LOAN MANAGEMENT OF NEPAL BANK LIMITED

NEPAL

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RECOMMENDATION

This is to certify that the thesis

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VIVA-VOCE SHEET

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DECLARATION

I hereby proclaim that the thesis work entitled 'Loan Management of Nepal Bank Limited' submitted to Balkumari College, faculty of Management, Tribhuvan University is my original work for the partial fulfillment of the requirement for the Master's Degree of Business studies (M.B.S.) under the supervision of Mr. Babu Ram Panthi lecturer (Chair Person Research Committee) of Balkumari College Narayangarh Chitwan.

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ABBREVIATIONS

| A.D. | - | Anno Domini |
|-----------|---|--|
| ANG | - | Austrialia and New Zeeland Banking Group |
| B.S. | - | Bikram Sambat |
| C.A. | - | Current Assets |
| C.R. | - | Current Ratio |
| C.V. | - | Coefficient of Variation |
| D/P Ratio | - | Dividend Payout Ratio |
| DPS | - | Dividend per Share |
| EBIT | - | Earning Before Interest and Tax |
| EPS | - | Earning Per Share |
| F.D. | - | Fixed Deposit |
| F.Y. | - | Fiscal Year |
| GDP | - | Gross Domestic Product |
| HBL | - | Himalayan Bank Limited |
| J.V.P. | - | Joint Venture Bank |
| L & A | - | Loan and Advance |
| NABIL | - | Nepal Arab Bank Limited |
| NBL | - | Nepal Bank Limited |
| NGBL | - | Nepal Griendlays Bank Limited. |
| NPA | - | Non Performing Assets |
| NPAT | - | Net Profit After Tax |
| NRB | - | Nepal Rastra Bank |
| P.E. | - | Probable Error |
| PBT | - | Profit Before Tax |
| r | - | Correlation |
| r^2 | - | Coefficient of Determination |
| RBB | - | Rastriya Banijya Bank |
| ROE | - | Return on Net worth |
| Rs. | - | Rupess (Nepali Currency) |
| S.D. | - | Standard Deviation |
| T.D. | - | Total Deposit |
| T.U. | - | Tribhuvan University |

CHAPTER-ONE

INTRODUCTION

1.1. General Background

Nepal is one of the least developed countries surrounded by two economically emerging tigers of the world i.e. China and India Though industrialization is running in its own rapid speed in the world which play an important role for an all round development of the country represent only about 40 percent of the GDP of Nepal. There are many constrains to the industrialization in Nepal like landlocked ness, lack of infra structure, lack of risk taking entrepreneurs open border with India, Lack of Commitment of policy makes and planes etc. so as to make way for industrialization these problems have to be solved.

In order to drive the country to industrialization capital is needed. To avoid lack of capital, money market and capital market are quite essential. To develop money market and development of banks and financial institutions are necessary. These help in mobilization of idle saving in production sectors and facilitate the process of economic development.

Bank is the most important financial institution which is engaged in monetary transactions. It is an institution which deals with money by accepting various types of deposit from the depositors under various deposit schemes there by allowing interest on them and also vendering loans on mortage to defect unit for productive use by charging interest. Bank accepts various kinds of deposit from the public which are

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repayable on demand or on the short notice. Thus, it helps in mobilization of cash form saver groups to user groups.

The word "Bank" is used in the sense of a commercial bank. It is of Germanic origin though some persons trace its origin to the French word "Banqui" and the Italian word "Banca" It referred to a bench for kipping, lending and exchanging money or coins in the market place by money lenders and money changers. There was no such as "Banking" before 1640.

The first bank called the "Bank of Venice" was established in Venice, Italy in 1157 to Finance the monarch in his war. In bankers Lombardy were famous in England. But modern banking began with the English gold smith only after 1640. The first bank in Nepal "Nepal Bank Ltd." started in 1994 B.S. Nepal Rastra Bank (NRB) the central Bank of the Nepal was established in 1956 to discharge the central banking responsibilities including guiding the development of the embryonic domestic financial sector.

Bank operates in the modern and competitive business environment. So it is very difficult to illustrate any absolute definition of bank. Different economists have offered different definitions, such as:

"Bank is an establishment which makes to individuals such advances of money as may be required safety made and to which individuals entrust money which not required for use." (*Subedi, 2062, Asmita Books, 1*st *Edition*)

"Bank is the establishment for keeping money, valuable etc, safety the money being paid out on the customer's order" (by mean of cheque). (Oxford Advance Learner Dictionary P. 83-84)

"A Bank is a business organization that receives and holds deposits of funds from other and makes loans or extends credits and transfer funds by written orders of deposits" (*Encyclopedia, the world book, American Grolier Incorporated 1986*).

Therefore summarizing the above, Banks are those financial institutions which collects money from those who are saving it out of their income and lands this out to those who require it.

1.1 Brief Introduction of Nepal Bank Ltd.

No bank was operated in the country before 1994. No provision was made in the old commercial bank act. which facilitate for private and joint venture banks.

The new commercial bank act 1974 has however made provision to permit foreign banks to operate in the country after the approval of the Nepal Rastra Bank. Govt. of Nepal brought about the reform in financial sector. Hence a number of joint venture banks come into existence. Nepal bank Ltd (NBL) is the first commercial bank, which was establish in 1994 B.S. it is mixed economy bank in its ownership. It was established with an authorized capital of Rs 10 million and paid up capital of Rs 0.842 million. But now it has more than Rs. 1000 million authorized capital. It's issued and paid up capital are 500 million and Rs 380.3 million respectively. In this bank 2976 employees are working now, It has 109 branches including one head office in Kathmandu.

Table No. 1.1

| Subscription | % holding |
|---------------------|-----------|
| Government of Nepal | 41.8% |
| General public | 49% |
| Employee | 9.2 |
| Total | 100% |

Share subscription and capital structure of NBL

Sources of www.nepalbank.com.np

This study will mainly focus the analysis of disbursement of loan and its recovery from the borrowers. It will be analysis of five years data. The present study analytically discloses the strength and weakness of right company in relation to loan disbursed and their recovery. No company can run or earn smoothly with out well manage portfolio of loan disbursement and recovery.

1.2 Statement of the Problem

Capital formation and its proper mobilization are the major problems in almost on under developed countries in such countries; the commercial banks have to shoulder more responsibilities in the economic development of the country.

NBL have succeeded to capture a considerable market share of Nepalese financial service industry. Because NBL has an experience of a long period and professional attitude prompt and computerized services and professional attitude. But at present time, many financial institutions might adversely affect these banks.

Following are the major problem that have been identifying for the purpose of this study.

- 1. How efficiently the collected fund has been utilized under loan and advances?
- 2. What are the interest structure of loan and advances of NBL?
- 3. How efficiency is the credit policy of the NBL is being followed?
- 4. What is the volume of quality of loan in terms of performing and non-performing loan?
- 5. What is the lending pattern & practices of NBL?

1.3 Objectives of the Study

The main target of this story is to observe the loan disbursement and its recovery of Nepal Bank limited.

The specific purposes of the study are:

- 1. To analyze the loan and advances of NBL.
- 2. To analyze the recovery or repayment of the loan disbursed.
- 3. To analyze the interest structure of loans and advances as well as deposits.
- 4. To analyze the quality of loan in terms of performing and nonperforming loan.

1.4 Significance of the Study

The present study is the critical analysis of loan management of NBL. The NBL is managed by semi government to provide financial services to the rural and urban population to stimulate income and generate employment in remote and urban areas. This study will find the strength and weakness of the bank by analyzing the opportunities and threats of loan management in the real ground. This study will also be an important support to the management, owner, clients and other interest groups in analyzing the Bank's economic strength and performance efficiency. As it is a well known fact that the commercial Banks can affect the economic condition of the whole country. It will be helpful to the policy maker while formulating the policy regarding NBL and people can understand how benefit it taking by them from the semi government Banks. This study specially evaluates the NPA situation and also provides the ideas in order to control it.

1.5 Limitation of Study

The limitations of this study are as follow:

- This study is mainly confident to loan mgmt of NBL.
- This study is mostly based on the published financial statement of NBL and Nepal Rastra Bank (NRB) along with other related journals, newspapers, magazines bulletins, text books etc.
- The data shown in this study is covers 5 years' study from 2059/60 to 2063/64 time factor is major limitation of this study, because of this study is completed with in a short period of time.

1.6 Organization of the Study

The study of loan management of NBL is presented in organized form. The whole research report has been divided into five chapter. They are as given below:

1. Introduction:

The first chapter consists of introduction, focus of the study, statement of problem, objectives of the study, significance of the study and limitation of this study.

2. Review of Literature:

The second chapter is deals conceptual framework, mainly concept of commercial banks, role and functions of commercial banks and review of related past thesis.

3. Research Methodology:

The third chapter to research methodology which consists of research design, population and sample, sources and types of data, data collection and processing procedure, population and sample and financial ratio analysis.

4. Presentation and Analysis of Data:

The forth chapter focuses the presentation and analysis of data. This consists of analysis of ratio relating to deposits credit and investment. Similarly statistical tools such as correlation coefficient, average, standard deviation, coeff. of variation and text of hypothesis are used wherever and whenever to twinkle the research work.

5. Summary, Recommendation and Conclusion:

Lastly, this chapter summarized the whole study and status main finding and after recommendation for the improvement in future to the banks and interested group, Bibliography and appendix will also be shown at the end of the study.

CHAPTER TWO

REVIEW OF LITERATURE

The main purpose of this chapter is to review the available literature on loan management of financial institutions. Thus, authentic and honest attempts are being made to highlight the gist relating with the concerned topic from various books, newspapers, magazines, research articles as well as past thesis. To ensure the precise, lucid and concrete views about the stated topic, the entire review work is portrayed in the point wise breakdown as given below.

- Conceptual Review
- Review of Related Studies

2.1 Conceptual Review:

It encompasses the review of text books and other reference materials such as newspapers, magazines, research articles and journals besides past thesis.

2.1.1 Historical Development of Banking System in Nepal:

The word bank is derived from the Italian word banco which means a bench on which the merchants of Italy put on different types of currencies to show that they transact their business. In French language people used to call it banque and Englishmen did bank.

The history of the modern commercial bank starts from lending and borrowing of money through the gold smiths merchants and the money lenders. First of all the beginning of the modern banking system in the world starts from the bank of Venice which was the first public banking institution established in 1157. It inspire other countries too to open banking institution like the bank of Barcelona (established in 1410); the bank of Genoa (in 1407), the bank of Amsterdam established in Holland (in 1607). The bank of Amsterdam occupied a very important role in 17th century. Similarly, Banque de Frenqe was founded in 1800. In 1850 the national park of Belgium came into existence.

Due to the lack of past historical records on banking it is quite impossible to give a correct chronological history of development of bank in Nepal. However the history of the development of banking and currency in Nepal dates back to the fifth century i.e. in the Lichhavi period when the first coin were minted it is known from the history that Guna Kama Dev Rebuitt Kathmandu in 723 B.S. with public borrowing. After 97 years a merchant Shankhadhar interpreted Nepali Sambat by clearing the public debt these instances reveal that money lending was prevalent even before 8th Century.

Development of banking and currencies in Nepal became more consistent after the Gorkha conquest in 1768 B.S. the first Rana Prime Minister Shree Jang Bahadur brought the diplomatic relation of Nepal with the western world especially with Britain. One of his younger brother Rannadip Singh got interested in the problem. Tejarath Adda was established in 1980 it used to lend the public the money on security of gold silver and other precious metals.

Nepal Bank Ltd. the first commercial bank of Nepal was established in 1937 A.D. (30th Kartik 1994) as a semi government organization which

solved to the great extent the problem of commercial banking in Nepal. It replaces Tejarath Adda. In this way Nepalese banking history has begun systematically. At that time this bank had Rs. 10 million authorized capital and Rs. 0.842 million paid up capital private shareholders had majority ownership of this bank. Government had very insignificant amount of share till 1051 ad govt. of Nepal held control over the bank management by increasing its share up to 51% of the, total share capital in 1952.

Nepal Rastra Bank was established in 1956 A.D. under the Nepal Rastra Bank Act. 1955. It marked another milestone in the history of the banking development in Nepal Rastriya Banijya Bank was established on 23, 1966 A.D. under a special Charter Ac, Rastriaya Banijya Bank Act 1965. It was set up in the public sector with Rs. 10 million authorized capitla and Rs. 2.5 million paid up capital. In Nepal, the establishment of agriculture development bank was another significant achievement. It was set up in 1968 A.D. with an authorized capital of Rs. 50 million.

Government introduced financial sector reforms in 1980s through structural adjustment policy. Govt. of Nepal allowed private sector (both domestic and foreign) to enter into the banking business to bring about the competition among financial institution and increase the foreign investment. As the result of the Nepal Arab Bank Ltd. (NABIL) was established in 1984 this bank as the first joint venture bank (JVB) of the country, was established with a view to encourage efficient banking services which is a preconditioned for the economic development industrialization and growth of the country. It is registered under the company act 2021 and execute its work in accordance with commercial bank act 2031. It commenced the operation on 12 July 1984 with Rs. 100 million authorized capita, Rs. 50 million issued Capital and Rs. 30 million paid up capital national bank of Bangladesh financial institution of Nepal and general people have 50%, 20% and 30% share in this bank respectively.

Nepal Indosuez Bank Ltd. (NIBL) was established in 1986 with a joint ownership of Indosuez Bank of Paris (50%) Rastriya Banijya Bank (15%) National Insurance Corporation (15%) and Nepalese general people (20%). It was registered on 21 January 1986 and commenced operation on 27 February 1986 with Rs. 120 million authorized capital Rs. 60 million issued capital and Rs. 30 million paid up capital.

Nepal Griendlays Bank Ltd.(NGBL) now call standard charted bank is the sixth commercial bank in Nepal and the third joint venture bank. It was established and aperated in 1987 with an authorized capital of Rs 100 million issued capital of Rs 50 million and paid up capital of Rs 50% paid up capital has shared by Griendlays bank. London 85% by Nepal bank Ltd. And Remaining 15% by general public This is executed under the direction of Australia and New Zeeland banking group (ANG)

No foreign bank was operated in the country before 1984 there was no provision made in the commercial bank act 2031 that facilitates the entry or the foreign banks into the financial system of Nepal. How ever, it has permitted foreign banks to operate in the country by obtaining the approval of Nepal Rastra Bank. The number of joint venture banks grew dramatically with the introduction of liberal and market oriented economic policy.

Himalayan Bank Ltd. (20% share owned by Habiib Bank Pakistan) was established under the Company Act 1964 in 1992 A.D. (2049 B.S.). Its

operation started from 1993, February with the paid up capital Rs. 60 million. Its joint venture partner is Habib Bank Ltd. Pakistan.

Nepal Everest Bank Ltd. (20% Shares owned by the Punjab National Bank of India) started its operation in 2051 B.S. It entered into joint venture with Punjab National Bank India in January 1997 only.

Nepal SBI Bank Ltd. (50% share owned by State Bank of India) is a joint venture between employees provident fund and State Bank of India. THe initial paid up capital of the Bank was Rs. 119.95 million in 2050 B.S.

Nepal Bangladesh Bank Ltd. (50% share owned by International Finance Investment of Commercial Bank Ltd. Dhaka) was established in 2051 B.S. in technical collaboration with I.F.C.I. Bank of Bangladesh.

Bank of Kathmandu Ltd. (50% share owned by the Siam Commercial Bank Thailand) who established as a joint venture with Syam Bank of Thailand during the year 2051.

Concept of Commercial Bank:

Commercial banks are that financial institutions which deal in accepting deposit of persons and institutions and giving loans against securities. They provide working capital needs of trade, industry even to agriculture sector. More ever, commercial banks also provide technical and administrative assistance to industries, trades and business enterprises.

The American Institute of Banking has laid down the four major function of the commercial bank such as receiving and handling deposits, handling payments for its clients, making loans and investments and creating money by extension of credit. A commercial banks is one, which exchanges money deposit, accepts deposit, grants loan and performs commercial banking functions.

Under the Nepal commercial bank act 2031 B.S. that has been defined and emphasized about commercial banks they provide short term and long term loan whenever necessary for trade and commerce. They accept deposit from the public and provide loans in different forms they purchase and discount the bills of exchange, promissory notes and exchange foreign currency.

Commercial bank is a corporation which accepts demand deposits subject to check and makes short term loan to business enterprises, regardless of the scope of its other services". A Commercial banker is a dealer in money and substitute for money such as cheques, bills of exchange. It also provides variety of financial service. Principally, commercial banks accept deposits and provide loans, primary to business firms commercial banks pool together the savings of the community under different account that seems they help in capital formation.

Function of Commercial Bank

Commercial bank perform a variety of functions which can be divided as

- i) Accepting Deposits
- ii) Advancing loans
- iii) Credit creations
- iv) Financing foreign trade
- v) Agency services and
- vi) Miscellaneous services

Loan (Definition)

The temporary provision of money usually at interest is known as loan. It is the principal account which is repaid with interest. the interest most be paid with the borrowed money. A sum of money lend by one person or organization to another usually with interest is also known as loan. loan defferet from grants in that day has to be repaid with interest this requires that the recipients is credit worthy, can provide security against default and has a cash flow sufficient to make the interest, capital payment. The amount of principal which is lent by the bank to the customer is known as loan and there are various types of loan having different interest rate.

Types of Loan

- Commercial Loan
- Consumer Loan
- Mortage Loan
- Term Loan
- Housing Loan
- Bridge Loan
- Hire Purchase Loan
- Share Loan
- Miscellaneous loan and Fixed Deposit receipt and Provident Fund

Management of Loans:

Loan management is especially focused on the management of loan disbursement and collection of procedure, its handling and monitoring process is also concerns with loan management. All the activities followed by the bank for the disbursement and collection of loan are loan management. The two simultaneous running aspect are:

- 1. Loan Disbursement
- 2. Loan Collection

1. Loan Disbursement:

Banks are expected to support their local communities with an adequate supply of credit for all legitimate business to consumer financial needs and do price that. Credit responsibility in line with competitively determined interest rates. In deed, making loans is the principal economic function of banks to fund consumption and investment spending by businesses, individuals and units of government. How will a bank performs its lending function has a great deal to do with the economic health of its region, because banks loan support the growth of new business and jobs loans aften seems to convey positive information to the market place about a borrower's credit quality, enabling a borrower to obtain more and perhaps some what cheaper funds from other sources.

In banking sector all transaction and unavoidable ness of loan disbursement policy and its working method or procedure is regarded very important. Under this, many subject matters are considered and thought the policy of loan flow, loan administration audit of loan, renewable of loan, the conditions of loan flow, documents of loan flow, the provision of security, the procession of the payment of the capital and its interest and others such procedures which plays a great role in healthy competitive activities.

In providing loans to banks customer a bank has do follow sound credit policy and conduct the business of lending on the basis of certain fund principals. In other word bank or any financial institute can disburse necessary amount to their borrower and collect the entire disbursed amount in time if there is a good lending policy with out effective and proper lending or credit policy no banks can accomplish its predetermined goals and objectives, safety or funds, liquidity, security, purpose of loans, Profitability spread or loan mix and national interest are the main components of sound credit policy of a bank.

2. Loan Collection:

A bank or any financial institution can be described necessary amount to their borrowers and collect the entree disburse amount in time if there is a good loan management system just as expanding the collection process conserves cash showing disbursement accomplishes the same thing by the same thing keeping cash on hand for longer period. An oblivious way to do this is simply to delay payment, but this involves equally obvious difficulties firms have in the past devised rather ingenious methods for legitimately lengthening the collection period on their own check ranging from main trance disbursement account in remotes bank to using slow, awkward payment procedure since such practices are usually rewgniued for what they are their use should be avoided.

Designation of repayment of the loan is also an art to the bankers. The appropriate selection of the repayment method according to the nature of loan is also challenging part of lending, loan is defined as the amount expected to be repaid with interest. In cash loan, modalities for repayment is mentioned which is affected by the nature of debt. In case of long term of installments (principal + interest) as per pre fixed schedule. So in the case of nice purchase loan white in case of overdraft, interest is paid at the given frequency (monthly/quarterly/annually) while principal is paid at any time before expiry of the facility. In case of part payment interest is paid first and remaining amount is utilized to reduce principal outstanding. There are loans in which interest and full debt is paid in lump sum. In some cases interest is paid periodically and full debt at maturity.

Interest Rates of NBL

The bank has followed discriminatory interest rate policy depending upon the borrowers and the purpose of loans for co-operative are cheaper as against loans for individual borrowers. The interest rates changed by NBL is shown below.

| S.N. | Deposit Type | Duration | Rate |
|------|----------------|----------|-------|
| 1 | Saving Deposit | | 2% |
| 2 | Fixed Deposit | | 2% |
| | | 1 month | 2.25% |
| | | 2 month | 2.5% |
| | | 3 month | 3.5% |

Deposit Annual Interest Rate(%)

Lending Rates (%)

| 1. Gold and Silver | 10% |
|---|-------------|
| 2. Loan against Bank guarantee (1 st class bank) | 7% |
| 3. Working capital/short Term loan | 10% |
| 4. T. R loan | |
| a) up to 90 Days | 8% |
| b) From 91 days to 120 days | 9% |
| c) From 121 days to 150 days | 10% |
| d) From 151 days to 180 days | 11% |
| (T.R loan facility will be up to 180 c | only) |
| 5. Long term loan | 10% |
| 6. Consumer lending | 7.5% to 10% |
| a) Margin lending | 9% |
| b) Auto Loan | 7.5% to 10% |
| c) Home Loan | 7.5% to 10% |
| 7. Structure Demand Loan/overdraft | 7.5% |
| 8. Priority Sector Loan | 7.5 |
| 9. Deprived Sector Loan | 10% |

| 10. No. Bia.Bay.Pari 79/58 for exporters who gain e | xpert earning in |
|---|------------------|
| convertible foreign currencies | 4% |
| 11. Personal overdraft loan | 9-10% |
| Personal term loan | |
| up to 5 years | 7.5% |
| up to 10 years | 8% |
| up to 15 years | 9% |
| up to 20 years | 10% |
| | |

Source: nepalbank.com.np/interest/index.lphp

Objectives of the Sound Loan (Credit) Policy

The purpose of a written loan policy are (i) to assure compliance by lending personal with the bank's policies and objectives regarding the portfolio of loans and (ii) to provide personal with a framework of standards within which they can operatic.

Senior loan administrator getting supports from subordinates and associates should write loan policy for establishing this policy it is necessary to get approval about this form board of directors after discussion. Performing loans extend multiple benefits to the society where as non-performing loan (i.e. given to unviable project) orders even exiting scare capital.

i. To have performing assets:

Performing assets repays principal and interest to the bank from its generated cash loan. The objective of sound was policy is to keep financial health of the bank mailing interest of depositors and share holder as well.

ii. To contribute economic development:

Sound loan policy says that loans are granted to productive sector of which provides multiple benefit to the society such as direct and indirect employment generation, capital creation, tax payment to the government and uplift of living standard.

ii. To provide guidance to lending officials:

There should be no discrimination while dealing with borrower by one officer of another and one branch or another. Individual loan officers make inconsistent judgment from each other and also with organizational goal in the absence of credit policy.

iv) To set a yardstick for control:

Periodic fellow up is essential for proper implementation of any credit policy. A sound credit policy aids in identifying the deviation between actual and standard performance along with corrective action to be taken.

The Elements to be dealt in loan policy

The well set up loan policy normally throws light on the fallowing components.

1. Loan Volume:

The policy consist the credit deposit ratio the bank has to maintain volatility of deposits and borrowing affects loan volume. High voluntary of deposits and borrowing will result low loan volume and vice-verse. Single borrower limit granted by bank should not exceed the one set by regulatory authorities.

2. Loan Mix:

Bank does not put their all fund only to one sector even though this sector is doing well. Investment in only one sector may cause bankruptcy of the lenders. Even if two individual borrowers of different sector have the same level of risk. The portfolio risk is minimized due to diversification. There must be clear specification regarding the mix of short term and movement of bank affects the mix of short term and long term.

3. Pricing:

The bank however not take the risk beyond a certain should level irrespective of how high the lending rate is fixed as a practice based on the risk, percentage is added in the prime lending rate. The rate follows the same direction of risk i.e. higher the rate and vice versa. Fixed or mixed or floating rate of interest along with compensating balance is to be kept.

In assure pricing should be fixed in a manner result profit. Profitability in loan is determined as given below.

 $\mathbf{P} = \mathbf{I} - \mathbf{O} - \mathbf{C} - \mathbf{D}$

Where,

P = Profitability

I = Interest inclusive of her changes if any

O = Operating expenses

C = Cost of fund

D = Expected Default Loss

4. Lending Authority:

Either centralized or decentralized approach can be adopted by lending authority. A certain limit is given to branch staff under lateral approach. The proposal should be submit to head office beyond brand limit. The board of director is the climax lending authority leaving cap like single borrower limit prescribed by NRB. Some banks fix limit to the official based on their layer under both the approaches. In some organization the lending authority is tied up with the knowledge and expertise rather them with the level.

5. Securities:

Liked and disliked securities of bank must be stated in loan policy. Some banks accepts bullions and personal guarantees as securities where as other go more forward then that and demand collateral like land, building etc. likewise the policy should cover the valuator. Guiding factor for selecting collateral are marketability, transferability and convenience.

6. Risk Analysis:

Criteria to be met by borrower for getting loan should be clearly described proper demarcation about liquidity, leverage, efficiency and probability ratios must be established to easy selection of borrowers consistently.

Principle of Loan Policy:

Cautions loan policy is essential to carry out the business of lending consistently. Inevitable policies to be considered and analyzed for granting loan are as follows:

i) Principle of Security:

The banks need collateral (Security) as ushion do grant advances and loans. Adequate values of collaterals ensure the recovery of loan correctly at the right time. Accepted security should be readily marketable, handy and free from encumbrance.

ii) Principle of Profitability:

Profit is the crux for firm's expansion and diversification. Sufficient amount of profit is to be earned by every company for successful day to day operations long-run survival in the competitive environment. Profitability denotes the value created by the use of resource is more than the total of the input resources. The operating efficiency and adequate returns to the investors (shareholders) _____ on earned profit planned deposit and advance policy mainly results profit. Entire activaties must be suit for profitability.

Lending rate also affects profitability and is effected itself by bank's internal policy like central bank's rate, inter bank competition, central ban's directives on lend rates and creation of borrower.

iii) Principle of Safety fund:

Bank borrows (accepts deposits of others) to lend (to grant loan to others). So it deals money and its own common sense. There must be authenticity about the get back of lent money (i.e. loan). It should look the fact that is there any unproductive of speculative venture of dishonest behavior of the borrower.

iv) Principle or Liquidity:

Liquidity denotes short term solvency of the borrower. Liquidity refers to pay on hand on cash when it is needed without having to sell long term assets at loss in unfavorable market. A banker has to ensure that money will come in as on demand or as per agreed terms of repayment. Under it, a banker clarifies that the borrowers have utilized money for their short term needs but not in fixed assets or schemes that take long term finance.

v) Principle of Purpose of Loan:

Purpose for granting loan has obtained supremacy (or attention) over principle of security loan request for productive sector only be accepted rejecting loan for speculation, social functions pleasure trips, ceremonies and repayment of prior loan as they are unproductive.

vi) Principle of Spread

Portfolio of advances is to be spread not only among many borrowers of same industry but across the industries in order to minimize the risk of lending keeping "Do not put your all eggs in the same basket" in mid.

Criteria for Providing Loan:

Set up of well established criteria for disabusing advances and loan is the most essential to survive, thrive and enlargement of the banks. Loan should not be allowed to all demanding parties haphazardly. Actions and inactions taken in haunch to flew loan and advances without systematic, scientific and through study analysis may lead to diteh. Erog, well defined and setup and setup criteria to grant loan must be visible to the personnel. These are positively demonstrated below.

i) Personal Character:

Intensive analysis of loan demander is essential to determine loan disbursement policy. Person character must be studied to know the intension to pay loan. Their practice repay loan, credit worthiness habit to use acquired fund, past trend regarding the receipt and payment of loan are to be reviewed. Dubious person's proposal should not be accepted.
ii) Capacity or Competency:

Whether the person is capable in making contract according to contract Act 2056 or not should be checked out at first. Considering the potent and expertise of persons (borrowers) in concerned field, decision about the flow of loan is to be taken.

iii) Capita:

Examination of loan demander maten his demand with his status and business. This ultimately helps to know the amount of money he needs as investment. Indeed his financial feasibility should be stronger than his demand to get the faith of the lenders.

iv) Security:

Priority should be readily marketable and handy collators. Decision about the flow of loan is made considering nature of business and types of securities proposed. Accept loans having securities about and near about and denies the loan proposal containing inferior quality security.

v) Credit Information:

It is appropriate to get the information relating with loan proponent from the persons or businessmen working together in the concerned sectors. Credit information denotes knowing whether he is black listed or not, his capacity and his demand etc. If information obtained is satisfactory the proposal will be accepted and will b e rejected in reverse plight.

vi) External Environment:

External environment of industry of business shown by loan proponent needs to be evaluated on the eve of providing loan to known the facts about use and salability or right business. It is pivotal to evaluate external environment of business where business origins, thrives and survives since modification of external environment is almost impossible in accordance with motto plight. This aids in understanding forth coming prospects and retrospect's of business as well as given guidance of decision making.

2.2 Review of Related Studies:

It covers review of past studies conducted by other researcher such as review of thesis, research articles and project reports.

2.2.1. Review of Past Theses:

Past these relating to loan of which are considered as relevant to this study is reviewed herein:

Pradhan (1980) has done "A study on investment policy of Nepal Bank Ltd." The objective of this study was to evaluate the lending policy and to find out the ways to encourage the bank lending. This stud has covered only five FYs 2028/29 through 2033/34 he has used Karl Pearson's coefficient of correlation, ratio analysis and percentage analysis in this study. He conceded the positive relationship between deposits and loans and advances. But the same was not in a proportionate manner, greater increase in deposit led to little increase in loan demand. The bank had invested only 3% of its total investment in the priority sector. Which was lower than the percentage (7%) imposed by Nepal Rastra Bank.

Mr. Phanindra Raj Regmi (2039) has submitted a thesis named, "A study of lending policy of ADB in Nepal with regards to poultry farming in Kathmandu Districts" on 2039 to SCD, T.U. He states his research objectives as: The study attempts to evaluate the lending policy of ADB/N especially poultry farming development in Kathmandu district and to show far it has contributed in poultry farming of the district. Its point wise in breakdown are:

- To find out relationship between target and actual disbursement of loans and between demand and sanction of loans of ADB/N in poultry farming in Kathmandu districts.
- 2. To asses the relationship between the target and achievement of repayment of loans of ADB/N in poultry farming in Kathmandu district.
- 3. To determine whether the margin on loan amount has hampered the resource mobilization capacity of the farmers.
- 4. To find out whether the credit provided by ADB/N are satisfactory to the present needs of the poultry farmers.
- 5. To determine problems and prospects of ADB/N.
- 6. To recommend some suggestions in order to make on improvement in the lending policy concerning to poultry farming of ADB/N.

His Major Findings are:

- 1. The reason's why the loan can be disbursed according to the target are found as follows:
 - Delay and long procedure to be satisfied on granting loans.
 - Delay in repayment of loans or delay in loan collection due to inefficient management of bank and misuse of loans.
 - Lack of borrower's previous experience and training in poultry farms.
 - Overflow of credit
- 2. An average sanction is found to be 54.94% of the demand figure, which discourages poultry farmers for further loans from the bank.

- 3. The reasons why the demand is partially accepted or completely rejected are found as follows.
 - Possibility of misapplication of loans.
 - Inadequate marketing facilities.
 - Lack of infeasible site.
 - Lack of technical experience with the poultry farmers.
 - Inadequate security.
 - Inadequate fund and budget.
- 4. The correlation coefficient (r) and probable error (EPR) of target and achievement of loan collection is +0.9 and +0.6 respectively, which denotes high degree of positive co-relationship.
- 5. The reasons why the loan can not be collected in time are found as the following:
 - Misapplication of loan.
 - Farmer's tendencies to the loan as a government subsides.
 - Not to take serious penalties to the defaulters.
 - Unavailability of the project.
 - Lack of experience.
 - Political pressures.
 - No supervision program.
 - Defect in repayment scheduling.
 - Defective payment system.
 - Problems of efficient personnel.
- 6. Out of 19 respondents interviewed, 16 respondents have replied that the bank is providing credit facilities as per their requirements.
- 7. All the respondents have replied that the margin on security has squeeze up their resources mobilization capacity.
- 8. Rate of interest on short term loan is higher than medium term and long term loan.

- 9. Many chickens unfortunately die due to inadequacy of veterinary services and hospitals.
- 10.Use of good sanitation, vaccines and drugs may help to control ill health and premature death of chickens.

Adhikari (1993) has done a study on evaluation of the financial performance of Nepal Bank limited. The objectives of the study was to evaluate the financial performance of Nepal Bank Limited. This study has been limited to the fiscal year 2038/39 through 2046/47. The loan to deposit return on capital return on net worth per share vs market price per share. He concluded that bank had not managed investment portfolio efficiency. Operational efficiency was not satisfactory. Nothing was satisfactory except liquidity position of Nepal Bank Limited during the study period.

Maha Prasad Mainaly (1999) has studied on "An Evaluation of Loan Distribution and Collection of Agricultural Development Bank". His research objectives are as follow:

- i) To study the target of loan disbursement and collection
- ii) To examine the achievement of purpose wise, term wise and development region wise loan disbursement outstanding and collection.
- iii) To analyze the relationship between targeted and achievement of loan recovery.
- iv) To provide suggestions to ADB/N on the basis of finding.

The adopted research methodologies under his research are as follows:

- This study is merely concerned with the primary and secondary data and it based on published and presented data for the loan disbursement and collection ADB/N.
- Descriptive analysis and statistical tools analysis are research designed used by him. He defines descriptive analysis as, "It is difficult go study he principle causes arising from borrow's side and quantity them to relation to the weak repayment performance of ADB/N's loan disbursement. So that some of the causes are studied in help of descriptive analysis.

He states statistical analysis as, "This study is to see the trend situation of loan disbursement and collection" and he further adds, in order to see the trend of loan disbursement and collection. The Karl Person's coefficient of correlation is used to analyze the relationship between loan disbursement and collection.

His study says that both primary and secondary data are collected. Primary data is collected from farmers of Birendra Nagar VDC (Chitwan), who have taken loan from ADB/N. Secondary data is collected from ADB/N in various forms.

Primary data is gathered from questionnaire sent to loan taken farmers of ADB/N whereas journal, publication, planning and project department of ADB/N are sources of secondary data.

Loan disbursement and collection data for ADB/N are the population of the study whereas data for five years (fiscal years) from 1991/92 to 1995/096 are taken as simply for study for study purpose. Collected data are arranged and tabulated there after descriptive studies are made in case of primary date and statistical tools analysis is used for secondary data. Karl Person's Coefficient of correlation, test of hypothesis (i.e. F test and T test and median are used under statistical tools analysis)

Under F-test, there sets of hypothesis are tasted. There is Null hypothesis (H_0) have assumed no vital difference among development region from loan disbursement, loan outstanding and loan collection respectively side by side vice verse as alternative hypothesis (H_1) .

Like wise t-test comprises two sets of hypothesis. Two Null hypothesis have assumed no vital difference between the ratios of targeted loan disbursement and actual loan distribution cum no vital difference between mean ratios of targeted loan collection and actual loan collection. Side by side vice verse as alternative hypothesis (H_1).

His Major Finding are:-

- i) Though targeted loan disbursement and collection are increasing, targeted loan collection of the bank is increasing at decline rate.
- ii) According to correlation coefficient it is found that there is significant relationship between the achievement of loan disbursement and collection i.e. r=0.98 (where, P.E.=0.012) This explain that increase in loan disbursement increases the collection.

- iii) Both actual loan outstanding and loan collection have increasing trend however collection of loan is found fluctuated over the period. This collection is significant between them. i.e. r= 0.099(where, P.E.= 0.006)
- iv) Finding from purpose wise actual loan disbursement, outstanding and collection are increasing and their correlation are significant incase of cereal and cash crop purpose, live stock purpose where as fluctuating in case of go down and cold purpose, farm machine and irrigation purpose, horticulture and agro forestry product purpose, Biogas purpose and etc.

CHAPTER-THREE

RESEARCH METHODOLOGY

A sound research stud needs to follow a proper methodology in order to achieve predetermined objectives. A systematic methodology is considered as inevitable for true fair, better and superior consequences. In fact, research is a scientific inquiry about certain phenomenon or object. Research methodology refers in the various sequential steps to be adopted by a researcher in studying a problem with a certain objective in view. It is way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically It includes the various steps that are generally adopted by a researcher in studying his/her research problem along with logic behind them (Kothari, 2001:39) The basic objective of this study is to examine and to analyze the loan management (i.e. loan disbursement and recovery) of NBL during study period (From F.Y 2060/061 to 2064/065) and to provide recommendation for their financial improvement. Research design nature and sources of data, population and sample data, collection procedure.

3.1 Research Design

A research design is purely and simply the frame work or plan for a study that guide the collection and analysis of the data. Basically the research design has two purposes The first purpose is to answer the research question or test the research hypothesis. The second purpose of a research design is to control variance the descriptive and analytical research design have been used for the study but this study is mainly based on the secondary data. So, analytical research tools are the major tools of the study.

3.2. Source and Nature of Data:

This study is mainly based on secondary data. So the data are extracted mainly from the following secondary sources.

- i) Financial Statement of NBL.
- ii) Annual Reports of NBL.
- iii) Banking and financial statistics published by Rastra Bank.

In addition to above source, supporting data and information have been collected from other secondary sources like newspaper, periodicals and bulletins, moreover qualitative information has been collected from the personnel of concerned bank.

3.3 Population and Sample

Loan disbursement and collection data of NBL are the population of the study out of these five year 059/060, 060/061, 061/062, 062/063, 063/064 period is taken as only sample for this research purpose.

3.4 Data Collection Procedure:

This study is based on secondary data so, the use of secondary data is much more extensive. The required secondary data have been extracted from different sources mentioned in 3-3 some of the information has been acquired from the official records of concerned banks. Frequent visits were paid to the head office (HO) of NBL. Bhugol Park, Baneshower, Kathmandu and central office and western regional office of Nepal Restra Bank in order to collect the required data for this study. The annual reports and audited financial statements of selected banks were collected from the HO of respective banks, banking and financial statics were collected from the central office of NRB.

During the visit to the H_0 of Selected banks and central office of NRB, discussions with the bank officials were held in order to explore the qualitative information on the performance of the banks.

3.5. Data Processing:

For the purpose of study, necessary data have been collected from the published documents audited financial statements and annual reports of selected banks. The qualitative and supporting information have been collected through the interaction with the concern officials of the selected banks. First of all necessary data extracted from the published documents, annual reports and audited financial statements were recorded in master sheet manually. Then data were entered into the spreadsheet to work out the financial ratios and prepare the necessary figures finally.

3.6. Method of Data Analysis:

Any analytical tools cab be used in solving the problem of the study. For the purpose of the study, all calculated primary as well as secondary data are arranged, scanned, tabulated under various heads and then after descriptive cum statistical analysis have been carried out to en light the study.

Mean, standard deviation, correlation, coefficient of variation, hypothesis are being calculated under statistical analysis. Hypothesis is especially tasted to prove the significance of the study. "Financial analysis is the stating point for making plans before using any sophisticated forecasting and budgeting procedure." (Pandey 1999 108) Hence, ratio analysis is used under financial analysis to attain the result after tabulating the data.

3.6.1 Financial Tools:

Ratio analysis:

A ratio is a quotient of two mathematical expressions. Establishment of quantitative relation of data by the financial statement is called ratio analysis. In other words, a financial ratio is the mathematical expression of relationship of two accounting figures. It helps in taking decision since it helps to establish relationship among various ratios and interpretation there on. Inter-firm comparison between past and present rates for the same firm gives enormous and fruitful results to test the financial performance. Ratio helps to summarize the large quantities of financial data and to make qualitative judgment about the firms financial performance a single ratio in itself does not indicate favorable condition. It should be compared with some standard.

There are various rates in this study only the ratios relived to the study are calculated and analyzed.

3.6.1.1 Liquidity Rates:

"Liquidity refers to pay one hand on cash when it needed without having to sell long term assets at loss in unfavorable market." Inadequate liquidity will result turn oil in confidence of creditors and excess liquidity is also not sound since fund are held idle and there is no earning firm's liquidity position would be demand as good if it were able to meet its short-term obligation whenever they become due. The liquidity ratios are particularly useful in credit analysis by bank and others suppliers of short term loan. Hence Liquidity is the ability on an asset. To be the converted into cash without price concession. (Van Horne and Woliz, 1996, P- 128) The following Liquidity ratios have been calculated in order to exhibit the liquidity position of the "NBL."

(i) Current Ratio:

It provokes about the short term solvency of the firms. It established the relationship between current assets and current liquidities of which is expressed as;-

Current Ratio= $\frac{Current Assets}{Current Libialities}$

Current assets are those asserts, which can converted into cash within a year and so it includes cash and bank balance investment in treasury bills ,bills purchased and discounted customer acceptance liabilities denote current account deposit, saving account deposits margin deposits, bills payable, call deposit, bank overdraft, intra bank reconciliation account, provisions, customer's acceptance liabilities and so on.

For many forms of business 2:1 is considered to be an adequate ratio. A higher ratio indicates better liquidity position. However a very high current ratio many indicate requirements and poor credit management in terms of over expanded account receivable. If the current ratio is less than 2:1 the solvency position of the firm is not good.

(ii) Cash and Bank Balance to Total Deposit Ratio:-

This Ratio points the Banks capacity to cover their deposits like current, calls, saving and margin. A higher Ratio is performed since finance company is able to cover deposits. It can be expressed as:

Cash and Bank Balance to total Deposit Ratio = $\frac{Cash And Bank Balance}{Total Deposit}$

(iii) Cash and Bank Balance to Current Asset Ratio:

This Ratio highlights the percentage of readily available fund with the bank. A higher ratio is preferable like the carrier staled ratios in its case too. It is calculated as:

Cash and Bank Balance to Current Asset Ratio =

Cash And Bank Balance Current Assets

(iv) Cash And Bank Balance to Current Deposit Rate

The Ratio is computed to disclose the soundness of the Bank to pay total calls Made of current deposit. It can be expressed as:

Cash and Bank Balance to Current Deposit = $\frac{Cash And Bank Balance}{Current Deposits}$

v) Mandatory Balance Ratio:

Ratio obtained by keeping balance of NRB and total deposits and borrowing as numerator and denominator is known as mandatory balance ratio. Its ideal standard prescribed by NRB under directives to finance company's (2058 B.S.)

vi) Liquid Assets Ratio:

Liquid assets comprises cash balance in own locker, investment in government, debenture and NRB bond, balances in commercial bank as deposits and balance in national level development banks. It is computed as:

Liquid Assets Ratio = $\frac{Liquiid Assets}{Total Deposit}$

3.6.1.2 Activity (Turnover/Efficiency/Utilization) Ratios:

Activity or turnover ratios are also called efficiency ratios. There ratios measure the degree of effectiveness in using the resources of the firm. The higher ratio denotes the efficiency of management in utilizing its resources and vice versa.

The following ratios are used analyze the effectiveness of the activities of concerned bank.

i) Loan and Advance to Total Deposit Ratio:

It measures the banks' success in utilizing the outsider's funds for generating profit. It explains how quickly total collected funds are converted into loan and advances. It is shown as:

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

Higher ratio is favorable since it flashes out of the efficiency of the bank in term of making effective loan and advances.

ii) Loan and Advances to Fixed Deposit Ratio:

It measures how many times the amount is used in loans and advances against fixed deposit. Fixed deposits are interest bearing long term obligations where as loans and advances are major sources of investment in generating income for commercial banks. It is calculated as:

Loan and Advances to Fixed Deposits = $\frac{Loan \text{ and } Advances}{Fixed \text{ Deposits}}$

Higher ratio indicates effective utilization of fixed deposit into loans and advances.

iii) Loans and Advances to Saving Deposits:

It measures the ability of bank in mobilizing saving deposits funds into loans and advances. Saving deposit is interest bearing short-term obligation as well as the main source of investment in loan and advances for generating income. A higher ratio is preferable in its case too. It is computed as:

Loan and Advances to Saving Deposit Ratio= $\frac{Lans \text{ and } Advances}{Saving Depoist}$

iv) Loan and Advances to Total Assets Ratio:

It measures the ability in mobilizing total assets into loans and advances for generating income. A higher ratio is considered as an adequate symbol for effective utilization of total assts of Bank to loan and advances of which creates opportunity to earn more and more.

It is calculated as:

Loan and Advances to Total Asset Ratio= $\frac{Lans \text{ and } Advances}{Total Assets}$

v) Performing Assets to Total assets Ratio:

It tells the percent of performing assets (good loan) on total assets. It is useful to know the fact whether the good loan is increasing or not. We can generate more earning by increasing good loan and reducing bad and inferior loan. It teaches us to invest sources of fund only on good loan (i.e. profitable venture). It is computed as:

Performing Assets Ratio=
$$\frac{Perfor \min g \ Assets}{Total \ Assets}$$

3.6.1.3 Profitability Ratios:

Profit is paramount factor for firms expansion and diversification sufficient amount of profit is to be earned by every company for successful day-today operations cum long-run survival in the competitive environment. The operating efficiency and its ability to ensure adequate return to its shareholders (investors) ultimately depend upon the profit earned by it. Profitability denotes the value created by the use of resources is more than the total of the input resources. A higher profitability ratio represents as symbol of good management and viceversa.

Some if the important profitability ratios used here as follows.

(i) Net profit to Total Assets Ratio (Return on Total Assets ROA)

It measures the profitability of fund invested in the bank assets. It is computed by dividing profit by total assets excusing profit and loss account (i.e. debt side). Higher ratio is preferable since it has more operating efficiency of the firm and vice versa. It is expressed as:

Net Profit to Total Ratio= $\frac{NEt \operatorname{Pr} ofit}{Total Assets}$

(ii) Net Profit to Total Deposit Ratio:

Deposits are disbursed as loans and advances to public in generating revenue. It measures the internal rate of return from the utilization of total assets. Higher ratio represents the effective utilization of total deposit by the Bank. It is computed as:

Net Profit to Total Deposit Ratio= $\frac{Net POrofit After Tax}{Total Deposit}$

iii) Return on Net Worth (Rot)

Net worth denotes the owner's claim in the assets of the bank's remain after subtracting total external liabilities from total assets here, total assets represent all the assets beside accumulated loss and intangible assets. The ratio exhibits the rate of return (Net Profit) earned on Net worth (or shareholders fund or equity) Its computation is to be done as:

Return of Net Worth= $\frac{Net POrofit After Tax}{Total Pr of it}$

Net Worth = Total assets - External liabilities

Higher ratio represent higher efficiency in utilizing its available resources.

(iv) Interest Earned to Total Assets:

It measures the relationship between interest earned and total assets. A higher ratio is considered as significant measure to gauge interest earning efficiency of the firm in relation to the total assets. It is computed by dividing interest earned to total assets. It is found out as follows:

Interest Earned to Total Assets = $\frac{Total \ Income}{Total \ Assets}$

3.6.1.4 Capital Structure/Leverage Ratio

The leverage ratio examines long-term solvency of the firm. The long term creditors would judge the soundness of a firm on the basis of the long term financial strength measured in term of its ability to pay the interest regularly as well as to repay the installment of the principal on due dates or in a lamp sum at the time of maturity. From above it is clear that capital structure ratios are calculated to reflect the long term financial solvency of a firm. The following ratios are calculated under it.

i) Total Debt to Total Assets:

It examines the relationship between borrowed funds and total assets. It shows the relative extent to which the firm is using borrowed money. A

lower ratio is preferable since it reduces the distress of the creditors by using more amount of equity on total assets. It is computed as:

Debt to Assets Ratio = $\frac{Total Debt}{Total Assets}$

ii) Total Debt to Equity Ratio:

It examines the relationship between borrowed funds and owner's capital (i.e. Shareholders' equity). It is the ratio of the amount invested by outsiders to the amount invested by the owners of the business. A higher ratio shows the large share of financing by the creditors than that of owners. It indicates the margin of safety to the owners. A Creditors prefer low debt-equity ratio. A low debt-equity ratio implies larger safely margin for creditors.

Debt -equity ratio = $\frac{Total \, Debt}{Shareholder's Equity}$

The shareholders equity includes paid up capital, share premium, reserve fund, dividend equalization fund, profit and loss account, other reserves and funds. Likewise total debt, long term and short term debt.

iii) Interest Coverage Ratio:

It indicates the firms ability to cover interest charges. It is also identified as time interest earned ratio. The ratio measures the debt servicing capacity of a firm in so far as fixed on long-term loan is concerned. It is computed as:

Interest Coverage Ratio =
$$\frac{EBIT}{Interest Expenses}$$

Higher interest coverage ratio is preferable to the creditors since it gives more assurance to them. However, too high ratio may imply unused debt capacity. In constraint, a low ratio is danger that the firm is using excessive debt and does not have the ability to offer assured payment of interest to the creditors.

3.6.1.5 Other Ratios:

The following ratios are computed under this head.

i) Earning Per Share (EPS)

The earning per share is calculated by dividing the net profit after taxer less preference dividend by the total number of common share the formula for calculating this ratios.

 $EPS = \frac{NPAT - Pr \, eference \, Dividend}{No. of \, Common \, Shares}$

ii) Dividend Per Share (DPS):

The whole amount of earning may or may not be distributed to shareholders by a company. How much per share the dividend is distributed to common shareholders can be known from this ratio. The dividend distributed among the common shareholders on a per share basis can be determined by this ratio. It can be calculated as:

 $DPS = \frac{Total \, Dividend}{Number \, of \, common \, Stock}$

iii) Dividend Payout Ratio (D/P Ratio)

This ratio shows the relation between the returns belonging to equity shareholders and the dividend paid to them. The purpose of calculating this ratio is to know the portion of dividend distributed out of total earning. It can be calculated as:

 $D/P \text{ Ratio} = \frac{Dividend Per Share}{Earning Per Share}$

iv) Tax Per Share:

Every firm has to pay to the concern authority of the government whenever profit is being acquired. It is the amount of tax paid on its each share. The quotient, obtained by dividing the amount of tax paid to the government by the number of common stock held (outstanding) is tax per share. It is displayed as:

 $TPS = \frac{Tax Paid to Government}{Number of Common Stock Held}$

3.6.2 Statistical Tools:

For supporting the study, statistical tools such as mean (average), standard deviation, coefficient of variation, correlation and hypothesis are used in this study.

3.6.2.1 Arithmetic Mean (Average)

"Average are statistical constants which enables us to comprehend in a single effort the significance of the whole. (Bowley, and Gupta, 2000, p-35). Arithmetic mean represents the entire data by a single value. It provides the gist and gives the bird's eye view of the huge mass of unwieldy numerical data. It is calculated as:

$$\overline{X} = \frac{\Sigma x}{N}$$

Where,

| X | = | Mean value of Arithmetic Mean |
|------------|---|-------------------------------|
| N | = | Number of Observations |
| ΣX | = | Sum of observations. |

3.6.2.2 Standard Deviation (S.D.)

The standard deviation measures the absolute dispersion. The greater the amount of dispersion greater the standard deviation. 'Karl Person

Introduced the concept of standard deviation and is denoted by the small reek Letter "6" (read as sigma).

The formulas to calculate the S.D. is given below.

$$\sigma = \sqrt{\left[\frac{\Sigma x^2}{N} - \left(\frac{\Sigma x}{N}\right)^2\right]}$$

Where,

$$\sigma$$
 = Standard Deviation
 $\frac{\Sigma x^2}{N}$ = Sum of squares of observation
 $\left(\frac{\Sigma x}{N}\right)^2$ = Sum of squares of mean

This topic has been presented following relationship

- 1. Correlation between Loan and Advances and Interest
- 2. Correlation between Loan and Advances and Total Deposit
- 3. Correlation between Performing Loan and Total Loan
- 4. Correlation between Loan and Advances to Total Assets.

3.6.2.3 Coefficient of Variation (C.V.)

Standard deviation is an absolute measure of dispersion. The relative measured of dispersion based on standard deviation is known as coefficient of variation. The coefficient of variation is the relative measure of dispersion, comparable across distribution which is defined as the ratio of the standard deviation to the means expressed in percent. The small value of C.V. means high degree of consistency in the observed distribution and vice versa. The coefficient of variation (C.V.) is given by following formula and this gives the percentage.

C.V. =
$$\frac{\sigma}{\overline{X}}$$

Where,

| \overline{X} | = | Mean |
|----------------|---|--------------------------|
| σ | = | Standard Deviation |
| C.V. | = | Coefficient of Variation |

3.6.2.4 Correlation (r)

Correlation is an analysis of the covariance between two or more variable and it deals to determine the degree of relationship between the variables. Correlation just says the degree of relationship between two or more variables increase or decrease in one cause increase or decrease in another then such variables are correlated variable. The reliability of the value of coefficient of correlation is measured by probable error the correlation coefficient between two variables describes the degree of relationship between those two variables. It interprets whether two or more variables are correlated positively or negatively.

This tools analysis relationship between those variable of the bank wich are helpful to make appropriate credit management policy regarding deposit collation, investment and profit maximization. The Karl person coefficient of correlation (r) is given by the formula.

$$\mathbf{rxy} = \frac{N\Sigma xy - \Sigma x\Sigma y}{\sqrt{N\Sigma x^2 - (\Sigma x)^2}\sqrt{N\Sigma y^2 - (\Sigma y)^2}}$$

Where,

rxy = Correlation between x and y

 $N\Sigma xy = product of No of observation and sum of product of x and y.$

 $\Sigma x \Sigma y = \text{Product of Sum } x \text{ and Sum } y$

3.6.2.5 Coefficient of Determination (**R**²)

It explains the variation percent derived in dependent variable due to the any one specified variable. It denotes the fact that the independent variable is good predictor of the behavior of the dependent variable. It is square of correlation coefficient.

3.6.2.6 Trend Analysis:

Trend analysis is one of the most useful statistical tools. In financial statement analysis, the direction of change over period of years is crucial important. Trend analysis of ratios indicates the direction of change. This kind of analysis is particularly applicable to the items it profit and loss account. It is a significant tool of horizontal financial analysis. It is a dynamic method to indicate the change and deviation in items of financial statements. Trend analysis helps to identify the controllable in terms of given period and future forecast can be made for on going concern.

This statistical tools in making a comparative study of the financial statements of number of years. It describes the average relationship between two series where the one series relates to time and other series to the value of a variable. It is generally shows that the line of the best-fit or straight line is obtained or not. The line of the best fit describes the changes in a given series accompanying a unit change in time. Another word, it gives the best possible mean values of dependent variable for a given of independent variable. In this study trend analysis is used as time series analysis based on time. For the calculation of time series by following equation formula.

$$Yc = a + bx$$

Where,

- Yc= The estimated value of y for given value of x obtained from the line of regression of y on x.
- a= constant value

b= slop of the trend line

x = Independent variable

$$a = \overline{y} - b\overline{x}$$
$$b = \frac{N\Sigma xy - \Sigma x\Sigma y}{N\Sigma x^{2} - (\Sigma x)^{2}}$$

Where, $\Sigma y = sum of the observation in series y$

 $\Sigma xy = sum of the observation in series x & y$

 Σx^2 = sum of the square of the observation in series x

This topic has been presented following:

- → Trend analysis of Loan Investment
- \rightarrow Trend analysis of Loan and Advances
- → Trend analysis of Total Deposit
- → Trend analysis of Net Profit

CHAPTER-IV

PRESENTAION AND ANALYSIS OF DATA

4.1. Introduction

The major objective of this study is to have a correct insight about loan management (disbursement and recovery) of NBL. The data collected for the study have been depicted in tabular form analyzed with the help of ratio analysis, pictorial and diagrammatic presentation, trend analysis, correlation, arithmetic mean, standard deviation, coefficient of variation followed by hypothesis testing for achieving the stated objective, analysis is being conducted for five year period (i.e. from 2059/60-2063/64). Existing chapter is systematically subdivided into 3 different subchapters.

4.2 Analysis of Management of Loan Disbursement

Management of loan disbursement refers to identifying and investing sources of fund in the forms of loan and advances to capitalize prospects opportunities and action done for that. Lending money as loan and advances is not just like giving alms to the beggars. Hence, it requires wise and rational practices.

4.2.1. Financial Analysis

It is process as well as managing overall activities of loan. It is guided by loan policy of institution itself and side by side.

Analysis of origination through all major four types of ratios provides view about the overall performance of the organization. Hence all the ratios are analyzed here giving more places to loan related ratios.

A) Analysis of Liquidity Ratios

i) Current Ratio

Table No. 4.1

Current Ratio

Rs. in Million

| Year | Current Assets | Current Liabilities | Current Ratios |
|---------------------------------|----------------|---------------------|----------------|
| 059/060 | 27161.010 | 49647.712 | 0.54 |
| 060/061 | 32961.787 | 53176.823 | 0.62 |
| 061/062 | 32658.856 | 54470.720 | 0.60 |
| 062/063 | 28982.870 | 37507.480 | 0.77 |
| 063/064 | 34448.000 | 45505.880 | 0.76 |
| Average | 0.66 | | |
| Standard D | 0.0789 | | |
| Coefficient of Variation (C.V.) | | | 0.1195 |

Source: Annual report (year 2059/060 to 063/064)

Figure No. 4.1



Current Ratio

Source: Table No. 4.1

The above table clearly shown that the current ratio of NBL is always bellows the standard of NBL is always below the standard i.e. 2:1. It has ranged between maximum of 0.77 to minimum of 0.54 times over the study period. C.V. is not very high so there is less fluctuation. This shows that the bank is supposed to trying to increase its liquidity position to meet its current obligations.

ii) Cash and Bank Balance to Total Deposit Ratio:

Table No. 4.2

Cash and Bank Balance to Total Deposit

Rs. in Million

| Year | Cash and Bank Balance | Total Deposit | Current Ratios |
|------------|-----------------------|---------------|----------------|
| 059/060 | 4595.173 | 35014.001 | 0.1312 |
| 060/061 | 5861.071 | 35735.044 | 0.164 |
| 061/062 | 6159.330 | 35934.163 | 0.1714 |
| 062/063 | 7174.050 | 35829.765 | 0.20 |
| 063/064 | 7117.290 | 39014.204 | 0.182 |
| Average | 0.16972 | | |
| Standard I | 0.02275 | | |
| Coefficien | 0.1314 | | |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.2



Cash and Bank Balance to Total Deposit

From the above table it is observed that the cash and bank balance to total deposit ratio varies from maximum of 20 to minimum 13.12% with an average 16.97%.

Fluctuation is also low causes of the less CV. It has minimum cash & bank balance ratio. This shows that the investment of funds is high.

iii) Cash and Bank Balance to Current Assets Ratio:

Cash and bank balance to current assets = $\frac{Cash \& Bank Balance}{Current Assets}$

The cash & Bank balance to current assets of NBL for the period 2059/60 to 2063/064 can be presented as:

Source: Table No. 4.2

Table No. 4.3

Cash and Bank Balance to Current Assets Ratio

Rs in Million

| Year | Current Assets | Cash & Bank Balance | Ratio |
|---------------------------------|----------------|---------------------|--------|
| 059/060 | 27161.010 | 4595.173 | 0.17 |
| 060/061 | 32961.787 | 5861.071 | 0.18 |
| 061/062 | 32658.86 | 6159.33 | 0.19 |
| 062/063 | 28982.870 | 7174.05 | 0.25 |
| 063/064 | 34448.00 | 7117.29 | 0.21 |
| Average | 0.2 | | |
| Standard | 0.0283 | | |
| Coefficient of Variation (C.V.) | | | 0.1414 |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.3

Cash and Bank Balance to Current Assets Ratio



Source: Table No. 4.3

From the above table it is observed that the cash and bank balance to current asset ratio varies from maximum of 25% and minimum of 17%. The average ratio is 20% C.V. is less 50 fluctuation is also less.

iv) Liquid Assets Ratio

Table No. 4.4

Liquid Assets Ratio

| Year | Liquid Assets | Total Deposit | Ratio |
|------------|---------------|---------------|--------|
| 059/060 | 14713.31 | 35014.001 | 0.42 |
| 060/061 | 21956.98 | 35735.044 | 0.6144 |
| 061/062 | 18458.79 | 35934.163 | 0.5137 |
| 062/063 | 14492.623 | 35829.765 | 0.4045 |
| 063/064 | 18375.82 | 39014.204 | 0.471 |
| Average | 0.4847 | | |
| Standard I | 0.0747 | | |
| Coefficier | 0.1556 | | |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.4





Source: Table No. 4.4

The above table shows that the liquid asset ratio range is 40% minimum to 61% maximum and average it is 48% over the research period. The liquid assets ratio seems to be gradually reduced year by year from the 2^{nd} year and last year it was increased.

v) Mandatory Balance Ratio

Table No. 4.5

Mandatory Balance Ratio

| | | Rs | in Million |
|---------------------------------|----------------|---------------------------|------------|
| Year | Balance at NRB | Total Deposit & Borrowing | Ratio |
| 059/060 | 2649.311 | 35014.001 | 0.0757 |
| 060/061 | 4232.386 | 35735.044 | 0.1184 |
| 061/062 | 4508.554 | 37181.23 | 0.1213 |
| 062/063 | 5353.964 | 37547.21 | 0.1425 |
| 063/064 | 5224.859 | 40619.072 | 0.1286 |
| Average | 0.1173 | | |
| Standard I | 0.223 | | |
| Coefficient of Variation (C.V.) | | | 0.1904 |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.5



Mandatory Balance Ratio

Source: Table No. 4.5

According to above table NBL has the following mandatory balance ratio during the study period is 7.57%, 11.84%, 12.13%, 14.25%, 12.86% respectively. From this above analysis NBL's manufactory ratio is over than 1%.

B) Analysis of Activity Ratios:

A analysis of loan and advances to total deposit ratio:

i) Loan and Advance to Total Deposit

Table No. 4.6

Loan and Advances to Total Deposits

| Year | Loan and | Total Deposit | Ratio |
|------------|----------|---------------|--------|
| | Advances | | |
| 059/060 | 7971.10 | 35014.001 | 0.2276 |
| 060/061 | 8881.823 | 35735.044 | 0.2485 |
| 061/062 | 8218.91 | 35934.163 | 0.2287 |
| 062/063 | 9756.16 | 35829.765 | 0.2723 |
| 063/064 | 11058.48 | 39014.204 | 0.2834 |
| Average | 0.2521 | | |
| Standard I | 0.02257 | | |
| Coefficier | 0.0895 | | |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.6



Loan and Advances to Total Deposits

Source: Table No. 4.6

The above table sows that the loan and advances to total deposit ratio of NBL various from maximum 28.34% to minimum 22.76% with an average of 25.21% during the study period. The analysis shows that bank is no utilizing its total deposit by extending loans and generating profit.

ii) Loans and Advances to Fixed Deposit Ratio:-

Table No. 4.7

Loan and Advances to Fixed Deposits Ratio

Rs in Million

| Year | Loan and | Fixed Deposit | Ratio |
|------------|----------|---------------|--------|
| | Advances | | |
| 059/060 | 7971.10 | 8389.96 | 0.2276 |
| 060/061 | 8881.823 | 7815.95 | 0.2485 |
| 061/062 | 8218.91 | 6191.01 | 0.2287 |
| 062/063 | 9756.16 | 5222.45 | 0.2723 |
| 063/064 | 11058.48 | 5393.45 | 0.2834 |
| Average | 1.46 | | |
| Standard I | 0.4244 | | |
| Coefficier | 0.291 | | |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.7



Loan and Advances to Fixed Deposits Ratio

The above table shows that loan & advances to fixed deposit ratio of NBL various from maximum 2.05 to minimum 0.94 with an average of 1.46% during the study period.

It shows that loan and advance to fixed deposit ratio has increasing trend. It means NBL has utilization of fixed deposit.

From this above ratio shows that NBL use more loan and advances than collection of fixed deposits.

Source: Table No. 4.7

iii) Loan & Advances to Saving Deposit.

Table No. 4.8

| | Loan and Advances to Saving Deposit | | | | |
|------------|-------------------------------------|----------------|-------|--|--|
| Year | Loan and Advances | Saving Deposit | Ratio | | |
| 059/060 | 7971.10 | 21628.04 | 0.367 | | |
| 060/061 | 8881.823 | 22204.40 | 0.40 | | |
| 061/062 | 8218.91 | 23489.13 | 0.35 | | |
| 062/063 | 9756.16 | 24122.92 | 0.40 | | |
| 063/064 | 11058.48 | 26427.20 | 0.42 | | |
| Average | 0.3874 | | | | |
| Standard I | 0.0253 | | | | |
| Coefficier | 0.0653 | | | | |

Loan and Advances to Saving Deposit

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.8



Loan and Advances to Saving Deposit

The above table shows that the loan and advances to saving deposit ratio of NBL various from maximum 42% to minimum 36.7% with an average 38.74% during the study period. The analysis shows that the bank is not able to provide loan and advances from its saving deposit.

Source: Table No. 4.8
iv) Loan and Advances to Total Assets Ratio

Table No. 4.9

Loan and Advances to Total Assets Ratio

| Year | Loan and Advances | Total Assets | Ratio |
|------------|-------------------|--------------|--------|
| 059/060 | 7971.10 | 39816.49 | 0.20 |
| 060/061 | 8881.823 | 44161.88 | 0.2011 |
| 061/062 | 8218.91 | 47045.15 | 0.1747 |
| 062/063 | 9756.16 | 35918.90 | 0.2716 |
| 063/064 | 11058.48 | 39258.79 | 0.2816 |
| Average | 0.2258 | | |
| Standard I | 0.0427 | | |
| Coefficier | 0.1889 | | |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.9



Loan and Advances to Total Assets Ratio

Source: Table No. 4.9

The above table shows that the loan and advances to total asset ratio of NBL various from maximum 28.16% to minimum 17.47% with an average of 22.58% during the study period. It shows that NBL is not capable in utilizing total assets in the form of loan and advances.

v) Performing Assets (Loan) to Total Assets

Table No. 4.10

Performing Assets to Total Assets

| Year | Performing Assets | Total Assets | Ratio |
|---------------------------------|-------------------|--------------|--------|
| 059/060 | 6923.867 | 39816.49 | 0.1739 |
| 060/061 | 8297.58 | 44161.88 | 0.1878 |
| 061/062 | 8447.52 | 47045.15 | 0.1795 |
| 062/063 | 10179.37 | 35918.90 | 0.2833 |
| 063/064 | 11892.84 | 39258.70 | 0.3029 |
| Average | | | 0.2255 |
| Standard Deviation (S.D.) | | | 0.0557 |
| Coefficient of Variation (C.V.) | | | 0.2471 |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.10

Performing Assets to Total Assets



Source: Table No. 4.10

From this table shows that performing assets to total asset ratio of NBL are 17.39%, 18.78%, 17.95%, 28.33% and 30.29% respectively during the research period. Which shows that performing assets to total assets ratio is increase expect 3^{rd} year?

C) Profitability Ratio

i) Net Profit to Total Assets Ratio (ROA)

Table No. 4.11

Net Profit to Total Assets to Return on Assets (ROA)

| | | ŀ | Rs in Million |
|---------------------------|------------------------|--------------|---------------|
| Year | Net Profit | Total Assets | Ratio |
| 059/060 | -251.73 | 39816.49 | -0.0063 |
| 060/061 | 710.40 | 44161.88 | 0.0161 |
| 061/062 | 1730.13 | 47045.15 | 0.0367 |
| 062/063 | 1207.26 | 35918.90 | 0.0336 |
| 063/064 | 226.95 | 39258.70 | 0.0058 |
| Average | | | 0.0172 |
| Standard Deviation (S.D.) | | | 0.0163 |
| Coefficier | nt of Variation (C.V.) | | 0.949 |
| | | | |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.11





Source: Table No. 4.11

The above table shows that the Net profit to total assets ratio of NBL various from maximum 3.67 to minimum -0.63% with an average 1.72% during the study period. The analysis indicates that the bank has not been able to generate surplus by utilizing assets efficiently.

ii) Net Profit to Total Deposit Ratio

Table No. 4.12

Net Profit to Total Deposit Ratio

| | | 1 | KS IN MILLION |
|---------------------------|-----------------------|---------------|----------------------|
| Year | Net Profit | Total Deposit | Ratio |
| 059/060 | -251.73 | 35014.001 | -0.0072 |
| 060/061 | 710.40 | 35735.044 | 0.0199 |
| 061/062 | 1730.13 | 35934.163 | 0.0481 |
| 062/063 | 1207.26 | 35829.765 | 0.0337 |
| 063/064 | 226.95 | 39014.204 | 0.0058 |
| Average | 0.021 | | |
| Standard Deviation (S.D.) | | | 0.01959 |
| Coefficien | t of Variation (C.V.) | | 0.9746 |

Source: Annual report (year 2059/060 to 063/064)

Figure No. 4.12



Source: Table No. 4.12

The above table shows that the net profit to total deposit ratio of NBL various from maximum 4.81% to minimum -0.72% with an average 2.01% during the study period on the 3^{rd} year Net profit ratio is maximum and then after it is decreasingly. The table shows that the bank is not able to generate profit by using its deposits.

iii) Net Profit to Net Worth or Return on Equity (ROE)

Table No. 4.13

Net Profit to Return on Equity

| | | l | Rs in Million |
|---------------------------------|------------|-----------|----------------------|
| Year | Net Profit | Net Worth | Ratio |
| 059/060 | -251.73 | -9831.132 | 0.0256 |
| 060/061 | 710.40 | -9014.526 | -0.0788 |
| 061/062 | 1730.13 | -7425.546 | -0.2323 |
| 062/063 | 1207.26 | -6301.456 | -0.1916 |
| 063/064 | 226.95 | -6247.516 | -0.0363 |
| Average | | | -0.1027 |
| Standard Deviation (S.D.) | | | 0.0961 |
| Coefficient of Variation (C.V.) | | | -0.9354 |

Source: Annual report (year 2059/060 to 063/064)

Figure No. 4.13

Net Profit to Return on Equity



Source: Table No. 4.13

The above table shows that the net profit to net worth ratio of NBL varies from maximum 2.56% to minimum -23.23% with an average -10.27%. during the study period, This analysis indicates that profit earning in relation to its share holders equity is in worst position.

iv) Interest Earned to Total Assets:

Table No. 4.14

Interest Earned to Total Assets Ratio

Rs in Million

| Year | Interest Earned | Total Assts | Ratio |
|---------------------------------|-----------------|-------------|----------|
| 059/060 | 2200.31 | 39816.49 | 0.0553 |
| 060/061 | 1825.04 | 44161.88 | 0.0413 |
| 061/062 | 1987.12 | 47045.15 | 0.0422 |
| 062/063 | 2049.03 | 35918.90 | 0.0570 |
| 063/064 | 1848.61 | 39258.70 | 0.0471 |
| Average | 0.0486 | | |
| Standard Deviation (S.D.) | | | 0.007683 |
| Coefficient of Variation (C.V.) | | | 0.1580 |

Source: Annual report (year 2059/060 to 063/064)

Figure No. 4.14

Interest Earned to Total Assets Ratio



Source: Table No. 4.14

The above table shows that the interest earned to total assets ratio of NBL various from maximum 5.70% to minimum 4.13% with an average of 4.86 during the study period.

D) Capital Structure/Leverage Ratio:

i) Debt Assets Ratio:

Table No. 4.15

Debt Assets Ratio

Rs in Million

| Year | Total Debt | Total Assts | Ratio |
|---------------------------------|------------|-------------|-------|
| 059/060 | 49647.62 | 39816.49 | 1.25 |
| 060/061 | 53176.41 | 44161.88 | 1.20 |
| 061/062 | 54470.68 | 47045.15 | 1.16 |
| 062/063 | 42219.96 | 35918.90 | 1.18 |
| 063/064 | 45506.30 | 39258.70 | 1.16 |
| Average | 1.19 | | |
| Standard Deviation (S.D.) | | | 0.035 |
| Coefficient of Variation (C.V.) | | | 0.028 |

Source: Annual Report (Year 2059/060 to 063/064)

Figure No. 4.15



Debt Assets Ratio

Source: Table No. 4.14

Higher the debt ratio higher financial risk as well as increasing claims of outsiders in total assets conventionally a ratio of 1:2 is considered satisfactory.

The above table shows that debt financing of NBL is excessively high or in other words they have excessively geared capital structure. Which implies that, the bank has riskier debt financing position.

ii) Total Debt to Equity Ratio:

Table No. 4.16

Total Debt to Equity Ratio

| Rs in 1 | Million |
|---------|---------|
|---------|---------|

| Year | Total Debt | Total equity | Ratio |
|---------------------------------|------------|--------------|-------|
| 059/060 | 49647.62 | -9831.13 | -5.05 |
| 060/061 | 53176.41 | -9014.53 | -5.90 |
| 061/062 | 54470.68 | -7425.55 | -7.33 |
| 062/063 | 42219.96 | -6301.45 | -6.70 |
| 063/064 | 45506.30 | -6247.52 | -7.28 |
| Average | -6.45 | | |
| Standard Deviation (S.D.) | | | 12.93 |
| Coefficient of Variation (C.V.) | | | 2.01 |

Source: Annual report (year 2059/060 to 063/064)

The above table shows that the total debt to total equity ratio of NBL is in negative form and generally a ratio of 50:50 is considered to be good depending upon the type of the organization. The analysis indicates that the bank is highly leveraged because the claim of the outsiders exceeds than those of the owners over the bank assets.

iii) Interest Coverage Ratio:

Table No. 4.17

Interest Coverage Ratio

Rs in Million

| Year | EBIT | Interest Expenses | Ratio |
|---------------------------------|----------|-------------------|-------|
| 059/060 | 1333.87 | 1585.60 | 0.84 |
| 060/061 | 1735.13 | 1025.53 | 1.69 |
| 061/062 | 2479.08 | 748.95 | 3.31 |
| 062/063 | 1981.585 | 774.325 | 2.56 |
| 063/064 | 999.59 | 772.644 | 1.30 |
| Average | | | 1.94 |
| Standard Deviation (S.D.) | | | 0.89 |
| Coefficient of Variation (C.V.) | | | 0.46 |

Source: Annual report (year 2059/060 to 063/064)

Interest coverage ratio of NBL are 0.84, 1.69, 3.31, 2.56end 1.30 respectively during the study period. It range is between 0.84 to 3.31 times and this and this tells that debt servicing capacity of this bank is high.

Higher interest coverage ratio is preferable to the creditors since it gives more assurance to them.

E) Other Ratios:

i) Earning Per Share (EPS):

Table No. 4.18

Earning Per Share

| | | ŀ | Rs in Million |
|---------------------------|------------------------|---------------|----------------------|
| Year | NPAT | No. of Equity | EPS |
| 059/060 | -251730672.06 | 3803826 | -66 |
| 060/061 | 710391389.09 | 3803826 | 187 |
| 061/062 | 1730129700.00 | 3803826 | 455 |
| 062/063 | 1207264860.00 | 3803826 | 317 |
| 063/064 | 226952911.00 | 3803826 | 60 |
| Average | | | 191 |
| Standard Deviation (S.D.) | | | 183.73 |
| Coefficier | nt of Variation (C.V.) | | 0.96 |

Source: Annual Report (Year 2059/060 to 063/064)

The above table shows that EPS of NBL is negative form an then increase upto 061/062 and then decrease during the study period. It is not satisfactory as per share holders concern.

ii) Analysis of Loan Loss Provision to Loan and Advance Ratio:

Table No. 4.19

Loan Loss Provision to Loan & Advances Ratio

| | | Rs. | In Million |
|---------|---------------------|-----------------|------------|
| Years | Loan less provision | Loan & Advances | Ratio% |
| 059/060 | 10161 | 7971 | 127% |
| 060/061 | 9056 | 8882 | 102% |
| 061/062 | 8648 | 8219 | 105% |
| 062/063 | 2685 | 9756 | 28% |
| 063/064 | 2698 | 11058 | 24% |
| | 77.2% | | |

Source: NBL Annual Report

Loan less provision to loan and advances ratios of NBL are as follows 127% on 059/60, 102% on 060/61, 105% on 061/62, 28% on 062/63, and 24% on 063/64. This is declining on 2^{nd} year then increase and this declining trend up to final year. Average ratio is 77.2% over the study period.

4.2.2. Statistical Analysis

A) Correlation Analysis:

i) Correlation between Loan & Advances and Interest Income

Analysis of correlation between loan advances and interest income from loan and advance of NBL.

Table No. 4.20

Correlation between Loan & Advances and Interest Income

Rs. In Million

| Year | Interest Income (x) | Loan & Advance (y) | |
|----------------|---------------------|--------------------|--|
| 059/060 | 2200 | 7971 | |
| 060/061 | 1825 | 8882 | |
| 061/062 | 1987 | 8219 | |
| 062/063 | 2049 | 9756 | |
| 063/064 | 1848 | 11058 | |
| r | | -0.56 | |
| P.E. | | 0.2076 | |
| 6 (P.E) | | 1.25 | |
| r ² | | 0.3136 | |

Source: Annual Report of NBL

There is negative correlation (i.e.-0.56) between loan and advances and interest income.

ii) Correlation between Loan and Advances and Total Deposit

Table No. 4.21

Correlation between Loan and Advances and Total Deposit

Rs. In Million

| Year | Loan & Advances (x) | Total Deposit (y) | |
|---------|---------------------|-------------------|--|
| 059/060 | 7971 | 35014 | |
| 060/061 | 8882 | 35735 | |
| 061/062 | 8219 | 35934 | |
| 062/063 | 9756 | 35830 | |
| 063/064 | 11058 | 39014 | |
| r | | 0.88 | |
| P.E. | | 0.068 | |
| 6 (P.E) | | 0.4083 | |
| r^2 | | 0.775 | |

Source: Annual Report of NBL

The analysis shows that the coefficient of correlation between loan & advances and Total Deposit is 0.88, which means there is a positive correlation between them. Since the value of 'r' lies between 0.7 to 0.999. So there is a high degree of correlation. Correlation between these two variable is significant as r(0.88) is greater then 6 times P.E(i.e 0.4083). Total deposit is mainly affected by loan & advances.

iii) Correlation between Performing Loan and Total Loan

Table No. 4.22

Correlation between Performing Loan and Total Loan

Rs. In Million

| Year | Performing Loan (x) | Total Loan (y) | |
|---------|---------------------|----------------|--|
| 059/060 | 7167 | 18132 | |
| 060/061 | 8298 | 17938 | |
| 061/062 | 8494 | 16866 | |
| 062/063 | 10179 | 12441 | |
| 063/064 | 11900 | 13756 | |
| r | | 0.85 | |
| P.E. | | 0.0835 | |
| 6 (P.E) | | 0.5012 | |
| r^2 | | 0.723 | |

Source: Annual Report of NBL

iv) Correlation between Loan & Advance to Total Assets

Table No. 4.23

Correlation between Loan and Advances and Total Assets

| | | KS. III MIIIIOI |
|---------|---------------------|------------------|
| Year | Loan & Advances (x) | Total Assets (y) |
| 059/060 | 7971 | 39816 |
| 060/061 | 8882 | 44162 |
| 061/062 | 8219 | 47045 |
| 062/063 | 9756 | 35919 |
| 063/064 | 11058 | 39259 |
| r | | -0.52 |
| P.E. | | 0.22 |
| 6 (P.E) | | 1.32 |
| r^2 | | 0.27 |

Source: Annual Report of NBL

The analysis shows that the coefficient of correlation between Loan & Advance and Total Assets is -0.52, which means there is a negative correlation between them.

B) Trend Analysis

i) Trend Analysis of Loan Investment

In this topic the trend value of investment of 5 fiscal years have been calculated. The table shows trend and actual value of investment for 5 years from FY 2059/060 to FY 2063/064.

Table No. 4.24

Trend Value of Investment

Investment (y) = 13642.8+1078.3x

Rs. In Million

| Year | Trend value | App. Trend Value | Actual Value |
|----------|-------------|------------------|--------------|
| 2059/060 | 12447.63 | 12448 | 11486 |
| 2060/061 | 11004.82 | 11005 | 12565 |
| 2061/062 | 14199.22 | 14199 | 13643 |
| 2062/063 | 14490.28 | 14490 | 14721 |
| 2063/064 | 16072.18 | 16072 | 15799 |

Source: Appendix No. V

Figure No. 4.16





Source: Table 4.26

The above Table No. 4.26 and figure shows that the investment is in increasing trend the actual value is also in increasing trend during five fiscal year period.

From the above analysis, it is found that the lending position NBL is better because the calculated trend values of investment are fitted in trend line gives upward sloping.

ii) Trend Analysis of Loan and Advances:

In this topic the trend values of Loan and Advances for 5 fiscal years have been calculated. The table shows trend and actual values of Loan and Advances for 5 years from FY 2059/060 to FY 2063/64.

Table No. 4.25

Trend Value of Loan and Advances

Loan and Advances (y) = 9177.2+704.8x

Rs. In Million

| Year | Trend value | App. Trend Value | Actual Value |
|----------|-------------|------------------|--------------|
| 2059/060 | 7971.10 | 7971 | 7768 |
| 2060/061 | 8881.82 | 8882 | 8472 |
| 2061/062 | 8218.91 | 8219 | 9177 |
| 2062/063 | 9756.16 | 9756 | 9882 |
| 2063/064 | 11058.48 | 11058 | 10587 |

Source: Appendix No. VI

Figure No. 4.17

Trend Value of Loan and Advances



Source: Table 4.27

The above table no. 4.27 and figure no. 4.19 shows that the Loan and Advances is in increasing trend. The actual value is also in increasing trend during 5 fiscal years period.

From the above analysis, it is found that the Loan and Advances of NBL is better because the calculated trend values of Loan and Advances are fitted in trend line gives upward sloping.

iii) Trend Analysis of Total Deposits:

In this topic, the trend values of Deposits for 5 fiscal years have been calculated. The table shows trend and actual values of Deposits for 5 years from FY 2059/60 to FY 2063/64.

Table No. 4.26

Trend Value of Deposits

Deposits (y) = 36305.4+809.5x

Rs. In Million

| Year | Trend value | App. Trend Value | Actual Value |
|----------|-------------|------------------|--------------|
| 2059/060 | 35014.001 | 35014 | 34686 |
| 2060/061 | 35735.004 | 35735 | 35496 |
| 2061/062 | 35934.163 | 35934 | 36305 |
| 2062/063 | 35829.765 | 35830 | 37115 |
| 2063/064 | 39014.204 | 39014 | 37924 |

Source: Appendix No. VII

Figure No. 4.18 Trend Value of Deposits



Source: Table 4.28

The above table no. 28 and figure no. 20 shows that the Total Deposit of NBL in actual values is in increasing trend. Similarly, Total Deposit in trend values is also in increasing trend.

The Total Deposit in increasing from Rs. 34686 Million to Rs. 37924 Millions from FY 2059/060 to FY 2063/064 respectively. Where as trend value of Total Deposit is also gradually increasing from Rs. 35014 Million to 39014 Millions from FY 2059/060 to 2063/064.

From the above analysis, Total Deposit increasing per year. The trend of Total Deposit also seems to be positive.

iv) Trend Analysis of Net Profit:

In this topic, the trend values of Net Profit for 5 years have been calculated. The table shows trend and actual values of Net Profit for 5 years from FY 2059/060 to FY 2063/064.

Table No. 4.27

Trend Value of Net Profit

Net Profit (y) = 724.4+145.5x

Rs. In Million

| Year | Trend value | App. Trend Value | Actual Value |
|----------|-------------|------------------|--------------|
| 2059/060 | -251.73 | -252 | 433 |
| 2060/061 | 710.40 | 710 | 579 |
| 2061/062 | 1730.13 | 1730 | 724 |
| 2062/063 | 1207.26 | 1207 | 870 |
| 2063/064 | 226.95 | 227 | 1015 |

Source: Appendix No. VIII

Figure No. 4.19

Trend Value of Net Profit



Source: Table 4.29

The above table no. 4.29 and figure no. 4.21 shows the Net Profit fluctuating in trend value but the actual value is in increasing trend during 5 years period.

4.2.3 Analysis of Loan Classification

v) Analysis of Loan Due Classified as Per Performance:

Table No. 4.28

Classification of Loan into Performing & Non Performing Loan of NBL

| Years | Pe | erforming | Nor | Total | |
|---------|--------|-----------------|--------|-----------------|-------|
| | Amount | % on Total Loan | Amount | % on Total Loan | |
| 059/060 | 7167 | 39.52% | 10965 | 60.47% | 18132 |
| 060/061 | 8298 | 46.25% | 9640 | 53.74% | 17938 |
| 061/062 | 8494 | 50.36% | 8372 | 49.63% | 16866 |
| 062/063 | 10179 | 81.81% | 2262 | 18.18% | 12441 |
| 063/064 | 11900 | 86.50% | 1856 | 13.49% | 13756 |

Source: Annual Report of NBL

From the above table it is clear that the percentage of performing loan on total loan of NBL during research period is found as 39.52%, 46.25%, 50.36%, 81.81%, and 86.50% respectively during the research period. This table shows that the performing loan% was sharply increased during the research period. This is clear that loan of NBL was going to good position and NBL loan disbursed is good policy.

The above calculation is plotted in the following figure



Trend Analysis Loan into Performing & Non Performing Loan of NBL



Source: Table No. 4.

The above figure shows trend of performing assets or loan (i.e. includes only good loan) side non-performing loans (i.e. indicating low quality loan, doubtful loan and bad loan)

| | Analysis of Loan Classification as Per Quality | | | | | | | |
|---------|--|-------|-------------|-------|----------|-------|----------|-------|
| Years | Good Loan | | Substandard | | Doubtful | | Bad Loan | |
| | | | Loa | n | Loa | n | | |
| | Amount | % | Amount | % | Amount | % | Amount | % |
| 059/060 | 7167 | 39.52 | 1291 | 7.12 | 2644 | 14.58 | 7030 | 38.77 |
| 060/061 | 8298 | 46.25 | 233 | 1.3 | 1280 | 7.12 | 8127 | 45.30 |
| 061/062 | 8494 | 50.36 | 130 | 0.007 | 3064 | 0.004 | 8177 | 48.48 |
| 062/063 | 10179 | 81.81 | 47 | 0.004 | 88 | 0.007 | 2127 | 17.10 |
| 063/064 | 11900 | 86.50 | 17 | 0.002 | 30 | 0.002 | 1809 | 13.15 |

i) Analysis of Loan Classification as Per Quality Table No.29

Source: Annual Report of NBL

According to above table shows that classification of loan as per quality, Good loan, substandard loan, Doubtful loan, and Bad loan of NBL. It has good loan is 39.52%, substandard loan is 7.12%, doubtful loan is 14.58% and bad loan is 38.77% on 059/60, good loan is 46.25%, sub standard loan is 1.3%, doubtful loan is 7.12% and bad loan is 45.30% on 060/61. Good loan is 50.36% substandard loan is 0.007%, doubtful loan is 0.004% and bad loan is 48.48% on 061/62. Good loan is 81.81%, substandard loan is 0.004%, doubtful loan is 0.007% and bad loan is 17.10% on 062/63. Good loan is 86.50%, substandard loan is 0.001% doubtful loan is 0.008% and bad loan is 13.15% on 063/64.



Figure No. 4.21

Source: Table No. 4.

The above figure shows that on x-axis research period (year) and on y axis amount of loan. This figure throws light on the fact that in all years good loan (performing loan) occupies major chunk of loan flown. Good loan curves ranges in between Rs. 7167 million to 11900 million.

Indicating bad loan occupies vital position after good loan during 5 year period.

4.2.4 Interest Rate Structure

Analysis of interest rate structure of loan as well as deposit

Deposit Annual Interest Rate (%)

| S.N | Deposit Type | Duration | Rate |
|-----|---------------------|----------|-------|
| 1 | Saving Deposit | - | 2% |
| 2 | Fixed Deposit | 1 Month | 2% |
| | | 3 Month | 2.25% |
| | | 6 Month | 2.25% |
| | | 1 Month | 3.5% |

Lending Rates

| S.N | Deposit Type Rate (%) | | | | | |
|---|--|-------------|--|--|--|--|
| 1 | Gold and silver 10% | | | | | |
| 2 | Loan against fixed deposit Receipt5.5% or | | | | | |
| Receipt (Loan over draft 9higher than f/d rate whichever is higher) | | | | | | |
| 3 | Loan against Bank Guarantee (First class Bank) 7% | | | | | |
| 4 | Working Capital / short term loan (Demand Loan, Overdraft, | | | | | |
| | pledge loan) | 10% | | | | |
| 5 | T. R Loan | | | | | |
| | a) Up to 90 days | 8% | | | | |
| | b) From 91 to 120 days | 9% | | | | |
| | c) From 121 to 150 days | 10% | | | | |
| | d) From 151 to 180 days | 11% | | | | |
| | (T.R loan facility will be up to 180 only) | | | | | |
| 6 | Long term loan | 10% | | | | |
| 7 | Consumer lending | 7.5% to 10% | | | | |
| | a) Margin Lending | 9% | | | | |
| | b) Auto loan | 7.5% to 10% | | | | |
| | c) Home loan | 7.5% to 10% | | | | |

| 8 | 8 Structure Demand Loan/ overdraft (Against Govt. | | | | | |
|----|---|------------------------|--|--|--|--|
| | Securities) 7.5 | | | | | |
| 9 | Priority sector loan | 10% | | | | |
| 10 | Deprived sector loan | 7.5% | | | | |
| 11 | Personal overdraft loan | 9-10% | | | | |
| | Personal Term loan | 7.5% pa (up to 5 | | | | |
| | years) | | | | | |
| | | 8% pa (up to 5 years) | | | | |
| | | 9 % pa (up to 5 years) | | | | |

10% pa (up to 5 years)

From the above table it is clear that the maximum & minimum interest rate in all types of loan is 11% to 5.5% respectively.

4.3 Major Finding of This Study

- The current ratio of NBL is always below the standard ratio i.e. 2.1. It has range 0.54 minimum to 0.77 maximum over the study period. In 059/60 it is decrease but has an increasing trend there on ward which shows that bank is typing to increase its liquidity position to meet its current obligations.
- 2. There was no high fluctuation of cash and bank balance to total deposit ratio. It has range 0.13 minimum to 0.20 maximum over the study period. This shows that the investment of funds is high incasing of NBL.
- 3. The Cash & bank balance to current asset ratio range is 0.17% minimum to 0.025% maximum. The overage ratio is 20%.
- 4. The liquid asset ratio range is 40% minimum to 61% maximum and average it is 48% over the research period. The liquid asset ratio seems to be gradually reduced year by year from the 2nd year and last year it was increased.

- 5. The loan and advances to total deposits ratio of NBL various from maximum 28.34% to minimum 22.76% with as average of 25.21% during the study period the analysis shows that bank is not able to provide loan and advances from its fixed deposit.
- Loan and advances to fixed deposit ratio varied from maximum of 2.05% to minimum 0.94% with an average of 1.46%. This analysis shows that bank is able to provide loan and advances from its fixed deposit.
- 7. Loan and advances to saving deposit ratio of NBL varies from maximum 42% to minimum 36.7% with an average 36.74% during the five year research period. The analysis shows that the bank is not able to provide loan and advances from its saving deposit.
- The loan and advances to total asset ratio of NBL various from maximum 28.16% to minimum 17.07% with an average of 22.58%. It shows that NBL is not capable in utilizing total assets in the form of loan and advances.
- Performing assets to total asset ratio of NBL are 17.39%, 18.78%, 17.95%, 28.33% and 30.29% respectively during the research period performing assets is increasing after 3rd year.
- 10. The net profit to total assets ratio of NBL varies from maximum 3.67 to minimum -0.63% with an average 1.72% during the study period. The analysis indicates that the bank has not been able to generate surplus by utilizing assets efficiently.
- 11.The net profit to total deposit ratio of NBL varies from maximum4.81% to minimum -0.72% with an average 2.01%, so, bank is not able to generate profit by using its deposits.
- 12. The return of equity ratio varied from maximum 2.56% to minimum -23.23% with an average -10.27%. The analysis

indicates that profit earning in relation of shareholder's equity of NBL is not so good.

- 13.The interest earned to total assets ratio varied from maximum of5.70% to minimum 4.13% with an average of 4.86% so there is more fluctuation.
- 14.Total debt tot total asset ratio is maximum 1.25% to minimum1.16%. It shows that debt financing of NBL is inclusively high. sothe bank has risks debt financing position.
- 15. The total debt to total equity ratio of NBL is in negative form and generally at ratio of 50:50 is considered to be good depending upon the type of the organization. The analysis indicates that the bank is highly coverage because the claim of the outsides exceeds than those of the owner over the bank assets.
- 16. Interest coverage ratio of NBL as 0.84, 1.69, 3.31, 2.56, and 1.36 respectively clearing the research period.
- 17. The earning per share of NBL is negative form and then increases up to 061/062 from -66 to 455 than decrease to 60 during the study period.
- 18. The analysis shows that the coefficient of correlation between loan & advances and interest income is -0.56 which means there is a negative correlation between them.
- 19. The analysis shows that the coefficient of correlation loan & advance and total deposit is 0.88 which means there is a positive correlation between them. Since the value of 'r' lies between 0.7 to 0.99 so there is a high degree of correlation.
- 20. The analysis shows the coefficient of correlation between performing loan and total loan is -0.85. Which means there is a negative correlation between them.

- 21. The analysis shows that the coefficient of correlation between loan and advances and is a negative correlation between them.
- 22. The analysis shows that the percentage of performing loan on total loan of NBL has sharply increased during the research period. This is clear that loan of NBL has going to good position and NBL loan disbursed is good policy.
- 23. The analysis shows that the loan classification as per quality has good loan, substandard loan, doubtful loan and bad loan of 5 year period. It shows bad loan occupies vital position after good loan during 5 year period.
- 24. The analysis shows that loan loss provision to loan and advances ratio. This analysis shows it is declining on 2nd Year then increase and then declining trend upto final year.
- 25. The analysis shows that the trend analysis of loan investment is found that the lending position of NBL is better because the calculated trend values of investment are tilted trend lines gives upward sloping.
- 26. The analysis shows that the trend analysis of loan & advances is found that the loan & advances of NBL is better because the calculated trend values of loan & advances are tilted in trend lines gives upward sloping.
- 27. The analysis shows that the trend analysis of total deposits is increasing per year. The trend net profit also seems to be positive.

CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 Summary

Bank provides certain services for its customs and in return receives payment in one form or other. It tries to earn a profit for its stock owners. The development of modern banking in Nepal dates back to 1937 in which year NBL was set up under the Nepal Bank act, 1937. Bank provides opportunity to people for participation in the development process of the nation helps national economy to secure proper growth. At present more than 17 commercial banks are operating their transition in Nepal. Joint venture are mode of trading through partnership among nations and also a form of negotiation between various group of industries are orders to achieve mutual exchange of goods and services for sharing comparative advantages. No foreign bank was operated in the country before 1984 the new commercial bank act 1974 had a provision to permit foreign bank operate in the country. In 1980's government introduce financial sector reform program which facilities the establishment of joint venture banks.

The basic objectives of this study are to analyze the loan and advances, to analyze the recovery or repayment of the loan disbursed and to analyze the interest rate structure of loans and advances as well as deposit of NBL.

To make this study more effective, related literatures have been reviewed. The review of literature provides the foundation of knowledge in order to under take this research more precisely. This section also includes concept of banking, types of loan. Under this chapter the researcher has reviewed research paper, annual reports of NBL, related unpublished thesis and various published and unpublished articles from the internet in order to study and analysis the corelusion of the research.

Research methodology has been to solve the research problems with the help of various tools and techniques. This study includes the various financial as well as statistical tools to analyze the data in order to come the decisions. The different tools, which are studied under financial analysis, are liquidity ratio, activity ratio, profitability ratio, capital structure ratio, and other ratios. On the other hand the different statistical tools that have been applied in the research are mean, standard deviation, CV and correlation. This study is mainly conducted on the basis of secondary data collected from annual reports, financial statement of NBL etc. The five years financial statement has been examined for the purpose of this study.

The presentation and analysis of data has been made through comparative analytical and their interpretation, which is done in chapter four by applying the wide varieties of methodology as stated in chapter three. It includes the various financial and statistical tools. Incase of financial tools ratio analysis is done which consist liquidity ratio, activity ratio, profitability ratio, capital structure ratio and other ratios. Various statistical tools such as arithmetic mean, standard deviation, coefficient of variance and correlation have been applied to fulfill the objective of this study.

5.2 Recommendation:

On the basis of findings of this study, the following suggestions are recommendable to NBL to improve their loan management in future.

> Maintain the improve an optimum mix of debt and owners:

As the capital structure ratio of the bank is highly leveraged, NBL is required the maintain the improve on optimum mix of debt and owners equity by increasing equity base in order to avoid financial risk. It is the job of management to maintain a proper balance between these two aspects.

Decrease operational expenses

For the growth and survival of any firm, profit is the essential factor. But NBL is seem to be unable to earn satisfactory level of profit over the study period. In this context, the bank is recommended to earn more operational profit either by increasing their operational efficiency or decreasing their operational expenses as far as possible.

> Apply current and fixed assets properly:

Since NBL is not maintaining adequate liquidity position, the bank is suggested to manage its current assets properly.

Concentrate on Agriculture Side:

Since Nepal is an agricultural country, bank should give more emphasis on the sector of agriculture product (like financing tractors, seeds, fertilizers, and irrigational project), poultry farming, cattle farming etc.

> Attract people by low interest rate:

NBL should attract more low interest bearing savings and current deposit to minimize its cost of fund and increase profit margin by investing the same as loan and advances.

5.3 Conclusion:

- Banking plays an indispensable role in the process of development. They not only influence the structure of the economy but also its development process. Commercial banks collect scattered saving from the people and provide resources as loan and advances to the people who need then. This captivity build industrial environment in the country create employment and investment opportunity for the people and consequently economy of the country secures proper growth.
- The present state has been undertaken to examine and evaluate the loan management of the NBL. The researcher has used necessary financial and statistical tools to the study effective and informative. This study has covered five years data of NBL from the fiscal year 2059/60 to 2063/064.
- NBL has been able to maintain good position in the banking industry of the country there has been an ongoing effort and commitment in enhancing its financial position. The bank is contributing to the development of the banking sector of the country by its active banking service.
- It has been a good partner to the industrial businessman and general public by providing banking services and facilities. Now it has 33 ABBS (any branch banking system) and it has plan ABBS to all computer facilities branches.
- Analyzing the credit sector and bank guarantee the bank is trying to avoid unnecessary risk. By mobilizing its fund more in loan and advances, the bank would have increase its profit, but from the tabulated figures it is evident that NBL had also preformed to invert in secure sector like government securities.

- Profitability ratio indicates degree of failure in achieving desired profit level the result indicates that is not able to generate profit by utilizing deposits. So additional efficiency is required to increase its earnings. The analysis indicates that profit earning in relation to shareholder's quality of NBL is in bad condition which exhibits worst utilization of shareholder's equity. Overall it can be concluded that NBL is not able to earn a positive profit.
- Finally it can be concluded that the financial performance of NBL during the study period of five year is not satisfactory. The bank has tried to maintain a good position among the commercial banks in Nepal and is still pursuing to accommodate as many clients as far as possible.

BIBLIOGRAPHY

A) Books:

- Bajracharya, B.C. (2053), Business Statistics and Mathematics, Kathmandu: MK Publishers & Distributors.
- Bhandari, Dilli Raj (2003), Banking and Insurance Management, Kathmandu, Ayush Prakashan.
- Dangol, R.M., (1997), "Management Accounting", 3rd Edition, Kathmandu: Taleju Prakashan.
- Encyclopedia, The World Book, American Grolier Incorporated, 1986.
- ➢ Gupta, S.C. (2000), *Fundamental of Statistics*, (5th Ed.), New Delhi: Himalayan Publishing House.
- Jha J.C. and RajBahak R.Pd. (1990), Banking and Currency in Nepal, 2nd Ed., Kathmandu, Pragati Prakashan.
- Joshi, P.R. (2060), *Research Methodology* (2nd Ed.), Kathmandu: Buddha Academic Enterprises Pvt. Ltd.
- Oxford Advanced Learner Dictionary, P: 83-84.
- Pandey, I.M.,(1999),"Financial Management", 8th Editing, Vikash Publication House Pvt. Ltd., New Delhi.
- Pandey, I.M.,(1999),"Financial Management", 8th Editing, Vikash Publication House Pvt. Ltd., New Delhi.
- Poudel, Narayan Pd.,(2053),"Financial Statement Analysis: An Approach to Evaluate Bank's Performance", Nepal Rastra Bank, Samachar.

- Poudel, Narayan Pd.,(2053),"Financial Statement Analysis: An Approach to Evaluate Bank's Performance", Nepal Rastra Bank, Samachar.
- Vaidya, Shakespeare, (2001),"Banking & Insurance Management", Kathmandu

B) Unpublished Thesis:

- Adhikari, Dev R., Evaluating the Financial Performance of Nepal Bank Ltd., MBA Thesis TU, 1993.
- Bedananda Dahal, (2005), Financial Performance and Investment Activities of Agricultural Development Bank, MBS Thesis TU.
- Bhattarai, Kamal, (2005) A Study of Loan Management of Kathmandu Finance Ltd., MBS Thesis TU.
- Chhetry, Prakash, (2006), Loan Management of Finance Companies, MBS Thesis TU.
- Harish Chandra Sharma, (2007), Financial Performance of Nepal Bank Ltd., MBS Thesis TU.
- Maha Prasad Mainaly, (1999), An Evaluation of Loan Distribution and Collection of Agriculture Development Bank, MBS Thesis TU.
- Paudel, Ramji, (1997), A Comparative Analysis of Financial Performance between Nepal Bank Ltd. and Nepal Griendlays Bank Ltd., MBA Thesis TU.

- Pradhan, Nirmal M., (1980), A Comparative Analysis of Investment Policy of Nepal Bank Ltd., MBA Thesis TU.
- Regmi, Phanindra Raj (2039), A Study of Lending Policy of ADB/N in Nepal with Regards to Poultry Farming in Kathmandu District, An Unpublished Master's Degree Thesis, Shankar Dev Campus T.U.

Website:

www.nepalbank.com.np

| Year | X | Y | $x - \overline{x} = u$ | $y - \overline{y} = v$ | u ² | v^2 | uv |
|----------|-----------------------|-----------------------|------------------------|------------------------|----------------------|------------------------|-------------|
| 2059/060 | 2200 | 7971 | 218 | -1205 | 47514 | 1452025 | -262690 |
| 2060/061 | 1825 | 8882 | -157 | -294 | 24649 | 86436 | 46158 |
| 2061/062 | 1987 | 8219 | 5 | -957 | 25 | 915849 | -4785 |
| 2062/063 | 2049 | 9756 | 67 | 580 | 4489 | 336400 | 38860 |
| 2063/064 | 1948 | 11050 | -134 | 1874 | 17956 | 3511876 | -251116 |
| | $\overline{X} = 1982$ | $\overline{Y} = 9176$ | | | $\Sigma u^2 = 94643$ | $\Sigma v^2 = 6302586$ | Σuv=-433573 |

Appendix-I Correlation between Loan and Advance and Interest Income

$$r = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \Sigma v^2}}$$

= $\frac{-433573}{\sqrt{94643 \times 6302586}}$
= $\frac{-433573}{772331}$
= -0.56
 r^2 = 0.6864
Probable Error (PE) = $0.6745 \times \frac{1-r^2}{\sqrt{N}}$
= $0.6745 \times \frac{1-(-0.56)^2}{\sqrt{5}}$
= $0.6745 \times \frac{0.6864}{\sqrt{5}}$
= 0.2076
| Year | Х | Y | $x - \overline{x} = u$ | $y - \overline{y} = v$ | u ² | v^2 | uv |
|----------|--------------------|------------------|------------------------|------------------------|------------------------|------------------------|--------------|
| 2059/060 | 7971 | 35014 | -1205 | 1291 | 1452025 | 1666681 | 1555655 |
| 2060/061 | 8882 | 35735 | -299 | -570 | 86436 | 324900 | 167580 |
| 2061/062 | 8219 | 35934 | -957 | -371 | 915849 | 197641 | 355047 |
| 2062/063 | 9756 | 35830 | 580 | -475 | 336400 | 225625 | -275500 |
| 2063/064 | 11050 | 39014 | 1874 | 2709 | 3511876 | 7338681 | 5076666 |
| | X =9176 | $\overline{Y} =$ | | | $\Sigma u^2 = 6302586$ | $\Sigma v^2 = 9693528$ | Σuv=-6879448 |

Appendix-II Correlation between Loan and Advance and Total Deposit

$$r = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \Sigma v^2}}$$

$$= \frac{6879448}{\sqrt{9693528 \times 6302586}}$$

$$= \frac{6879448}{7816284}$$

$$= 0.88$$

$$r^2 = 0.775$$
Probable Error (PE) = 0.6745 × $\frac{1 - r^2}{\sqrt{N}}$

$$= 0.6745 × \frac{1 - 0.775}{\sqrt{5}}$$

$$= \frac{0.1518}{2.23}$$

$$= 0.068$$

| Year | Х | Y | $\mathbf{x} - \mathbf{x} = \mathbf{u}$ | $y - \overline{y} = v$ | u^2 | v^2 | uv |
|----------|-----------------------|------------------------|--|------------------------|-------------------------|-------------------------|---------------|
| 2059/060 | 7167 | 18132 | -2041 | 2305 | 4165681 | 5313025 | -4704505 |
| 2060/061 | 8298 | 17938 | -910 | 2111 | 828100 | 4456321 | -1921010 |
| 2061/062 | 8494 | 16866 | -714 | 1039 | 509796 | 1079521 | -741846 |
| 2062/063 | 10179 | 12441 | 971 | 9986 | 972841 | 11464996 | -3287806 |
| 2063/064 | 11900 | 13756 | 2692 | -2071 | 7246864 | 4289041 | 5575132 |
| | $\overline{X} = 9208$ | $\overline{Y} = 15827$ | | | $\Sigma u^2 = 13693282$ | $\Sigma v^2 = 26602904$ | Σuv=-16230299 |

Appendix-III Correlation between Performing Loan and Total Loan

r =
$$\frac{\Sigma uv}{\sqrt{\Sigma u^2 \Sigma v^2}}$$

= $\frac{-16230299}{\sqrt{13693282 \times 26602904}}$
= $\frac{16230299}{19086148}$
= 0.85
r^2 = 0.723

Probable Error (PE) =
$$0.6745 \times \frac{1 - r^2}{\sqrt{N}}$$

= $0.6745 \times \frac{1 - 0.723}{\sqrt{5}}$
= $\frac{0.1868}{2.23}$
= 0.0835

| Year | Х | Y | $x - \overline{x} = u$ | $y - \overline{y} = v$ | u ² | v^2 | uv |
|----------|--------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|---------------|
| 2059/060 | 7971 | 39816 | -1205 | -1424 | 1452025 | 2027776 | 1717344 |
| 2060/061 | 8882 | 44162 | -299 | 2922 | 86436 | 8538084 | -864912 |
| 2061/062 | 8219 | 47045 | -957 | 5805 | 915849 | 33698025 | -5561190 |
| 2062/063 | 9756 | 35919 | 580 | -5321 | 336400 | 28313041 | -3080859 |
| 2063/064 | 11050 | 39259 | 1874 | -1981 | 3511876 | 3924361 | -3726261 |
| | X =9176 | $\overline{Y} = 41240$ | | | $\Sigma u^2 = 6302586$ | $\Sigma v^2 = 76501287$ | Σuv=-11515878 |

Appendix-IV Correlation between Loan and Advance to Total Assets

$$r = \frac{\Sigma uv}{\sqrt{\Sigma u^2 \Sigma v^2}}$$

$$= \frac{-11515878}{\sqrt{6333218 \times 76501287}}$$

$$= \frac{-11515878}{22011345}$$

$$= -0.52$$

$$r^2 = 0.27$$
Probable Error (PE) = 0.6745 × $\frac{1-r^2}{\sqrt{N}}$

$$= 0.6745 × \frac{1-0.27}{\sqrt{5}}$$

$$= \frac{0.4924}{2.23}$$

$$= 0.22$$

Appendix-V

Trend Analysis of Loan Investment

| Year (x) | Investment | x(x-3) | \mathbf{x}^2 | ху |
|----------|------------|--------|-----------------|-----------|
| | (y) | | | |
| 1 | 12448 | -2 | 4 | -24896 |
| 2 | 11005 | -1 | 1 | -11005 |
| 3 | 14199 | 0 | 0 | 0 |
| 4 | 14490 | 1 | 1 | 14490 |
| 5 | 16072 | 2 | 4 | 32144 |
| | ∑y=68214 | ∑x=0 | $\sum x^2 = 10$ | ∑xy=10733 |

$$a = \frac{\Sigma y}{n} = \frac{68214}{5} = 13642.8$$

 $b = \frac{\Sigma x y}{\Sigma x^2} = \frac{10783}{10} = 1078.3$

y = 13642.8 + 1078.3x

| When, $x = -2$, | $y = 13642.8 + 1078.3 \times 2 =$ | 11486 |
|------------------|-----------------------------------|-------|
| x = -1, | $y = 13642.8 + 1078.3 \times 1 =$ | 12565 |
| $\mathbf{x}=0,$ | $y = 13642.8 + 1078.3 \times 0 =$ | 13643 |
| x = 1, | $y = 13642.8 + 1078.3 \times 1 =$ | 14721 |
| x = 2, | $y = 13642.8 + 1078.3 \times 2 =$ | 15799 |

Appendix-VI

| Year (x) | Loan & Advance | x(x-3) | \mathbf{x}^2 | ху |
|----------|----------------|--------|-----------------|----------|
| | (y) | | | |
| 1 | 7971 | -2 | 4 | -15942 |
| 2 | 8882 | -1 | 1 | -8882 |
| 3 | 8219 | 0 | 0 | 0 |
| 4 | 9756 | 1 | 1 | 9756 |
| 5 | 11058 | 2 | 4 | 22116 |
| | ∑y=45886 | ∑x=0 | $\sum x^2 = 10$ | ∑xy=7048 |

Trend Analysis of Loan and Advance

$$a = \frac{\Sigma y}{n} = \frac{68214}{5} = 13642.8$$
$$b = \frac{\Sigma x y}{\Sigma x^2} = \frac{10783}{10} = 1078.3$$

y = 9177.2 + 704.8x

| When, $x = -2$, | $y = 9177.2 + 704.8 \times -2$ | = | 7768 |
|------------------|----------------------------------|---|-------|
| x = -1, | $y = 9177.2 + 704.8 \times 1000$ | = | 8472 |
| x = 0, | $y = 9177.2 + 704.8 \times 0$ | = | 9177 |
| x = 1, | $y = 9177.2 + 704.8 \times 1$ | = | 9882 |
| x = 2, | $y = 9177.2 + 704.8 \times 2$ | = | 10587 |

Appendix-VII

Trend Analysis of Total Deposits

| Year (x) | Total Deposit (y) | x(x-3) | \mathbf{x}^2 | ху |
|----------|-------------------|------------|-----------------|----------|
| 1 | 35014 | -2 | 4 | -70028 |
| 2 | 35735 | -1 | 1 | -35735 |
| 3 | 35934 | 0 | 0 | 0 |
| 4 | 35830 | 1 | 1 | 35830 |
| 5 | 39014 | 2 | 4 | 78028 |
| | ∑y=181527 | $\sum x=0$ | $\sum x^2 = 10$ | ∑xy=8095 |

$$a = \frac{\Sigma y}{n} = \frac{181527}{5} = 36305.4$$
$$b = \frac{\Sigma x y}{\Sigma x^2} = \frac{8095}{10} = 809.5$$

y = 36305.4 + 809.5x

| When, $x = -2$, | $y = 36305.4 + 809.5 \times -2$ | = | 34686 |
|------------------|---------------------------------|---|-------|
| x = -1, | $y = 36305.4 + 809.5 \times 1$ | = | 35496 |
| $\mathbf{x}=0,$ | $y = 36305.4 + 809.5 \times 0$ | = | 36305 |
| x = 1, | $y = 36305.4 + 809.5 \times 1$ | = | 37115 |
| | | | |

$$x = 2$$
, $y = 36305.4 + 809.5 \times 2 = 37924$

Appendix-VIII

Trend Analysis of Net Profit

| Year (x) | Total Deposit (y) | x(x-3) | \mathbf{x}^2 | ху |
|----------|-------------------|--------|-----------------|----------|
| 1 | -252 | -2 | 4 | 504 |
| 2 | 710 | -1 | 1 | -710 |
| 3 | 1730 | 0 | 0 | 0 |
| 4 | 1207 | 1 | 1 | 1207 |
| 5 | 227 | 2 | 4 | 454 |
| | ∑y=3622 | ∑x=0 | $\sum x^2 = 10$ | ∑xy=1455 |

$$a = \frac{\Sigma y}{n} = \frac{3622}{5} = 724.4$$

 $b = \frac{\Sigma x y}{\Sigma x^2} = \frac{1455}{10} = 145.5$

y = 36305.4 + 809.5x

| When, $x = -2$, | $y = 724.4 + 145.5 \times -2$ | = | 433.4 |
|------------------|------------------------------------|---|-------|
| x = -1, | $y = 724.4 + 145.5 \times 10^{-1}$ | = | 579 |
| $\mathbf{x}=0,$ | $y = 724.4 + 145.5 \times 0$ | = | 724.4 |
| x = 1, | $y = 724.4 + 145.5 \times 1$ | = | 870 |
| x = 2, | $y = 724.4 + 145.5 \times 2$ | = | 1015 |