

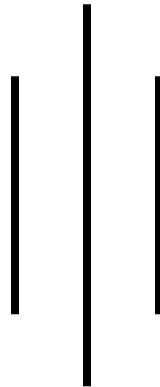
**A STUDY OF NON PERFORMING ASSETS WITH  
SPECIAL REFERENCE TO  
NEPAL BANK, AGRICULTURAL DEVELOPMENT  
BANK, HIMALAYAN BANK AND  
BANK OF KATHMANDU**

*Submitted By*

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**Exam Roll No. 280190**

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**Office of the Dean**  
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*In partial fulfillment of the requirements for the degree of  
Master of Business Studies (M.B.S.)*

**Kathmandu, Nepal**  
**January, 2015**

## **RECOMMENDATION**

This is to certify that the Thesis

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**"A Study of Non Performing Assets with Special Reference  
to Nepal Bank, Agricultural Development Bank,  
Himalayan Bank and Bank of Kathmandu"**

has been prepared as approved by this campus in the prescribed format of the  
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Entitled

**A Study of Non Performing Assets**

**With Special Reference to**

**Nepal Bank, Agricultural Development Bank,**

**Himalayan Bank and Bank of Kathmandu**

And found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for the degree of **Master of Business Studies (M.B.S.)**

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## **DECLARATION**

I hereby declare that the work reported in this thesis entitled “**A Study of Non Performing Assets with Special Reference to Nepal Bank, Agricultural Development Bank, Himalayan Bank and Bank of Kathmandu**” submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (M.B.S.) under the supervision of **Professor Doctor Mr. Bal Krishna Shrestha** of Central Department of Management, T.U.

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## ABBREVIATIONS

ADBL	Agricultural Development Bank Limited
BoK	Bank of Kathmandu Limited
CD	Credit Ratio
CEO	Chief Executive Officer
CV	Coefficient of Variation
EBL	Everest Bank Limited
FIs	Financial Institutions
FY	Fiscal Year
GDP	Gross Domestic Product
HBL	Himalayan Bank Limited
LLP	Loan Loss Provision
NBL	Nepal Bank Limited
NPA	Non-Performing Assets
NPL	Non-Performing Loans
NP	Net Profit
NRB	Nepal Rastra Bank
P.E.	Probable Error
r	Correlation Coefficient
SCBNL	Standard Chartered Bank Nepal Limited
S.D.	Standard Deviation
T.U.	Tribhuvan University

# **CHAPTER – I**

## **INTRODUCTION**

### **1.1 Background of the Study**

To start with, performance in terms of profitability is a benchmark for any business enterprise including the banking industry. Now a days all business organization are chasing by the profit motive. Profitability is the main tool of measuring the performance of an organization. In the case of commercial banks same phenomena has been exercised. Extension of credit is one of the major activities of banks and financial institutions. Credit represents the bulk of the bank and financial institution's asset portfolio. However, increasing NPAs have a direct impact on banks' profitability as legally banks are not allowed to book income on such accounts and at the same time banks are forced to make provision on such assets as per the central Bank guidelines. Also, with increasing deposits made by the public in the banking system, the banking industry cannot afford defaults by borrowers since NPAs affects the repayment capacity of banks. Further, central Bank successfully creates excess liquidity in the system through various rate cuts and banks fail to utilize this benefit to its advantage due to the fear of burgeoning non-performing assets.

Economic development is the foundation development of any country. Economic development is supported by the financial infrastructure of that country. A strong banking sector is important for flourishing economy. Financial institution constitutes an important part of the financial infrastructure. In the context of Nepal many financial institutions rises after economic liberalization. Granting of credit for economic activities is the prime duty of banking. A party from raising

resources through fresh deposits, borrowings and recycling of funds received back from borrowers constitute a major part of funding credit dispensation activity. The main function of the bank is the collection of idle funds and mobilizes them to productive sector causing overall economic development, which finally leads to national development of the country. Bank pools the fund through deposit and mobilize them to productive sector in the form of Loan and Advance. Bank is that financial institution which deals with money by accepting various types of deposits, disbursing loan and rendering various types of financial services. It serves as an intermediary between the deficit units and surplus units of funds.

It cannot be denied that the issue of development rest upon the mobilization of resources and the bank deals in process of channeling the available resources in the needed sectors. Commercial bank collects deposits from the public and the largest portion of deposited funds is utilized by disbursing loan and Advance. Lending is generally encouraged because it has the effect of funds being transferred from the system to productive purpose, which results into economic growth. Similarly the profit of the bank depends upon the spreads that it enjoys between the interest it receive from the borrowers and that to be paid to the depositors. The return that the bank enjoys of deposit mobilization through loan and Advance is very attractive but they do not come free of cost and free of risk. There is risk in lending. The bank faces number of risk like interest rate risk, liquidity risk, credit risk, borrower risk etc. Such risk in excessive form had led many banks to go bankrupt in number of countries.

Amongst many risk that bank faces one of the most critical is borrower risk – the risk of non payment of the disbursed Loan or however lending also carries a risk called credit risk which arises from the failure of borrower. Non-recovery of Loan along with interest forms a major hurdle in the process of credit cycle .Thus these loan losses affect the bank's profitability on a large scale. Failure to collect

disbursed fund may sometimes results in the bank's inability to make repayment of the money to depositors and return to the shareholders. The bankers have the responsibility of safeguarding the interest of the depositors, shareholder and society they are serving. If bank behaves unresponsively the cost born by the economy is enormous. Banking sector is volatile and sensitive sector of national economy, which requires effective monitoring and efficient supervision. Smooth and effective operation of banking activities is most for sustainable economic growth of a country. The regulatory agency should always be watchful of banking activities carried out by government and non governmental banking and financial institution.

Non-recovery of Loan along with interest forms a major hurdle in the process of credit cycle .Thus these loan losses affect the bank's profitability on a large scale. In the distant past, banks had to deal with only few cases of bad-Loan. So, they used to take legal actions against chronic defaulters of bank-Loan. For the last ten/twelve years, banks are suffering from a large chunk of non-performing Loan (assets) as a consequence of economic as well as non-economic factors in the country. By international parameter, non-performing assets of a bank should not exceed five percent.

Recovery of bad Loan by banks and financial institutions has turned into a big issue in the financial sector of Nepal. Complete elimination of such losses is not possible, but banks can always aim to keep the losses at a low level. This has greatly caused negative impact upon Banks' profit, government revenue and the overall financial sector of the country. This calls for an effective system and mechanisms that case the early recovery of debts of Banks and also of bank-like institutions as specified by Nepal Rastra Bank the monetary Authority.

Due to their control role in the economy, government and central bank try their best to rescue banks from such situations. Hence to protect the banks from such

situation and protect depositors and shareholders' interest, central bank issues various directives and guidelines from time to time with modification and amendments for the sound regulation of the banking system. All the banks have to abide by the rules and regulation issued by central bank of the country.

## **1.2 Profile of Selected Banks**

In this study, four commercial banks are selected. Brief profile of these banks is presented below. Profile's presentations are related to the establishment, objectives and facilities granted by the concerned banks.

### **1.2.1 Nepal Bank Limited (NBL)**

Nepal Bank Limited, The first bank of Nepal was inaugurated by His Majesty King Tribhuvan, established on Kartik 30, 1994 Bikram Sambat (November 15, 1937 A.D). It was formed under the principle of Joint venture (Joint venture between govt. & general public). This marked the beginning of an era of formal banking in Nepal. Until then all monetary transactions were carried out by private dealers and trading center.

Then Prime Minister Maharaja Juddha Shumsher J.B.R. speaking on the occasion with the kind permission of His Majesty the King stated "this work which is being done in the larger interest of the nation is a great moment for me. Until today a bank could not be opened in Nepal. Therefore this bank, which is being established under the name of Nepal Bank Limited to fill that, need and to be inaugurated by His Majesty the King, is a moment of great joy and happiness. The Bank's objectives to render service to the people whether rich or poor and to contribute to the nation's development will also need the support and best wishes of all, which I am confident, will be forthcoming."

In that era, very few understood or had confidence in this new concept of formal banking. Raising equity shares were not easy and mobilization of deposits even more difficult. This was evident when the bank floated equity shares worth NRs. 2,500,000, but was successful only in raising NRs. 842,000.

The total deposits for the first year was NRs. 17,02,025 where current deposits was about NRs. 12,98,898 fixed was about NRs. 3,88,964 and saving was NRs. 14,163. Loan disbursed and outstanding at the end of the first year was NRs. 1,985,000.

From the very conception and its creation, Nepal Bank Ltd, was as joint venture between the government and the private sector. Out of 2500 equity shares of NRs. 100 face value, 40% was subscribed by the government and the balanced i.e. 60% was offered for the sale to private sector. There were only 10 shareholders when the bank first started.

Currently, the NBL has been providing banking through its 118 branch offices in the different geographical locations of the country. The NBL has following objectives:

- Focus on building the positive net worth and meeting minimum capital requirement over the coming five years.
- Focus on increasing the customer base and market share.
- Maximize the potential/efficiency of bank's staff.
- Focus on minimizing the risk associated with the business.
- Focus on providing the world class business solutions.
- Focus on increasing the sustainable profit.

### **1.2.2 Agricultural 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.

The bank has been established with the vision “To be a Mass-based Complete Bank serving from Urban to Rural.” The bank has formulated following objectives in line to achieve its vision:

- To provide quality banking services,
- To adopt market driven strategy,
- To obtain sustained and competitive return on investment.

### **1.2.3 Himalayan Bank Limited (HBL)**

Himalayan Bank was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Despite the cut-throat competition in the Nepalese Banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities- Loans and Deposits.

Legacy of Himalayan lives on in an institution that's known throughout Nepal for its innovative approaches to merchandising and customer service. Products such as Premium Savings Account, HBL Proprietary Card and Millionaire Deposit Scheme besides services such as ATMs and Tele-banking were first introduced by HBL. Other financial institutions in the country have been following their lead by introducing similar products and services. Therefore, HBL stand for the innovations that they bring about in this country to help Customers besides modernizing the banking sector. With the highest deposit base and loan portfolio amongst private sector banks and extending guarantees to correspondent banks covering exposure of other local banks under HBL's credit standing with foreign correspondent banks, they believe that they obviously lead the banking sector of Nepal. The most recent rating of HBL by Bankers' Almanac as country's number 1 Bank easily confirms their claim.

All Branches of HBL are integrated into Globus (developed by Temenos), the single Banking software where the Bank has made substantial investments. This has helped the Bank provide services like 'Any Branch Banking Facility', Internet Banking and SMS Banking. Living up to the expectations and aspirations of the Customers and other stakeholders of being innovative, HBL very recently

introduced several new products and services. Millionaire Deposit Scheme, Small Business Enterprises Loan, Pre-paid Visa Card, International Travel Quota Credit Card, Consumer Finance through Credit Card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. HBL also has a dedicated offsite ‘Disaster Recovery Management System’. Looking at the number of Nepalese workers abroad and their need for formal money transfer channel; HBL has developed exclusive and proprietary online money transfer software- HimalRemit™. By deputing own staff with technical tie-ups with local exchange houses and banks, in the Middle East and Gulf region, HBL is the biggest inward remittance handling Bank in Nepal. All this only reflects that HBL has an outside-in rather than inside-out approach where Customers’ needs and wants stand first.

Himalayan Bank Limited holds of a vision to become a Leading Bank of the country by providing premium products and services to the customers, thus ensuring attractive and substantial returns to the stakeholders of the Bank.

The Bank’s mission is to become preferred provider of quality financial services in the country. There are two components in the mission of the Bank; Preferred Provider and Quality Financial Services; therefore we at HBL believe that the mission will be accomplished only by satisfying these two important components with the Customer at focus. The Bank always strives positioning itself in the hearts and minds of the customers. To become the Bank of first choice is the main objective of the Bank.

#### **1.2.4 Bank of Kathmandu Limited (BoK)**

Bank of Kathmandu Limited has become a prominent name in the Nepalese banking sector. Bank of Kathmandu is committed to delivering quality service to customers, generating good return to shareholders, providing attractive incentives

to employees and serving the community through stronger corporate social responsibility endeavor.

Bank of Kathmandu Limited (BoK) has today become a landmark in the Nepalese banking sector by being among the few commercial banks which is entirely managed by Nepalese professionals and owned by the general public.

BoK started its operation in March 1995 with the objective to stimulate the Nepalese economy and take it to newer heights. BoK also aims to facilitate the nation's economy and to become more competitive globally.

The Vision of BoK is “To become a significant contributor to the economic development of Nepal by distinguishing the Bank as an efficient, competitive, safe and top-quality financial institution.”

Mission Statement of BoK is “To offer financial services and become the "Bank of Choice" by dedicating the progress and growth of the institution to the community, customers, employees and stockholders by:

- Promoting economic growth and becoming a caring corporate citizen
- Providing excellent customer services by offering personalized quality services and products
- Including modern technologies of banking that add value to customer services
- Following strict risk-control mechanisms
- Enhancing shareholders value
- Providing challenging career and learning opportunities for our employees

### **1.3 Focus of the Study**

Bank disbursed loans and Advances for certain predetermined period or every Loan and Advance has its maturity period or expiry date and borrower must repay the loan on time by the maturity period but there is no certainty that all the Loan are recovered by the maturity date. Some Loans are recovered within a maturity period but other Loans cannot be recovered even after its maturity period. Such kind of loan remains as non-performing asset of the banks. The NPA rule says simply this when interest or other due to a bank remains unpaid for more than 90 days, the entire bank loan automatically turns a non performing asset. The recovery of loan has always been problem for banks and financial institution. To come out of these first we need to think is it possible to avoid NPA, no can not be then left is to look after the factor responsible for it and managing those factors. Bank in Nepal are in poor health. Banks are facing problems in recovering the granted Loan that had turned to non-performing asset. Nowadays, in most of national newspaper it can be seen that government owned commercial bank are publishing names of borrower who defaulted in making payment of bank Loan. Even the private and joint venture banks are facing the problem of increasing non-performing asset. Now this problem may lead to bankruptcy and failure of banking system adversely affecting the depositors and other parties of the financial system.

The origin of the problem of burgeoning NPAs lie in the quality of managing credit risk by the banks concerned. What is needed is having adequate preventive measures in place namely, fixing pre-sanctioning appraisal responsibility and having an effective post-disbursement supervision. Banks concerned should continuously monitor Loan to identify accounts that have potential to become non-performing.

In order to rescue bank from the financial distress, to safeguard depositor's interest to ensure stability in the economy, NRB issues directives from time to

time related to various aspects of the banks. NRB directives number 2 (2070) is related to loan classification and provisioning of commercial banks. As per this directive commercial bank supposed to categorize the loan disbursed into four different categories on the basis of ageing of its past dues and each categories of loan require certain percentage of it to be provisioned for the probable loss. Going through the old directives regarding the loan loss provision, banks had classified Loan into six categories and as per those directives, for a loan to be bad the time period of past due was 5 year. But with new directives, that period has also been reduced. This means the previously categorized substandard loan will now be a doubtful loan and a doubtful loan is bad loan. The provisioning amount is taken from by deducting from the profit of the bank. Hence there is great impact of loan loss provision in the profitability of the banks. The provision of the loan means the net profit of the bank will come down by that amount. Increase in loan loss provision decrease then profit of the bank leading to decrease in dividends to shareholders. However, adequate loan loss provision strengthen the financial health of the banks by controlling credit risk and safeguards the depositor's money leading to overall economic development of the country.

#### **1.4 Statement of the Problems**

After the liberalization policy in 1980s, the financial sector made some progress and prudent regulatory measure have been introduced by central bank of the country. However actual performance of the financial institution couldn't improve. Financial institution in Nepal have been facing several problems like lack of smooth functioning of economy, different policies and guidelines on Nepal Rastra Bank, political instability, security problems, poor information system, liquidity crises and lack of good lending opportunity and increasing NPAs etc. In the present context where Nepalese commercial banks are facing the problem of

increasing NPAs, more amounts have to be allocated for loan loss provision. As earlier mentioned, the provision amount is taken out by deducting from the profit of the bank; the profit of the bank might come down. This research has been conducted to find out the solution of following problem:-

- What is the proportion of non performing asset in the selected commercial banks?
- What are the guidelines and provision pertaining to loan classification and loan loss provision?
- What is the relationship between loan and loan loss provision in the selected commercial banks?
- What is the impact of loan loss provision on the profitability of the selected commercial banks?

## **1.5 Objective of the Study**

The main objective of this research is to examine and analyze the comparative study of non-performing assets, its effect and factors for rising loan as non-performing of selected commercial banks: Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited. The specific objectives are:

- To analyze the level of total loan and advance with total deposit in Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited.
- To analyze the level of non- performing loan/assets, in Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited.

- To analyze the impact of loan loss provision on the profitability of Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited.
- To analyze the future trend of, loan & advance, non-performing loan, provision and profit of selected banks.
- To see whether these four banks are following the NRB directives regarding loan loss provision for non performing assets or not.
- To analyze the factors leading to accumulation of non-performing assets in selected commercial banks.

## **1.6 Significance of the study**

It is well known fact that the financial institutions in Nepal has been facing the problem of increasing non- performing assets and issue becomes more and more critical. Unfortunately nowadays banks have been becoming victims of high level of non- performing assets. Non- performing assets are those loans, which neither pay interest nor repay the principal. So, non-performing assets are becoming headache to the banking sector. Likewise Nepalese banking sectors cannot escape from such truth. This study will help in better improvement for further evaluation and regulation body to know existing recovery problem. It will be able to deliver some of the present issues, latest information and data regarding non- performing assets and loan loss provision. Hence this study will be significant to bankers, shareholders, depositors and further researcher, students etc.

## **1.7 Limitations of the Study**

The research is conducted to fulfill the academic requirement of Master of Business degree. It is focused on the study of non performing asset of NBL, ADBL, HBL & BOK based on the audited financial annual reports of each bank during the period 2008-09 to 20012/13. This research has tried to cover all the aspects of the non- performing assets. However the research has the following limitation:

- This research is concerned only with the non- performing assets of Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited. It doesn't consider other aspects of banks.
- This research is focused on only four commercial banks which are Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited.
- The period of the study is limited for fiscal year 2008/09 to 20012/13.
- Because of the strict policy of the banks, the study is mainly based on secondary data. The data published in annual reports of respective banks, articles, publication, journal etc. have been taken into consideration. Any miss-presentation, mistakes, omission etc may affect the outcome of the study. Thus, the reality of the study depends on secondary sources of the data.
- All the analysis in this research is based on the data as of end of fiscal year i.e. end of Ashadh, (Mid July of respective year). Any abnormality in this date may effect the conclusion of the research.

## **1.8 Organization of the Study**

This research work has been divided into five chapters

1. Introduction
2. Review of Literature
3. Research Methodology
4. Presentation and Analysis of Data
5. Summary, Conclusion and Recommendation

### **Chapter 1: Introduction**

This chapter deals with the subject matter of the study consisting background of the study, focus of the study, statement of the problems, objective of the study, significance of the study, limitation of the study and organization of the study.

### **Chapter 2: Review of the Literature**

The second chapter incorporates review of theoretical and related literature regarding the subject matter.

### **Chapter 3: Research Methodology**

The third chapter deals with the research methodology which consist of research design, sources of data, population and sample along with different statistical and financial tools used in this research.

### **Chapter 4: Presentation and Analysis of Data**

This chapter deals with the main part of the research. In this chapter effort have been made to present and analyze the data in required form.

## **Chapter 5: Summary, Conclusion and Recommendation**

This chapter deals with summary and conclusion of the research and recommendation given to the concerned organization.

## **CHAPTER - II**

### **Review of Literature**

This chapter is concerned with review of literature to the topic “A Study of Non Performing Assets with Special Reference to Nepal Bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited.” Every study is based on past knowledge. The past knowledge or the previous studies should not be ignored as it provides foundation to the present study. Therefore, this chapter has its own importance in this study. In brief, this chapter includes review of following:-

- Conceptual Review
- Overview of BASEL Committee on Banking Supervision (BCBS)
- Review of NRB Directives
- Review of Journals and articles
- Review of thesis

#### **2.1 Conceptual Review**

Under this heading the concept and meaning of some of the terms and the related books that are used in this study has been discussed:-

##### **2.1.1 Loan and Advances**

The major function of commercial banks is to collect deposits or funds and disburse it to the investor as loans and advances. This loan and advances are main sources of income. Loan and advances dominate the assets side of balance sheet of any bank. Same way earning from loans and advances occupy a major portion of the income statement of the banks. This asset generates income to the bank. So it also determines profitability of banks. Loan and advances granted to customers

earns interest. This interest is major source of income of banks. Loan is granted as overdraft, cash credits and direct loans.

Banks grant loan on the base of collateral underlying the loan. Banks make careful assessment before granting loans to investors or business enterprises.

### **2.1.2 Performing Assets/Loans**

Performing loans are those loans, which repay principle and interest timely to the bank from the cash flow it generates. In other word, performing loan are the productive assets that generate some profits. Loans have the certain period to return its principle with its interest. If anyone repays loan with its interest on time is known as the performing loan. It is the most profitable assets of bank. It helps in rapid growth of banking sector in this fast pace competitive age. Better performing loan are the symbol of success of bank. It ultimately helps in economic growth and development. So such loans are necessary for overall development and prosperity of country. However, many banks are suffering from the non-repayment of loan amount.

### **2.1.3 Non-Performing Assets/Loans (NPAs/NPL)**

NPAs are defined as bad debt. However, NPA in terms of banking sector consist of those loans and advances, which are not performing well and likely to turn as bad loans. One of the most emerging problems of the commercial banks is to manage the non-performing assets/loans. So banks have to consider and cautious about such loans. While granting loan cautious, careful and thorough assessment of the project or investor or business enterprises should be made.

"NPA can be defined as the non-productive assets of the banks. In other words, it is the loan or bad debt and doubtful debts that does not repay timely. Generally the loan which does not repay within three months is known as non-performing loan. The loan amount that does not covered by collateral after selling is known as non-

banking assets (NBA), Non-performing assets also includes the suspend interest. It is the interest, which becomes receivable. Unutilized assets and those investments which do not generate any cash or incomes to the bank are also non-performing assets (NPAs). The proper management of those assets to generate income is known as management of non- performing assets"(Regmi; 2062 B.S. 85:75). "Meaning of NPAs is different in different country. In some countries, it means that the loan is impaired. In some countries, it means that the payment are due but there are significant difference among countries about how many days a payment should be in arrears before past due status is triggered" (Shrestha; 2004:14). According to current banking act, the banks have to make provision for bad and doubtful debts. After deducting the bad and doubtful debts from the non-performing assets, net non-performing assets can be achieved. According to the NRB, NPAs are classified according to their nature of overdue timing.

NRB has directed to maintain loan loss provision according to aging basis for risk mitigation. The loan loss provision is to be maintained by debiting profit account. Thus as the quality of loan degrades the ratio of loan loss provision is increased affecting the profitability of the banks.

#### **2.1.4 Causes of Occurring NPAs**

There are various causes to increase the NPAs. NPAs can be increased due to:

- Wrong choose to project and business to lend the fund
- Lack of transparent and clear lending policy
- Lack of effective and scientific forecast in the actual outcomes of business.
- Lack strong willingness in managerial level of banks.
- Lack of proper legal framework.

### **2.1.5 Effects of NPAs**

Its direct effect is on the profitability of the banks. In future, it affects overall performance of banks. It also affects liquidity and competitive functioning of public and private sector banks and finally the psychology of the bankers in respect to their disposition towards credit delivery and credit expansion.

“Increasing Non-Performing Assets has the direct effects to banks, investors and customers. It has negative impact to the economic health and business of country. It has two types of effects”, (Batra and Dass; 2003:76). Internal Effects is on profitability which is a major objective of any business enterprises and commercial banks are not exceptional. But commercial banks cannot mobilize the non-performing assets to increase profitability. They also have to make provision for doubtful debts from their profits and other resources. That's why the profit of banks will be decreased and may incur losses. As a result, share capital also becomes capital erosion and capital inadequacy. The central bank can take action on those banks, which have low capital or capital adequacy ratio. When the non-performing assets increase, the banks have to increase the amount of provision for doubtful debts and when the loan is repaid, the amount is treated as profit.

#### **A) External Effects**

The banks accept deposits from the public and provide loan to the operation of business and other purposes. When the loan does not return with interest, it becomes non-performing assets and banks will not be able to return the deposited amount to their customers. If the banks are unable to return the deposited amount then they will lose public trust and faiths. Not only that much but also the banks have to take loan at a higher rate to return deposits, which directly affects the profitability of banks and leads to the bankruptcy and dissolution. It also affects the monetary system and economy of the country.

### **B) Impact on Profitability**

The NPAs have negative impact on the profitability of the bank. Non-performing assets are the idle assets of the banks, which do not generate any return for the bank. Thus, we can say that the NPAs reduce the profitability of the banks due to the becoming the idle resources. Not only has it reduced the profitability of the banks but also it may causes for losing the customer's faiths and supports.

### **C) Impact on the Outlook of Banker Towards Credit Delivery**

The psychology of the banks today is to insulate them with zero percent risk and turn lukewarm to fresh credit. This has affected adversely credit growth compared to the growth of deposits, resulting a low C/D ratio around 50% to 54% for the industry. It is evident that the existence of collateral security at best may convert the credit extended to productive sectors into an investment against real estate, but will not prevent the account turning into NPA. Further blocked assets and real estate represent the most illiquid security and NPA in such advances has the tendency to persist for a long duration.

### **D) Excessive Focus on Credit Risk Management**

The most important business implication of the NPAs is that it leads to the credit risk management assuming priority over other aspects of bank's functioning. The bank's whole machinery would thus be pre-occupied with recovery procedures rather than concentrating on expanding business. A bank with high level of NPAs would be forced to incur carrying costs on a non-income yielding assets. Other consequence would be reduction in interest income, high level of provisioning, stress on profitability and capital adequacy, gradual decline in ability to meet steady increase in cost, increased pressure on net interest margin (NIM) thereby reducing competitiveness, steady erosion of

capital resources and increased difficulty in augmenting capital resources. The lesser- appreciated implications are reputation risks arising out of greater disclosures on quantum and movement of NPAs, provisions etc. The non-quantifiable implications can be psychological like 'play safe' attitude and risk aversion, lower morale and disinclination to take decisions at all levels of staff in the banks.

Two decades of regimented and directed banking to credit delivery has deprived bank managers of the instinct skill and knowledge. Nationalized banking did not produce a spring of talent resources. Directive inputs and course direction came externally from NRB and Finance Ministry, which were external to the day-to-day affairs and problems of the Nepalese banking industry. The system did not promote initiative and talent, but bred corruption and nepotism. This is the sense of Nepalese Banking struggling hard to transaction from old primitive systems and values to modern professional business ethics and corporate good governance.

#### **E) High Cost of Fund Due to NPAs**

Quite often genuine borrowers face the difficulties in raising funds from banks due to mounting NPAs.' Either the bank is reluctant in providing the requisites funds to the genuine borrowers or if the funds are provided, come at a very high cost to compensate the lender's losses caused due to high level of NPAs. Therefore, quite often corporate prefer to raise funds through commercial papers (CPS) where the interest rate on working capital charged by banks is higher. There are other various pressing factors that are relevant from the point of view Nepalese banking operations with a view to focusing on NPAs and its related effects:

## **F) Excess Liquidity Lending Default**

The banks in Nepal are faced with the problem of increasing liquidity in the System. Further, the Rastriya Banijya Bank (RBB) is increasing liquidity in the system through various rate cuts. Banks can get rid of its excess liquidity by increasing its lending but, often shy away from such an option due to the high risk of default. In order to promote certain norms for healthy banking practices, most of the developed economies require all banks to maintain minimum liquid and cash reserves broadly classified into cash Reserve Ratio (CRR) and the Statutory Liquidity Ratio (SLR). A rate cut (for instance, decrease in RR) result into lesser funds to be locked up in NRB's vaults and further infuses greater funds into a system. However almost all the banks are facing the problem of bad loans, nonperforming? Assets, thinning margins, etc, as result of which, banks are little reluctant in granting loans to corporate. As such, though in its monetary policy NRB announces the bankers no longer warmly greet rate cut but such news.

### **2.1.6 Loan Loss Provision**

Risk exists if there are two or more than two outcomes. There is risk in every loan. Loan loss provision is the accumulated fund that is divided as safeguard to cover possible losses. It means that it is accumulated provisioning fund, which is used as safety fund to cover future losses. It is the expected provision fund. The amount of required for provisioning depends upon the level of NPAs, trends of repayment of loan and economic stage of country. The high quality loan requires low loss provision, whereas bad loan requires high loan loss provision. Loan loss provision made for performing loan is called "general loan loss provision" and loan loss provision made for non-performing loan is called specific loan loss provisioning".

### **2.1.7 Principles of Lending Loan and Advances**

The precautions to be taken by a banker, and the principles to be taken care of, while granting advances. By way of introduction, an attempt is being made in the following paragraphs to discuss the general principle to be in mind by a banker while granting advances (Shekher and Shekher; 1999:551).

#### **A) Liquidity**

The term 'liquidity' implies the ability to produce cash on demand. A bank mainly utilizes its deposits for the purpose of granting advances. These deposits are repayable on demand or on the expiry of a specified period. In either case, the banker must be ready to meet these liabilities whenever necessary. The advances granted by the banker are as liquid as possible.

#### **B) Profitability**

Banks are essentially commercial ventures. It is true that excessive and unjustifiable profits can only be at the cost of the customers, in so far higher lending rates push up production costs, and in the ultimate analysis, adversely affects society in general. At the same time, the facts remain that while strong operation profits allow for full prudential provisioning high net profits allow for allocation to capital and reserves, which is essential for any bank to maintain its competitive viability and expand its lending operations. Also, the shareholders of banks are entitled to reasonable dividend. All this indicates that it is that their lending operations are sufficiently profitable.

#### **C) Safety and Security**

The banker should ensure that the borrower has the ability and will to repay Advances as per agreement. The banker should carefully consider the margin of Safety. If it is as unsecured advance, its repayment depends on the creditworthiness of the borrower, and that of guarantor. The banker should

consider the Charter, Capacity and Capital or reliability, responsibility and resources of the borrower and the guarantor.

#### **D) Purposes**

The banker has to carefully examine applied. Of course the exact purpose the purpose for which the advance has been for which the advance is actually utilized. There is always the possibility that the advances, once granted, may be diverted for purpose so that indicated by the borrower at the time application. Thus there should be proper analysis of purpose.

#### **E) Social Responsibility**

While admitting that bankers are essentially commercial venture, a bank should not forget the fact that it is not enough that only people of means are given banks finance. The identification of property sectors for the purpose of extending bank credit should be considered as a positive development in the banking system, aimed at effectively discharging its responsibility towards society. At the same time, this social responsibility should not deter the banks from paying adequate attention to the qualitative aspects of lending. Social responsibility is, no doubt, highly exacting.

## **2.2 Overview of BASEL Committee on Banking Supervision (BCBS)**

Internationally BASEL committee has been coordinating since many years in the banking regulation, policy and directives. In 1975 the BASEL committee was established by central bank governors of ten group (G-10) countries. In 1999 New BASEL Accord was developed and published. The BASEL Committee on banking supervision has also laid down certain minimum risk based capital standards that apply to internationally active commercial banks. That is bank's

capital should at least 8 Percent of their risk weighted assets. This in fact helps bank to provide protection to the depositors and the creditors. Based on the BASEL norms under the BASEL capital Accord, 1998, the Indian Banks also issued similar capital adequacy norms. According to these guidelines, the banks will have to identify Tier-I and Tier-II capital and assign risk weight to the assets. Having done this they will have to assess the capital to Risk weighted assets Ratio (CRAR).

The minimum CRAR which the India banks are required to meet is set at 9 percent. It should be taken into consideration that the bank's capital refer to the ability of bank to withstand losses due to risk exposures. In Nepal for the commercial banks, Nepal Rastra Bank adopted the BASEL accord policies and directives. According to the Nepal Rastra Bank directives and policies under the 2060 provision to the development bank and commercial bank, at the end of the fiscal year Ashwin, Poush, Chaitra and Ashadh list of the classification of loan and Advance should send with one week.

### **2.3 Review of 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 institutions 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 in 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, the commercial banks could not recognize the importance of the quality of credit thus failed to witness the expected developments. Subsequently, the banking sector is facing the problem of bad debts, overdue Loan, accrued interest, accumulation of non-banking assets and excess liquidity in banking system. In addition to these expected happenings new challengers are adding in 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. By viewing the need of structural reforms amidst these adverse implications, the Nepal Rastra Bank (NRB) issues directives to guide & control the operations of the commercial banks and others financial institutions in a healthy competitive manner to ensure the sustainable development of the overall banking system. Review of its regulation and directives, clarification of ambiguous points and elimination and improvisation, therefore is a normal process of NRB. As per the NRB Directives, a promoter of the bank holding more than 1 percent of the total share is not allowed to use loan facility from the same bank. For fiscal year 2002/03 only, banks were allowed to restrict those Loans for which no interest is due. Loan Provision of 1 percent was allowed in such an instance only. Loan flow to small farmers development bank (SFDB) limited is deemed as Loan to the deprived class.

**Directive No. 2.1.Ka. Pass Loan**

Loan and Advance whose principal amount are not past due and past due for a period up to 3 months shall be included in this category. These are classified and defined as performing Loan.

**Directive No. 2.1. Kha.Substandard Loan**

It is classified as non-performing asset. All Loan and Advance that are past due for a period of 3 months to 6 months shall be included in this category.

**Directive No. 2.1. Ga. Doubtful Loan**

All Loan Advance which are past due for a period of 6 months to 1 year shall be classified as doubtful loan.

**Directive No. 2.1. Gha. Bad Loan**

All Loan and Advance which are past due for a period of more than 1 year as well as Advance have least possibility of recovery and those having thin possibility even partial recovery in future shall be classified as bad loan.

The substandard, doubtful and loss loan are known as non-performing assets. In terms of NRB guidelines, as and when an asset becomes a NPA, such Advance would be first classified as a sub-standard one for a period that should not exceed 6 month and subsequently as doubtful assets.

It should be noted that the above classification is only for the purpose of computing the amount of provision that should be made with respect to bank Advance and certainly not for the purpose of presentation of Advance in the banks' balance sheet. The directives of NRB relating to classification and provisioning of loan and Advance are changing over time. Here is the latest table which shows the loan classification criteria:

**Table: 2.1**

**Time Table of Loan classification**

<b>Classification</b>	<b>Pass Loan</b>	<b>Substandard Loan</b>	<b>Doubtful Loan</b>	<b>Bad Loan</b>
<b>For FY 2012/13</b>	Loan not past due and past due up to 3 month.	Loan and Advance past due for a period of over 3 months to 6 months	Loan and Advance past due for a period of over 6 months to 1 year	Loan and Advance past due for a period of over 1 year.

(Source: Unified NRB Directive 2069/70:35)

**Directive No. 2.2 Additional Arrangement in Respect of ‘Pass Loan’**

Loan and Advance fully secured by gold, silver, fixed deposit receipts and NG securities shall be included under pass category. However, where collateral of deposit receipts or NG securities or NRB bonds is placed as securities against loan for other purposes, such loan has to be classified on the basis of ageing.

**Directive No. 2.3 Additional Arrangement in Respects of ‘Loss Loan’**

Even if the loan is not past due, loan having any or all of the following discrepancies shall be classified as “loss”.

- The borrower has declared bankrupt.
- No security at all or security that is not in accordance with the borrower’s agreement with bank.
- The credit has not been used for the purpose original indented.
- Loan provided to the borrowers included in the blacklist and where the credit information bureau blacklist the borrower.

- Purchased or discounted bills are not realized within 90 days from the due date.
- The borrower is absconding or cannot be found.

### **Directive No. 2.9.1 Loan Loss Provision**

As and when an asset is classified as an NPA, the bank has to further sub-classify it into sub-standard, doubtful and bad assets. Based on this classification, bank makes the necessary provision against these assets. Nepal Rastra Bank has issued guidelines on provisioning requirements of bank Advance where the recovery is doubtful. Banks are also required to comply with such guidelines in making adequate provision to the satisfaction of its auditors before declaring any dividends on its shares.

In case of a sub-standard loan, a general provision of 25% of total outstanding should be made.

In case of doubtful loan, guidelines requires the bank concerned to provide entirely the unsecured portion and in case of secured portion an additional provision of 50% of the secured portion should be made depending upon the period for which the advance has been considered as doubtful.

In case of bad loan, guidelines specifically require that full provision for the amount outstanding should be made by the concerned bank. This is justified on the grounds that such an asset is considered uncollectible and cannot be classified as bankable asset.

The summary of provision that a bank is required to loan provision for loan Advance and purchased and discounted bill has classified as per this NRB directive follows:

**Table: 2.2**

**Loan Classification and Loan Loss Provision**

<b>Classification of loan</b>	<b>Percentage of loan loss provision</b>
Pass Loan	1%
Sub standard Loan	25%
Doubtful Loan	50%
Bad Loan	100%

(Source: Unified NRB Directive 2069/70:37)

Loan loss provision made for performing loan is called “General loan loss provision” and provision made for non-performing loan is called “specific loan loss provision”.

**2.3.1 Additional Provisioning in Personal Guarantee Loan**

Where the loan is extended only against personal guarantee, a statement of assets and equivalent to the personal guarantee amount not claimable by any other shall be obtained. Such loan shall be classified as per above and where then Loan fall under the category of pass, substandard and doubtful loan in addition to the normal loan loss provision applicable for category , an additional provision by 20 percentage point shall be provided. Classification of such loan and Advance shall be prepared separately. Hence the loan loss provision required against the personal guarantee loan will be 21%, 45% and 70% for pass, substandard and doubtful category respectively.

**2.3.2 Rescheduling and Restructuring of Loan**

In respect of loan and Advance falling under the category of substandard, doubtful or loss , bank may reschedule or restructure such Loan only upon receipts of a written plan of action from the borrower citing the following reason :-

- a) The reduced degree of risk inherent to the borrower determined by analyzing its balance sheet and profit and loss account in order to estimates recent cash flows and to project future ones, in addition to estimates recent Cash flows and to project future ones..
- b) In addition to assessing market condition, the internal and external causes contributing to detritions of the quality of loan.
- c) An evaluation of the borrower's management with particular emphasis on efficiency, commitment and high standards of business ethics.
- d) Evidence of existence of adequate loan documentation.
- e) Except for priority sector, in respects of all types of reschedule or restructured or swapped loan, if such credit falls under pass category according to NRB directives, loan loss provisioning shall be provided at minimum 12.5%.
- f) In case of rescheduling or restructuring or swapping of insured or guaranteed priority sector credit, the loan loss provisioning shall be provided at one fourth of the percentage mentioned in clause (a).
- g) In respect of swapped Loan, the bank accepting the Loan in swapping has to provide loan loss provision classifying the loan under the same classification as were existing. The bank accepting the loan in swapping shall obtain certification from the concerned bank or financial institution as to the existing classification.

### **2.3.3 Provision against Priority Sector Credit**

Full provisioning as per normal loan loss provisioning shall be made against three uninsured priority sector and deprived sector Loan. However in respect of insured

Loan the requisite provisioning shall be 25% of the percentage of normal loan loss provisioning. The required provisioning in the case of insured priority/deprived sector credit is as follows:

**Table: 2.3**

**Loan Classification of Priority Sector**

<b>Loan</b>	<b>Percentage of Provision</b>
Pass	0.25%
Substandard	5%
Doubtful	12.5%
Bad	25%

(Source: NRB Directives, 2069/70)

In case of rescheduling, restructuring or swapping of insured or guaranteed priority sector, the proportion of loan loss provision would be 3.125%, I. e. 25% of 12.5%.

## **2.4 Review of Journals and Articles**

Panta (2008) stated in his article titled “*Challenges in Banking: A Nepalese Diaspora*” that any kind of lending involves three stages where discretion needs to be exercised. These three stages are 1) Evaluation and assessment of the proposal 2) timely monitoring and evaluation and 3) Proper assessment of exit decision and modality.

He further stated that evaluation of the project idea and the management is something that most of the banks are least equipped for. Mr. Panta termed these three factors as internal factors which resulted in the increase in the level of NPA. Moreover, he lays out four external factors affecting the level of NPAs which are

as follows:

These external factors are:

- a) Legal impediments and time consuming nature of asset disposal process.
- b) Manipulation by the debtors using political influence and the weak corporate governance has been a cause for industrial bad debt being so high in case of government owned banks.
- c) Bankruptcy laws favor borrowers and law courts are not reliable enforcement vehicles.
- d) Legal mechanisms to dispose bad loans were time consuming and expensive and NPAs remained on the balance sheet.

He suggested for the restructuring for the better future by arguing that restructuring is vital when NPA level is higher because a failure of a bank can lead to a systematic failure.

Furthermore, he put the idea of initiating and expanding the process of establishment of assets management companies (AMCs) which helps in the management/collection of the due loans.

IMS Investment Service Pvt. Ltd. (2008) has published a report titled “Analysis of commercial banks: A comparative study of commercial banks” based on the unaudited financial result of 4th quarter of fiscal year 2067/68 of all commercial banks of Nepal.

The report highlighted that with 8.74% increase in total operating profit during the review period (as of 4th quarter of 2067/68) compared to same period of previous year, the total net profit was increased by only 2.28%. This gap between the rate of change of the total net profit and total operating profit is well explained by the

significant rise in non-performing loan by 25.52%, which subsequently triggered the loan loss provision up by 14.30%.

The report further stated that the risk of commercial banks has increased during the review period as compared to previous year. The average non-performing loan as a percentage of total loans has increased to 2.41% from 1.92% previous year. Out of 31 commercial banks, only 4 banks' NPA was above 5% which was regarded as more risky where as remaining banks were able to maintain their NPA below 5%. The banks with NPA above 5% are NBBL (18.20%), RBB (10.12%), ADBNL (8.64%), and Nepal Bank (5.29%).

The report concluded that the overall growth of the banking system was satisfactory taking in note the number of problem faced by the industry this fiscal year. However, the number of step taken by the NRB to address the problem faced by commercial bank was a positive sign and this will result good performance in future.

Dhungana & Updhyaya (2012) has explored an *empirical analysis of non-performing loans (NPL) and efficiency of Nepalese financial institution* during the period of a decade till 2011. All the commercial banks, development banks and finance companies were under the scope of study due to the involvement in significant amount of loan disbursement to the different sectors that may create NPL. They found that the sound lending policies and optimum portfolio management of financial institutions as well as an effective regulation and supervision of financial institutions has ensured the significant reduction of NPL and enhanced the banking efficiency. The trend of NPL has been decreasing each year up to 2010 but started to increase from 2011. They concluded that the recent scenario of NPL of overall financial institutions is around 5 percent and able to maintain the international standard, so the NPL and efficiency of Nepalese financial institutions can be taken as satisfactory. There is still scope of reduction

of NPL if the financial institutions adopted sound lending policies and optimum portfolio management as directed by the regulatory authority.

They have assessed the status of NPL of commercial banks and found that the average proportion of non-performing loan to total outstanding loan of commercial banks reached to 3.20 percent in mid-July 2011 from 2.39 percent in mid-July 2010. Out of three major public banks in Nepal, Rastriya Banijya Bank (RBB) has higher average NPL as compared to Nepal Bank Limited (NBL) and Agriculture Development Bank (ADB). But the standard deviation of NBL is higher that reflect greater degree of risks factors. Similarly, NBL has greater range of non-performing loans that shows the higher variability. The ADB has low level of NPL that indicates sound banking efficiency among the major public banks in Nepal.

**Table: 2.4**

**Non-performing Loans of Three Major Public Banks**

	<b>NBL (%)</b>	<b>ADB (%)</b>	<b>RBB (%)</b>
<b>Mean</b>	27.42	12.65	34.58
<b>Std. Deviation</b>	24.31	5.34	19.82
<b>Range</b>	58.19	12.37	49.23
<b>Minimum</b>	2.28	8.22	10.92
<b>Maximum</b>	60.47	20.59	60.15

(Source: Banking and Financial Statistics, Various Issues of NRB and authors' calculation).

The commercial banks have very huge percentage of NPL in 2002 that reflects the very serious problem in the banking sector. This situation has been occurred due to greater degree of NPL of two major public banks i.e. NBL and

RBB. It is obvious from the figure that the level of NPL has been decreased in each year till 2010. But the NPL have been increased by 0.81% in 2011. However, NPL of commercial banks has been below 5% level during the last three years. The reason behind the substantial reduction of NPL in the commercial banking sector is due to the implementation of financial sector reform program (FSRP).

The correlation of commercial banks with different indicators has been analyzed by them. The correlation between total gross loans (TGL) and non - performing loans (NPL) is significant at the 0.01 level. There is inverse relationship between TGL and NPL of commercial banks during the study period. As the size of TGL has been increased, the level of NPL has been decreased.

The average non-performing loan of commercial bank is very high as compared to development banks and finance companies. It shows that the regulatory body should give proper emphasis over the commercial banks for the reduction of high level of NPL. There is still scope of reduction of NPL of commercial banks because the trend of NPL has been decreased in each year. It is suggested to the regulatory institutions to maintain the NPL below the international level of 5%.

They have concluded that the lending policies of banks and financial institutions have crucial influence on non-performing loans. Poor management and competency of financial institutions creates bad quality loans and therefore escalates the level of non -performing loans. There was significant level of NPL of major financial institutions till 2008. The trend of NPL has been decreasing each year up to 2010 but started again to increase from 2011. The recent scenario of NPL of overall financial institutions is around 5% and able to maintain the international standard, so the NPL and efficiency of Nepalese financial institutions can be taken as satisfactory. There is still scope of reduction of NPL if the financial institutions adopted sound lending policies

and optimum portfolio management as directed by the regulatory authority. Non-performing loans have been considered as a major hindrance of efficiency and growth of financial institutions. The regulatory body should develop an effective monitoring and regulation mechanism to reinforce financial institutions in Nepal.

Shrestha (2011) published an article titled *Non-performing loans and stock prices: A case of Nepali commercial banks* with an attempt to ascertain the determinants of nonperforming loans (NPL) in the Nepalese commercial banking sector using a descriptive statistics, trend and one factor econometric model. The study has selected 18 Nepal commercial banks by using stratified sampling method, and found the aggregate values of ratio that measures the banks' health. The results show that aggregate NPL of commercial banks is in decreasing trend and the model is consistent with priori of the NPL to its stock price. This indicates that every rupee appreciation in the NPL brings about stock price decrease by 0.528 rupee. The study has shown an increasing trend of the total performing loan to total deposit ratio in the industry, while NPL is on the decline. It has given positive indication that the banks are able to mobilize their deposit in productive sectors.

They stated that there are many factors affecting the market price of the stock. One such factor is NPL, because increase in NPL reduces the net profit and EPS (earning per share), as the result it ultimately affects the stock price. To examine the effect of the NPL on its stock price, the study applied an econometric model. The result of regression of the given model indicated that regression of the non performing loans is in the negative. It shows a negative relationship between stock market price and NPLs. It explains that stock price declines when the NPLs increase. Overall model is also significant at 10 percent level. The coefficient of the NPL is negative 0.258. It shows that with a rupee change in the NPL, the

average stock price decreased by 0.258 rupees. The number of observation is 128 and number of study years is eight. The “t” value of this coefficient is significant at 5 percent level, so that this model is properly explained. Similarly, the R2 value is 0.355, which means the model explains at 35.50 percent.

The study has analyzed trend of NPLs and ratio related to credit analysis of the 18 sampled commercial banks of Nepal. The study has found improvements in the commercial banks’ loan recovery endeavors, making positive impact on their profits and stock prices. The study also concluded that NPL affects the stock prices of the commercial banks to an extent of 35.50 percent, whereas it also hints at the existence of other factors that would also make their impact on the stock prices. In particular, the study found that the real stock price of the commercial banks has a negative association with the levels of their NPLs.

Singh (2013) on her article titled *NRB provisioning hits profit of FIs* stated that a little more than two dozen finance companies and development banks registered losses in the second quarter as they strained under provisioning for bad loans.

Ms. Singh has analyzed the licensed financial institutions that have published their financials, the unaudited financial statement of 15 development banks and 10 finance companies for the second quarter and found that these financials showed cumulative losses of more than Rs one billion. The average non-performing assets (NPA) of these financial institutions were higher than 16 per cent.

Among the financial institutions that have ended up in the red, Siddhartha Development Bank has recorded a loss of Rs 203 million with NPA higher than 14 per cent and Vibor Bikas Bank has recorded a loss of Rs 115 million with NPA of 33.78 per cent. Likewise, Nepal Finance Company has suffered a loss of Rs 23.9 million, the highest among finance companies.

Among commercial banks, Kist Bank registered a loss of Rs 70 million, in the second quarter. Non-performing assets of Arun Finance is 62.4 per cent — the highest. Likewise, NPAs of Progressive Finance, Patan Finance, and Social Development Bank are also above 30 per-cents.

Finance companies have provisioned about Rs two billion against possible loan loss, while commercial banks have provisioned about Rs four billion.

“Along with the loans under real estate, loans floated under other headings have also been extended for realty, that is why many financial institutions are in trouble,” said Shakya. The portfolio of development banks and finance companies contain loans worth about Rs 23 billion. Their collective loans advanced stands at about Rs 194 billion.

Financial institutions have blamed the stringent rules of provisioning laid by Nepal Rastra Bank (NRB). Central bank’s regulation requires financial institutions to provision 25 per cent of the principal and due interest if borrowers fall behind the payment schedule for three months, 50 per cent if delay in repayment crosses six months, and 100 per cent provisioning is required.

“We have requested NRB in writing to revise the basis of the provisioning slab so that the balance sheets of financial institutions will not show losses,” said Shakya, adding that financial institutions will not distribute dividends till loans are recovered or written back if the central bank extends 100 per cent provisioning for three years of default.

She concluded that due to comfortable liquidity situation in the financial system since the last one year, commercial banks had lowered both deposit and lending rates to some extent. However, class ‘B’ and ‘C’ financial institutions could not lower the interest mostly to retain deposits and the higher cost of operation does not allow them to start lending at a low rate soon. The squeezed spread rate also hurts their net interest income.

Himalayan Times (2012), in a titled *rising NPA lowers profits* which was published in Himalayan Times, the reporter had made an endeavor to highlight some facts and figures regarding the relationship between NPA and its effects on reported profits of banks. The report stated that the amount of non-performing assets (NPA) with commercial banks has gone up by almost 20 per cent, in the third quarter, pulling down their overall profit.

The average ratio of NPA to the performing loans to total loans in the third quarter of current fiscal year of the 16 commercial banks has reached 2.21 per cent which was 1.81 per cent in the corresponding quarter of previous fiscal year, according to their unaudited financial figures of the third quarter of current fiscal year.

Among the unaudited financial statements released by 16 commercial banks, Nepal Investment Bank, Standard Chartered Bank, Everest Bank, Bank of Kathmandu, NCC Bank, NIC Bank, NMB Bank, Citizens Bank International and Sanima Bank saw their bad loans going up this quarter in comparison to that of the corresponding quarter in the previous fiscal year. Likewise, Nabil Bank, Nepal SBI Bank, Grand Bank, Lumbini Bank, Global Bank and Agricultural Development Bank seem to have reduced NPA in review period.

The report further stated that the difficulty in recovering loans lent to real estate sector due to the slowdown of the realty sector has weighed in on the debt repayment capacity of the borrowers. NPAs for banks are nothing but loans gone sour that cannot be recovered from customers within the stipulated time. NPA does not yield any income for the banks in the form of principal and interest payments. NPAs eat into the income of the financial institutions as the primary source of income of financial institutions is the interest payments made by the borrowers.

Moreover, the banks need to provision certain portion of their profit to balance the NPAs so that higher NPAs translate as lower profit. With the growing bad loans of the bank, loan loss provisioning has also scaled up by almost eight per cent, this quarter. The average loan loss provisioning has reached Rs 3.7 billion which stood at Rs 3.4 billion last quarter. The larger loan loss provisioning for the loans gone bad has eaten up the profit of the banks. The operating profit of the 16 commercial banks has dropped by 18 per cent. The average operating profit stood at Rs 494 billion in the third quarter while in the corresponding period last fiscal year, banks were enjoying more than Rs 606 million as operating profit.

The report concluded that the mounting number of bad loans, high cost of fund but lowered interest spread has marred the bank's income. On the other hand, lack of viable projects to finance has led to banks' investment and lending remaining limited to low yielding investment. Despite all the problems, Standard Chartered Bank, Nabil Bank and Everest Bank have successfully reaped an operating profit higher than Rs one billion, this quarter.

*Risk of NPL in banking system* published on Editorial (2014). The banking system has taken a huge leap numerically in the recent few years with the Nepal Rastra Bank (NRB) estimating that around 40 percent of the population having access to banking service now. But questions have been asked from time to time about whether quality service has been delivered along with the inclusion of a huge chunk of population following expansion of branch offices. There is still the challenge of bringing more people in the banking system, but the policy-makers, regulators and even bankers must also be alert about keeping the overall financial system healthy. It has not been long since Nepal had to conduct the Financial Sector Reform Program by borrowing Rs 8 billion from the World Bank (WB) when the overall financial system faced a huge risk as the government owned Nepal Bank (NB) and Rastriya Banijya Bank (RBB), with a long history, suffered

under the burden of having over 60 percent of non-performing loans (NPL). Capital of both these banks had eroded and they have now returned back to sound health after 10 years of reforms, but the ghost of their past NPL is still haunting them. The reason is clear: instead of recovering the bad debts they focused on writing them off and rescheduling them during the reform period to give a healthy look to the balance sheet. This trend is seen even in private banks in recent times. The central bank, therefore, has made a new provision about management of non-performing assets (NPA) and NPL that requires the banks to make arrangements for the loan amount above the collateral. This is set to affect the balance sheet of banks, and the two big government-owned banks will again be hit hardest by this.

NB and RBB face a big problem in recovering debts. The fact that over Rs 35 billion of loan investment by banks and financial institutions is under risk, according to the Debt Recovery Tribunal records is a matter of serious concern. Mobilizing loans without collateral may boost the credit portfolio of the banks and financial institutions for the time being, but the problem in debt recovery will create problems for the overall financial system in the long run. The banks have not kept the requisite documents and details about the debtors and guarantors while issuing loans, failed to provide the necessary documents as ordered, and invested without collateral or with substandard/inadequate collateral, according to the tribunal. Similarly, they have failed to show the assets mortgaged, failed to maintain transparency in the process of evaluation of collateral, and conserve the assets kept for collateral. The banks have also been found to not have updated the address of the debtors given at the time of issuing loans.

It is actually impossible to issue loans on substandard collateral without connivance of the staffers at the credit department and valuator. Overdraft is another big problem. Recovery of loans issued on the basis of hypothecation without surety of fixed assets is creating headache for bankers now. And we

cannot rule out another risk for the banking system from the practice of issuing loans under the overdraft service to service previous loans. The practice of multiple-banking by big business houses to take loans from banks has also raised additional risks. Nepal's banking sector may soon face systemic risk affecting the whole economy if the regulatory body does not take strong and effective step to reduce such risks.

*Bank Supervision Report (2012)* published by Nepal Rastra Bank stated that the total volume of NPL of the commercial banks declined by Rs.0.54 billion in F.Y. 2011/12 to Rs. 16.60 billion, which is 2.71 percent of total outstanding loan and advances as at mid-July 2012. The NPL of private banks amounted to Rs. 9.12 billion whereas that of public banks was Rs. 7.48 billion in 2011/12.

The report further put the light on the NPL ratio of public banks was 6.47 percent in mid -July 2012 while that of private banks was 1.84 percent. Public sector banks accounted 45.03 percent in total NPL of commercial banks while rest went to private sector as of mid-July 2012.

NRB concluded on its report stating the fact that controlling Ever-greening of Loans The growing number of banks and financial institutions has resulted in pressures for competing in unhealthy ways. As other sectors of the economy have not been performing well, the number of good borrowers is limited. The overall macro-economic indicators are not very conducive to support the rapid growth of the banking sector. But statements suggest that Non Performing Assets (NPAs) are also declining, indicating that some banks could be "ever-greening" loans to bring NPAs at minimum levels. They have used high volumes of revolving loans, overdrafts and working capital loans to evergreen loans and understate the level of NPAs. It is a challenge to control the practice of loan ever greening, and to address the issue of understatement of NPAs and overstatement of capital.

**Table: 2. 5****Analysis of non-performing assets of financial institutions of Nepal**

Year	Rs in billion					% Change			
	2007/08	2008/09	2009/10	2010/11	2011/12	2008/09	2009/10	2010/11	2011/12
<b>Banks</b>									
<b>Private</b>	7.2	5.0	4.4	8.1	9.1	-31.30	-11.69	84.25	13.07
<b>Public</b>	12.1	9.6	8.0	9.1	7.5	-20.59	-16.60	12.81	-17.57
<b>Industry</b>	19.4	14.6	12.4	17.1	16.6	-24.59	-14.93	38.00	-3.14

(Source: Bank Supervision Report 2012)

## 2.5 Review of Thesis

Subedi (2007) has conducted a study on “*Credit culture of commercial banks in Nepal (with reference to Nepal Investment Bank Ltd., Bank of Kathmandu Ltd. and Kumari Bank Ltd.)*”. His focus was to find out how the concerned banks has disbursed their loan and what are the procedure of collecting those disbursed loan i.e. recovery of the loan. The target has been to identify whether or not directives of NRB were followed. The main objectives of her study is to study the lending and recovery policies of selected commercial banks, to compare and analyze the deposit mobilization, to measure and compare the total amount of lending and to analyze recovery management and non-performing assets position. . Ratio Analysis, Mean, Standard Deviation, Coefficient of Variation and Correlation Analysis are used in the study to draw the conclusion. The major findings of the study are as follows:

- Loan loss provision ratios of NIBL, BoKL and KBK are 3.60%, 4.88% and 1.42% respectively. Among three banks BoKL has highest ratio of LLP. Since higher ratio is an indication of higher non-performing loan in total loan disbursement from the analysis of trend of LLP, it is found that LLP is expected to increase in coming years of NIBL, BoKL and KBL by 57.34million, 10.38 million and 23.17 million every year respectively.
- NIBL and KBL have higher portion of non-performing loan but BoKL has less NPL to loan disbursement ratio in the study period which shows BoKL is implementing effective credit management. From the analysis of trend of NPL it is found that NPL is expected to increase in coming days of NIBL and KBL but NPL of BoKL is expected to decrease.
- While analyzing correlation between deposits collected and loan disbursement, it was found that three banks have very high degree of positive correlation between two variables and shows KBL with higher correlation among the studied banks.
- The correlation coefficient between LLP and loan disbursement of NIBL, BoKL and KBL is 0.9637, 0.1773 and 0.9939 respectively. Among these three banks KBL has higher correlation coefficient which means increase in loan disbursement result increase in the loan loss provision.
- The correlation between LLP and NPL of NIBL, BoKL and KBL is 0.8597, 0.59 and 0.9529 respectively. All three banks have very highly positive relationship between LLP and NPL. KBL has higher correlation coefficient than NIBL and BoKL which reveals that increase in NPL results increase in the LLP.

Mr. Subedi concluded that the research has found that BoKL has higher portion of NPL than NIBL and KBL during the study period. But while looking at the future

trend, NIBL and KBL have increasing trend of NPL and LLP but BoKL has NPL in decreasing trend. Therefore, it can be said that to preserve its position as a successful bank NIBL and KBL have to give more attention on its Credit Culture i.e. loan disbursement and recovery function.

Lama (2008) has done a research on “*Impact of Nonperforming Assets on the Performance of Commercial Banks*”. For that she has analyzed the data of Nepal Bank Limited, Rastriya Banijya Bank and Nepal Credit & Commerce Bank. The main objectives of the study are to figure out the impact of non-performing assets on commercial banks. The specific objectives were to assess the level of NPA in different Nepalese commercial banks, to find out whether the NPA guidelines are followed in making provision relate to NPAs, to make a comparison of NPAs of various banks of Nepal, to provide recommendation on reducing the level of NPA based on analysis and findings of the study.

The major findings of the study of Ms. Lama were:

- Loan Loss provision ratio indicates that RBB has significantly higher ratio which is 45.31% in average followed by NBL of 39.79% and NCC of 15.989% and combined mean is 34.64%. Higher ratio is an indication of higher non performing loan in the total loans and advances. Here RBB has higher ratio which is the result of higher proportion of NPL in the total loan. NCC bank has least ratio n compare to two banks. In case of deviation NBL has highest deviation where as NCC has lowest but it has highest variance.
- The analysis of non-performing loans to total loans reveals, average NPL, of NBL, RBB and NCC are 39.104%, 46.4945% and 34.59% respectively exhibiting critical conditions of banks.
- The average ratio of provision held to non-performing measures up to what extent of risk inherent in NPL is covered by the total loan loss provision,

the ratio of NBL, RBB and NCC is 110.79%, 94.18% and 86.14% respectively. Here NBL has higher ratio in comparison to other two banks which shows that the bank has adequate provision against non-performing loan where as this ratio of NCC bank is comparatively lower. In case of deviation again NBL has higher ratio and NCC has higher variation. RBB is moderate in deviation and variability. Over all combined mean is 92.44%.

- The correlation coefficient between LLP and loans and advances of NBL, RBB and NCC are 0.6297, 0.6016, and 0.0501 respectively. Among these three banks NBL and RBB has less values of 6 times P.E, it is insignificant and there is no evidence of correlation. This increase in provision of NBL and RBB is due to increment in its non-performing loans. In NCC bank also correlation coefficient is less than P.E, so it is insignificant and unreliable.
- The correlation coefficient  $\otimes$  between LLP and NPL of NBL, RBB and NCC banks were positive. Which indicated that the the higher provision is needed for higher level of NPL or vice versa.
- From the trend analysis of NPL, it is found that NPL is expected to increase on next coming year in NCC bank where as in NBL and RBB it is expected to decrease in coming year. The NPL of NBL and RBB is expected to decrease at the rate of Rs (2349) million and Rs 2362 million each year but in NCC trend value is expected to increase at the rate of Rs 250 million every year respectively. The decreasing trend shows that bank puts its effort towards recovering bad debts.

Shrestha (2009) in his study *“Non-Performing Assets (NPA) in Nepalese Financial Sector; with reference to Lumbini Bank, Everest Bank, Nepal Bangladesh Bank, Nepal SBI Bank, Himalayan Bank and Nabil Bank”* has taken main objectives to analyse and identify the impact, cause and consequences of NPA. The main specific objectives of the study were:

- To evaluate the impact of NPA on the profitability of the sample banks.

- To analyze the NPA of the banks under study
- To assess the relationship between NPA and Total lending
- To examine loan loss provision in sample commercial bank in accordance with NRB directives.

The major findings of the study were:

- The percentage of performing assets to total assets of the LBL have found to be high among the sample banks, which was 67.09% and the HBL have been found to be 45.04% which was lower than other banks. Among the sample banks the percentage of non-performing assets to total assets of the EBL was found low which was 1.005 and it was found to be 14.27% of the LBL which was high.
- The average ratio of non-performing assets to total loan of five years was found lower in Everest Bank Limited. The average ratio of substandard loan to total loan and bad loan to total loan of five years have been found lower in EBL and higher in LBL. The average ratio of doubtful loan to total loan of five years was found higher in NSBIBI and lower in EBL.
- From the hypothesis testing only EBL NPL is higher than average NPL of sample bank at 5 % level of significance. All other bank average NPL is equal to average NPL of sample bank at 5 % level of significance.
- The correlation coefficient between ROA and level of NPA is found to be negative for each of the bank except that the NBBL under the study period. Among them LBL and Nabil bank have high degree of negative correlation i.e. the ROA indirectly depends on the level of NPA, higher the NPA the lower will be the returns on assets and vice versa. HBL have the moderate degree of negative correlation. Only 325 nos. of returns are affected by level of NPA and remaining is affected by other factor. NSBIBL and EBL have the low degree of correlation coefficient. Only 7% and 17% of NSBIBL and EBL respectively on the profitability is affected by NPA and rest is affected by other factor. Only NBBL have low degree of positive

correlation coefficient.

Thapa (2010) has conducted a study on “*Credit Management of Commercial Banks of Nepal: With Reference to Nabil Bank, Nepal Investment Bank & Bank of Kathmandu.*” His objective was to assess the utilization of loan in different sectors by commercial banks; to find out the relevance of the financial sector reform program; to measure the comparative output of credit management in commercial banks of Nepal; to examine the level of the non-performing loan investments that exists within the banking industry; and to provide suggestions for the future betterment of credit management system in the commercial banks.

Major finding of the study were:

- The analysis of four years average shows that all there sampled banks has lend highest portion in the production sector.
- From the analysis of the correlation coefficient it is found out that all three banks have highly positive correlation with total deposits and loan and advances. When there is increase in the deposits there is increase in the loans.
- Among the three banks, Nabil has lower average non- performing loan to total loan and advances with 1.10% in relation to that of NIBL and BOK with 1.82% and 2.76%. All three banks have been able to reduce their non-performing loan ratio in recent years and NIBL has reduced the minimum to 0.59% in the year 2008/09.
- Nabil Bank has the lower loan loss provision to total loan and advances with average 2.36% in relation to that of NIBL and BOK with 2.55% and 3.04% respectively which mean Nabil has low non performing loan and has lower provisioning.

Shrestha (2010), in her study “*A Study on Non-Performing Assets of Nepalese Commercial Banks; With Reference to Nepal Investment Bank Ltd. and Kumari Bank Ltd.*” has the main objectives of examining and finding the level of NPA to

total assets, total deposits and total lending of Nepalese Commercial Banks. The specific objectives were to study about the proportion of NPAs to total assets, total deposits and total lending of both the banks under study, to study non performing loan to total loan, to examine and evaluate the effects of NPA on ROA and ROE of banks, and to make recommendation to overcome the difficulties in managing NPA of the banks with high level of NPA. The major findings of her study were as follows:

- The analysis concludes that till the date of study, both of the banks have followed the directives issued by NRB to bank and financial institutions. They have maintained prudential requirement of loan loss provision as per the directive of NRB. There is no violence of regulation and indicates that there is good management of loan and advance.
- The high degree of negative correlation between NPA and ROA as well as between NPA and ROE clearly indicates that there is inverse relation between NPA and ROA as well between NPA and ROE. It indicates that a bank should reduce its NPA to increase the ROA and ROE of the bank and vice-versa.
- The level of NPA to total assets, total lending and total deposits of NIBL and KBL seems at acceptable level at the end of all fiscal years.
- Similarly the percentage of NPA to total lending of NIBL decreased at the end of fiscal year 2005/06 than of 2004/05, 2007/08 and 2008/09 compared to that of previous fiscal years.

Kumari (2012) in her research "*An Analytical Study of Non-Performing (NPA) Assets in Commercial Banks of Nepal*" has general objective to analyze and examine the level of non-performing assets (NPAs) with following specific objectives. Her specific objectives were to analyze the level of non-performing assets in different Nepalese commercial banks, to study the overall impact of loss provision on the profitability of commercial bank, to make a comparison of NPAs of limited commercial banks of Nepal, and to analyze and evaluate the impact of

non-performing assets in the performance of commercial banks. The major findings of her study were:

- The relatively low ratio of HBL is the indication of risk adverse attitude of the management or in other word we can say that they are investing low in the risky assets, i.e. loans and advances.
- Here NBB has higher loan loss provision ratio which is the result of higher proportion of NPL in the total loan. NIBL has least ratio n compare to two banks. In case of deviation and variation also, NBB is in the topmost level.
- Here NBB has higher ratio which is the result of higher proportion of NPL in the total loan. NIBL has least ratio n compare to two banks. In case of deviation and variation also, NBB is in the topmost level.
- NBB has significantly higher proportion of the non-performing asset in the total loans portfolio, which exhibits critical conditions of bank. But its trend is in decreasing after taking management is taken by NRB. HBL and NIBL have very low proportion of NPA as compared to NBB.
- The correlation coefficient between LLP and loans and advances of NBB, HBL And NIBL are -0.13, -0.76 and 0.94 respectively which shows LLP and loans and advances are negatively correlated incase of NBB and HBL and it is positively correlated incase of NIBL.
- From the trend analysis of NPA, it is found that NPA of NBL and HBL will decrease at the rate of 93.40 million and 146.50 million per year whereas NPA of NIBL will increase at the rate of 8 million per year. The decreasing trend shows that the banks have put its effort towards recovering bad debts. Increasing trend on the other hand can be due to increase in loans and advances or increase in bad debts.

## **2.6 Research Gap**

The purpose of this research is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas, knowledge and suggestions in relation to 'Non Performing Assets of NBL, ADBL, HBL and BOK'. Thus, the previous studies can't be ignored because they provide the foundation to the present study. In other words, there has to continuity in research. This continuity in research is ensured by linking the present study with the past research studies. To fulfill this gap, this research is selected. To complete this research work: many books journals, articles and various published and unpublished dissertations are followed as guideline to make the research easier and smooth. By the study of various research and articles, it has been found that higher non-performing asset followed by higher loan loss provision is one of the challenges faced by commercial banks in the present context. Some research were done on relating to loan loss provisioning but no research was found in detailed analysis of non-performing loan and loan loss provisioning. Hence this research has attempted to fill this research gap by taking reference of Nepal bank Limited, Agricultural Development Bank Limited, Himalayan Bank Limited and Bank of Kathmandu Limited. This research will be able to deliver some of the present issues, latest information and data regarding loan classification and loan loss provisioning. Effort on this particular subject will be found properly genuine and it will be recognized valuable study in this particular subject.

## **CHAPTER - III**

### **RESEARCH METHODOLOGY**

Research methodology is the method to solve the research problem systematically. It may regard as a science of studying how research is done to conduct the research. It is very important to conduct the research. In research methodology various sequential steps that are generally adapted by the researcher, studying his research problem among with certain objectives in view are studied. Research methodology helps us to find out accuracy, validity and suitability. Research is a systematic inquiry of any particular topic and the methodology is a method of doing research in a well manner. Hence research methodology is the systematic study of research problem that solves them with some logical evidence. The research methodology adopted in present study as discussed below:-

#### **3.1 Research Design**

Research design is the plan, structure and strategy of investigation conceived so as to obtain to research question and control variances. The plan is the overall scheme or programmed of a research. This research is aimed at studying the non-performing asset and loan loss provisioning of Himalayan Bank Limited and Nepal Credit and Commerce Bank Limited. For this purpose, this research will follow analytical and descriptive design.

#### **3.2 Population and Sample**

Population refers to the entire group people, events or things of interest but that a researcher wishes to investigate. There are 31 commercial banks as total population (as on mid July 2013) but this study is concentrated on only four commercial banks. This study is about non-performing asset and loan loss

provisioning of Nepal Bank, Agriculture Development Bank, Himalayan Bank and Bank of Kathmandu Limited.

### **3.3 Sources of Data**

The data used in this research is secondary. The sources of the secondary data are as follows:-

- Annual reports, newsletter, brochures etc of concerned banks.
- Laws, guidelines and directives regarding the subject matter.
- Text books
- Article published in newspaper, journal, magazine and other publication.
- Various reports published by NRB, CIB, NBL, ADBL, HBL, BoK etc.
- Various related websites

### **3.4 Data Collection Technique**

The technique used to obtain the secondary data is the annual reports of NBL, ADBL, HBL and BOK which were obtain from the concerned banks and other reports were downloaded from the websites. Various publication of NRB was collected from concerned department of Nepal Rastra Bank Baluwatar. Similarly reports of Credit Information Bureau (CIB) have been collected from office of CIB, Thapathali. The references of NRB directives and guidelines have been obtained from NRB Office and websites of NRB. Various reports, textbooks, journal and unpublished dissertation have been obtained by visiting Tribhuwan University central library.

### **3.5 Data Analysis Tools**

The data collected from different sources are recorded systematically and identified. The available information is grouped as per the need of the research work in order to meet research objectives. The collected data are presented in appropriate forms of table and charts. For analysis purpose different kind of appropriate mathematical, statistical and financial tools have been applied. Further represent the data in simple form diagrams and graphs have also been used.

#### **3.5.1 Financial Tools**

While adopting financial tools, a ratio is used as benchmark for evaluating the financial position and performance of any firm. “Financial analysis is the process of identifying the financial strength and weakness of the firm by properly establishing relationship between the items of the balance sheet and profit and loss account.” Financial analysis is the use of financial statements to analyze a company’s financial position and to assess future financial performance.

##### **3.5.1.1 Ratio analysis**

Ratio analysis is widely used tool of financial analysis. A ratio is simply one number expressed in terms of another and as such it express the numerical or quantitative relationship between two variables. Ratio analysis reflects the relative strength and weakness of any organization and also indicates the operating and financial growth of the organization. “Ratios help to summarize large quantities of financial data and to make quantitative judgment about the firm’s financial performance. The relationship between two accounting figures expressed mathematically is known as financial ratio”. Even though there are many ratios, only those ratios has been calculated which are related to the subject matter. Following ratios have been computed and analyzed in this study.

### **a) Loan and Advance to Total Deposit Ratio (CD Ratio)**

The core banking function is to mobilize the funds obtained from the depositors to borrowers and earn profit and CD ratio is the fundamental parameter to ascertain fund deployment efficiency of commercial bank. In other words this ratio is calculated to find out how successfully the banks are utilizing their total deposits on credit or Loan and Advance for profit generating purpose as Loan and Advance yield high rate of return. Greater CD ratio implies the better utilization of total deposits and better earning, however, liquidity requirements also needs due consideration. Hence 70%-80% CD ratio is considered as appropriate. This ratio is calculated by dividing total credit by total deposit of the bank.

$$\text{Loan and Advance to Total Deposit Ratio} = \frac{\text{Loans and Advances}}{\text{Total Deposit}}$$

### **b) Non-Performing Loan to Loan and Advance Ratio**

This ratio determines the proportion of non-performing Loan in the total loan portfolio. Higher ratio implies the bad quality of assets of banks in the form of Loan and Advance. Hence lower NPL to total credit ratio is preferred. As per international standard only 5% NPL is allowed also in the context of Nepal 5% NPL is acceptable. It is calculated as follows:

$$\text{Non-Performing Loan to Loan and Advance} = \frac{\text{Non-Performing Loan}}{\text{Loans and Advances}}$$

### **c) Loan Loss Provision to Loan and Advance Ratio**

This ratio describes the quality of assets in the form of Loan and Advance that a bank is holding. Since there is risk inherent in Loan and Advance, NRB has Directed commercial banks to classify its Loan into different categories and accordingly to make provision for probable loss. Loan loss provision signifies the cushion against future contingency created by the default of the borrower in

payment of Loan and ensures the continued solvency of the banks. Since high provision has to be made for non-performing loan, higher provision for loan reflects increasing non-performing loan in volume of total Loan and Advance. The low ratio signifies the good quality of assets in the volume of Loan and Advance. It indicates how efficiently it manages loan and Advance and makes efforts to cope with probable loan loss. Higher ratio implies, higher portion of NPL in the total loan portfolio. This ratio is calculated as follows:

$$\text{Loan Loss Provision to Loan and Advance Ratio} = \frac{\text{Loan Loss Provision}}{\text{Loan and Advance}}$$

**d) Loan Loss Provision to Non-Performing Loan**

This ratio determines the proportion of provision held to non-performing loan of the bank. This ratio measures up to what extent of risk inherent in NPL is covered by the total loan loss provision. Higher ratio signifies that the banks are safeguarded against future contingencies that may create due to non-performing loan or in other words banks have cushion of provision to cope the problem that may be cause to NPL. Hence higher the ratio better is the financial strength of the bank. This ratio is calculated as follows:

$$\text{Loan Loss Provision to Non- Performing Loan Ratio} = \frac{\text{Total Loan Loss provision}}{\text{Non Performing Loan}}$$

**e) Net Profit to Loan Loss Provision Ratio**

This ratio shows the relationship of net profit with loan loss provision of the company. It shows that how is the provision of unproductive (non-performing) loan's portion in company's net profit. Higher non-performing assets pull higher value on its provision and higher provisions push its net profit below. So net profit and non performing assets are directly related. This ratio is calculated by dividing net profit of the bank by total LLP. Net profit refers to that profit which is

obtained after all types of deduction like employee's bonus, tax, provision etc. Hence this ratio measures bank's profitability with respect loan loss provision. Higher the ratio shows the better performance of the bank

$$\text{Net Profit to Loan Loss Provision} = \text{Net Profit/Loan Loss Provision}$$

### **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.

#### **3.5.2.1 Percentages**

A percent is a number of hundredth parts one numbers to another. Uses of percentages make the data much simpler and grasp. It is the simplest statistical device used in interpretation of phenomenon. It can reduce everything to a common base and thereby helps in meaningful presentation. Mathematically, let a represent the base used for comparison of given number in the base may be calculated as:

$$\text{Percentage (\%)} = B \times \frac{100}{A}$$

#### **3.5.2.2 Measures of Central Tendency**

Measures of central value are simple statistical treatments of distribution that attempts to find the single figure to describe the entire distribution. 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. Among the several tools of measuring central value, the mean has

been used in this analysis where and when necessary. The mean is the arithmetic average of a variable.

Arithmetic Mean of a series is given by

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N}$$

### 3.5.2.3 Measures of Dispersion

Dispersion measures the variation of the data from the central value. The central value alone is not enough to analyze the quality of data regarding its variability. With the light of dispersion, an average becomes more powerful and meaningful. Following tools of measuring dispersion has been used in this study.

#### a) Standard Deviation

Standard Deviation (S.D.) is the most popular and the most useful measure of dispersion. It indicates the ranges and size of deviance from the middle or mean. It measures the absolute dispersion. Higher the value of standard deviation higher is the variability and vice versa. It is the positive square of average sum of squares of deviations of observations from the arithmetic mean of the distribution. It can be calculated as follows

$$\text{Standard Deviation}(\sigma) = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

#### b) Coefficient of Variation

The percentage measure of coefficient of standard deviation is called coefficient of variation. The less is the C. V. then more is the uniformity and consistency and vice versa. Standard deviation gives an absolute measure of dispersion. Hence where the mean of the variable is not equal it is not appropriate to compare two pairs of variables based in S.D. only. The coefficient of variation measures the

relative measures of dispersion, hence capable to compare two variables independently in terms of their variability.

$$\text{Coefficient of Variation (C.V.)} = \frac{\sigma}{\bar{X}} \times 100$$

### c) Correlation Coefficient (r)

Correlation refers to the degree of relationship between two variables. Correlation coefficient determines the association between the dependant variable and independent variable. If between the variables, increase or decrease in one cause increase or decrease in another, then such variables are correlated variables. “Correlation may be defined as the degree of linear relationship existing between two or more variables. Two variables are said to be correlated when the changes in the value of one is accompanied by the change of another variable.” There are different techniques of calculating correlation coefficient. Among various techniques we have used Karl Pearson coefficient of correlation. It is calculated as follows:

$$\text{Correlation Coefficient (R)} = \frac{\sum xy}{N\sigma_x\sigma_y}$$

Where,  $x = X - \bar{X}$                        $y = Y - \bar{Y}$

$\sigma_x$  = standard deviation of series X

$\sigma_y$  = standard deviation of series Y

N = Numbers of pairs of observation

On simplification of the equation of r, we obtain the formula for computing r.

$$r = \frac{\sum xy}{\sqrt{\sum X^2 \sum Y^2}}$$

The Karl Pearson Coefficient of correlation always falls between -1 to +1. The value of correlation in minus 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 correlation between the variables

$r = +1$ , the relationship is perfectly positive

$r = -1$ , the relationship is perfectly negative

The reliability of the correlation coefficient is judged with the help of probable error (P.E.). It is calculated as follows:

$$\text{Probable Error (P.E.)} = \frac{0.6745(1 - r^2)}{\sqrt{N}}$$

Where,

$r$  = correlation coefficient

$N$  = No. of pairs of observation

If  $r > 6 \text{ P.E.}$ , then the correlation coefficient is Significant and reliable

If  $r < \text{P.E.}$ , then the correlation coefficient is insignificant and there is no evidence of correlation

### **3.5.3 Trend Analysis**

Trend analysis is one of the statistical tools, which is used to determine the improvement or determination of its financial situation. Trend analysis informs about the expected future values of various variables. The least square method has

been adopted to measure the trend behaviors of these selected banks. The method is widely used in practices. The formula of square method for the straight line is represented by the following formula:

$$Y_c = a + bX$$

Where,

$Y_c$  = Trend Values

$A$  = Y intercept or the computed trend figure of the Y variable, when  $X = 0$

$B$  = slope of the trend line of the amount of change in Y variable that is associated with change in 1 unit in X variable.

$X$  = Variable that represent time i.e. time variable

The value of the constants a and b can be determined solving the following two normal equations

$$\sum Y = Na + b \sum X$$

$$\sum XY = a\sum X + b \sum X^2$$

Where, N = number of years

But for simplification, if the time variable is measured as a deviation from its mean i. e. mid point is taken as origin, the negative value in the first half of the series balance out of the positive values in the second half of so that the values of constant a and b can easily determined by using following formula

$$a = \frac{\sum Y}{N}$$

$$b = \frac{\sum XY}{\sum X^2}$$

### **3.5.4 Diagrammatic and Graphical Representation**

Diagrams and graphs are visual aids that give a bird eye view of a given set of numerical data. They represent the data in simple and readily compromise form. Hence various bar diagrams, pie charts and graph have been used for presentation and analysis of data.

After highlighting the research methodology, the next chapter contains the presentation and analysis of data of concerned financial institution.

# **CHAPTER – I V**

## **DATA PRESENTATION AND ANALYSIS**

This section of research includes the conversion of collected raw data from various resources into an understandable presentation using financial as well as statistical tools supported by diagrams and graphs as mentioned in the previous chapter. This chapter of the thesis is main chapter as all the findings, conclusions and recommendations are going to be derived from the calculations and analysis done in this section.

### **4.1 Ratio Analysis between Different Variables**

Ratios help to summarize large quantities of financial data and to make quantitative judgment about the firm's financial performance. The relationship between two accounting figures expressed mathematically is known as financial ratio. Even though there are many ratios, only those ratios has been calculated which are related to the subject matter. Following ratios have been computed and analyzed in this study.

#### **4.1.1 Loan and Advance to Total Deposit Ratio**

This ratio is often called Credit Deposit ratio (CD ratio). The core banking function is to mobilize the funds obtained from the depositors to borrowers and earn profit and CD ratio is the fundamental parameter to ascertain fund deployment efficiency of commercial bank. In other words this ratio is calculated to find out how successfully the banks are utilizing their total deposits on credit of Loan and Advance for profit generating purpose. Greater CD ratio implies the better utilization of total deposits and better earning, however, liquidity requirements also needs due consideration. Hence 70%-80% CD ratio is

considered as appropriate. This ratio is calculated by dividing total credit of Loan and Advance by total deposit of the bank.

**Table: 4.1**  
**Loan and Advance to Total Deposit Ratio (In Rs. Million)**

	NBL					ADBL				
Year	Total Loan & Advances	Index	Total Deposit	Index	Ratio	Total Loan & Advances	Index	Total Deposit	Index	Ratio
2008-09	19,560.09	100.00	45,194.23	100.00	0.43	38,301.10	100.00	35,159.61	100.00	1.089
2009-10	25,052.35	128.08	42,882.04	94.88	0.58	39,582.87	103.35	32,472.57	92.36	1.219
2010-11	26,705.88	136.53	46,808.44	103.57	0.57	40,372.73	105.41	34,394.63	97.82	1.174
2011-12	29,698.86	151.83	56,052.37	124.03	0.53	44,988.37	117.46	43,264.09	123.05	1.04
2012-13	37,851.97	193.52	62,984.35	139.36	0.60	54,918.51	143.39	54,477.65	154.94	1.008
Mean	27,773.83		50,784.29		54.4	43,632.72		39,953.71		110.6
SD	6,732.14		8,457.18		6.73	6,794.52		9,107.11		8.89
CV (%)	24.24		16.65		12.40	15.57		22.79		8.04
	HBL					BOK				
Year	Total Loan & Advances	Index	Total Deposit	Index	Ratio	Total Loan & Advances	Index	Total Deposit	Index	Ratio
2008-09	25,519.52	100.00	34,682.31	100.00	0.74	14,945.72	100.00	18,083.98	100.00	0.83
2009-10	29,123.75	114.12	37,611.20	108.44	0.77	17,044.30	114.04	20,315.83	112.34	0.84
2010-11	32,968.27	129.19	40,920.63	117.99	0.81	17,956.95	120.15	21,018.42	116.23	0.85
2011-12	35,968.47	140.94	47,730.99	137.62	0.75	19,319.14	129.26	24,991.45	138.20	0.77
2012-13	41,057.40	160.89	53,072.32	153.02	0.77	23,049.53	154.22	27,700.99	153.18	0.83
Mean	32,927.48		42,803.49		76.86	18,463.13		22,422.13		82.50
SD	6,014.38		7,519.77		2.61	3,017.00		3,863.10		3.09
CV (%)	18.27		17.57		3.40	16.34		17.23		3.74

(Source: Appendix-1 & 2)

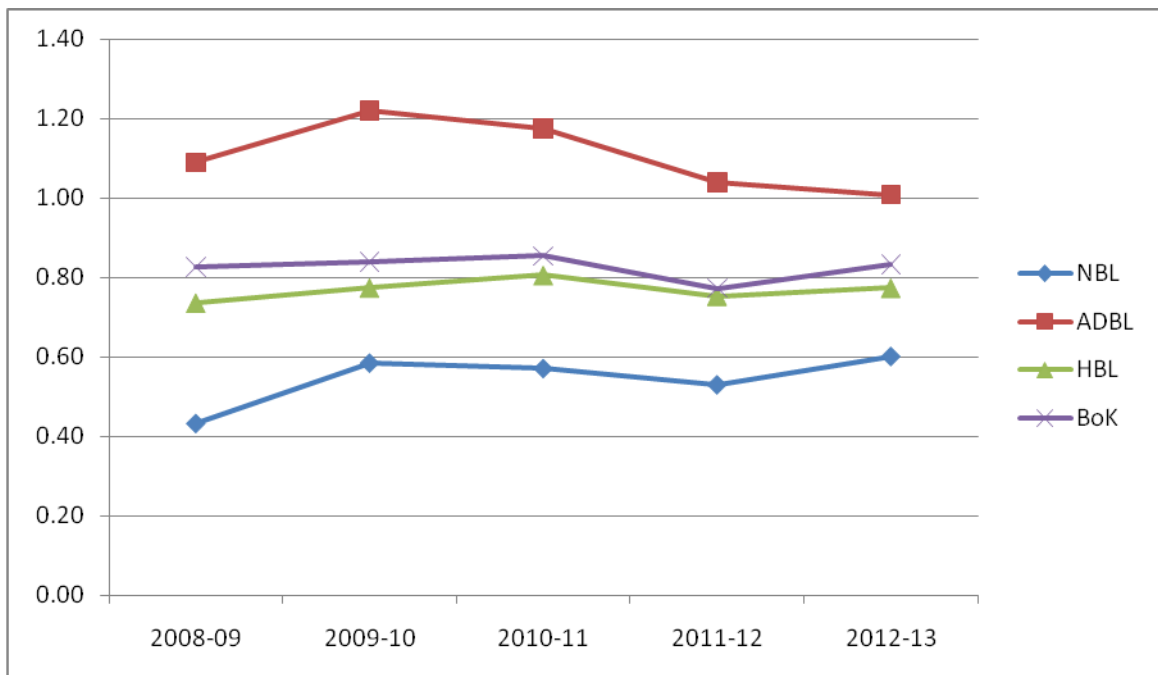
The table no. 4.1 shows the loan and advance to total deposit of four banks for consecutive five years starting from mid July 2008 to 2013. The ratio of the selected banks is fluctuating all over the observation period. The ratio of Nepal Bank was lowest in 2008-09 with just 43 percentage of total deposit being disbursed during the review period among the selected banks. Additionally ADBL has the highest ratio in 2009-10 when total lending was greater than total deposit collected by 7,110.3m among the selected banks. During the period the loan to deposit of Nepal banks has increased by almost 17 percentages with in review period which was highest increase in the loan to deposit ratio among the selected banks. At the same period HBL has gone through modest increase in the ratio with 3 percent while the lending ratio of ADBL has been slipped by 8 percent. The Bok has managed to maintain its ratio of 2008-09 in 2012-13 while going through fluctuations in mid periods.

As per the data of period containing the fiscal years within 2065-66 to 2069-70, the ADBL has the highest ratio of Loan & Advance to Total Deposit Ratio with ratio above 100% for the whole review period. In contrast to ADBL, Nepal Bank has the lowest ratio of Loan & Advance to Total Deposit with ratio fluctuating between 43 percentages to 60 percentages in the same period. The ratio was suddenly decreased in 2011-12 of all selected bank which might have been caused by the liquidity excess among the banks after the introduction of new rules to limit the loan to real sector.

The mean ratio is 54.40, 110.60, 76.86 and 82.50 of NBL, ADBL, HBL and BoK respectively. It states that Nepal bank could not meet the standard of C.D. ratio. Moreover the C.D. ratio of ADBL is highly greater than that of standard and C.D. ratio is above the 100 percent for the whole review period. For other two banks the standard of C.D. ration fits in.

The Himalayan bank has the lowest standard deviation rate in ratio of just 2.61 which shows lower level of variation in the ratio within the analysis period. In contrast to this the ratio was hugely volatile in ADBL with standard deviation of 8.89. Following figure no. 4.1 shows the loan and advance to total deposit ratio of NBL, ADBL, HBL and BoK.

**Figure: 4.1**  
**Loan and Advance to Total Deposit Ratio**



#### 4.1.2 Non-Performing Assets to Total Loan & Advances

This ratio is the proportion of non-performing Loan in the total loan portfolio. As per NRB directives the Loan falling under category of substandard, doubtful and loss are regarded as non-performing loan. Higher ratio implies the bad quality of assets of banks in the form of Loan and Advance. Hence lower NPL to total credit ratio is preferred. As per international standard only 5 % NPL is allowed.

**Table: 4.2****NPA to Total Loan and Advance Ratio (In millions)**

Year	NBL					ADBL				
	Non-Performing Assets	Index	Total Loan & Advances	Index	Ratio (%)	Non-Performing Assets	Index	Total Loan & Advances	Index	Ratio (%)
<b>2008-09</b>	1,485.14	100.00	19,560.09	100.00	7.59	5,443.25	100.00	38,301.10	100.00	14.21
<b>2009-10</b>	1,344.12	90.505	25,052.35	128.08	5.37	4,340.93	79.749	39,582.87	103.35	10.97
<b>2010-11</b>	1,534.85	103.35	26,705.88	136.53	5.75	3,628.56	66.662	40,372.73	105.41	8.99
<b>2011-12</b>	1,657.53	111.61	29,698.86	151.83	5.58	4,040.20	74.224	44,988.37	117.46	8.98
<b>2012-13</b>	1,982.32	133.48	37,851.97	193.52	5.24	3,212.60	59.02	54,918.51	143.39	5.85
<b>Mean</b>	1,600.79		27,773.83		5.90	4,133.11		43,632.72		9.80
<b>SD</b>	241.03		6,732.14		0.96	847.08		6,794.52		3.07
<b>CV (%)</b>	15.06		24.24		16.32	20.50		15.57		31.35

Year	HBL					BOK				
	Non-Performing Assets	Index	Total Loan & Advances	Index	Ratio (%)	Non-Performing Assets	Index	Total Loan & Advances	Index	Ratio (%)
<b>2008-09</b>	852.88	100.00	25,519.52	100.00	3.34	198.89	100.00	14,945.72	100.00	1.33
<b>2009-10</b>	1,208.12	141.65	29,123.75	114.12	4.15	259.52	130.48	17,044.30	114.04	1.52
<b>2010-11</b>	1,391.75	163.18	32,968.27	129.19	4.22	326.33	164.07	17,956.95	120.15	1.82
<b>2011-12</b>	751.16	88.07	35,968.47	140.94	2.09	443.39	222.93	19,319.14	129.26	2.30
<b>2012-13</b>	1,186.19	139.08	41,057.40	160.89	2.89	346.01	173.97	23,049.53	154.22	1.50
<b>Mean</b>	1,078.02		32,927.48		3.34	314.83		18,463.13		1.69
<b>SD</b>	266.73		6,014.38		0.89	92.38		3,017.00		0.38
<b>CV (%)</b>	24.74		18.27		26.80	29.34		16.34		22.39

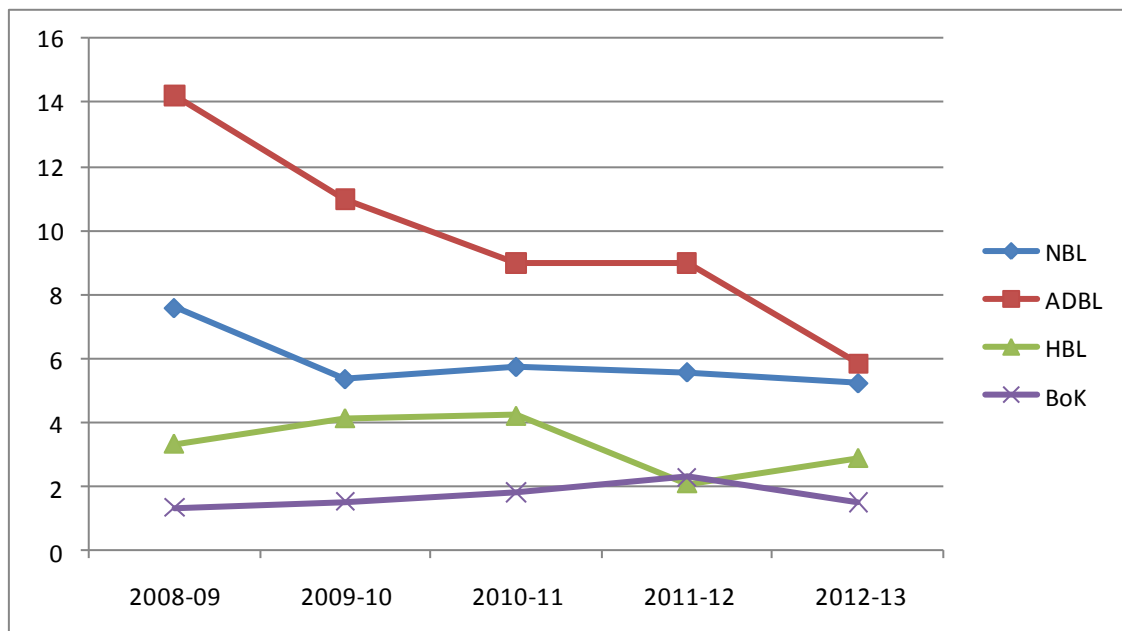
(Source: Appendix-1 &amp; 2)

The table no. 4.2 exhibits the ratio of non-performing loan to loan and advance of selected banks for five consecutive years. The figure presented in above table

shows that BoK has lowest ratio among the banks which was just 1.50 percent of total loan and advance in the year 2012-13. In contrast with BoK, the ADBL has the highest ratio of non-performing assets to total loan & advances ratio among the selected banks. The ratio has been decreased by 8.36% which is the highest decline in the ratio over the period among the selected banks. Except for Bank of Asia, the banks' ratio has been declined during the data analysis period. This overall decrease in the ratio is the result of effective credit management of banks and its efforts of recovering bad debts through establishment of recovery cell.

The mean values of the ratio of the banks are 5.90, 9.80, 3.34 and 1.69 percent of Nepal Bank, Agricultural Development Bank, Himalayan Bank and Bank of Kathmandu respectively. As per the mean value of the ratio the only the Himalayan Bank and Bank of Kathmandu's non-performing assets ratio are acceptable. Following figure no. 4.2 shows the NPA to Total Loan and Advance ratio.

**Figure: 4.2**  
**NPA to Total Loan and Advance Ratio**



### 4.1.3 Loan Loss Provision to Total Loan and Advance Ratio

This ratio describes the quality to assets in the form of Loan and Advance that a bank is holding. Since there is risk inherent in Loan and Advance, NRB has directed commercial banks to classify its Loan into different categories and accordingly to make provision for probable loss. Loan loss provision signifies the cushion against future contingency created by default of the borrower in payment of Loan and ensures the continued solvency of the banks. Since high provision has to be made for non-performing loan, higher provision for loan loss reflects increasing non-performing loan in volume of total Loan and Advance. It indicates how efficiently it manages loan and Advance and makes efforts to cope with probable loan loss. Higher ratio implies, higher portion of NPL in the total loan portfolio.

**Table: 4.3**  
**LLP to Loan and Advance Ratio (In Rs ‘Million’)**

Year	NBL					ADBL				
	Loan Loss Provision	Index	Total Loan & Advances	Index	Ratio (%)	Loan Loss Provision	Index	Total Loan & Advances	Index	Ratio (%)
2008-09	1,945.19	100.00	19,560.09	100.00	9.94	5,698.01	100.00	38,301.10	100.00	14.88
2009-10	1,491.40	76.67	25,052.35	128.08	5.95	5,705.91	100.14	39,582.87	103.35	14.42
2010-11	2,034.60	104.60	26,705.88	136.53	7.62	5,912.81	103.77	40,372.73	105.41	14.65
2011-12	2,028.02	104.26	29,698.86	151.83	6.83	5,561.32	97.60	44,988.37	117.46	12.36
2012-13	2,240.27	115.17	37,851.97	193.52	5.92	5,232.68	91.83	54,918.51	143.39	9.53
Mean	1,947.90		27,773.83		7.25	5,622.15		43,632.72		13.17
SD	277.41		6,732.14		1.66	251.32		6,794.52		2.27
CV (%)	14.24		24.24		22.90	4.47		15.57		17.22

Year	HBL					BOK				
	Loan Loss Provision	Index	Total Loan & Advances	Index	Ratio (%)	Loan Loss Provision	Index	Total Loan & Advances	Index	Ratio (%)
2008-09	726.36	100.00	25,519.52	100.00	2.85	298.42	100.00	14,945.72	100.00	2.00
2009-10	1,143.13	157.38	29,123.75	114.12	3.93	379.37	127.12	17,044.30	114.04	2.23
2010-11	1,401.29	192.92	32,968.27	129.19	4.25	488.76	163.78	17,956.95	120.15	2.72
2011-12	1,003.04	138.09	35,968.47	140.94	2.79	505.20	169.29	19,319.14	129.26	2.62
2012-13	1,333.59	183.60	41,057.40	160.89	3.25	493.61	165.41	23,049.53	154.22	2.14
Mean	1,121.48		32,927.48		3.41	433.07		18,463.13		2.34
SD	271.06		6,014.38		0.65	90.81		3,017.00		0.31
CV (%)	24.17		18.27		19.12	20.97		16.34		13.37

(Source: Appendix-1 & 2)

Every bank has to provision at least 1 percent of the total amount of loan disbursed above which the rate and criteria is defined by Nepal Rastra Bank. So it is obvious to increase the loan loss provision with the increase in the total loan and advances in amount value.

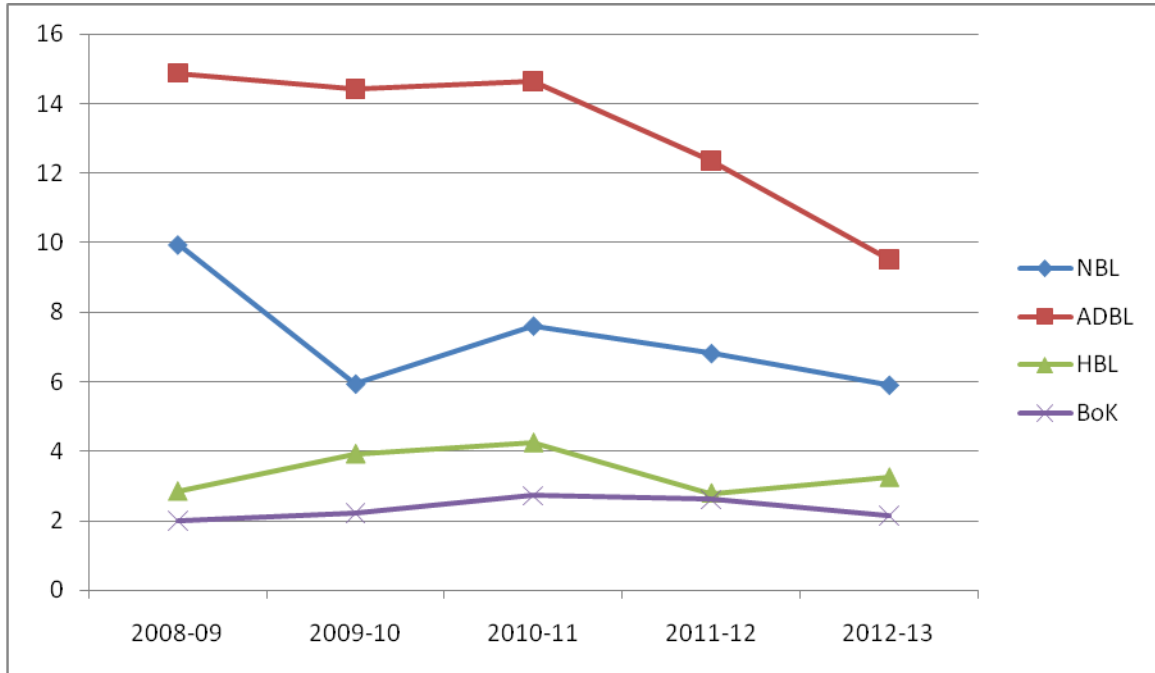
However we have seen the value of Loan Loss provision increasing in higher rate than that of the total loan and advances. The index of loan loss provision increased to 183.60 and 165.41 while the index of total loan and advances has just increased to 160.89 and 154.22 of Himalayan Bank and Bank of Kathmandu respectively. This analysis was also supported by the loan loss provision to total loan and advances ratio of the respective banks which were increased from 2.85 and 2 percent to 3.25 and 2.14 percent for HBL & BoK respectively. This increase in the ratio shows the increasing inefficiency of the banks while disbursing the loans and some of the increase in loan loss provision was caused by the mandatory rule to provision the pass loan by 1 percent of the loan amount.

In contrast with the HBL and BoK, the NBL and ADBL were successful to reduce their loan loss provision to total loan and advances ratio. These two banks were run in deep trouble due to the high level of non-performing assets and non banking assets. But after handover of the banks' management to private companies under the turn-key operation their performance has been notably changed. The decreasing index of ADBL to 91.83 percent while total loan and advances' index increased to 143.39 is a evidence of the banks' improved efficiency in the credit lending and other relevant policies. In the same way the index of the Nepal Bank' loan loss provision was increased by just 15.17 percent while the total loan and advances were increased by 93.52 percent during the analysis period. However the high level of the standard deviation shows quite instability in credit management in coming days for these two banks.

In sum the NBL and ADBL were improving in their credit lending and policies at the same time HBL and BOK needs to focus to stabilize in their current ratios and tighten their credit policies to noose the willful defaulters and non performing assets.

**Figure: 4.3**

**Loan Loss Provision to Loan and Advance Ratio**



#### **4.1.4 Loan Loss Provision to Non-Performing Loan Ratio**

This ratio determines the proportion of provision held to non-performing loan of the bank. This ratio measures up to what extent of risk inherent in NPL is covered by the total loan loss provision. As per the direction of NRB, each bank has kept 1% of the pass loan 25% of sub standard loan, 50% of doubtful loan & 100% of loss loan provision. Higher ratio signifies that the banks are safeguarded against future contingencies that may create due to non-performing loan or in other words banks have cushion of provision to cope the problem that may be caused due to NPL. Although high level of loan loss provision give negative impact in the profitability of bank but to meet future contingent liabilities higher the ratio could take a better signal.

**Table: 4.4**  
**LLP to NPA Ratio (In Rs ‘Million’)**

Year	NBL					ADBL				
	Loan Loss Provision	Index	Non-Performing Assets	Index	Ratio (%)	Loan Loss Provision	Index	Non-Performing Assets	Index	Ratio (%)
2008-09	1,945.19	100.00	1,485.14	100.00	130.98	5,698.01	100.00	5,443.25	100.00	104.68
2009-10	1,491.40	76.67	1,344.12	90.50	110.96	5,705.91	100.14	4,340.93	79.75	131.44
2010-11	2,034.60	104.60	1,534.85	103.35	132.56	5,912.81	103.77	3,628.56	66.66	162.95
2011-12	2,028.02	104.26	1,657.53	111.61	122.35	5,561.32	97.60	4,040.20	74.22	137.65
2012-13	2,240.27	115.17	1,982.32	133.48	113.01	5,232.68	91.83	3,212.60	59.02	162.88
Mean	1,947.90		1,600.79		121.97	5,622.15		4,133.11		139.92
SD	277.41		241.03		9.94	251.32		847.08		24.37
CV (%)	14.24		15.06		8.15	4.47		20.50		17.42

Year	HBL					BOK				
	Loan Loss Provision	Index	Non-Performing Assets	Index	Ratio (%)	Loan Loss Provision	Index	Non-Performing Assets	Index	Ratio (%)
2008-09	726.36	100.00	852.88	100.00	85.17	298.42	100.00	198.89	100.00	150.04
2009-10	1,143.13	157.38	1,208.12	141.65	94.62	379.37	127.12	259.52	130.48	146.18
2010-11	1,401.29	192.92	1,391.75	163.18	100.69	488.76	163.78	326.33	164.07	149.77
2011-12	1,003.04	138.09	751.16	88.07	133.53	505.20	169.29	443.39	222.93	113.94
2012-13	1,333.59	183.60	1,186.19	139.08	112.43	493.61	165.41	346.01	173.97	142.66
Mean	1,121.48		1,078.02		105.29	433.07		314.83		140.52
SD	271.06		266.73		18.63	90.81		92.38		15.16
CV (%)	24.17		24.74		17.70	20.97		29.34		10.79

(Source: Appendix-1 & 2)

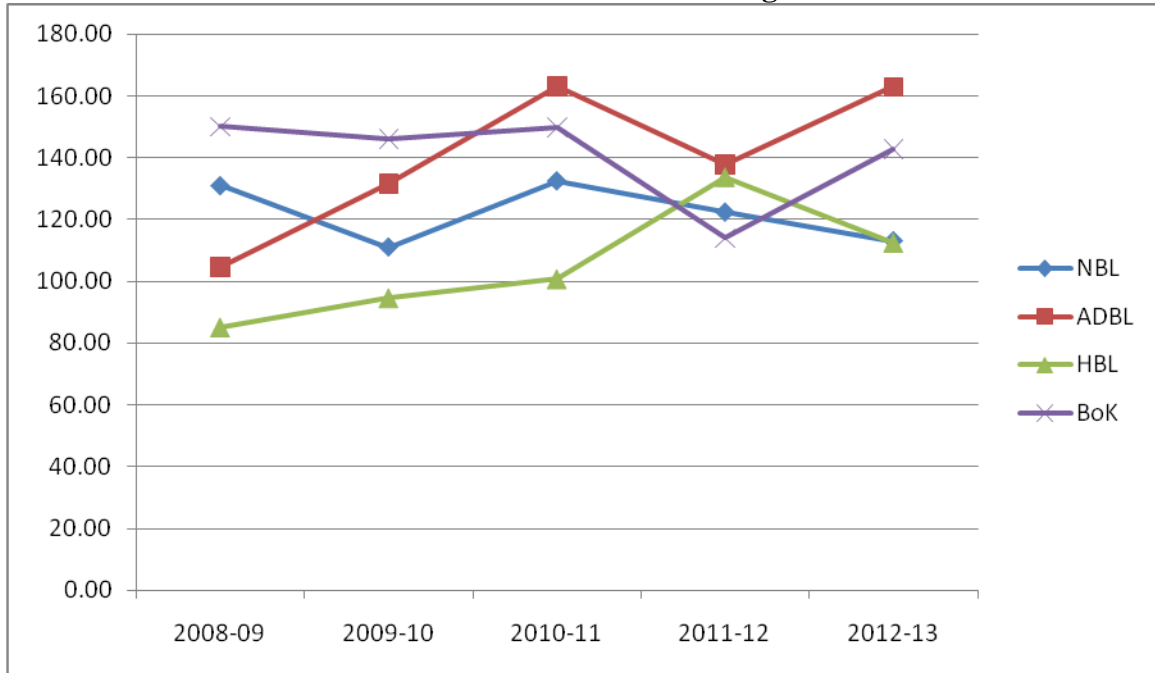
The table 4.4 exhibits the ratio of provision held to non-performing loan of NBL, ADBL, HBL and BoK for the consecutive five years. The figure represented above table shows that the ratio is highest of ADBL in 2012-13 which is 162.88 percent. The ratio of ADBL and HBL was increased from 104.68 and 85.17 to 162.88 and 112.43 respectively for the review period. At the same period, however the ratio was declined from 130.98 and 150.04 to 113.01 and 142.66 for the NBL and BoK respectively. Although the amount for the BoK was smaller, this is not a good indication for the financial health of the banks as the banks have decreased the provision which guards against the possible future loss form default of the debt.

An exception here again is in the case of the ADBL where the Non-performing assets have been declined by 40.08 percent for the period which saw decline in provision by just 8.17 percent. The high level of decline of the non-performing assets is indication of the highly improved efficiency of the debt recovery cell and tightened credit policy. Again the standard deviation (24.37%) is also high for the ADBL amongst the selected banks as the non-performing assets has been decreased by more than 40 percent during the review period and NBL is with the lowest standard deviation (9.94%) of the ratio among these four banks.

Again the mean of the ratio LLP to NPA is lowest (105.29%) of the Himalayan Bank which shows the provisioning just above the non-performing assets of the bank making the bank more vulnerable to the future possible losses. And with ratio of 140.52 percent the Bank of Kathmandu remains at top of the table for maintaining the high level of safeguard against the future contingencies that may arise due to sudden increase in the non-performing loan.

**Figure: 4.4**

**Loan Loss Provision to Non- Performing Loan Ratio**



#### **4.1.5 Net Profit to Loan Loss Provision**

This ratio shows the relationship of net profit with loan loss provision of the company. It shows that how is the provision of unproductive (non-performing) loan's portion in company's net profit. Higher non-performing assets pull higher value on its provision and higher provisions push its net profit below. So net profit and non performing assets are directly related. This ratio is calculated by dividing net profit of the bank by total LLP. Net profit refers to that profit which is obtained after all types of deduction like employee's bonus, tax, provision etc. Hence this ratio measures bank's profitability with respect loan loss provision. Higher the ratio shows the better performance of the bank.

**Table: 4.5**  
**Net Profit to LLP Ratio (Rs. 'Million')**

	NBL					ADBL				
Year	Net Profit	Index	Loan Loss Provision	Index	Ratio (%)	Net Profit	Index	Loan Loss Provision	Index	Ratio (%)
<b>2065-66</b>	894.25	100.00	1,945.19	100.00	45.97	1,057.60	100.00	5,698.01	100.00	18.56
<b>2066-67</b>	249.38	27.89	1,491.40	76.67	16.72	1,892.39	178.93	5,705.91	100.14	33.17
<b>2067-68</b>	128.35	14.35	2,034.60	104.60	6.31	2,365.48	223.66	5,912.81	103.77	40.01
<b>2068-69</b>	176.36	19.72	2,028.02	104.26	8.70	1,839.92	173.97	5,561.32	97.60	33.08
<b>2069-70</b>	755.18	84.45	2,240.27	115.17	33.71	2,289.32	216.46	5,232.68	91.83	43.75
<b>Mean</b>	440.70		1,947.90		22.28	1,888.94		5,622.15		33.71
<b>SD</b>	356.60		277.41		17.05	519.84		251.32		9.63
<b>CV (%)</b>	80.92		14.24		76.51	27.52		4.47		28.55
	HBL					BOK				
Year	Net Profit	Index	Loan Loss Provision	Index	Ratio (%)	Net Profit	Index	Loan Loss Provision	Index	Ratio (%)
<b>2065-66</b>	752.83	100.00	726.36	100.00	103.64	461.73	100.00	298.42	100.00	154.73
<b>2066-67</b>	508.80	67.58	1,143.13	157.38	44.51	509.26	110.29	379.37	127.12	134.24
<b>2067-68</b>	893.12	118.63	1,401.29	192.92	63.74	605.15	131.06	488.76	163.78	123.81
<b>2068-69</b>	958.64	127.34	1,003.04	138.09	95.57	607.66	131.60	505.20	169.29	120.28
<b>2069-70</b>	943.70	125.35	1,333.59	183.60	70.76	617.09	133.65	493.61	165.41	125.02
<b>Mean</b>	811.42		1,121.48		75.65	560.18		433.07		131.62
<b>SD</b>	187.65		271.06		24.06	70.36		90.81		13.91
<b>CV (%)</b>	23.13		24.17		31.81	12.56		20.97		10.57

(Source: Appendix-1 & 2)

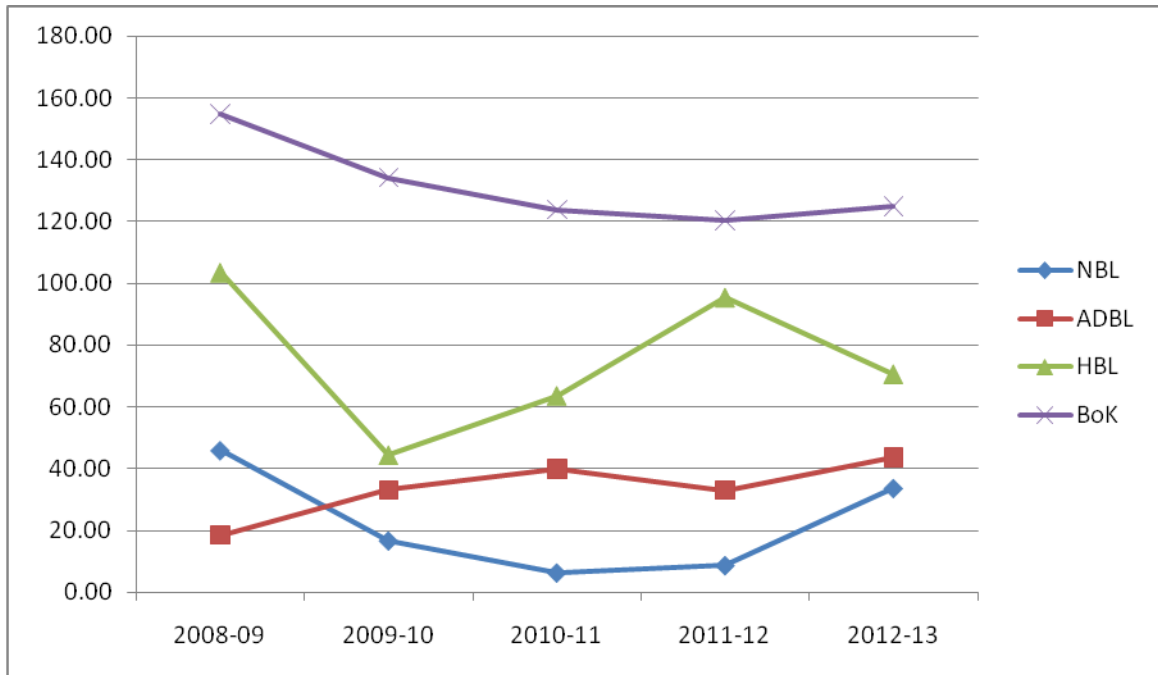
The table no. 4.5 exhibits the ratio of net profit to loan loss provision of NBL, ADBL, HBL and BoK for five consecutive years starting from mid July of 2008-

09. As per the data presented in above table, the ratio is highest of BoK with 125.02 percent of net profit against loan loss provision followed by HBL, ADBL and NBL with the ratio of 70.76, 43.75 and 33.71 respectively. As per the data presented, the net profit of BoK was increased by 33.65 percent while the loan loss provision while the loan loss provision was increased by 65.41 percent which is reflected in the ratio which fall to 125.02 in 2012-13 from 154.73 percent in 2008-09. This is the indication of the company's decreasing efficiency of the credit management. Similarly the net profit to loan loss provision of NBL and HBL also has fluctuated and fallen then at the beginning of the review period.

In contrast with other 3 banks the ADBL's ratio of net profit to loan loss provision has increased from 18.56 to 43.75 percent. The increase in ratio is due to the huge increase in the profit of ADBL i.e. 116.46 percent while the loan loss provision has been decreased by 8.17 percent. This increase in the net profit and the ratio indicates the improved performance of the bank and the tightened credit policy.

The standard deviation of the ratio shows the possibility of the variability of ratio. Here the ADBL has the lowest level of standard deviation (9.63%) amongst the selected banks followed by the BoK (13.91%), NBL (17.05%) and HBL (24.06%). Following figure no. 4.5 shows the net profit to loan loss provision ratio in chart.

**Figure 4.5**  
**Net Profit to Loan Loss Provision Ratio**



## 4.2 Correlation Analysis

The correlation analysis generally used to describe the relationship between two variables. In statistics it is used in order to depict the covariance between two or more variables (dependent & non dependent variable). It helps to determine whether;

- positive or negative relation exist
- relation is significant or not.
- establish cause and relation if any

The statistical tool, 'correlation analysis' is preferred in this study to identify relationship between loan & advance and deposit, loan loss provision and loan and advance, NPA and Net profit, whether the relation is significant or not.

### 4.2.1 Correlation between Total Deposit and Loan & Advance

Deposit is one of the major items of liability side and Loan and Advance is the major item of the asset side of balance sheet of bank. The correlation coefficient between Loan and Advance and deposit describes the degree of relationship between these two variables. Here deposit is the independent variable and Loan and Advance is dependent variable. Hence how a unit increase in deposit impact in the volume of Loan and Advance is exhibited by this correlation coefficient.

**Table: 4.6**  
**Correlation between Total Deposit and Loan and Advance**

<b>Bank</b>	<b>Correlation Coefficient (r)</b>	<b>Probable Error (P.E.)</b>	<b>6*P.E.</b>
<b>NBL</b>	0.8991	0.0578	0.3468
<b>ADBL</b>	0.9793	0.0124	0.0743
<b>HBL</b>	0.9856	0.0086	0.0517
<b>BoK</b>	0.9732	0.0160	0.0959

(Source: Appendix- 3)

The table shows the correlation coefficient, probable error and six times value of P.E. of two banks for loan and advance and deposit. It shows there is highly positive correlation between loan and advance and deposit of NBL, ADBL, HBL and BoK. The respective value of correlation coefficient of NBL, ADBL, HBL and BoK is 0.8991, 0.9793, 0.9856, and 0.9732 respectively which are greater than six times value of P.E. hence it can be concluded that correlation between these two variables in these banks are significant. It means increment in volume of deposit leads to increment in loan and advance. However the deposit and loan and advance of NBL have lower degree of relationship in comparison to other three banks.

#### 4.2.2 Correlation between Loan & Advance and Non Performing Assets

The correlation between NPA and loan and Advance shows the degree of relationship between these two items. How a unit of increment in Loan and Advance affects the non performing loan measured by this correlation. Here Loan and Advance is independent variable and NPA is dependent variable.

**Table 4.7**

**Correlation between Loan and Advance & Non Performing Assets**

<b>Bank</b>	<b>Correlation Coefficient (r)</b>	<b>Probable Error (P.E.)</b>	<b>6*P.E.</b>
<b>NBL</b>	0.8741	0.0712	0.4272
<b>ADBL</b>	-0.7252	0.1430	0.8579
<b>HBL</b>	0.1669	0.2932	1.7594
<b>BoK</b>	0.6580	0.1710	1.0263

(Source: Appendix- 3)

The data presented in above table explains that the relationship between loan and advance and loan loss provision. From above data we can explain that the correlation of loan and advance & non-performing loan of NBL is highly positively correlated. At the same time the six times the value of probable error is lower than the correlation coefficient verifying the relation as significant. The relation between loan and advance with non-performing loan of BoK is moderately positively correlated with correlation coefficient of 0.6580 and the relation of same variables of the HBL is positively correlated with the value of 0.1669. Here the six times value of probable error of the BoK and HBL is greater than the value of corresponding banks correlation coefficient making the correlation insignificant.

However the correlation coefficient between loan and advance and non performing loan of ADBL is highly negatively correlated, which means increase in loan and

advance would have opposite effect on non-performing loan i.e. decreases the value of non-performing loan which is unusual to happen. Here the ADBL has gone through the credit default in recent past and now under new management it has been performing well which was reflected in data with decline in the non-performing assets while increase in the total loan and assets. In addition the six times the probable error figure is higher than the correlation value for ADBL which makes the correlation coefficient insignificant.

### 4.2.3 Correlation between Non Performing Assets and Loan Loss Provision

The correlation between LLP and non performing loan describes the relationship between LLP and NPA. How a unit increases in NPA affects the LLP is exhibited by this correlation. Here non performing asset is independent variable and LLP is dependent variable. As earlier mentioned NPA are the loan falling on the category of substandard, doubtful and bad loan and the respective provisioning requirement is 25%, 50% and 100%. Higher the NPA higher will be the provisioning amount.

**Table: 4.8**  
**Correlation between Non-Performing Assets and Loan Loss Provision**

Bank	Correlation Coefficient (r)	Probable Error (P.E.)	6*P.E.
NBL	0.8520	0.0827	0.4962
ADBL	0.3926	0.2552	1.5309
HBL	0.8341	0.0918	0.5508
BoK	0.9055	0.0543	0.3259

(Source: Appendix- 3)

The table presented above exhibits the relationship between loan loss provision and the non-performing assets. Here except for ADBL other 3 banks have positive

correlation. The correlation coefficient of NBL, HBL and BoK are 0.8520, 0.8341 and 0.9055 respectively. This shows the positive perfect correlation between non-performing loan and the loan loss provision of these three banks. The probable error and six times probable error are also lower than the correlation coefficient of these banks which suggests that the correlation coefficient is significant.

The correlation coefficient of ADBL was just 0.3926 which show positive correlation between non-performing assets and loan loss provision. Generally the NPA and LLP would have highly positive correlation however in case of ADBL it is not so because the non-performing assets has declined by 40.98 percent while the loan loss provision decreased with just 8.17 percent within the review period. The probable error of ADBL is 0.2552 which is lower than correlation coefficient however the 1.5309 value of the six times probable error is more than the value of the correlation coefficient which suggests the relation as insignificant.

#### **4.2.4 Correlation between Loan Loss Provision and Net Profit**

The correlation between Net profit and loan loss provision describes the relationship between net profits and the loan loss provision. Although increasing or decreasing of LLP decreased and increased in total profit. So net profit & LLP has negative relation but some time due to the major effect of other factors in net profit the effect of LLP became less. Here net profit is dependent and LLP is independent variable.

**Table: 4.9**

**Correlation between Loan Loss Provision and Net Profit**

<b>Bank</b>	<b>Correlation Coefficient (r)</b>	<b>Probable Error (P.E.)</b>	<b>6*P.E.</b>
<b>NBL</b>	0.3280	0.2692	1.6151
<b>ADBL</b>	-0.1478	0.2951	1.7704
<b>HBL</b>	0.2461	0.2834	1.7002
<b>BoK</b>	0.9925	0.0045	0.0269

(Source: Appendix- 3)

The table presented above shows the correlation coefficient between the loan loss provision and net profit. Except for the ADBL, the other three banks namely NBL, HBL and BoK have the positive correlation between LLP and Net profit. The correlation coefficient of NBL is 0.3280 with probable error 0.2692 and six times P.E. 1.6151 which shows positive correlation which is insignificant. Again the correlation of HBL is 0.2461 while its probable error is 0.2834 and the six times P.E is 1.7002 which also shows the positive but insignificant relationship. The BoK with 0.9925 value of correlation coefficient and 0.0045 value of P.E. and 0.0269 value of six times of P.E. exhibits the perfectly positive correlation with significant value. The relationship between the loan loss provision and net profit is supposed to be negative however due to the other significant factors like operational efficiency and/or increase in other services' contribution in profit the correlation coefficient of NBL, HBL and BoK is positive.

The ADBL, in contrast, has the positive correlation coefficient with the LLP and net profit. Here the value of correlation coefficient is (-0.1478) which is negative correlation. The negative correlation describes the relation where the increase in one variable means/causes decrease in another variable. The value of probable

error is 0.2951 and the six times value of probable error is 1.7704 which shows the insignificant relationship between loan loss provision and the net profit.

### **4.3 Trend Analysis**

Trend analysis is a statistical tool, which helps to forecast the future values of different variables on the basis of past tendencies of variable. Trend analysis informs about the expected future values of various variables. Amongst the various methods to determine trend the least square method is widely used in practices. Hence in this study also least square method has been adopted to measure the trend behaviors of these selected banks. However, trend analysis is based on the assumption that past tendencies continues in the future. Under this heading the effort has been made to calculate trend values of following variables from mid July 2008 to mid July 2013.

#### **4.3.1 Trend Analysis of Loan and Advance**

Assuming value of loan and advance as a depending variable (Y) and time variable, year in non depending variable (X), Values of average Loan and Advance (a) is constant value & changes rate of Loan and Advance (b) and trend values of Loan and Advance of two banks for seven years from mid July 2008/09 to mid July 2014/15 are as follows.

**Table: 4.10****Trend Values of Loan and Advance (In Rs ‘Million’)**

Fiscal Year	Year (X)	NBL (Y)		ADBL (Y)		HBL (Y)		BoK (Y)	
		a=15,404.75 b=4,123.03	Annual % Change	a=32,040.62 b=3,864.03	Annual % Change	a=21,551.34 b=3,792.05	Annual % Change	a=12,918.39 b=1,848.25	Annual % Change
2008-09	1	19,527.78	-	35,904.65	-	25,343.39	-	14,766.64	-
2009-10	2	23,650.81	21.11	39,768.69	10.76	29,135.44	14.96	16,614.88	12.52
2010-11	3	27,773.83	17.43	43,632.72	9.72	32,927.48	13.02	18,463.13	11.12
2011-12	4	31,896.86	14.85	47,496.75	8.86	36,719.53	11.52	20,311.37	10.01
2012-13	5	36,019.88	12.93	51,360.78	8.14	40,511.58	10.33	22,159.62	9.10
2013-14	6	40,142.91	11.45	55,224.81	7.52	44,303.63	9.36	24,007.86	8.34
2014-15	7	44,265.93	10.27	59,088.84	7.00	48,095.67	8.56	25,856.11	7.70
<b>Mean</b>			14.67		8.66		11.29		9.80
<b>S.D.</b>			6.66		3.52		4.79		4.05

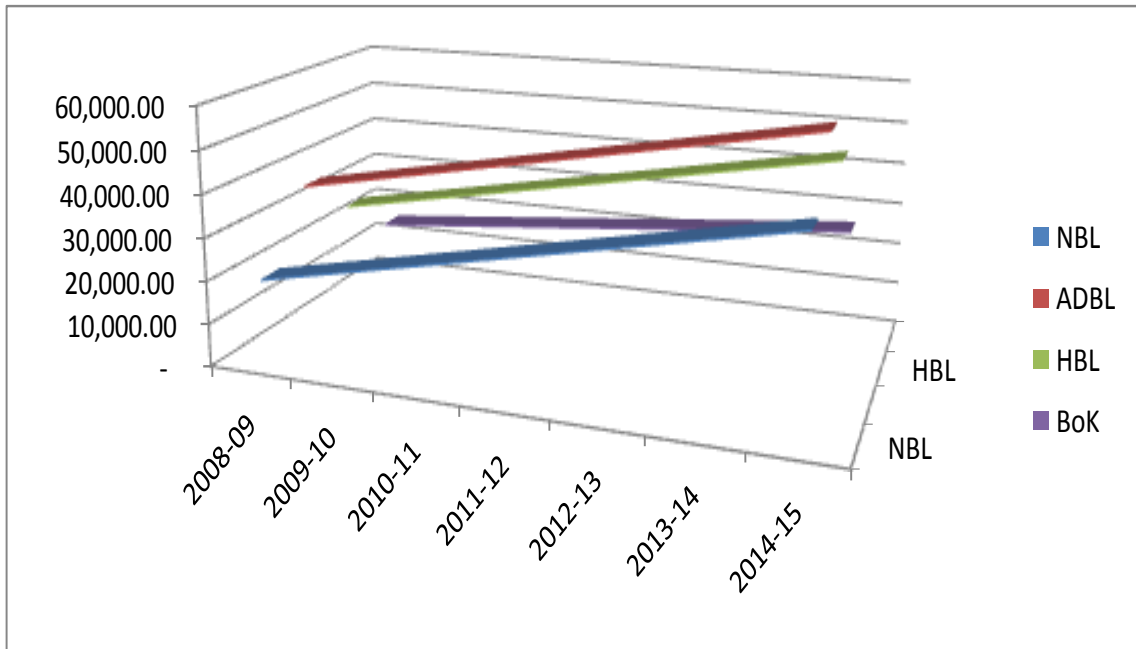
(Source: Appendix- 4)

The table no. 4.10 shows that all four banks have the increasing trend of loan and advance. The trend line of loan and advance shows fluctuating trend during the analysis period. Hence expected loan and advance of NBL is supposed to increase from NRs. 19,527.78m in 2009 to 44,265.93m in 2015. Similarly the loan and advance trend of ADBL, HBL and BoK are expected to rise from 35,904.65m, 25,343.39m and 14,766.64m in 2009 to 59,088.84m, 48,095.67m and 25,856.11m in 2015 respectively.

The data presented above makes it clear that the loan and advance is going rise in coming fiscal year too, however the trend of increase is in decreasing way. This means the loans and advances will increase in coming year but in less than the value of growth till now. The mean value of NBL is highest among the selected

banks with the increase percent of 14.67 and the HBL, BoK and ADBL has the mean trend as 11.29 percent, 9.80 percent and 8.66 percent respectively. Following figure no. 4.6 represents the trend line of loan and advance of selected four banks for seven consecutive years.

**Figure: 4.6**  
**Trend of Loan and Advance**



### 4.3.2 Trend Analysis of Non Performing Assets

The calculated values of average Non Performing Assets (a), rate of change of NPL (b) and trend values of NPL for next 7 years from mid July 2008/09 to mid July 2014/15 are as follows:

**Table: 4.11****Trend Value of Non-Performing Assets (In Rs ‘Million’)**

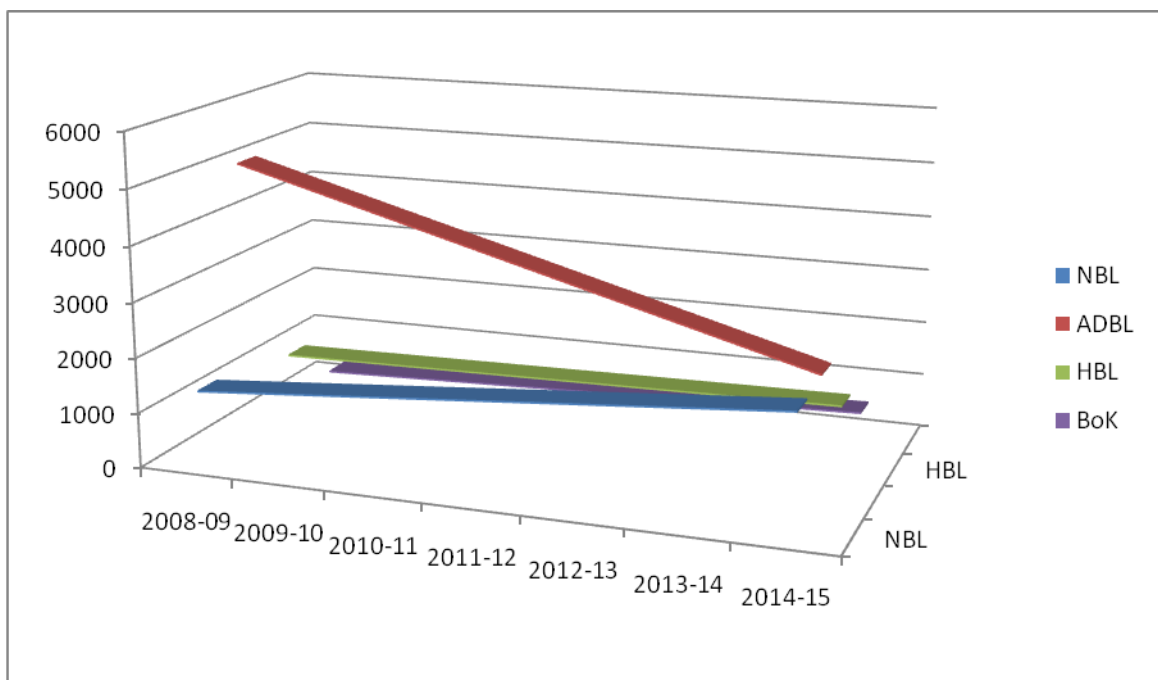
<b>Fiscal Year</b>	<b>Year (X)</b>	<b>NBL (Y) a=1,208.46 b=130.78</b>	<b>Annual % Change</b>	<b>ADBL (Y) a=5,561.71 b=(476.20)</b>	<b>Annual % Change</b>	<b>HBL (Y) a=1,015.12 b=20.97</b>	<b>Annual % Change</b>	<b>BoK (Y) a=171.40 b=47.81</b>	<b>Annual % Change</b>
<b>2008-09</b>	1	1,339.24	-	5,085.51	-	1,036.09	-	219.21	-
<b>2009-10</b>	2	1,470.01	9.77	4,609.31	(9.36)	1,057.05	2.02	267.02	21.81
<b>2010-11</b>	3	1,600.79	8.90	4,133.11	(10.33)	1,078.02	1.98	314.83	17.91
<b>2011-12</b>	4	1,731.57	8.17	3,656.90	(11.52)	1,098.99	1.94	362.64	15.19
<b>2012-13</b>	5	1,862.35	7.55	3,180.70	(13.02)	1,119.95	1.91	410.45	13.18
<b>2013-14</b>	6	1,993.12	7.02	2,704.50	(14.97)	1,140.92	1.87	458.26	11.65
<b>2014-15</b>	7	2,123.90	6.56	2,228.30	(17.61)	1,161.89	1.84	506.07	10.43
<b>Mean</b>			7.99		(12.80)		1.93		15.03
<b>S.D.</b>			3.21		5.60		0.73		6.88

(Source: Appendix- 4)

The table presented above shows the trend value of non-performing assets of NBL, ADBL, HBL and BoK for seven consecutive years starting from the fiscal year 2008-09 to 2014-15. The value non-performing loans of Nepal Bank, Himalayan Bank and Bank of Kathmandu were in increasing trend and the Agriculture Development Bank’s Non-performing loan is on decreasing trend which is expected to decrease from 5,085.51 in 2008-09 to 2,228.30 in 2014-15. The constant value (average NPA) of NBL is NRs. 1,208.46m which is expected to increase by 130.78m every year. Similarly the average NPA of HBL and BoK are NRs. 1,015.12m and 171.40m with expectation of increase by NRs. 20.97m and 47.81m annually respectively. However the constant/average value of ADBL is NRs. 5,561.71 which is expected to decrease by 476.20m every year.

Again the mean value of the corresponding banks' annual increase/decrease in the non performing assets shows the average value of fluctuation on the non performing assets which is 7.99%, (12.80%), 1.93% and 15.03% for NBL, ADBL, HBL and BoK respectively. The increase in the expected non-performing assets is a bad sign to the bank which shows the poor management of the credit by the banks except ADBL which has negative growth rate. One good sign is that though the non-performing assets are increasing the value of growth is decreasing annually. In other words the NPL is increasing in decreasing rate. The following figure no. 4.7 shows the trend line of non -performing assets of selected banks.

**Figure: 4.7**  
**Trend of Non Performing Assets**



### 4.3.3 Trend Analysis of Loan Loss Provision

The calculated values of average loan loss provision (a) rate of change of LLP (b) and trend values of LLP for seven years from mid July 2008/09 to mid July 2014/15 of the selected banks are as follows:

**Table: 4.12**

**Trend Value of Loan Loss Provision (In Rs. 'Million')**

Fiscal Year	Year (X)	NBL (Y)		ADBL (Y)		HBL (Y)		BoK (Y)	
		a=1,609.86 b=112.68	Annual % Change	a=5,944.72 b=(107.52)	Annual % Change	a=799.17 b=107.44	Annual % Change	a=278.21 b=51.62	Annual % Change
2008-09	1	1,722.54	-	5,837.20	-	906.61	-	329.83	-
2009-10	2	1,835.22	6.54	5,729.67	(1.84)	1,014.05	11.85	381.45	15.65
2010-11	3	1,947.90	6.14	5,622.15	(1.88)	1,121.48	10.59	433.07	13.53
2011-12	4	2,060.57	5.78	5,514.62	(1.91)	1,228.92	9.58	484.69	11.92
2012-13	5	2,173.25	5.47	5,407.10	(1.95)	1,336.36	8.74	536.31	10.65
2013-14	6	2,285.93	5.18	5,299.57	(1.99)	1,443.79	8.04	587.93	9.63
2014-15	7	2,398.60	4.93	5,192.05	(2.03)	1,551.23	7.44	639.55	8.78
<b>Mean</b>			5.67		(1.93)		9.37		11.69
<b>S.D.</b>			2.21		0.73		3.85		5.00

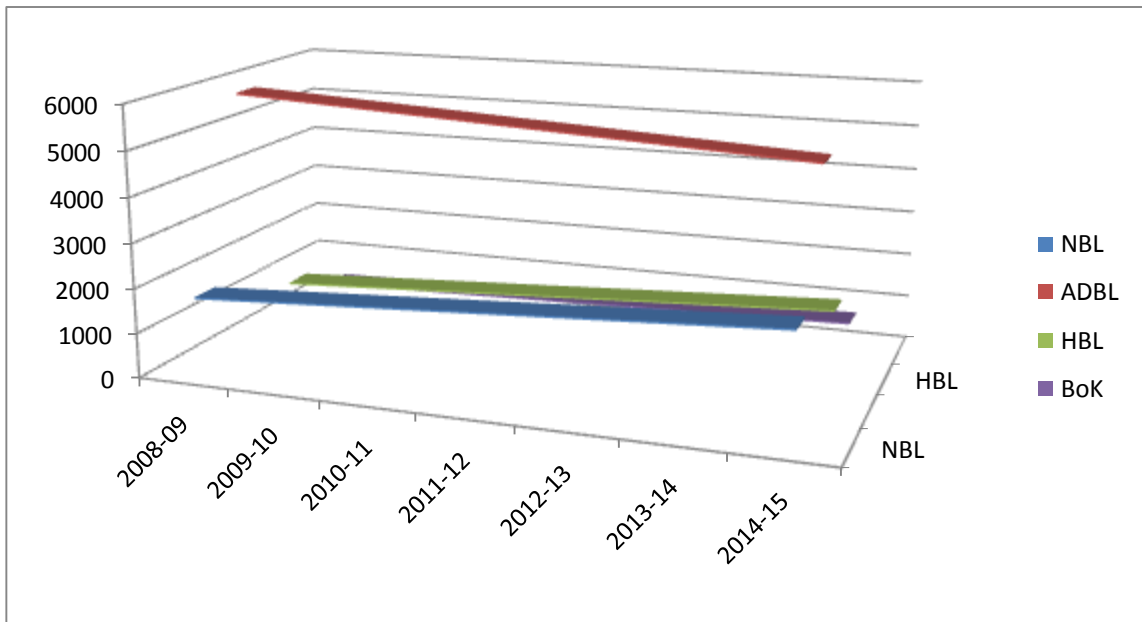
(Source: Appendix- 4)

The table no. 4.12 shows the trend value of loan loss provision of Nepal Bank, Agriculture Development Bank, Himalayan Bank and Bank of Kathmandu for the seven years starting from mid July of 2008 to Mid July of 2015. The constant value represented by a and the value of the slope of the trend line represented by b is given in the table. As per the table the loan loss provision for the banks NBL, HBL and BoK has been in increasing in decreasing trend while the trend of LLP of ADBL is in Decreasing in increasing trend. The value of constant a for the

banks NBL, HBL and BoK are 1,609.86m, 799.17m and 278.21m with the value of slope b as NRs. 112.68m, 107.44m and 51.62m respectively.

The mean value of the annual percentage change shows the average value of change in LLP of above selected banks. The mean value of 5.67%, 9.37% and 11.69% of NBL, HBL and BoK shows the value of these banks' LLP is averagely moving by those numbers for the analyzed period. The negative mean of the ADBL with the value (1.93%) shows the decreasing trend of the LLP in respective bank for the analysis period which is the sign of good management of the credit by ADBL. In contrast with ADBL other banks' increasing trend of the LLP shows the inefficient credit lending policies. However as the loans and advances were increasing in all of the banks the increase in the LLP might have been caused by the mandatory requirement of NRB to provision at least 1 percent for the pass loans. The following figure no. 4.8 shows the trend line of LLP of these selected four banks for consecutive 7 years.

**Figure: 4.8**  
**Trend of Loan Loss Provision**



### 4.3.4 Trend Analysis of Net Profit

The calculated values of average Net Profit (a), rate of change of Net Profit (b) and trend values for seven years from mid July 2008/09 to mid July 2014/15 of the selected four banks are as follows:

**Table: 4.13**  
**Trend Value of Net Profit (In Rs. ‘Million’)**

Fiscal Year	Year (X)	NBL (Y) a=546.06 b=(35.12)	Annual % Change	ADBL (Y) a=1,165.65 b=241.10	Annual % Change	HBL (Y) a=561.95 b=83.16	Annual % Change	BoK (Y) a=437.45 b=40.91	Annual % Change
2008-09	1	510.94	-	1,406.75	-	645.10	-	478.36	-
2009-10	2	475.82	(6.87)	1,647.84	17.14	728.26	12.89	519.27	8.55
2010-11	3	440.70	(7.38)	1,888.94	14.63	811.42	11.42	560.18	7.88
2011-12	4	405.59	(7.97)	2,130.04	12.76	894.57	10.25	601.09	7.30
2012-13	5	370.47	(8.66)	2,371.14	11.32	977.73	9.30	642.00	6.81
2013-14	6	335.35	(9.48)	2,612.24	10.17	1,060.89	8.51	682.91	6.37
2014-15	7	300.24	(10.47)	2,853.33	9.23	1,144.04	7.84	723.82	5.99
<b>Mean</b>			(8.47)		12.54		10.03		7.15
<b>S.D.</b>			3.43		5.45		4.17		2.84

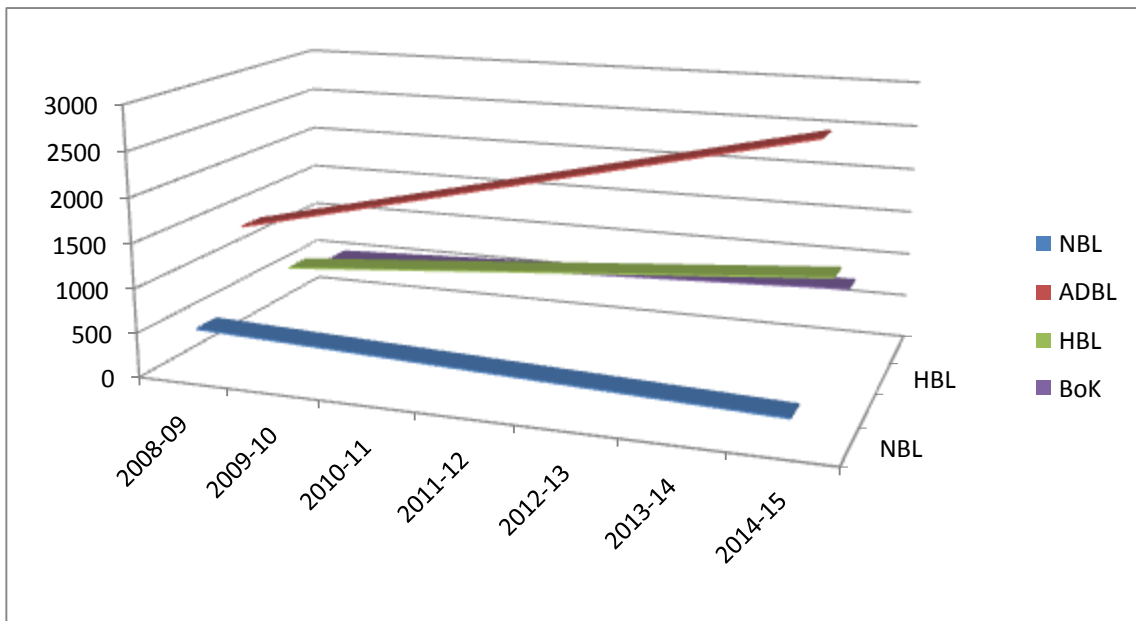
(Source: Appendix- 4)

The table no. 4.13 shows that the selected banks have the increasing trend of net profit except for the Nepal Bank which have negative trend of the net profit. The constant value for the Nepal Bank is NRs 546.06m with the value of the slope as NRs. (35.12m). The negative value of the slope (b) states the decreasing trend of the value of net profit which is against the motto of any company. So we can expect that the NBL is going to bear more losses in near future as the profit decreasing ratio is on increasing trend. The expected average rate of decrement of profit is by 8.47 percent per annum.

The other three banks have positive growth of net profit but in the decreasing trend. The value of average net profit expected is NRs. 1,165.65m, 561.95m and 437.45m for ADBL, HBL and BoK with the value of slope (b) at NRs. 241.10m, 83.16m and 40.91m respectively.

The mean value shows that the ADBL is ahead to generate more profit annually than other banks with expected average growth rate of 12.54% followed by HBL with expected growth rate of 10.03% and BoK with expected growth rate of 7.15% per annum. The NBL has the negative expected growth rate of 8.47 percent annually. Following figure no.4.9 represents the trend line of net profit of NBL, ADBL, HBL and BoK for seven consecutive years starting from mid July 2008.

**Figure: 4.9**  
**Trend of Net Profit**



#### **4.4 Effects on Profitability**

Latest Loan Loss Provision norm have a great impact on profitability of the banks. As earlier mentioned, Loan Loss Provision is deducted from the profit of the bank. Therefore the net profit of the bank will come down by the amount of provision. Hence increase in LLP means lesser net profit resulting to less Earning per Share (EPS), less Dividend per Share (DPS) or no dividend at all and finally lower Market Value per Share (MVPS). If any banks make profit less than the amount of provision to be made, it may have to show losses in the balance sheet. For instance the LLP of HBL as on mid July 2009 is NRs. 726.00 million. Hence the net profit of HBL was reduced by the respective provisioned amount.

However, the impact of Loan Loss Provision on profitability of banks is of short term. After few years, when banks have enough provision for loan & have sound credit management, the profitability will again pick up. Hence in long term basis banks will enjoy greater cushion against loan disbursed and improve their financial strength leading to increased profitability.

#### **4.5 Major Findings of the Study**

From the analysis of data, following major findings have been obtained.

- 1) The core banking function is to mobilize the funds obtained from the depositors and how successfully this function have been discharged by the banks is measured by the ratio of Loan and Advance to total deposit ratio or simply CD ratio. The average loan and advance to total deposit ratio of NBL, ADBL, HBL and BoK during the study period is found to be 54.37%, 110.60%, 76.86% and 82.50% respectively. This calculated value shows that average loan and advance to total deposit ratio of ADBL is above 110.60% which is above 100% i.e. the disbursement of the loan is above

the total deposit received by the bank. As the ADBL is the fully national/government bank the governments direct funding might have been used to disburse this extra amount of the loan and deposits. The HBL, however, has maintained the lowest deviation ratio (2.61%) among the selected banks.

- 2) The analysis of non-performing assets to total loan and advance ratio indicate what portion of loan disbursement couldn't perform as expectation or is going to be a failure to perform. The average NPA of NBL, ADBL, HBL and BoK is 5.90%, 9.80%, 3.34% and 1.69% of total loan and advance respectively. As the ratio of NBL and ADBL is higher than the standard value of NPA to Total Loan & Advance the ratio which is 5%, this ratio of these banks are at unacceptable level. Similarly the BoK also has the lowest level of variation in the NPA to loan ratio which is 0.38 followed by HBL (0.89), NBL (0.96) and ADBL (3.07).
- 3) The loan loss provision to loan and advance ratio of NBL, ADBL, HBL and BoK is 7.25%, 13.17%, 3.41% and 2.34% respectively. The lower the ratio the better the credit management of the bank as the level of non-performing assets is directly reflected by the LLP of the banks. The ratio of HBL and BoK has been increased slightly while the ratio of the NBL and ADBL has decreased by more than 4% during the review period. This shows better credit recovery and better/efficient management of the credit by NBL and ADBL in recent years.
- 4) The average ratio of loan loss provision to non-performing assets of NBL, ADBL, HBL and BoK are 121.97%, 139.92%, 105.29% and 140.52% respectively. The difference in the provisioning might be due to the requirement of the Nepal Rastra Bank to segregate the non-performing loans as per their due time. Moreover the higher ratio also shows that the

bank has provisioned adequate provision against non performing loan which makes the loan internally secure.

- 5) The net profit to loan loss provision ratio shows how much the provision have impact on the profitability of the banks. The main objective of commercial bank is to earn profit through mobilization of fund. Provision of nonperforming loan deducts net profit and it makes the profit less. So loan loss provision and net profit are directly related. The average ratio of NBL, ADBL, HBL and BoK are 22.28%, 33.71%, 75.65% and 131.62% respectively. It means if banks can reduce their non-performing assets they can increase their profits by corresponding ratios.
- 6) The correlation between total loan and advance with the total deposit is perfectly positively correlated. This means that increase in deposits will lead to increase in the loan and advance. The correlation of the banks' NBL, ADBL, HBL and BoK are 0.8991, 0.9793, 0.9856 and 0.9732 with probable error of 0.0578, 0.0124, 0.0086 and 0.0160 respectively which are significant and reliable.
- 7) The correlation coefficient between NPL and Loan and Advance of NBL, ADBL, HBL and BoK is 0.8741, (0.7252), 0.1669 and 0.6580 respectively. Except for NBL other banks have lower value of correlation coefficient than the value of six times P.E. ratio which means the relationship is insignificant and there is no evidence of correlation. The NBL has the highly positive correlation coefficient which means the change in value of loan and advance affects the NPA accordingly.
- 8) The correlation between LLP and NPA revealed that there is positive correlation between LLP and NPA in all selected four banks. The correlation coefficient of LLP and NPA of NBL, ADBL, HBL and BoK are

0.8520, 0.3926, 0.8341 and 0.9055 respectively. The value of correlation coefficient of NBL, HBL and BoK are highly positively correlated and the value of the 6 times P.E. is lower than the corresponding values of coefficient of these three banks. This shows that the correlation coefficient of these three banks is significant. In contrast to this the ADBL has moderately positive correlation coefficient with six times P.E. value higher than the value of correlation which makes the correlation insignificant.

- 9) The correlation between net profit and loan loss provision is positive except for the ADBL. The value of correlation of NBL, ADBL, HBL and BoK are 0.3280, (0.1478), 0.2461 and 0.9925 respectively. The negative value of ADBL shows that the increase in LLP will cause decrease in the value of net profit. Which is supposed to happen in general conditions but due to other factors and the mandatory requirement of NRB to provision at least 1% of the total loan amount increases the LLP when increased loan also increases the profit. Here the correlation value of BoK shows the same which have almost perfectly positive correlation between the LLP and Net Profit. Again the six times P.E. value of NBL, ADBL and HBL is higher than the correlation value which shows insignificant dependency between the variables.
- 10) The trend analysis has been done for seven years using past 5 years' data. The trend of loan and advance's trend shows the increasing trend at diminishing rate. The constant values of the banks are NRs. 15,404.75m, 32,040.62m, 21,551.34 and 12,918.39m of NBL, ADBL, HBL and BoK with the annual increment amount of NRs. 4,123.03, 3,864.03, 3,792.05 and 1,848.25 respectively. The highest average annual increase rate is of NBL (14.67%) followed by HBL (11.29%), BoK (9.80) and ADBL (8.66%).

- 11) The trend analysis of non-performing assets has revealed the fact that the value of NPA in NBL, HBL and BoK has been increasing in the average rate of 7.99%, 1.93% and 15.03%. The average value of increase in NPA is at alarming state for the BoK with annual increasing rate of 15.03% on average. In contrast the value of ADBL is in negative growth with increasing trend. The average growth rate of ADBL's NPA is (12.80) which shows the better control of the credit and efficient credit recovery cell as the NPA of ADBL was huge in the past. The value of NPA of ADBL has been decreasing at NRs. 476.20m annually when the value of NBL, HBL and BoK has been increasing at the rate of NRs. 130.78m, 20.97m and 47.81m annually.
- 12) The trend analysis of loan loss provision shows the increasing LLP in decreasing rate of the NBL, HBL and BoK, in contrary the ADBL has negative trend in increasing rate. The increase in the LLP might also be due to the increase in the loan and advance amount which increases the LLP by at least 1% of the total loan disbursed. The average value of annual change in LLP is 5.67%, (1.93%), 9.37% and 11.69% annually of the NBL, ADBL, HBL and the BoK respectively.
- 13) The trend analysis of the net profit revealed the way net profit is supposed to move. The net profit of NBL is in decreasing trend with increasing rate which is adverse condition for every companies as they are set up to make profit. The average rate of annual change in the net profit of the NBL is (8.47%) which is NRs. (35.12m) annually. On the other hand the amount of change in the net profit is NRs. 241.10m, 83.16m and 40.91m of ADBL, HBL and BoK with average increasing rate of 12.54%, 10.03% and 7.15% respectively.

## **CHAPTER – V**

### **SUMMARY, CONCLUSION AND RECOMMENDATION**

This chapter includes the conclusion derived from the analysis of the study. Summary of the study is mentioned in the first section of this chapter. The second section deals with the finding and conclusion drawn from the study. The recommendations to eliminate the weaknesses and drawbacks of having non-performing assets observed on the basis of findings have been presented in the third section of this chapter.

#### **5.1 Summary**

With the establishment of the Nepal Bank Limited in 1994 B.S. the commercial banks history in Nepal has formally began. A commercial bank means the bank which primarily deals with accepting deposits, providing loan facilities, foreign currency exchange facilities and other services among others. Bank plays an important role in the economic development of the country as the issue of development always rests upon the mobilization of resources. This research is aimed at studying the non-performing loan and loan loss provisioning of Nepal Bank Limited, Agriculture Development Bank Limited, Himalayan Bank Limited and Bank of Asia Limited. For this purpose four banks with different ownership structure were selected. The Nepal Bank with private public financing, Agriculture Development Bank with total government ownership, Himalayan Bank with joint venture bank and Bank of Kathmandu as total private financing. Basically secondary data has been used in the study. 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 the four banks have been analyzed to meet the objective of the study.

The total deposit is highest of the Nepal Bank Limited for the whole study period in contrary to this the Agriculture Development Bank has the highest level of disbursement of deposits as loan and advance for the same period. The loan and advance to total deposit ratio, however, is highest of ADBL, followed by BoK, HBL and NBL. The correlation analysis of the same ratio shows the highly positive relation between these variables. This means with every increase in the deposit will lead to obvious increase in the loan and advance disbursement. The non-performing asset in relative to the loan and advance analysis shows the ratio is highest in the Agriculture Development Bank followed by Nepal Bank, Himalayan bank and the Bank of Kathmandu. The non-performing loan arises due to the disbursement of loans without proper analysis of the borrower and the quality of the collateral kept. The higher level of non-performing assets in the ADBL shows the poor credit management by the bank. The correlation analysis shows the highly positive correlation with significant relation between NPA and loan and advance in NBL. However the correlation of the same in the ADBL is negative which shows the every increase in the loan and advance leading to fall in the NPA of the bank.

Furthermore, the loan loss provision is the product of the non-performing assets. The loan loss provision is created as per the directives of the Nepal Rastra Bank on the basis of the outstanding days of the NPAs of banks. Similar to the NPA to Loan and advance ratio the ADBL has the highest ratio of loan loss provision to total loan and advance followed by NBL, HBL and BoK. The ADBL was the only bank whose loan loss provision has decreased during period of the study. This shows the efficient credit policy of ADBL and the effective performance of the credit recovery cell of the bank.

The loan loss provision to non-performing assets shows the availability of the reserves for the possible default of the loan disbursed. The loan loss provision acts as a safeguard for the bank at the time of default of the credit by the borrowers. Here the ratio of ADBL is highest among the selected banks in the last three years and was followed by BoK while the NBL has ended with the lower ratio than at the beginning of the analysis period. The ratio of LLP to NPA of HBL has increased steadily during the analysis period. In line with the ratio analysis the correlation analysis shows highly positive correlation between the non-performing assets and the loan loss provision of the NBL, HBL and the BoK with moderate positive correlation in case of ADBL. This shows the banks are provisioning the as per the requirement mandated by the non-performing assets.

Further, the net profit to loan loss provision of banks shows how the provision of unproductive loan portion has an effect in net profit. For the period of analysis the profit of ADBL has increased tremendously by more than hundred percent while the profit of NBL has decreased. The ratio of net profit to LLP is highest for the BoK followed by the HBL, ADBL and NBL. Similarly the correlation coefficient of the variables of the BoK is perfectly positively correlated while the correlation variables of NBL and HBL were moderate with insignificant relationship. The correlation value, however, is moderately negative for the ADBL showing negative relationship of LLP and net profit. Here the positive relation between the LLP and Net Profit might be because of the mandatory requirement of the NRB to provision at least 1 percent of the loan and advance disbursed which, in case increases the LLP as well as the interest income from the disbursed loan.

In addition to ratio and correlation analysis the trend of the selected variables is also analyzed. The trend analysis of selected banks shows increasing trend in diminishing rate. The highest rate of average increase in the loan and advance in the study period was achieved by NBL which was followed by HBL, BoK and

ADBL. Further the non-performing assets of the banks were increasing except for the ADBL which has decreasing trend on the average of 12.80 percent per annum. The NPA of other banks are at increasing trend in diminishing rate with the highest position achieved by BoK followed by NBL and HBL. It is obvious that the increase in the non-performing assets leading to increase in loan loss provision. Here the loan loss provision of the banks was increasing except for ADBL whose provision has been decreasing at the rate of 1.93 percent per year on average. The trend analysis of net profit shows the increasing level of profit at diminishing rate topped by ADBL followed by HBL and BoK among the selected banks. However the NBL has the negative profit which is increasing in rate as per the trend analysis.

Today's banking industry is severely affected by the problem of NPA. Improper credit appraisal system, ineffective credit monitoring & supervision system, economic slowdown, borrower's misconduct, and overvaluation of collateral, political inconsistency and pressure to lend to un-creditworthy parties etc are the major factors leading to non-performing assets. Setting up recovery cell, hiring Asset Management Company etc are some to the measures to resolve the problem of NPA. Loan classification and loan loss provision also helps to confront the problems thus created due to non performing Loan. The latest directives regarding loan classification and loan provisioning is very important for maintaining sound financial health of the banks. the new provisioning directives leads to increment in provision amount of the banks leading to decrement in profitability of the bank but this is only for a short run.

## 5.2 Conclusions

Non-performing assets affect all sectors (in particular if parallel issues with defaulting trade credit is also considered). The most serious impact, however, is on the financial institutions which tend to own large portfolios, indirectly; the customers of these financial intermediaries are also implicated; deposit holders, share holders and so forth. Add to this, NPA is not only affecting the banks and its intermediaries, it is having impact on the development of the nation as well. For a bank, NPA loans are unsettled loans for which they have to incur financial losses. The cost for recovering NPA is as well considerable. There are banking failures because of the mounting NPA since it is affecting the profitability and long run survival of the bank.

Non-performing assets of bank affect the profitability of Nepalese commercial bank. The performance of ADBL has highly improved and highly satisfactory as the level of NPA has decreased dramatically which in deed led the net profit soar by more than two folds during the analysis period. Similarly the non-performing assets (to total loan and advance) ratio of NBL has gone through remarkable drop over the years covered by this study period still was not able to drive the profit up which saw huge fluctuations during the period of the study. Further the HBL and BoK has been able to maintain their non-performing assets at the desirable level maintaining the gradual increase in the net profit during the review period. The non-performing assets directly affect the loan loss provision as they have highly positive correlation. Therefore the LLP and the net profit of ADBL have negative correlation but in case of NBL, HBL and BoK the variables are positively correlated. This might be due to the mandatory requirement of the NRB to provision at least 1 percent of the loan disbursed. As the performance analysis show that the every banks are trying to exactly meet the NRB's directives regarding non-performing assets.

### 5.3 Recommendations

High level of non-performing assets not only decreases the profitability of the banks but also entire financial as well as operational health of the country. Therefore, following are some recommendations made based on the findings and conclusion of this research work of NBL, ADBL, HBL and BoK.

- The high portion of non-performing loan hence high loan loss provision of ADBL and NBL, though is in decreasing trend, specifies that the credit portfolio of these banks need more attention. Hence NBL and ADBL are recommended to take immediate remedial action for recovering bad debts.
- The loan and advance disbursement ratio of NBL is relatively low than the standard ratio. This low level of lending means low level of investment resulting to low level of productivity, which may ultimately affect negatively on the national economy. Loan and advance on the other hand help to upgrade the economic health of the country by creating the value of investment through the multiplier effect. Hence NBL is recommended to increase its investment in productive sector in the form of loan and advance.
- The main factors which leads to Non- performing loan are improper credit appraisal system, ineffective credit monitoring and supervision system etc. besides that negligence in taking information from credit information bureau may also lead to bad debts. Hence the banks are recommended to be more cautious and realistic while granting Loan and Advance. After advancing loan there should be regular supervision and follow up for proper utilization of loan.
- As per the NRB directives section 19.2 stated that the every commercial bank, as per their requirement, have to implement Customer Due Diligence

and Enhanced Customer Due Diligence process to collect the detailed information of the customer and the beneficiary. This will help banks to keep up to date information about the customers' changed economic position which would be highly advantageous while renewing the loan or providing additional loan. However the banks have not yet streamlined/initiated such process. So these banks are highly recommended to implement the process of collecting information through Customer Due Diligence and Enhanced Customer Due Diligence technique.

- One of the main causes of default loan and increasing the NPAs is that the banks are not taking much collateral or doing overvaluation of collateral. Therefore banks should take enough collateral. So the bank at least can be able to recover its principle and invest amount in case of being unable to repay by the borrower.
- The regulation regarding loan classification and provisioning is stringent and tighter than the previous. Hence NRB should not only impose directives but also create supportive environment for the commercial banks. NRB is recommended to strengthen Credit Information Bureau (CIB) so that banks can get required credit information about the borrowers on time. This would help in reducing NPL.
- Lack of proper financial analysis of the borrower by the banks is one of the major causes behind increasing NPA of the banks. In addition, the use of different audited reports for different purposes i.e. one for tax purpose and another for banks while applying for the loan by borrowers, as constantly reported in the news, has resulted in higher risk of default. So the NRB and the government of Nepal are recommended to exchange the tax report presented by customers at Inland Revenue department with the financial institutions.

- Bad intension, weak monitoring and mismanagement at top level are the major internal reasons turning good loan into band loan. Therefore commercial banks should take corrective action immediately.
- It is also wise for the banks to carryout special investigation audit of all financial and business transactions and books of accounts of the borrower company when there is possibility of the diversion of the funds and mismanagement.
- The banks should diversify their loans in various sectors so that the relatively worse performance of one sector of the economy could not wholly disturb the overall performance of financial sector.
- Political persons, senior most employees and the influential shareholders' influence in the loan disbursement process should be avoided as it may lead to disbursement of the loan in possibly favorable terms to the borrower at the cost of shareholders of banks.

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# Appendix 1

## Nepal Bank's Data (In Rs. Million)

Year	Total Deposit	Total Loan & Advance	Net Profit	NPA	LLP
2008-09	45,194.23	19,560.09	894.25	1,485.14	1,945.19
2009-10	42,882.04	25,052.35	249.38	1,344.12	1,491.40
2010-11	46,808.44	26,705.88	128.35	1,534.85	2,034.60
2011-12	56,052.37	29,698.86	176.36	1,657.53	2,028.02
2012-13	62,984.35	37,851.97	755.18	1,982.32	2,240.27

## Agricultural Development Bank's Data (In Rs. Million)

Year	Total Deposit	Total Loan & Advance	Net Profit	NPA	LLP
2008-09	35,159.61	38,301.10	1,057.60	5,443.25	5,698.01
2009-10	32,472.57	39,582.87	1,892.39	4,340.93	5,705.91
2010-11	34,394.63	40,372.73	2,365.48	3,628.56	5,912.81
2011-12	43,264.09	44,988.37	1,839.92	4,040.20	5,561.32
2012-13	54,477.65	54,918.51	2,289.32	3,212.60	5,232.68

## Himalayan Bank's Data (In Rs. Million)

Year	Total Deposit	Total Loan & Advance	Net Profit	NPA	LLP
2008-09	34,682.31	25,519.52	752.83	852.88	726.36
2009-10	37,611.20	29,123.75	508.80	1,208.12	1,143.13
2010-11	40,920.63	32,968.27	893.12	1,391.75	1,401.29
2011-12	47,730.99	35,968.47	958.64	751.16	1,003.04
2012-13	53,072.32	41,057.40	943.70	1,186.19	1,333.59

## Bank of Kathmandu's Data (In Rs. Million)

Year	Total Deposit	Total Loan & Advance	Net Profit	NPA	LLP
2008-09	18,083.98	14,945.72	461.73	198.89	298.42
2009-10	20,315.83	17,044.30	509.26	259.52	379.37
2010-11	21,018.42	17,956.95	605.15	326.33	488.76
2011-12	24,991.45	19,319.14	607.66	443.39	505.20
2012-13	27,700.99	23,049.53	617.09	346.01	493.61

## Appendix 2

### Calculation of Mean, S.D. & C.V. of Loans and Advances to Total Deposit Ratio of NBL

Years	Ratio (X)%	(X- $\bar{X}$ )	(X- $\bar{X}$ ) <sup>2</sup>
2008-09	43.28	-11.09	122.9277437
2009-10	58.42	4.05	16.43657784
2010-11	57.05	2.69	7.215752205
2011-12	52.98	-1.38	1.913274711
2012-13	60.10	5.73	32.83370246
	<b><math>\Sigma X = 271.84</math></b>		<b><math>\Sigma (X-\bar{X})^2 = 181.33</math></b>

Here X represents the Total Loan and Advances to Total Deposit ratio of NBL.

$$\text{Mean } (\bar{X}) = \frac{\Sigma X}{N} = \frac{271.84}{5} = 54.37\%$$

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N-1}} = \sqrt{\frac{181.33}{5-1}} = 6.7328$$

$$\text{Coefficient of Variation (C.V.)} = \frac{\sigma}{\bar{X}} \times 100 = \frac{6.7328}{54.37} = 12.38\%$$

**Similarly, the mean, S.D. and C.V. of other ratios of the NBL, ADBL, HBL and BoK have been calculated.**

## Appendix 3

### Calculation of Correlation Coefficient, P.E. and 6\*P.E. of NBL

(In Rs. Million)

Years	Deposit (X)	Loan & Advance (Y)	$x = X - \bar{X}$	$y = Y - \bar{Y}$	$x^2$	$y^2$	$x \cdot y$
2008-09	45,194.23	19,560.09	(5,590.06)	(8,213.74)	31,248,743.24	67,465,466.95	45,915,259.49
2009-10	42,882.04	25,052.35	(7,902.25)	(2,721.48)	62,445,560.29	7,406,443.13	21,505,801.34
2010-11	46,808.44	26,705.88	(3,975.85)	(1,067.95)	15,807,419.44	1,140,520.34	4,246,019.72
2011-12	56,052.37	29,698.86	5,268.08	1,925.03	27,752,695.93	3,705,753.71	10,141,235.42
2012-13	62,984.35	37,851.97	12,200.06	10,078.14	148,841,465.15	101,568,820.05	122,953,861.23
<b>Total</b>	<b>253,921.43</b>	<b>138,869.15</b>	<b>0.00</b>	<b>0.00</b>	<b>286,096,048.55</b>	<b>181,287,004.18</b>	<b>204,762,267.29</b>

We Know,

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{253,921.43}{5} = 50,784.29$$

$$\text{Mean } (\bar{Y}) = \frac{\sum Y}{N} = \frac{138,869.15}{5} = 27,773.83$$

We have Karl Pearson Correlation Coefficient,

$$\text{Correlation Coefficient } (r) = \frac{\sum x \cdot y}{N \sigma_x \sigma_y}$$

On implication of the equation of r, we obtain the following formula for computing 'r'.

$$\text{Correlation Coefficient } (r) = \frac{\sum x \cdot y}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{204,762,267.29}{\sqrt{286,096,048.55 \times 181,287,004.18}}$$
$$= 0.8991$$

$$\text{Probable Error (P.E.)} = \frac{0.6745 (1-r^2)}{\sqrt{N}}$$
$$= \frac{0.6745 (1-0.8991^2)}{\sqrt{5}}$$
$$= 0.05780$$

$$6 \text{ P.E.} = 6 \times \text{P.E.} = 6 \times 0.05780 = 0.3468$$

**Similarly the Correlation Coefficient, P.E. and 6 P.E. between different variables of NBL, ADBL, HBL and BoK have been calculated.**

## Appendix: 4

### Trend Value Calculation

Here X (Year) is independent variable and Y (Loan and Advance) is the dependent variable.

(In Rs. Million)

Fiscal Year	Year (X)	Loan & Advance (Y)	X <sup>2</sup>	X.Y
2008-09	1.00	19,560.09	1.00	19,560.09
2009-10	2.00	25,052.35	4.00	50,104.70
2010-11	3.00	26,705.88	9.00	80,117.64
2011-12	4.00	29,698.86	16.00	118,795.45
2012-13	5.00	37,851.97	25.00	189,259.83
<b>Total (Σ)</b>	<b>15.00</b>	<b>138,869.15</b>	<b>55.00</b>	<b>457,837.72</b>

Let the regression equation Y on X be,

$$Y = a + bX \dots\dots\dots (i)$$

To find the value of a & b we have the following two normal equations

$$\Sigma Y = na + b\Sigma X \dots\dots\dots (ii)$$

$$\Sigma XY = a\Sigma X + b\Sigma X^2 \dots\dots\dots (iii)$$

Substituting the values of n, ΣX, ΣY, ΣXY, ΣX<sup>2</sup> in equation (ii) and (iii), we get,

$$138,869.15 = 5a + 15b \dots\dots\dots (iv)$$

$$457,837.72 = 15a + 55b \dots\dots\dots (v)$$

Now multiplying (iv) by 3 and subtracting it from (v), we get,

$$457,837.72 = 15a + 55b$$

$$\underline{-416,607.45 = -15a \pm 45b}$$

$$41,230.27 = 0 + 10b$$

$$10b = 41,230.27$$

$$b = 41,230.27/10$$

$$\text{so, } b = 4,123.03$$

putting the value of b in equation (iv), we get

$$138,869.15 = 5a + 15*4,123.03$$

$$5a = 138,869.15 - 61,845.45$$

$$5a = 77,023.70$$

$$a = 77,023.70/5$$

$$a = 15,404.75$$

Substituting the value of a and b in equation (i) we get the regression equation of Y on X as,

$$\mathbf{Y = 15,404.74 + 4,123.03X}$$

Using this value, trend value of loan and advance of Nepal Bank is calculated as follows:

#### **Computation of Trend Value**

<b>Fiscal Year</b>	<b>Year (X)</b>	<b>Trend of Loan &amp; Advance of NBL (Y)</b>
<b>2008-09</b>	1	19,527.78
<b>2009-10</b>	2	23,650.81
<b>2010-11</b>	3	27,773.83
<b>2011-12</b>	4	31,896.86
<b>2012-13</b>	5	36,019.88
<b>2013-14</b>	6	40,142.91
<b>2014-15</b>	7	44,265.93

**Similarly the trend values of other different variables of NBL, ADBL, HBL and BoK have been calculated.**