of NPA is not satisfactory.

**Figure 4.9**

**Graphical Representation of Net Profit and TNPA (NIBL)**




The above chart displays relation of level of net profit and NPA in the 5 year period. The total profit is in the increasing trend which is 3 times in FY 2066/2067 than FY 2062/2063. The total NPA is highest in FY 2063/2064.The NPA is fluctuating**.**

**D) Kumari Bank Limited (KBL)**

**Table: 4.10**

**Relation between NPA, Net profit, Total Lending and Total deposits (KBL)**

| Year/Ratios | 2062/2063 | 2063/2064 | 2064/2065 | 2065/2066 | 2066/2067 |
|---|---|---|---|---|---|
| **NPA to total lending ratio** | 0.92 | 0.73 | 1.32 | 0.44 | 0.50 |
| **Total lending to total deposit ratio** | 90.20 | 85.84 | 90.20 | 94.17 | 79.45 |
| **Net profit to Total assets ratio** | 1.15 | 1.43 | 1.16 | 1.41 | 1.59 |

*Source: Annual reports of FY: 2062-2067*

The above table shows the relationship between the NPA, net profit, total lending and total deposit of Kumari Bank Limited. The NPA to total lending ratio is in decreasing trend except in the FY 2064/2065 which has increased the highest at 1.32%. Then NPA has been constantly decreasing reaching 0.50 % in the FY 2066/2067.

The total lending to total deposit ratio is fluctuating. It has reached maximum in the year 2065/2066 at 94.17% and has decreased to 79.45% in the fiscal year 79.45%.

Similarly, the net profit to total asset ratio is also in fluctuating. Net profit has decreased in the FY 2064/2065 at 1.16% and has reached maximum in the FY 2066/2067 at 1.59%.

**Figure: 4.10**

**Trend Analysis of Level of NPA, ROA & Loan-Deposit Ratio (KBL)**


The above figure shows the trend line of NPA, total lending and net profit of KBL. The total lending to total deposit ratio is fluctuating. It has decreased in FY 2063/2064 and FY 2066/2067. NPA to total lending ratio is also fluctuating which is maximum in FY 2064/2065 and minimum in FY 2065/2066. Net profit to total asset ratio is also maximum in the FY 2066/2067 which is a positive indicator of the bank.

**Table 4.11**
**Total Assets, Total Deposits, Total Lending and Total NPA (KBL)**

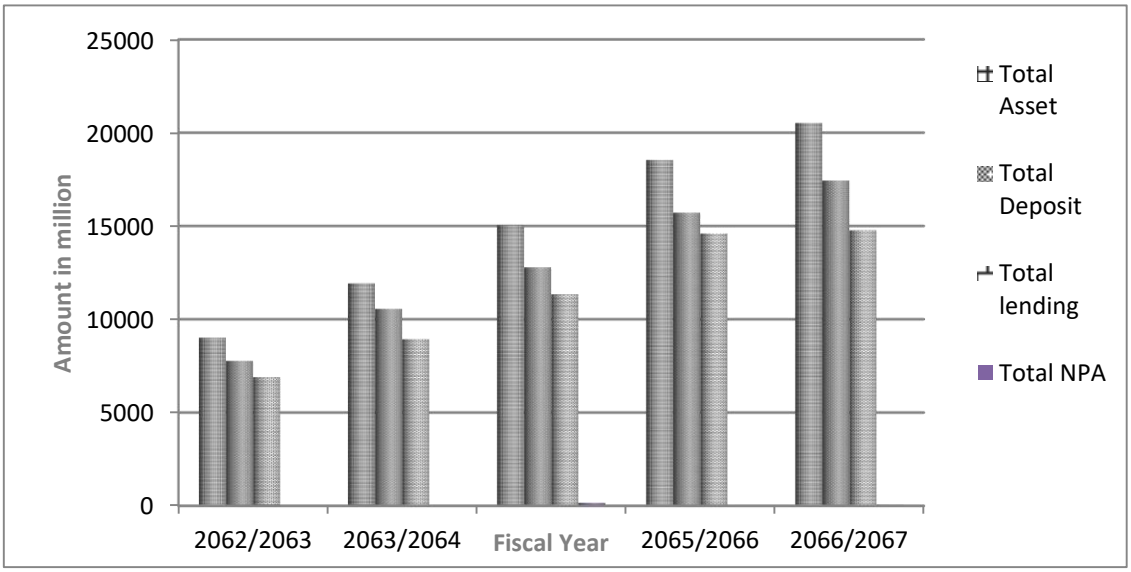
**(In million)**

| Fiscal Year | Total Asset | Total Deposit | Total lending | Total NPA |
|---|---|---|---|---|
| 2062/2063 | 9010 | 7769 | 6892 | 64 |
| 2063/2064 | 11918 | 10557 | 8929 | 66 |
| 2064/2065 | 15036 | 12780 | 11335 | 152 |
| 2065/2066 | 18538 | 15710 | 14593 | 64 |
| 2066/2067 | 20522 | 17432 | 14765 | 75 |

*Source: Annual Reports of FY 2062/63-2066/67*

The above table gives the information on the total asset, total deposit, total lending and total NPA of KBL. The total asset is in increasing trend. It was 9010 m in FY 2062/2063 and reached to 20522 m in the FY 2066/2067. The total deposit has also been increasing from 7769 m in the FY 2062/2063 to 17432 m in FY 2066/2067. The total lending also has been increasing tremendously reaching 14764 m in FY 2066/2067. There is variation in the level of NPA. It reached maximum in FY 2064/2065 at 152 m. In FY 2065/2066 it decreased to 64m and again increased to 75m in FY 2066/2067.

**Figure 4.11**
**Graphical Representation of TA, TD, TL and TNPA (KBL)**



The above chart displays the information on the total asset, total deposit, total lending and total NPA of KBL. The total asset is in the increasing trend. The total deposit is also in the increasing trend. The total lending is also increasing continuously whereas total NPA is decreasing except in the FY 2064/2065.

**Table 4.12**
**Net Profit and Total NPA (KBL)**
**(In million)**

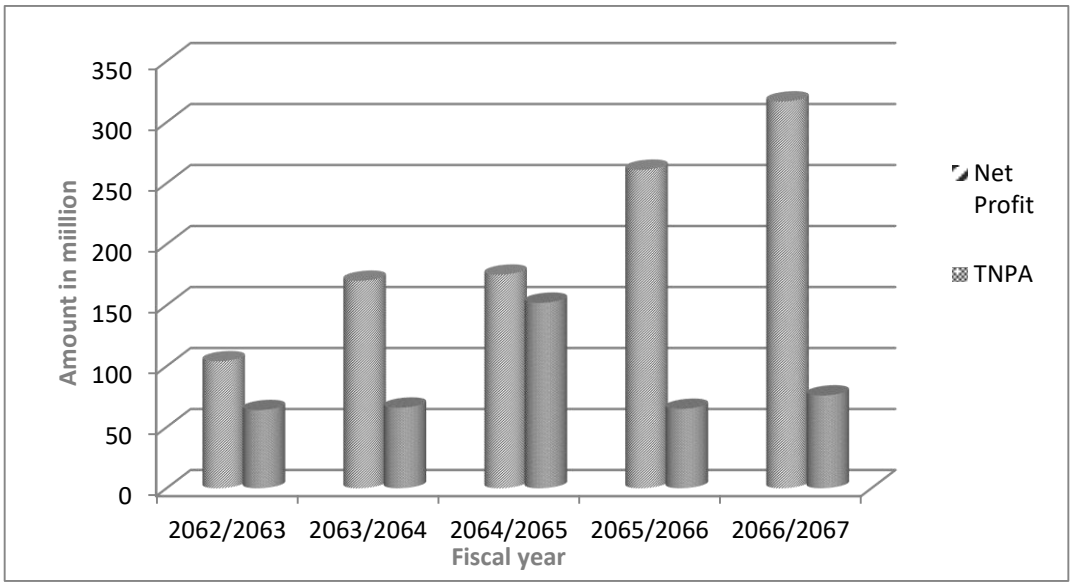
| Fiscal Year | Net Profit | TNPA |
|---|---|---|
| **2062/2063** | 104 | 64 |
| **2063/2064** | 170 | 66 |
| **2064/2065** | 175 | 152 |
| **2065/2066** | 261 | 65 |
| **2066/2067** | 317 | 76 |

*Source: Annual reports of FY: 2062-2067*

The above table gives information about net profit and NPA. The net profit in FY 2062/2063 is 104 m which increased 3 times and reached to 317 m in the FY 2066/2067.The total NPA in FY 2062/2063 is 64 m which increased to 152 m in FY 2064/2065. Then NPA again decreased in following year. The NPA again increased and reached to 76 m in FY 2066/2067**.**

**Figure 4.12**

**Graphical Representation of Net Profit and TNPA (KBL)**



The net profit from the above chart has been increasing tremendously. It has reached to 3 times in FY 2066/2067 than in FY 2062/2063. The level of NPA is fluctuating. It is highest in FY 2064/2065. The NPA is higher than previous year in FY 2066/2067.

### 4.2 Correlation Analysis

Correlation Analysis generally used to describe the degree to which one variable is related to another, in statistics is used in order to depict the co-variance between two or more variables. It helps to determine whether:

- A positive or negative relation exists
- The relation is significant or insignificant
- Establishes cause and effect relation if any.

The statistical tool, "correlation analysis" is preferred in this study to identify the relationship between NPA and ROA and whether the relationship is significant or not. Hence, NPA denotes the percentage of NPA in total lending of the bank and ROA denotes the net profit as percentage of total assets of the bank.

**Table: 4.13**

**Correlation between NPA to total lending and NP to total assets**

| **Banks** | **Coefficient of correlation(r)** | **Relation-ship** | **Coefficient of determination (r2)** | **6 (Prob. Error)** | **Significant/ Insignificant** |
|---|---|---|---|---|---|
| **NABIL** | 0.45 | Positive | 0.20 | 1.449 | Insignificant |
| **ADBL** | -0.5832 | Negative | 0.3401 | 1.1952 | Insignificant |
| **NIBL** | -0.4682 | Negative | 0.22 | 1.4124 | Insignificant |
| **KBL** | -0.8266 | Negative | 0.6832 | 0.5787 | Significant |

Source: Annexure: i

The above table is shows the correlation coefficient between the Non Performing Assets to total lending to NP to total assets of the sample banks. Only the NABIL

bank has a positive relation between the NPA and ROA.20% of the relationship is affected by the NPA and 80% is affected by the other factors. NABIL has insignificant relationship since the value of r i.e. 0.45 is less than the value of 6 times P.E. i.e. 1.449.

KBL has a high degree of negative relation between the two variables which is -0.8266. 68.32% of profitability is affected by the NPA of the bank and remaining 31.68% is affected by the other factors. The test made for this bank is significant since 6 P.E. is less than the value of 'r '. Similarly, ADBL and NIBL bank also has a negative relationship between the variables. Only 34.01% of ADBL and 22% of NIBL bank is affected by the NPA and remaining 65.99% and 78% of the bank is affected by the other factors. The value of 6P.E. is 1.1952 and 1.4124 of ADBL and NIBL banks respectively which is more than the value of r. this shows that they have insignificant relationship between them.

From the above calculations, we can conclude that the profitability of the individual bank is fully dependent in the Non-Performing Assets of the respective banks. Higher the NPA lower will be the Net Profit and vice-versa.

**Table: 4.14**

Correlation between NPA and total lending of bank

| **Banks** | **Coefficient of correlation(r)** | **Relation-ship** | **Coefficient of determination (r2)** | **6 (Prob. Error)** | **Significant/ Insignificant** |
|---|---|---|---|---|---|
| **NABIL** | 0.81 | Positive | 0.6561 | 0.6237 | Significant |
| **ADBL** | -0.981 | Negative | 0.962 | 0.0342 | Significant |
| **NIBL** | 0.0171 | Positive | 0.0003 | 2.6820 | Insignificant |
| **KBL** | 0.0748 | positive | 0.0056 | 1.7820 | Insignificant |

Source: Annexure: ii

The table above presented shows the relationship between the total lending and the total NPA of the different commercial banks under study. It shows how much is NPA related with the lending of the bank. The NABIL bank has a high degree of positive relation between the two variables i.e.0.81. This shows that whenever the total lending of the bank goes on increasing the total NPA of the bank also goes on increasing. And this particular factor affects the NPA by 65.61% and the remaining 34.39% is caused by other factors. And the result is also significant since 6 P.E. is less than the value of correlation.

Similarly, the above table also shows that the correlation of the NIBL and KBL to be 0.0171 and 0.0748, a low degree positive correlation. This shows that whenever the total lending of the bank goes on increasing the NPA of the bank also goes on increasing. But this factor affects only by 0.03% and by 0.56% and remaining 99.97% and 99.44% is affected by the other factors. And the result is insignificant since the value of P.E. multiplied by 6 is more than the value of coefficient of correlation.

Here, ADBL has a negative relationship between the variables which is -0.981. This shows that whenever the total lending goes on increasing the NPA of the bank goes on decreasing. And 96.2% is affected by these factors and remaining 3.8% is affected by the other factors. The result here is significant since P.E. multiplied by 6 is more than the calculated value of coefficient of correlation.

**Table: 4.15**

Correlation between NPA of the bank and total NPA population

| Banks | Coefficient of correlation (r) | Relation-ship | Coefficient of determination (r2) | 6(Prob. Error) | Significant/ Insignificant |
|---|---|---|---|---|---|
| **NABIL** | -0.6579 | Negative | 0.4328 | 1.5362 | Insignificant |
| **ADBL** | 0.9962 | Positive | 0.9924 | 0.0204 | Significant |
| **NIBL** | 0.0783 | Positive | 0.0061 | 2.6922 | Insignificant |
| **KBL** | 0.1189 | positive | 0.0141 | 2.6703 | Insignificant |

Source: Annexure: iii

The table above shows the relationship between the Non-Performing Assets of the sample Banks with that of the total population i.e. all the twenty five commercial banks of the industry. The theory suggests that whenever the NPA of the individual bank goes on increasing there will be corresponding movement in the NPA of the population too.

The coefficient of correlation of ADBL is 0.9962, a high degree positive correlation. This shows whenever the NPA of the population is increased, the NPA of the bank is also increased and vice-versa. This affects the NPA by 99.24% and remaining 0.76% is affected by other factors. The result obtained is significant since the value of correlation is more then 6 times P.E.

The above table shows NIBL and KBL correlation value is 0.0783 and 0.1189 respectively having a low degree of positive relation between the variables. This shows whenever the NPA value of individual bank goes on increasing the NPA of the population also goes on increasing. This is affected by 0.61% and 1.41% and remaining 99.39% and 98.59% is affected by the other factors of NIBL and KBL respectively.

NABIL bank has a negative relationship between the variables i.e. -0.6579. This shows whenever the NPA of the population is increased, the NPA of the individual bank is decreased and vice- versa. This is affected by 43.28% by the given variables and the remaining 56.72% is caused by other factors. Since the value of correlation is less than the value of 6 times P.E., the result here is also insignificant.

## 4.3 Test of Hypothesis

The main objective of this test is to test the significance regarding the parameters of the population on the basis of sample drawn from the population. In this study the following hypothesis is set:

a) **Test of hypothesis between NPA and Total Lending of the Banks:**

Is there any significant relation between total lending of commercial banks and the amount of the Non-Performing Assets?

Null Hypothesis, $H_0$: $\mu_x = \mu_y$ , i.e. there is not any significant relation between total lending of commercial banks and the amount of the Non-Performing Assets or there is no significant difference between population means.

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Alternative hypothesis, $H_1$: $\mu_x < \mu_y$ , i.e. there is significant relation between total lending of commercial bank and the amount of the Non-Performing Assets or there is significant difference between the population means.

**Table 4.16**

**Hypothesis of total lending and the amount of NPA**

| Banks | Calculated value of 't' |
|---|---|
| **NABIL** | 6.010 |
| **ADBL** | 13.61 |
| **NIBL** | 5.11 |
| **KBL** | 7.25 |

Source: Annex: IV'a'

Here the tabulated value of all the sample banks at 8 degree of freedom, 5% level of significance for the left tailed test is 1.860.

From the above table we can conclude that the calculated value of t is more than the tabulated value in all the sample banks taken. The highest tabulated value of't' is 13.61 of ADBL and the lowest is 5.11 of NIBL bank. This shows that the relationship is significant and the alternative hypothesis or H1 is accepted. Therefore there is significant relationship between the amount of Non-Performing Assets of sample Bank and its total lending or the population means differ significantly.

**b. Test of hypothesis between NPA of the Bank and the population:**

Is there any significant relationship between the amount of Non-Performing Assets of sample banks and the population?

Null hypothesis, H0: $\mu_x = \mu_y$ , i.e. there is not any significant relationship between the amount of Non-Performing Assets of sample banks and the population or the two population means do not differ significantly.

Alternative hypothesis, H1: $\mu_x < \mu_y$, i.e. there is significant relationship between the amount of Non-Performing Assets of sample banks and the population or the two population means differ significantly.

**Table 4.17**

**Hypothesis of NPA and the total NPA population**

| Banks | Calculated value of 't' |
|---|---|
| **NABIL** | 7.58 |
| **ADBL** | 5.53 |
| **NIBL** | 7.53 |
| **KBL** | 7.63 |

Source: Annex: IV'b'

Here the tabulated value of all the sample banks at 8 degree of freedom, 5% level of significance for the left tailed test is 1.860.

The above table shows the relationship between the amount of NPA of the sample banks and the total amount of population of NPA of all banks. Here the highest calculated value is of NABIL which is 7.58 and the lowest value is of ADBL which is 5.53. All the banks calculated value is greater than the tabulated value i.e. 2.776. This shows that the relationship is significant and the alternative hypothesis is accepted i.e. H1 is accepted. Therefore, there is significant relationship between the amount of Non-Performing Assets of sample bank and the population.

## 4.4 Major findings

### 4.4.1 Findings from trend analysis, Correlation Analysis and hypothesis of NABIL.

The NPA to total lending ratio during the 5 year period is in fluctuating trend which is highest in the FY 2066/2067 at 1.47. Similarly, the total lending to total deposit ratio has been decreasing till FY 2064/2065 remaining high at FY 206602067 at 69.53 though it has been decreased than previous year. During the 5 year period the net profit to total asset has been in the decreasing trend.

The total asset, total deposit, total lending and the net profit are in the increasing trend. But at the same time the total NPA is fluctuating. Till FY 2064/2065 the total NPA was in decreasing trend at 171 but has increased to 339 in the FY 2066/2067.

The correlation analysis of NPA to total lending and NP to total asset and NPA and total lending shows that they have a positive relationship between them. This shows when the level of NPA increases, ROA increases and vice-versa and when NPA increases total lending increases and vice-versa. And it shows only the significant correlation between NPA and the total lending of banks.

The test of hypothesis shows there is significant relationship between the amount of Non-Performing Assets of sample Bank and its total lending and the amount of Non-Performing Assets of sample bank and the population

### 4.4.2 Findings from trend analysis, Correlation Analysis and hypothesis of ADBL

The NPA to total lending of this bank for the 5 year period is in decreasing trend. But there is fluctuation in total lending to total deposit ratio and net profit to total asset ratio of this bank. Total lending to total deposit ratio and net profit to total assets ratio is maximum in the FY 2066/2067 at 121.90 and 3.50 respectively.

The total asset and the total lending are in increasing trend of this bank. The total deposit is in increasing trend till the FY 2065/2066 but is decreased in the FY 2066/2067 from 35159 to 32473. The total NPA is in decreasing trend of this bank. The net profit of this bank has been increased greatly in the FY 2066/2067.

The calculation of correlation shows negative relationship and insignificant correlation between NPA to ROA and NPA to total lending of banks. But the correlation is positive and significant between the NPA of the bank and the total population.

The test of hypothesis shows there is significant relationship between the amount of Non-Performing Assets of sample Bank and its total lending and the amount of Non-Performing Assets of sample bank and the population.

### 4.4.3 Findings from trend analysis, Correlation Analysis and hypothesis of NIBL

The NPA to total lending of this bank is fluctuating which is low in the FY 2066/2067 at 0.62. The total lending to total deposit ratio is in the increasing trend which is highest in the FY 2066/2067 at 81.74. The total profit to total asset ratio is also in the increasing trend which is maximum in the FY 2066/2067 at 2.19.

The total asset, total deposit, total lending and the net profit all are in the increasing trend of this bank. The total NPA of this bank is fluctuating and has reach to 355 in **the FY 2066/2067 from 272 in the FY 2062/2063.**

The findings from correlation shows that it has positive relationship between the variables as well as insignificant correlation between the NPA to total lending of

banks and between NPA of the bank and total NPA population. But it has negative relationship and insignificant correlation between the NPA to ROA of the bank.

The test of hypothesis shows there is significant relationship between the amount of Non-Performing Assets of sample Bank and its total lending and the amount of Non-Performing Assets of sample bank and the population.

### 4.4.4 Findings from trend analysis, Correlation Analysis and hypothesis of KBL

The NPA to total lending ratio is fluctuating which is low in the FY 2066/2067 at 0.50. the total lending to total deposit ratio is also fluctuating which is also low in the FY 2066/2067 at 79.45. The Net profit to total asset ratio is also in the fluctuating trend which is high in the FY 2066/2067 at 1.59.

The total asset, total deposit, total lending of this bank is in the increasing trend in the 5 year period. The total level of NPA was maximum in the FY 2064/2065 at 152 which decreased and reached to 75 in the FY 2066/2067.The net profit of this bank has also been increased tremendously.

The correlation analysis shows that there is positive relationship and insignificant correlation between NPA of the bank and total NPA population and between NPA and total lending of banks. The correlation is insignificant and is negative between the NPA to total lending and NP to total assets.

The test of hypothesis shows there is significant relationship between the amount of Non-Performing Assets of sample Bank and its total lending and the amount of Non-Performing Assets of sample bank and the population.

# CHAPTER- V

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter attempts to summarize the whole study and findings, makes general conclusions based on the finding presented in previous chapter and also suggests some recommendations based on the result of the analysis of data.

## 5.1 Summary

This research is aimed at studying about the non-performing assets and profitability of commercial banks in Nepal. In first chapter the study dealt about basic assumption of the study.

Basically it highlights the concept and importance or significance of the study. It also presents research issues, research problems, and basic objectives of the study, rationality of the study, limitation of the study and organizational structure of the study.

Second chapter helped to provide knowledge about the development and progress made by the earlier researcher on the concerned field or topic of the study. It also tried to know the some concept used in this study. Moreover, it reviewed and summarized the finding of the previous findings of the study to provide knowledge about the background of the work done by them and to stop the duplicate of previous work.

Third chapter of the study discussed about the various research methodologies used for the study. Basically, research methodology here signifies the research design, sources of data, population and sample of data, data collection technique, data collection methods and tools and techniques employed etc. for this purpose descriptive cum analytical research design was adopted. Out of total population of 26 commercial banks, four banks were taken as sample using judgmental sampling method. The four major commercial banks are NABIL, ADBL, NIBL and KBL.

Secondary data have been used in the study, annual reports and other publications from the basis of secondary data. Beside this newspaper, relevant thesis, journals, articles, related websites etc. are also taken for this research. The data collected from various sources are recorded systematically and presented in appropriate forms of tables and charts and appropriate mathematical, statistical, financial, graphical tools have been applied to analyze the data. The data of five consecutive years of three selected banks have been analyzed to meet the objectives of the study.

Fourth chapter of the study dealt about data presentation and analysis. It first presents the generated data in tabular form of and analyzed them in systematically as per the objectives. The researcher tried to analyze the comparative position of bank in term of non-performing asset and its profitability and its impact on relative variables. Detail of the findings can be presented as follows.

Financial sector have major role to play in the development of the country. A Commercial Bank deals with exchanging currency, accepts deposits, give loans and does other various commercial transactions. Therefore, the major function of commercial bank is to accept deposits and provide loans. There is not so long history of commercial banks in Nepal. Nepal bank limited is the first bank in Nepal, established in 30th Kartik, 1994. But now there are 26 commercial bank as per Nepal Rastra bank, banking and financial statistics, and mid-July 2009 which extends their services in different part of the country

The successful working of the banks depends on ability of the management to distribute the fund among the various kind of investment known as loans and advance. Loan and advance are the most profitable assets of a bank. These assets constitute primary sources of income to the bank. As being a business institution a banks aims at making huge profit since loans and advances are more profitable then any other assets of the banks, it is willing to lend as much as its funds as possible. But bank has to be careful about the repayment of loan and interest before giving loan.

If a bank is too timid, it may fail to obtain the adequate return on the fund, which is confined to it for use. Similarly, if the bank is too liberal, it may easily impair its

profits by bad debts. Therefore, banks should not forget the reality that most of the bank failures in the world are due to shrinkage in the value of the loan and advances.

Escalating level of NPA's has been becoming great problem in banking business in the world. In this context, Nepal cannot be run off from this situation. The level of NPA in Nepalese banking business is very alarming. It is well known fact that the bank and financial institution in Nepal have been facing the problem of swelling non-performing assets and the issue is becoming more and more unmanageable day by day. We are well known from different financial reports, newspapers and news that the total NPA in Nepalese banking system is about 30 Billion (Nepal Rastra Bank, 2005: 45), while it is very worse in case of two largest commercial banks RBB and NBL.

Therefore, this study is concerned to find out the level of NPA and its effects on the return on assets and the other factors of the Nepalese commercial banks. Finally, summary and conclusion and various suggestions were described in this chapter. It drew the conclusion from the findings of the study and explained the summary of research paper. Besides, it also provides various suggestions to give further improvement.

## 5.2. Conclusion

Nepalese banking industry is faced with variety of serious challenges, the prominent being the management of large volume of non-performing loans and the development of corporate values and ethics among the stake holders in the banking industry. There is already a stiff competition between the market players and the possibility of entry of new players is going to further add to the pressure. So in such a scenario, stakeholders including NRB have to be vigilant that banks do not compromise on the prudent risk management practices in order to survive the competition, which might ultimately lead to the bank failure. At the same time, NRB has to keep tight vigil in the banking industry so as to be take corrective measures in creating and maintaining a stable and a sound banking industry.

Among the four sample banks taken under study, the oldest bank is ADBL having very high amount of NPA which is in the decreasing trend in the 5 year study period and KBL has the lowest amount of NPA which is in increasing trend in the 5 year study period. NABIL and NIBL's NPA is also in the increasing trend.

The NABIL's profit is increased by 10.47%, ADBL by 78%, NIBL by 40% and KBL by 21%. This result shows that the ADBL has the highest increment in percentage of profit than the other banks. Similarly, the NPA is 53.3% of NABIL, 8% of ADBL, 13% of NIBL and 16% of KBL. The result shows that ADBL has the lowest increment in the NPA and NABIL has the highest increment. When NPA is less, profit is more; this is applicable only to ADBL.

The Correlation coefficient between NPA and ROA mostly came out to be negative except for NABIL. This shows that increase in profitability is affected by the amount on Non Performing Assets. These finding supports the theory that, higher the NPA lower will be the ROA and vice-versa. But in the case of NABIL higher the NPA higher the ROA will be. The result is insignificant in this which means that there is little or no relation between NPA and ROA in the progression or digression in their values.

The correlation coefficient between NPA and total lending of bank mostly came out to be positive in three sample bank except for ADBL. This shows that when NPA increases total lending of banks increases and vice-versa except for ADBL. Only the result is significant in case of NABIL and ADBL which means that these factors have direct relation which can increase or decrease their respective values.

The correlation coefficient between NPA and total NPA population mostly came out to be positive except for the NABIL. The positive relation shows that when NPA increases the total NPA population also increases and vice-versa. The calculation shows only the ADBL has a significant correlation between the variables.

Finally, the test of hypothesis between NPA and Total Lending of the banks is found true. Thus there is a significance relation between these two variable are significant. On the other hand the test of hypothesis between NPA and that of population is found

acceptable. This shows that there is a significance relation between two. That is every raise or fall in the NPA of sample banks has also effect in the NPA of the total population.

## 5.3. Recommendations

Recommendation refers to the suggestive measures derived from the findings of the study. High level of non-performing assets not only decreases the profitability of the banks but also affect the entire financial as well as operational health of the country. If the NPA were not controlled immediately, it would be proved as a curse for the banks in near future.

Poor corporate governance and risk management practices are the key reasons for high level of NPL in our banking system. Other causes are economic slowdown, legal hurdles in recovery and poor quality of credit information. Management practices in many banks are still very weak, particularly in the areas of credit analysis, credit administration and risk management and internal control system. Hence, the management of NPL is a great challenge for the Nepalese banking sector. It is high time that we start strengthening and reshaping the reform process. Following are some of the recommendations, which will help to reduce the level of NPA of the Nepalese commercial banks.

1) **To take necessary step towards recovering bad debt:**

   The NPA of the bank has the direct effect on its profitability. More the NPA of the bank the less will be its profitability. Those banks, which have high level of NPA, should take necessary action towards recovering their bad loans as soon as possible. It is recommended that NABIL and NIBL make serious action to recover the bad loan and also should make curative action for new loans from turning them into NPA from now. Hiring assets management company (AMC) is recommended to both of them to reduce the current non-performing assets.

2) **To manage Poor credit appraisal system:**

   When bankers give loan, he should analyze the purpose of the loan. To ensure safety and liquidity, banks should grant loan for productive purpose only. Bank should analyze the profitability, viability, long term acceptability of the project while financing. Poor credit appraisal is another factor for the rise in NPA's. Due to poor credit appraisal the bank gives advances to those who are

not able to repay it back. They should use good credit appraisal to decrease the NPA's.

3) **To take proper control in loan management:**

The increase in the volume of Total Lending is not the reason in decrease of NPA or increment of the profitability of the banks. As seen the case of NABIL, NIBL and KBL there has been increase in the level of NPA even there Total Lending has increased. This is due the effect of the bad loans provided by the banks.

- Loan must be given only if the banker is satisfied that the borrower can repay money from the cash flow generated from operating activities. However, the banks want to ensure that their loan is repaid even in case of failure of business. To protect banks from such happenings, the banks take collateral from the borrower so that in the event of default this collateral is disposed for the recovery of loan. Therefore, banks should take enough collateral so that the Bank at least will be able to recover its principal and interest amount in case of failure of the borrower to repay the loan.

- Being loan a risky asset, efforts should be made to have proper control in every steps of loan management. The banks should establish separate department for credit appraisal, documentation, disbursement, rapport building, inspection and recovery of loan which have possibility of finding mistakes of one department by the others, so that the effectiveness can be achieved.

- Lack of proper financial analysis of the borrower by the banks, is one of the major cause behind increasing NPA of Nepalese commercial banks. Therefore, proper financial analysis should be performed before giving loan to the borrower.

4) **To take care of managerial deficiencies**:

The banker should always select the borrower very carefully and should take tangible assets as security to safe guards its interests. When accepting

securities banks should consider the market ability, acceptability, safety and transferability. The banker should follow the principle of diversification of risk based on the famous maxim "do not keep all the eggs in one basket"; it means that the banker should not grant advances to a few big farms only or to concentrate them in few industries or in a few cities. If a new big customer meets misfortune or certain traders or industries affected adversely, the overall position of the bank will not be affected.

**5) Others factors to be considered:**

The following factors also play a significant role in controlling the NPA structure of the commercial banks in Nepal.

- ❖ Following the updated directives of NRB and acting upon it also reduce many of the credit risk. Beside there are penalty implication and non-compliance of the directives. Hence all the three banks are recommended to follow the directives and they are also suggested to come up with stronger internal audit department to ensure that the directives are properly implemented.

- ❖ The banks should be a watch dog of its economy as well as the effect of changes in the international market to its credit customers. The amount involved in non-performing loans may rise considerably as a result of less predictable incidents, such as when the costs of fuel, prices of key export products, foreign exchange rates or interest rates change abruptly. For example fall in the prices of loan collaterals (often real estate) may cause more loans to become classified as doubtful.

- ❖ Control mechanism of the bank should be managed properly. Black listed customers should not be given the new loan, as it would lead to the same situation to the bank. Likewise, it is often said "prevention is better than cure". Hence it is recommended for all the three banks to take preventive measures before the loan goes to default. All the banks are recommended to have an information system to gather all the possible information about its borrowers so that necessary precautions can be taken in time.

- Proper management auditing system should be implemented to monitor the overall performance of the bank. Regular monitoring by both the internal and external (NRB auditors and private Co. auditors) auditors is most.

- No work can be success without proper management. It is recommended to initiate training and development program for the employees to make them efficient and professional in credit appraisal, monitoring and proper risk management.

- It is also recommended that banks and financial institution should demand support from government to recover from the bad loans specially created because of willful defaulters. Political influences in the loan disbursement should be avoided as it may lead to worse condition to the bank as it may increase the non-performing loan of the bank.

- Regulations must incorporate a contextual perspective (like temporary cash flow problems) and clients should be handled in a manner which reflects true value of their assets and future potential to pay. The top management should delegate authority and back decisions of this kind taken by middle level managers.

- There have been instances of banks extending credit to doubtful debtors (who willfully default on debt) and getting kickbacks for the same. Ineffective Legal mechanisms and inadequate internal control mechanisms have made this problem grow – quick action has to be taken on both counts so that both the defaulters and the authorizing officer are punished heavily. Without this, all the mechanisms suggested above may prove to be ineffective.

## ANNEXURE- I

**Calculation of coefficient of correlation between NPA to total lending and NP to total assets (NABIL)**

Here,

X= NPA to total lending and Y= net profit to total assets

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 1.38 | 3.23 | 1.9044 | 10.43 | 4.46 |
| **2063/2064** | 1.12 | 2.72 | 1.2544 | 7.40 | 3.05 |
| **2064/2065** | 0.74 | 2.32 | 0.5476 | 5.38 | 1.72 |
| **2065/2066** | 0.80 | 2.55 | 0.64 | 6.50 | 2.04 |
| **2066/2067** | 1.47 | 2.37 | 2.16 | 5.62 | 3.48 |
| **Total** | **5.51** | **13.19** | **6.49** | **35.33** | **14.75** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 14.75 - 5.51\times 13.19}{\sqrt{5\times 6.49 - (5.51)^2} \times \sqrt{5\times 35.33 - (13.19)^2}}$$

= 0.45

Co-efficient of determination: $(r_{xy})^2 = (0.45)^2 = 0.20$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.20}{\sqrt{5}} = 0.2415$

6(P.E) = 6 ×2.2415 = 1.449

**Calculation of coefficient of correlation between NPA to total lending and NP to total assets (ADBL)**

Here,

X= NPA to total lending and Y= net profit to total assets

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 20.59 | 1 | 424 | 1 | 20.59 |
| **2063/2064** | 17.96 | 2.77 | 323 | 7.67 | 50 |
| **2064/2065** | 11.69 | 1.53 | 137 | 2.34 | 18 |
| **2065/2066** | 9.71 | 2.04 | 94 | 4.16 | 20 |
| **2066/2067** | 8.36 | 3.5 | 70 | 12.25 | 29 |
| **Total** | **68.31** | **10.84** | **1048** | **27.42** | **138** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 138 - 68\times 11}{\sqrt{5\times 1048 - (68)^2} \times \sqrt{5\times 27.42 - (11)^2}}$$

= -0.5832

Co-efficient of determination: $(r_{xy})^2 = (-0.5832)^2 = 0.3401$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.3401}{\sqrt{5}} = 0.1992$

6(P.E) = 6 ×0.1992 = 1.1952

**Calculation of coefficient of correlation between NPA to total lending and NP to total asset (NIBL)**

Here,

X= NPA to total lending and Y= net profit to total assets

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 2.07 | 1.61 | 4.28 | 2.59 | 3.33 |
| **2063/2064** | 2.37 | 1.79 | 5.62 | 3.20 | 4.24 |
| **2064/2065** | 1.12 | 1.77 | 1.25 | 3.13 | 1.98 |
| **2065/2066** | 0.58 | 1.68 | 0.34 | 2.82 | 0.97 |
| **2066/2067** | 0.62 | 2.19 | 0.38 | 4.80 | 1.36 |
| **Total** | **6.76** | **9.04** | **11.87** | **16.54** | **11.88** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 11.88 - 6.76\times 9.04}{\sqrt{5\times 11.87 - (6.76)^2} \times \sqrt{5\times 16.54 - (9.04)^2}}$$

= -0.4682

Co-efficient of determination: $(r_{xy})^2 = (-0.4682)^2 = 0.22$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.22}{\sqrt{5}} = 0.2354$

6(P.E) = 6 ×0.2354 =1.4124

**Calculation of coefficient of correlation between NPA to total lending and NP to total assets (KUMARI BANK)**

Here,

X= NPA to total lending and Y= net profit to total assets

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 0.92 | 1.15 | 0.85 | 1.32 | 1.058 |
| **2063/2064** | 0.73 | 1.43 | 0.53 | 2.04 | 1.044 |
| **2064/2065** | 1.32 | 1.16 | 1.74 | 1.35 | 1.531 |
| **2065/2066** | 0.44 | 1.41 | 0.19 | 1.99 | 0.620 |
| **2066/2067** | 0.50 | 1.59 | 0.25 | 2.53 | 0.795 |
| **Total** | **3.91** | **6.74** | **3.56** | **9.23** | **5.048** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 5.048 - 3.91\times 6.74}{\sqrt{5\times 3.56 - (3.91)^2} \times \sqrt{5\times 9.23 - (6.74)^2}}$$

= 0.8266

Co-efficient of determination: $(r_{xy})^2 = (0.8266)^2 = 0.6832$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.68}{\sqrt{5}} = 0.0965$

6(P.E) = 6 ×0.09645 = 0.5787

## ANNEXURE-II

**Calculation of Coefficient between NPA and total lending of the bank (NABIL)**

Here,

X=NPA of the bank and Y= total lending of the bank

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 1.83 | 129.23 | 3.35 | 16700.39 | 236.50 |
| **2063/2064** | 1.78 | 155.46 | 3.17 | 24167.81 | 276.72 |
| **2064/2065** | 1.61 | 213.65 | 2.59 | 45646.32 | 343.98 |
| **2065/2066** | 2.24 | 275.90 | 5.02 | 76120.81 | 618.02 |
| **2066/2067** | 3.39 | 322.69 | 11.49 | 104128.84 | 1093.92 |
| **Total** | **10.85** | **1096.93** | **25.62** | **266764.17** | **2569.14** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 2569.14 - 10.85\times 1096.93}{\sqrt{5\times 25.62 - (10.85)^2} \times \sqrt{5\times 266764.17 - (1096.14)^2}}$$

= 0.81

Co-efficient of determination: $(r_{xy})^2 = (0.81)^2 = 0.6561$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.6561}{\sqrt{5}} = 0.10395$

6(P.E) = $6 \times 0.10395 = 0.6237$

**Calculation of coefficient of correlation between NPA and total lending (ADBL)**

Here,

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 58.59 | 249.01 | 4704.59 | 62005.90 | 17079.59 |
| **2063/2064** | 61.85 | 272.52 | 3825.42 | 74267.15 | 16855.36 |
| **2064/2065** | 42.56 | 305.89 | 1811.35 | 93568.69 | 13018.68 |
| **2065/2066** | 28.76 | 326.03 | 827.14 | 106295.56 | 9376.62 |
| **2066/2067** | 31.10 | 338.79 | 967.21 | 114778.66 | 10536.37 |
| **Total** | **232.86** | **1492.24** | **12135.71** | **450916.05** | **66866.62** |

X=NPA of the bank and Y= total lending of the bank

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 66866.62 - 232.86\times 1492.24}{\sqrt{5\times 12135.71 - (232.86)^2} \times \sqrt{5\times 450916.05 - (1492.24)^2}}$$

= -0.981

Co-efficient of determination: $(r_{xy})^2 = (-0.981)^2 = 0.962$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0962}{\sqrt{5}} = 0.0057$

6(P.E) = 6 ×0.0057 = 0.0342

**Calculation of coefficient of correlation between NPA and total lending (NIBL)**

Here,

X=NPA of the bank and Y= total lending of the bank

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 2.72 | 131.78 | 7.40 | 17365.97 | 358.44 |
| **2063/2064** | 4.22 | 177.69 | 17.81 | 31573.74 | 749.85 |
| **2064/2065** | 3.09 | 275.29 | 9.55 | 75784.58 | 850.65 |
| **2065/2066** | 3.07 | 368.27 | 9.42 | 135622.79 | 1130.59 |
| **2066/2067** | 3.55 | 403.19 | 12.60 | 162562.18 | 1431.32 |
| **Total** | **16.65** | **1356.22** | **56.78** | **422909.26** | **4520.85** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 4520.85 - 16.65\times 1356.22}{\sqrt{5\times 56.78 - (16.65)^2} \times \sqrt{5\times 422909.26 - (1356.22)^2}}$$

= 0.01713

Co-efficient of determination: $(r_{xy})^2 = (0.01713)^2 = 0.0003$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.0003}{\sqrt{5}} = 0.447$

6(P.E) = $6 \times 0.447 = 2.682$

**Calculation of coefficient of correlation between NPA and total lending (KUMARI)**

Here,

X=NPA of the bank and Y= total lending of the bank

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 0.64 | 68.92 | 0.4096 | 4749.97 | 44.11 |
| **2063/2064** | 0.66 | 89.29 | 0.4356 | 7972.70 | 58.93 |
| **2064/2065** | 1.52 | 113.35 | 2.3104 | 12848.22 | 172.29 |
| **2065/2066** | 0.65 | 145.93 | 0.4225 | 21295.56 | 94.85 |
| **2066/2067** | 0.75 | 147.65 | 0.5625 | 21800.52 | 110.74 |
| **Total** | **4.22** | **565.14** | **4.1406** | **68666.97** | **480.92** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 480.92 - 4.22\times 565.14}{\sqrt{5\times 4.1406 - (4.22)^2} \times \sqrt{5\times 68666.97 - (565.14)^2}}$$

= 0.07485

Co-efficient of determination: $(r_{xy})^2 = (0.07485)^2 = 0.0056$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.0056}{\sqrt{5}} = 0.297$

6(P.E) = 6 ×0.297 = 1.782

# ANNEXURE: III

**Calculation of coefficient of correlation between NPA of the bank and total NPA population (NABIL)**

Here,

X=NPA of the bank and Y= total NPA population of the banks

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 1.83 | 255.81 | 3.35 | 65438.76 | 468.13 |
| **2063/2064** | 1.78 | 242.16 | 3.17 | 58641.47 | 431.04 |
| **2064/2065** | 1.61 | 186.49 | 2.59 | 34778.52 | 300.25 |
| **2065/2066** | 2.24 | 135.75 | 5.02 | 18428.06 | 304.08 |
| **2066/2067** | 3.39 | 139.55 | 11.49 | 19474.20 | 473.07 |
| **Total** | **10.85** | **959.76** | **25.62** | **196761.01** | **1976.57** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 1976.57 - 10.85\times 959.76}{\sqrt{5\times 25.62 - (10.85)^2} \times \sqrt{5\times 196761.01 - (959.76)^2}}$$

= -0.6579

Co-efficient of determination: $(r_{xy})^2 = (0.6579)^2 = 0.4328$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.4328}{\sqrt{5}} = 0.2560$

6(P.E) = $6 \times 0.2560 = 1.5362$

**Calculation of coefficient of correlation between NPA of the bank and total NPA population (ADBL)**

Here,

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 68.59 | 255.81 | 4704.59 | 65438.76 | 17546.01 |
| **2063/2064** | 61.85 | 242.16 | 3825.42 | 58641.47 | 14977.60 |
| **2064/2065** | 42.56 | 186.49 | 1811.35 | 34778.52 | 7937.01 |
| **2065/2066** | 28.76 | 135.75 | 827.14 | 18428.06 | 3904.17 |
| **2066/207** | 31.10 | 139.55 | 967.21 | 19474.20 | 4340.01 |
| **Total** | **232.86** | **959.76** | **12135.71** | **196761.01** | **48704.80** |

X=NPA of the bank and Y= total NPA population of the banks

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 48704.80 - 232.86\times 959.76}{\sqrt{5\times 12135.71 - (232.86)^2} \times \sqrt{5\times 196761.01 - (959.76)^2}}$$

= 0.9962

Co-efficient of determination: $(r_{xy})^2$= $(0.9962)^2$= 0.9924

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}}$ = $0.675 \times \frac{1-0.9924}{\sqrt{5}}$ = 0.0034

6(P.E) = 6 ×0.0034 = 0.0204

**Calculation of coefficient of correlation between NPA of the bank and total NPA population (NIBL)**

Here,

X=NPA of the bank and Y= total NPA population of the banks

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 2.72 | 255.81 | 7.40 | 65438.76 | 695.80 |
| **2063/2064** | 4.22 | 242.16 | 17.81 | 58641.47 | 1021.92 |
| **2064/2065** | 3.09 | 186.49 | 9.55 | 34778.52 | 576.25 |
| **2065/2066** | 3.07 | 135.75 | 9.42 | 18428.06 | 416.75 |
| **2066/2067** | 3.55 | 139.55 | 12.60 | 19474.20 | 495.40 |
| **Total** | **16.65** | **959.76** | **56.78** | **196761.01** | **3206.12** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 3206.12 - 16.65 \times 959.76}{\sqrt{5 \times 56.78 - (16.65)^2} \times \sqrt{5 \times 196761.01 - (959.76)^2}}$$

= 0.0783

Co-efficient of determination: $(r_{xy})^2 = (0.0783)^2 = 0.0061$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.0061}{\sqrt{5}} = 0.4487$

6(P.E) = $6 \times 0.4487 = 2.6922$

**Calculation of coefficient of correlation between NPA of the bank and total NPA population (KUMARI)**

Here,

X=NPA of the bank and Y= total NPA population of the banks

| FY | X | Y | $X^2$ | $Y^2$ | XY |
|---|---|---|---|---|---|
| **2062/2063** | 0.64 | 255.81 | 0.4096 | 65438.76 | 163.72 |
| **2063/2064** | 0.66 | 242.16 | 0.4356 | 58641.47 | 159.83 |
| **2064/2065** | 1.52 | 186.49 | 2.3104 | 34778.52 | 283.46 |
| **2065/2066** | 0.65 | 135.75 | 0.4225 | 18428.06 | 88.24 |
| **2066/2067** | 0.75 | 139.55 | 0.5625 | 19474.20 | 104.66 |
| **Total** | **4.22** | **959.76** | **4.1406** | **196761.01** | **799.91** |

Coefficient of Correlation ($r_{xy}$):

$$r = \frac{n\sum XY - \sum X.\sum Y}{\sqrt{n\sum x^2 - (\sum X)^2} \times \sqrt{n\sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5\times 799.91 - 4.22\times 959.76}{\sqrt{5\times 4.1406 - (4.22)^2} \times \sqrt{5\times 196761.01 - (959.76)^2}}$$

= 0.1189

Co-efficient of determination: $(r_{xy})^2 = (0.1189)^2 = 0.0141$

Probable Error (P.E) = $0.675 \times \frac{1-r^2}{\sqrt{5}} = 0.675 \times \frac{1-0.0141}{\sqrt{5}} = 0.4450$

6(P.E) = $6 \times 0.4450 = 2.6703$

# Annexure IV

**Test of Hypothesis**

**1.** Is there any significant relation between total lending of commercial banks and the amount of the Non-Performing Assets?

Null Hypothesis, H0: $\mu_x = \mu_y$ , i.e. there is not any significant relation between total lending of commercial banks and the amount of the Non-Performing Assets or the two population do not differ significantly.

Alternative hypothesis, H1: $\mu_x < \mu_y$, i.e. there is significant relation between total lending of commercial bank and the amount of the Non-Performing Assets or the two population means differ significantly.

a. Calculation of T – test for NABIL bank limited.

Here,

| FY | X | Y | $X - \bar{X}$ | Y - $\bar{Y}$ | $(X - \bar{X})^2$ | $(Y - \bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 1.83 | 129.23 | -0.34 | -90.156 | 0.1156 | 8128.10 |
| **2063/2064** | 1.78 | 155.46 | -0.39 | -63.926 | 0.1521 | 4086.53 |
| **2064/2065** | 1.61 | 213.65 | -0.56 | -5.736 | 0.3136 | 32.90 |
| **2065/2066** | 2.24 | 275.90 | 0.07 | 56.514 | 0.0049 | 3193.83 |
| **2066/2067** | 3.39 | 322.69 | 1.22 | 103.304 | 1.4884 | 10671.72 |
| **Total** | **10.85** | **1096.93** | | | **2.0746** | **26113.08** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{10.85}{5}$ $= \frac{1096.93}{5}$

=2.17 =219.386

Calculation of the value of "s",

$$S = \sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}} = \sqrt{\frac{2.0746 + 26113.08}{5 + 5 - 2}} = 57.1349$$

Now,

Test Statistic,

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} = \frac{2.17 - 219.386}{\sqrt{3264.98 \left(\frac{1}{5} + \frac{1}{5}\right)}} = -6.010$$

$\therefore t = |-6.010| = 6.010$

Degree of freedom= $n_1 + n_2 - 2 = 5+5-2 = 8$

Critical Value: The tabulated values of't' at 5% level of significance and 8 degree of freedom, for the left tailed test is 1.860.

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means.

b. Calculation of T – test for ADBL bank limited.

Here,

| FY | X | Y | $X-\bar{X}$ | Y - $\bar{Y}$ | $(X-\bar{X})^2$ | $(Y-\bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 68.59 | 249.01 | 22.018 | -49.44 | 484.79 | 2444.3 |
| **2063/2064** | 61.85 | 272.52 | 15.278 | -25.93 | 233.42 | 672.36 |
| **2064/2065** | 42.56 | 305.89 | -4.012 | 7.44 | 16.10 | 55.35 |
| **2065/2066** | 28.76 | 326.03 | -17.81 | 27.58 | 317.27 | 760.65 |
| **2066/2067** | 31.10 | 338.79 | -15.472 | 40.34 | 239.38 | 1627.32 |
| **Total** | **232.86** | **1492.24** | | | **1290.96** | **5559.99** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{232.86}{5}$ $= \frac{1492.24}{5}$

=46.572 =298.45

Calculation of the value of "s",

$$S = \sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}} = \sqrt{\frac{1290.96 + 5559.99}{5 + 5 - 2}} = 29.26$$

Now,

Test statistic,

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} = \frac{46.572 - 298.45}{\sqrt{342.46 \left(\frac{1}{5} + \frac{1}{5}\right)}} = -13.61$$

$\therefore t = |-13.61| = 13.61$

Degree of freedom =$n_1$+$n_2$- 2 =5+5-2 = 8

Critical Value: The tabulated values of 't' at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means

c. Calculation of T – test for NIBL bank limited.

Here,

| FY | X | Y | $X-\bar{X}$ | Y - $\bar{Y}$ | $(X-\bar{X})^2$ | $(Y-\bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 2.72 | 131.78 | 0.61 | -39.46 | 0.37 | 19449.O9 |
| **2063/2064** | 4.22 | 177.69 | 0.89 | -93.55 | 0.79 | 8751.60 |
| **2064/2065** | 3.09 | 275.29 | -0.24 | 4.0 | 0.06 | 16.40 |
| **2065/2066** | 3.07 | 368.27 | -0.26 | 97.03 | 0.07 | 9414.82 |
| **2066/2067** | 3.55 | 403.19 | 0.22 | 131.95 | 0.05 | 17410.80 |
| **Total** | **16.65** | **1356.22** | | | **1.34** | **55042.71** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{16.65}{5}$ $= \frac{1356.22}{5}$

= 3.33 = 271.24

Calculation of the value of "s",

$$S = \sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}} = \sqrt{\frac{1.34 + 55042.71}{5 + 5 - 2}} = 82.95$$

Now,

Test statistic,

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} = \frac{3.33 - 271.24}{\sqrt{(82.95)^2 \left(\frac{1}{5} + \frac{1}{5}\right)}} = -5.11$$

$\therefore t = |-5.11| = 5.11$

Degree of freedom = $n_1 + n_2 - 2 = 5+5-2 = 8$

Critical Value: The tabulated values of 't' at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means

d. Calculation of T – test for KUMARI bank limited.

Here,

| FY | X | Y | $X - \bar{X}$ | Y - $\bar{Y}$ | $(X - \bar{X})^2$ | $(Y - \bar{Y})^2$ |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| **2062/2063** | 0.64 | 68.92 | -0.204 | 44.108 | 0.041 | 1945.52 |
| **2063/2064** | 0.66 | 89.29 | 0.184 | -23.738 | 0.034 | 563.49 |
| **2064/2065** | 1.52 | 113.35 | 0.676 | 0.322 | 0.457 | 0.104 |
| **2065/2066** | 0.65 | 145.93 | -0.194 | 32.902 | 0.038 | 1082.54 |
| **2066/2067** | 0.75 | 147.65 | -0.094 | 34.622 | 0.008 | 1198.68 |
| **Total** | **4.22** | **565.14** | | | **0.578** | **4790.334** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{4.22}{5}$ $= \frac{565.14}{5}$

= 0.844 = 113.028

Calculation of the value of "s",

$$S = \sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}} = \sqrt{\frac{0.578 + 4790.334}{5 + 5 - 2}} = 24.47$$

Now,

Test statistic,

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s^2\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} = \frac{0.844 - 113.028}{\sqrt{(27.47)^2\left(\frac{1}{5} + \frac{1}{5}\right)}} = -7.25$$

$\therefore t = |-7.25| = 7.25$

Degree of freedom = $n_1 + n_2 - 2 = 5+5-2 = 8$

Critical Value: The tabulated values of 't' at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means

**2.** Is there any significant relation between the amount of non-performing assets of sample banks and the total NPA population?

Null hypothesis, H0: $\mu_x = \mu_y$, i.e. there is significant relation between the amount of non-performing assets of sample banks and the total NPA population or the two population means do not differ significantly.

Alternative hypothesis, H1: $\mu_x < \mu_y$, i.e. there is not any significant relation between the amount of non-performing assets of sample banks and the total NPA population or the two population means differ significantly.

a. **Calculation of T-Test for Nabil Bank Limited:**

Here,

| FY | X | Y | $X - \bar{X}$ | Y - $\bar{Y}$ | $(X - \bar{X})^2$ | $(Y - \bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 1.83 | 255.81 | -0.34 | 63.858 | 0.1156 | 4077.84 |
| **2063/2064** | 1.78 | 242.16 | -0.39 | 50.208 | 0.1521 | 2520.84 |
| **2064/2065** | 1.61 | 186.49 | -0.56 | -5.462 | 0.3136 | 29.83 |
| **2065/2066** | 2.24 | 135.75 | 0.07 | -56.202 | 0.0049 | 3158.66 |
| **2066/2067** | 3.39 | 139.55 | 1.22 | -52.402 | 1.4884 | 2745.97 |
| **Total** | **10.85** | **959.76** | | | **2.0746** | **12533.14** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{10.85}{5}$ $= \frac{959.76}{5}$

= 2.17 = 191.952

Calculation of the value of "s",

$S = \sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}} = \sqrt{\frac{2.0746 + 12533.14}{5 + 5 - 2}}$ = 39.58

Now,

Test statistic,

$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} = \frac{2.17 - 191.952}{\sqrt{(39.58)^2 \left(\frac{1}{5} + \frac{1}{5}\right)}}$ = - 7.58

∴ t = $|-7.58|$ = 7.58

Degree of freedom= $n_1 + n_2 - 2$ = 5+5-2 =8

Critical Value: the tabulated values of 't' at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means

**b) Calculation of T-Test for ADBL:**

Here,

| FY | X | Y | $X-\bar{X}$ | Y - $\bar{Y}$ | $(X-\bar{X})^2$ | $(Y-\bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 68.59 | 255.81 | 22.018 | 63.858 | 484.79 | 4077.84 |
| **2063/2064** | 61.85 | 242.16 | 15.278 | 50.208 | 233.42 | 2520.84 |
| **2064/2065** | 42.56 | 186.49 | -4.012 | -5.462 | 16.10 | 29.83 |
| **2065/2066** | 28.76 | 135.75 | -17.812 | -56.202 | 317.27 | 3158.66 |
| **2066/2067** | 31.10 | 139.55 | -15.472 | -52.402 | 239.38 | 2745.97 |
| **Total** | **232.86** | **959.76** | | | **1290.96** | **12533.14** |

X=NPA of the bank and Y= total lending of the bank

$$\bar{X}=\frac{\sum X}{n} \qquad \bar{Y}=\frac{\sum Y}{n}$$

$$=\frac{232.86}{5} \qquad =\frac{959.76}{5}$$

$$= 46.572 \qquad = 191.952$$

Calculation of the value of "s",

$$S=\sqrt{\frac{\sum (X-\bar{X})^2+\sum (Y-\bar{Y})^2}{n_1+n_2-2}}=\sqrt{\frac{1290.96+12533.14}{5+5-2}}=41.57$$

Now,

Test statistic,

$$t=\frac{\bar{X}-\bar{Y}}{\sqrt{s^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}=\frac{46.572-191.952}{\sqrt{(41.57)^2\left(\frac{1}{5}+\frac{1}{5}\right)}}=-5.53$$

$\therefore t = |-5.53| = 5.53$

Degree of freedom= $n_1+n_2-2 = 5+5-2 = 8$

Critical Value: Now the tabulated values of ‘t’ at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860

Decision: Since the calculated value of “t” is greater than the tabulated value of “t”, the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means

**c) Calculation of T-Test for NIBL:**

Here,

| FY | X | Y | $X-\bar{X}$ | Y - $\bar{Y}$ | $(X-\bar{X})^2$ | $(Y-\bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 2.72 | 255.81 | -0.61 | 63.858 | 0.3721 | 4077.84 |
| **2063/2064** | 4.22 | 242.16 | 0.89 | 50.208 | 0.7921 | 2520.84 |
| **2064/2065** | 3.09 | 186.49 | -0.24 | -5.462 | 0.0576 | 29.83 |
| **2065/2066** | 3.07 | 135.75 | -0.26 | -56.202 | 0.0676 | 3158.66 |
| **2066/2067** | 3.55 | 139.55 | 0.22 | -52.402 | 0.0484 | 2745.97 |
| **Total** | **16.65** | **959.76** | | | **1.3378** | **12533.14** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{16.65}{5}$ $= \frac{959.76}{5}$

= 3.33 = 191.952

Calculation of the value of "s",

$$S = \sqrt{\frac{\sum (X-\bar{X})^2 + \sum (Y-\bar{Y})^2}{n_1 + n_2 - 2}} = \sqrt{\frac{1.3378 + 12533.14}{5 + 5 - 2}} = 39.58$$

Now,

Test statistic,

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s^2 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} = \frac{3.33 - 191.952}{\sqrt{(39.58)^2 \left(\frac{1}{5} + \frac{1}{5}\right)}} = -7.53$$

$\therefore t = |-7.53| = 7.53$

Degree of freedom= $n_1 + n_2 - 2 = 5+5-2 = 8$

Critical Value: Now the tabulated values of' 't' at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means

**d) Calculation of T-Test for KUMARI Bank Limited:**

Here,

| FY | X | Y | $X-\bar{X}$ | Y - $\bar{Y}$ | $(X-\bar{X})^2$ | $(Y-\bar{Y})^2$ |
|---|---|---|---|---|---|---|
| **2062/2063** | 0.64 | 255.81 | -0.204 | 63.858 | 0.042 | 4077.84 |
| **2063/2064** | 0.66 | 242.16 | -0.184 | 50.208 | 0.034 | 2520.84 |
| **2064/2065** | 1.52 | 186.49 | 0.676 | -5.462 | 0.46 | 29.83 |
| **2065/2066** | 0.65 | 135.75 | -0.194 | -56.202 | 0.038 | 3158.66 |
| **2066/2067** | 0.75 | 139.55 | -0.094 | -52.402 | 0.009 | 2745.97 |
| **Total** | **4.22** | **959.76** | | | **0.5828** | **12533.14** |

X=NPA of the bank and Y= total lending of the bank

$\bar{X} = \frac{\sum X}{n}$ $\bar{Y} = \frac{\sum Y}{n}$

$= \frac{4.22}{5}$ $= \frac{959.76}{5}$

= 0.844 = 191.952

Calculation of the value of "s",

$$S=\sqrt{\frac{\sum (X-\bar{X})^2+\sum (Y-\bar{Y})^2}{n_1+n_2-2}}=\sqrt{\frac{0.5828+12533.14}{5+5-2}}=39.58$$

Now,

Test statistic,

$$t=\frac{\bar{X}-\bar{Y}}{\sqrt{s^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}}=\frac{0.844-191.952}{\sqrt{(39.58)^2\left(\frac{1}{5}+\frac{1}{5}\right)}}=-7.63$$

$\therefore t = |-7.63| = 7.63$

Degree of freedom = $n_1+n_2-2 = 5+5-2 = 8$

Critical Value: Now the tabulated values of 't' at 5% level of significance and 8 degree of freedom, for left tailed test is 1.860.

Decision: Since the calculated value of "t" is greater than the tabulated value of "t", the null hypothesis H0, is rejected and hence the alternative hypothesis H1 is accepted. That is, there is significant difference in the two population means.

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