RISK MANAGEMENT OF LUMBINI BANK LIMITED IN NEPAL

A THESIS

Submitted By:

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RECOMMENDATION

This is to certify that the thesis

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

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

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DECLARATION

I hereby declare that the work done in thesis entitled "*Risk Management of Lumbini Bank Limited in Nepal*" submitted to Shanker Dev Campus, Faculty of Management, Tribhuvan University, is my own created work reported in the form of partial fulfillment of the requirement of Master's of Business Studies (M.B.S.) course under the guidance of respected teacher supervisor Mr. Shasahi Kant Mainali and Mr. Indra Sharma of Shanker Dev Campus.

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Thank You,

BUDDHI RAJ ADHIKARI

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ABBREVIATIONS

&	:	And
A.D	:	Anno Domini
ADBN	:	Agriculture Development Bank Nepal
AIC	:	Agriculture Input Corporation
ALCO	:	Asset Liabilities Management Committee
B.S	:	Bikram Sambat
CAMELS	:	Capital, Assets, Quality, Management, Earning, Liquidity and Sensitivity
CAR	:	Capital Adequacy Ratio
CPG	:	Credit Policies Guidelines
ESC	:	Executive Sub Committee
F.Y	:	Fiscal Year
i.e	:	That is
IRR	:	Interest Rate Risk
LBL	:	Lumbini Bank Limited
Ltd.	:	Limited
M.B.S	:	Master of Business Studies
Mgnt.	:	Management
NBL	:	Nepal Bank Limited
NG	:	Nepal Government
No.	:	Number
NPAs	:	Non-Performing Assets
NPL	:	Non-Performing Loan
NRB	:	Nepal Rastra Bank
%	:	Percentage
Pvt.	:	Private
Qty.	:	Quantity
RAROC	:	Risk Adjusted Return on Economic Capital

RBB	:	Rastriya Banijya Bank
Rs.	:	Rupees
RWA	:	Risk Weighted Assets
SCBNL	:	Standard Chartered Bank Nepal Limited
S.N	:	Serial Number
T.U	:	Tribhuvan University

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Banking is the fastest growing sector in the economy. Banking sector plays the vital role in the development of the economy. In a general view bank is an institution which collect the money from people and also give loan if anyone need the fund. But in the broad sense, bank is that institution which polls the scatter fund and utilizes it into the productive sector that may contribute in the development of the economy. It do only deal with the money also it deals with credit and remittance and expanding business and perform the agent between the two parties.

Bank is and institution which performs the intermediary between the surplus and deficit in the financial resources. A very economic activity is directly or indirectly channeled through the bank. Bank is the only one perfect institution which makes easier the investment. So the we can say the bank plays a crucial role in the process of economic development and its importance is as a means of achieving economic growth and prosperity within the country. In the process of providing financial services, they assume various kinds of risk. Risk is defined as "conduction in which exists an exposure to adversity. "In addition, there is an expectation of what the outcome should look like. Therefore, risk is defined here as a conduction in which there exist a possibility of deviation from a desired outcome that is expected or hoped for. Other definitions include the restriction the restriction that risk is based on real world events, including a combination of circumstance in the external environment. We do not agree with this limitation. Potential risk that might occur in the future are excluded. In addition, we do not limit the rang of risk to circumstance in the external environment. The term risk is linked to the possibility of deviation. This means that the possibility of risk can be expressed as a probability, ranging from 0 to 100 percent. Therefore, the probability is neither impossible nor definite. This definition does not the probability is neither impossible nor definite. This definition does not require that

the probability be quantified, only that it must exist. The probability of the adverse outcome must be between 0 to 100 percent.

Another key element of the definition is the “deviation from a desired outcome that is expected or hoped for. “The defined does not say how such an undesirable deviation is definition. There are many ways of building expectation. by projecting historical data into the future, We build expectations. This pattern of behavior can be observed in our everyday lives. Another way of building expectation is to forecast by using information directed toward the future, not by looking back. The definition of expectation is absolutely key in the concept of risk. Any misconception of the expectations will distort the measurement of risk substantially.

Many definition of risk include the term adverse devotion to express the negative dimension of the expected or hoped- for outcome. We do not agree with this limitation, which implies that risk exists only with adverse deviations, which must be negative and thus are linked to losses. Such a restriction would implicitly exclude any positive connotation from the concept of risk. We believe that risk has two sides, which both Have to be included in the definition, and risk itself has no dimension negative or for the purpose of this discussion, risk is definition as “a condition in which in which there exist an exposure to adversity.” In addition, there is an expectation of what the outcome should look like.” There fore, risk is defined here as: risk a conduction in which there exists a possibility of deviation from a desired outcome that is expected or hoped for. Bank and other regulations and industry self- regulating bodies to develop the culture, infrastructure, and organizational processes and structures for adequate risk management.

Risk management has become a non delegable part top management’s function and thus a non delegable responsibility and liability. Driven by law, the financial sector has developed overview the past years strategies, culture and considerable technical and management known–how relating to risk management, which represents a competitive advantage against the manufacturing and insurance sectors. Risk management is an integrated part of upper management’s responsibilities or an

independent control and oversight function. Risk management is not a new function or gadget in the financial industry. However, based on recent events, regulators and the media have increasingly scrutinize risk management, is not a new function o gadget in the financial industry. However, based on a recent events, regulators and the media have increasingly scrutinized risk management practices and techniques, A closer look at some of the accidents makes it apparent that managers, regulators and investor have partially lost control of risk management, overestimated their own capabilities, and brought companies and entire markets to the edge of the abyss. Therefore, risk management is the good topic for the researcher. Commercial banks have to assume different kind of risk: market risk, operational risk, credit risk and other of them credit risk cover the significant risk to the total risk. Though the banking sector has been facing different types of risk, major banking problem have been either explicitly or indirectly caused by the weaknesses in credit risk management, in this study, the researcher has focused mainly on the credit risk management of the commercial banks in Nepal. However, the brief introduction of other risks like liquidity risk, interest risk, operation risk and foreign exchange risk is also included. In addition to the credit risk the bank faces other risks. According to the Nepal Rastra Bank unified directives 2005, the major source of risk is credit risk, liquidity risk, foreign exchange risk, and interest rate risk etc.

Banking institutions are the first organ of financial market. The history of modern banking is not so long in Nepal but we find the existence of traditional banking system from ancient days.

1.1.1. Meaning of Commercial Bank:

In Nepal, modern banking was germinated with the establishment of Nepal Bank Limited (NBL) in 1973 A.D. (1994SB.S.) the first commercial bank in the country. It provided important assistance to public and government in collecting deposit and disbursing credit. It extended its transaction in other cities of the country. Then Nepal Rastra Bank (NRB) act was issued in 2012 B.S. After that Nepal Rastra Bank was established in 2013 B.S. After the establishment of NRB, Nepal Rastra Bank Limited,

which was taking the responsibilities in the form of government bank became pure commercial bank.

In order to monitor the rural areas and to bring fastest growth in the field of industry, commerce and business, Rastriya Banijya Bank , the second commercial bank was set up in 1966 A.D. (20022 B.S.) in full ownership of government. It extended its branches all over the country. Until 1983 A.D. any two commercial banks were operating in the country. In the process of financial reform initiated in early the process of financial reform initiated in early 1984s, a policy to allow joint venture banks with external collaboration was adopted in 1984 so as to attract modern technology and management into the banking sector. As a result Nepal Arab Bank Limited the first joint venture bank was established in 1984 A.D. subsequently, the Nepal Investment Bank Limited, Nepal Stander chartered Bank Limited were also set up in 1986 and 1987 A.D. respectively with the establishment of the Himalayan Bank Ltd, Nepal SBI Bank Limited and Nepal Bangladesh Bank limited in 1993, Everest Bank Limited, Bank of Kathmandu Limited and Nepal Credit and Commence in 1994, 1995 and 1996 respectively.

With the establishment of the Lumbini Bank Limited Nepal Industrial and Commercial Bank Limited in 1998, Machhapuchhre Bank Limited, Lumbini Bank Limited in 2001 Laxmi Bank Limited, Siddhartha Bank Limited in 2002, Agriculture Development Bank Limited, Global Bank Limited in 2006 and 2007, Citizen Bank International Limited, Prime Bank Limited, Sunrise Bank Limited, and Bank of Asia Nepal Limited in 2007, in this way development Credit Bank Limited, and Nepal Merchant Bank Limited upgraded as commercial Bank from 2008/05/25 and 200/06/25 respectively development Credit Bank up graded in commercial Bank (class A) from Development Bank (Class B) from finance company (class C). Thus by mid July 2008, tag number of commercial banks operating in the country reached 28.

Though the Bank are increasing in number, the Banking service per person is very low. Due to various problem of Banking in Nepal, Bank are not able to perform activities as expected. Those problems are strong unorganized sector and red taping in Banks weak

position and unhealthy completion, government interference, lack of research, training and development, weakness of Nepal Rastra Bank, lack of coordination, lack of trained manpower fluctuating policy of NRB, Centralization of Bank only in urban areas, lank of reform programs etc.

Commercial Bank play vital role for the economic upliftment of least developing countries (LDC s) like Nepal. It performs various activities like collection of deposit for capital formation, investment in industries, business, agriculture and consumers, investment for employment generation, work as subordinate of monetary policy etc. After 2040 B.S. joint venture Banks came into existence. Then joint venture Bank is increasing in number in urban areas. The growth of commercial Bank in Nepal started from Nepal Bank Limited, Rastriya Banijya Bank, Agriculture Development Bank to joint Venture Banks. Generally it is observed that Commercial Bank are doing progress not only in quantitative manner but also in quantitative front. Extension of branches and sub branches in the various parts of the country is the indication of quantitative progress whereas foreign exchange, Export financing, internal payment, guarantee, management reform, computerization etc. are the indication of quantitative progress.
Rural area converse 80% part of the country. The commercial banks are extending their branches only in urban areas but to open branches in rural areas is a very challenging part. Since last few years, security threat has been increasing in commercial banks operated in rural areas. The numbers of branches of commercial banks are decreasing day by day which is a matter of great worry. There is still the possibility of establishment of some joint venture banks in urban areas of Nepal. However, the situations for controlling the number of commercial bank have not come yet because in a competitive market, those banks that cannot compete will be closed automatically. A constructive environment should be created so that the trend of opening banks only in the capital gets discouraged and banks will be established all over the country.

In Nepal, commercial banks are not able to extend their branches in comparison to the ratio of their quantitative growth. 105 branches of RBB and NBL were established until 2030 B.S. after 10 years or in 2040 B.S. they extended their branches to as many as

325. But during 2066, it is observed that commercial banks rose to 25 in number but their branches only to 574 commercial bank are not expanding their branches unlike NBL and RBB because of the various reasons such as due to low risk and high profit in urban area, security threat in rural areas, lack of inspiration to established commercial banks in rural areas and due to narrow commercial business and financial transaction in rural areas. The economic growth rate of the country has been adversely affected due to deteriorating situation of law and order, frequent strikes and bands in the country. Since the banking sector is one of the major components of the whole economic system, it cannot remain free from such unfavorable activities. The banking sector has been confronting big challenge to attain the expected return due to high liquidity, pressure on interest spread, continuous lack of however in the country like Nepal: it is matter of pride that Banks are growing day by day. Deposit various problems faced by banking their operation, they are making an enormous effort to up lift the economy of Nepal. Commercial and joint venture banks operating presently in Nepal are enlisted below.

List of Commercial Banks established under different acts & laws:

S. No.	***Name of the Banks***	***Est. Date***
1.	Nepal Bank Ltd.	1937/11/15A.D.
2.	Rastriya Banijya Bank	1966/01/23A.D.
3.	NABIL Bank	1984/07/13A.D.
4.	Nepal Investment Bank Ltd.	1986/02/27A.D.
5.	Standard Chartered Bank Nepal Ltd.	1987/01/30A.D.
6.	Himilayan Bank Limited	1993/01/18A.D.
7.	Nepal Bangladesh Bank Ltd.	1993/06/17A.D.
8.	Nepal SBI Bank	1993/07/07A.D.
9.	Everest Bank Ltd.	1995/03/12A.D.
10.	Bank of Kathmandu	1995/03/12A.D.
11.	Nepal Credit & Commerce Bank Ltd.	1996/10/14A.D.
12.	Lumbini Bank Ltd.	1998/07/17A.D.
13.	Nepal Industrial & Commercial Bank Ltd.	1998/07/21A.D.

14.	Machhapuchhre Bank Ltd.	2000/10/03A.D.
15.	Lumbini Bank Ltd.	2001/04/04A.D.
16.	Laxmi Bank Ltd.	2002/04/01A.D.
17.	Siddhartha Bank Ltd.	2002/12/25A.D.
18.	Agriculture Development Bank Ltd.*	2005/07/14A.D.
19.	Global Bank Ltd.	2007/01/15A.D.
20.	Citizen International Bank Ltd.	2007/06/21 A.D.
21.	Prime Commercial Bank Ltd.	2007/09/24 A.D.
22.	Bank of Asia	2007/10/12 A.D.
23.	Sunrise Bank Ltd.	2007/11/07 A.D
24.	Kist Bank Ltd.	2003/02/21 A.D.
25.	NMB Bank Ltd.	1996/11/26 A.D.
26.	Development and Credit Bank Ltd.	2001/01/23 A.D.
27.	Janata Bank Ltd.	
28.	Mega Bank	

1.1.2. Profile of sample Bank

Lumbini bank Limited:

The Lumbini bank Limited was established in 2055\04\01 B.S. as commercial bank with the indigenous efforts of reputed industrials and businessmen, experienced ex-bankers and renowned corporate bodies under the provisions of the company act, 2053 and the commercial Bank act 2031, of Nepal .It was registered on 10/07/1997 with registration number 667/2053/054.Its NRB registration number was 15 .it has 2054/055 in the date 2055/03/28 with PAN no 301228796.

The head office of this bank is located in Narayangarh in the Chitwan district, a town progressing very fast in trade, commerce and Industry. It has its corporate office in Durbar Marg, Kathmandu. Its branch office are Located in various districts of Nepal. They are chitwan, Makawanpur, Rupendehi and Kathmandu. The bank now operates from its corporate office at Narayangarh. Initially, the bank covers five districts on phase wise basis viz. Chitwan, Makwanpur, Bara of central Development region,

Nawalaprasi and Rupendehi of Western Development region. The bank plans to expand its banking service to Simra and Gaidakot in the second phase and Bhairahawa in the third phase. In due course the bank branches will be expanded throughout the country. From the month of mangsir, the bank has established its branch in Biratnagar.

The bank was establishes with the prime objective of providing all the banking services to the people of the region. There by contributing to the economic Development of the nation as a whole.

Capital structure of Lumbini Bank is as follows:

Authorized capital	:-	1.6 Billi0n
Issued capital	:-	1 Billion
Paid-up capital	:- .	9957101 Billion

The bank functions with an excellent team of management consisting of highly experienced and resourceful ex-bankers, the well-reputed Employees provident fund and distinguished industrialists and businessmen as its promoters. The Banks promoters hold 70% shares and the rest30% goes to General public.

1.2 Focus of the study

This study is mainly focused on the analysis of risk associated with the equity shares of Lumbini Bank listed in NEPSE. The study also tries to focus on the analysis of price movement of the shares of individual stock. It tries to evaluate companies on the basis of risk analysis.

Banking sector is vital sector for economic growth in a country. For the growth and development of this sector proper management of risk by considering the return is required. In today's competitive scenario, several macro economic factors such as political, economical, social and technological factors have increased the challenges to the banking sector. Banking sector also involves several risks, which need to be handled promptly for the survival and growth. As this study is made mainly to analyze the various risks and their management in reference to NRB directives and measures,

it will provide valuable insight to different stakeholders about the major problems of commercial banks and theirs action for its management.

1.4 Statement of the problems

Through LBL is fairly young in terms of tenure of its operation. It has been the innovator in introducing many new products such as credit cards .Tele Banking, any branch Banking ATM,24 hours banking, correspondent Net work etc. Due to their prompt and quality services LBL has achieved it's remarkable success in banking sectors and have provide it's high status in the age of public. LBL have been improving its performance from very beginning since its establishment.

Various issues are to deal for the purpose of this study. Some among the various issue but important ones are as follows:

- What are the major factors effecting the financials performance of LBL?
- What are the risks dealt by the LBL in the market and within the organization?
- Has LBL been able to avoid or manage those risks that come in the way to its destination?
- What is the strength and weakness of the firm? In other words whether the earning power and operating efficiency is satisfactory or not?
- How for LBL been able to meet its current obligation when liquidity they become due? This will be helpful to recognize the position of the bank .the liquidity position of the firm would be satisfactory if the firms have sufficient liquid funds to pay the interest on its short maturing debt usually within a years as well as the principal.

1.4 Objective of the study

The general objectives of the study are as follows:

- To analyze the level of different types of risk faced by Lumbini bank limited.
- To assess the financial performance of Lumbini Bank ltd

- To assess the Liquidity Position of Lumbini Bank Ltd.
- To analyze Nepal Rastra Bank's directives and measures on the risk management of Commercial Banks

1.5 Limitation of the study

There will be some limitations while undergoing this study. The main limitation of this study will be:-

- The study period covers data for only five fiscal years from2062/063 to2065/066.
- The study will be done mostly on the basis of secondary data collected.
- As the study needs sufficient money in order to collect required information through various sources the researcher could not afford it and the time dimension is very limited.
- The study will be done for the partial fulfillment of MBS programs of T.U.
- Although there are many Joint venture Banks, the study limits to only one bank LBL.

1.6 Significance of the study

Financial ratio analysis is a reliable way to understand how a company is performing financially. By applying ratios to an organizations financial statements managers are able to better evaluate it's short and long term financial performance. Equally important, manager can evaluate the financial performance of their competitors in order to further understand their relative performance in the market place.

Besides this study will be useful to more people and organization such as:

- Government
- Trade creditors-
- Investors
- Stock brokers
- Academicians
- Police formulators

- General public

1.7 Organization of the study

The whole study is divided in to five different chapters as below.

Chapter -I : Introduction
Chapter -II : Review of literature
Chapter -III : Research methodology
Chapter -IV : Data presentation & analysis
Chapter -V : Summary, Conclusion & recommendation

The chapter-I: "Introduction**"** provides the introduction of LBL, background of study, introduction of banking, statement of the problems, objective of the study, limitation of the study, significance of the study, current status, future program.

Chapters-II: Is the "Review of literature**"** in the conceptual frame work; risk management, types, Resin & financial statement analysis are discussed with reference to the review of the related books and study. Similarly different articles and books Nepalese legislation and regulation relating to banking activities are also reviewed.

Chapter-III: explains the "Research methodology" used in the study which includes introduction, research designs, and sources of data, population and sample and methods of data analysis techniques.

Chapter-IV: Is the heart of the study .This chapter includes "Presentation and analysis of data" using financial tools such as ratio analysis and statistical tools i.e. coefficient of correlation of different variables and standard deviation.

Chapter-V: revolves with "suggestions" which include the summary of main finding, recommendations & suggestions for further improvement and conclusions of the study.

CHAPTER-II

REVIEW OF LITERATURE

This chapter presents with the discussion related to various theories and researched studies that are closely related studies and provides valuable inputs to conduct the present studies successfully. The whole chapter has been divided mainly into four conceptual frameworks, review of NRB directives, review of journal and articles and review of thesis.

2.1. Conceptual Framework

Risk is defined as "a condition in which there exists an exposure to adversity."In addition, there is an expectation of what the outcome should look like. Many definitions of risk include the term adverse deviation to express the negative dimension of the expected or hoped-for outcome. Therefore, risk is defined here as: risk is a condition in which there exists a possibility of deviation from a desired outcome that is expected or hoped for. Different investors define risk in different ways. In general, risk can be defined as the likelihood that actual return from an investment will be less than the forecast return. Stated differently, it is the variability of return from an investment.

Other definitions include the restriction that risk is based on real world events, including a combination of circumstances in the external environment Risk management is the process of measuring are assessing risk strategies. In ideal risk management, a prioritization process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled later. In practice, the process can be very difficult and balancing risks with a high probability of occurrence but lower loss vs. a risk with high loss but lower probability of occurrence can after be mishandled. Risk refers to certainty on the investment faced by the investors. It is the possibility that actual outcomes may be different from those expected. Risk can be defined as the possibility of deviation of the actual return from the expected return.

Risk management is the process of measuring, or assessing risk and then developing strategies to manage the risk. In ideal risk management, a prioritization process is followed whereby the risks with the greatest loss and the greatest probability of occurring are handled first, and risks with lower probability of occurrence and lower loss are handled later.

In practice the process can be very difficult, and balancing between risks with a high probability of occurrence but lower loss vs. a risk with high loss but lower probability of occurrence can often be mishandled.

Risk management also faces a difficulty in allocating resources properly. This is the idea of opportunity cost. Resources spent on risk management could be instead spent on more profitable activities. Again, ideal risk management spends the least amount of resources in the process while reducing the effects of risks as much as possible.

Financial risk management is the practice of creating economic value in a firm by using financial instruments to manage exposure to risk, particularly credit risk and market risk. Other types include Foreign exchange, Shape, Volatility, Sector, Liquidity, Inflation risks, etc. Similar to general risk management, financial risk management requires identifying its sources, measuring it, and plans to address them. Financial risk management can be qualitative and quantitative. As a specialization of risk management, financial risk management focuses on when and how to hedge using financial instruments to manage costly exposures to risk.

In the banking sector worldwide, the Basel Accords are generally adopted by internationally active banks for tracking, reporting and exposing operational, credit and market risks.

Finance theory (i.e., financial economics) prescribes that a firm should take on a project when it increases shareholder value. Finance theory also shows that firm managers cannot create value for shareholders, also called its investor, by taking on projects that shareholders could do for themselves at the same cost. When applied to financial risk management, this implies that firm managers should not hedge risks that

investors can hedge for themselves at the same cost. This notion was captured by the prefect marker the firm cannot create value by hedging a risk when the price of bearing that risks within the firm is the same as the price of bearing it outside of the firm. In practice, financial markets are not likely to be perfect markets. This suggests that firm managers likely have many opportunities to create value for shareholders using financial risk management. The trick is to determine which risks are cheaper for the firm to manage than the shareholders. A general rule of thumb, however, is that Marker risk that result in unique risks for the firm are the best candidates for financial risk management. The concepts of financial risk management change dramatically in the international realm. Multinational Corporations are faced with many different obstacles in overcoming these challenges. Research by many, including Raj Agarwal has started to disclose much of the decisions and impacts firms must make when operating in many countries. Research has specifically identified three kinds of foreign exchange exposure for various future time horizons, transactions "Risk as the volatility of corporation's market value" *(Kupper; 2000:150).*

Risk management, on the other hand, is the process of measuring or assessing risk and then developing strategies to manage the risk. In general, the strategies employed include transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the con sequences of a particular risk.

2.1.1 Sources of Risk

An investment is commitment of money that is expected to generate addition money. Every investment entails some degree of risks. A major objective of financial institution is to increase the returns for its owner by taking minimum risk. The effective management of the risk is central to its performance. Indeed, it can be argued that the main business function of financial institution is managing these risks through the consumption of maximum time and efforts in understanding and managing the various source and kinds of risks factors with its different natures and complexities. The primary risks factors that create investment uncertainties are as follows: *(Leippoldy, 2003:155).*

a. Interest Rate Risk

Asset transformation function is the key functions of financial institution. It involves buying primary securities or assets and issuing secondary securities or liabilities to fund assets purchase. The primary security purchased by financial institutions often has maturity and liquidity characteristics which are different from those of secondary security that financial institutions sell. In mismatching the maturities of assets and liabilities as part of their asset transformation function. Financial institutions potentially expose themselves the interest rate risks. Suppose when interest rate increases and maturity period of assets is greater than the maturity period of liabilities. At that time, if interest rate increases it decreases the market value of assets in comparison of its liabilities. So, interest rate is defined as the potential variability of return caused potential variability of return caused by the changes in its market rate interest rate. Interest rate can be variable. If we consider the single period return formula for the bond and stock. In interest rate risk, if market interest rate raises the investment values and market prices falls and vice-versa. The variability of return results interest risk. The interest rate risk affects the prices of bonds, stocks, real estate, gold and other derivatives securities *(Leippoldy, 2003:159)*

b. Bull-Bear Market Risks

Market risk is risk incurred in the trading of assets and liabilities due to changes in market forces like interest rates, exchange rates. Furthermore, market risk is the risk related to uncertainty on the earning on its trading portfolios caused by changes in the market condition.

Saunders and Cornett in tenth addition have outlined two comments on market risk. These are as follows:

Comment 1*:* market risk is value at risk (VAR) which is related to uncertainty.
Comment 2*:* market risk is caused due to four major market forces. These are price of assets, interest rate, market volatility, market liquidity.

Market risk can be also cleared in Bull-Bear approach. This approach advocates that risk can rise from the variability of the market return resulting from the alternating bull and bear market forces. Bull market creates when security index arises fairly and consisting from also point called trough for a period of time, the bull market ends when the market index reaches a peak and starts downward trend. The period during which the market declines to the next trough is called a bear risk. *(Leippoldy, 2003:165)*

c. Credit Risk

It is also called default risk. Default risk is probability that the borrower is unable to fulfill the term promised under the loan agreement. Saunders and Cornett have outlined three principles as follows:

Principle *1*: It is the risk losing principal and interest amount.

Principle 2: When financial institution makes loans or buys securities with longer maturities. There is chance of higher credit risk where principal plus interest earned may not recover adequate in full amount.

Principle *3:* Credit risk can be firm specific and systematic risk.

d. Liquidity Risk

Liquidity risk is sudden surges in liability with drawl may leave as financial institution in a position of having to liquidate assets in a very short period of time and at low prices. Liquidity risks arises when on its liability holders such as depositor or insurance policy maker etc. demand immediate cash for the financial claim they hold with financial institution or when holders of loan commitment or credit line suddenly exercise their right to borrow or draw down their right their loan commitments. At that situation the financial institutions must either borrow additional funds or sells assets to meet the demands for the withdrawal of funds. In most cases financial institution has to face the liquidity crisis at the time when liability holder demands higher cash consequently. In other sense, liquidity risk is that position of an assets total variability of return which results from the prices discount given on sales. Commission paid in order to sale without delay. Perfectly liquid assets are highly marketable either price discounts must be given or these cost must be incurred by seller, in order to find

a new investor for an assets is the larger the prices discount and /or commission which must be given up by the seller in order to affect a quick sale. *(Leippoldy, 2003:189)*

e. Callability Risk

Some bonds and preferred stocks are issued with a provision that allows the issuer to call them in for repurchase. Issuer likes the call provision because it allows them to buyback outstanding preferred stock and on bond with funds from a newer issue if market interest rate drop below the level being paid on the outstanding securities. There is chance of creating callability risk.

That portion of a security's total variability of returns which derives from the possibility that the issue may be called is the callability risk. Callability risk commands a risk premium that comes in the form of a slightly higher average rate of return. This additional return should increase as the risk that the issue will be called increase. *(Leippoldy, 2003:209).*

f. Convertibility Risk

Call ability risk and convertibility risks are in two aspects. First both are contractual stipulations that included in the term of original security issue. Second, both of these provisions alter the variability of return from the affected security. Convertibility risk is that portion of the variability of return from a convertible bond of convertible preferred stocks. That reflects the possibility that the investment may be converted into the issuer's common stocks at a time or under terms harmful to the investor's best interest. *(Leippoldy, 2003:233).*

g. Industrial Risk

An industry may be viewed as a group of companies that compete with each other to market homogenous products. Industry risk is that portion of risk that can be an investment variability of return caused by events that affects the product and firms that make up of an industry. The stage of industry cycle, international tariffs and/of quotas on the product produced by an industry related taxes, industry wide labor union problems, environmental restriction, raw materials acts and affect all the firms

in the industry simultaneously. As a result of these commonalities, the prices of the securities issued by competing firms tend to rise and fall together. *(Leippoldy, 2003:285)*

h. Political Risk

Political risk arises from the exploitation of a politically weak group for the benefits of politically strong group, with the efforts of various groups to improve their relative positions increasing the variability return from the affected assets. Regardless of whether the changes that cause political or by economic interests, the resulting variability of return is called political risk if it is accomplished through legislative, judicial or administrative branches of government. Political risk can be classified as international political risk and domestic political risk. *(Leippoldy, 2003:309)*

i. Other Risks

Besides these above mentioned risks, there are other risks like off balance sheet risk, technological and operational risk, country and sovereign risk, insolvency risk etc.

2.1.2 Types of Risk Faced by Commercial banks

Risk and uncertainties are the integral part of banking business. In banking sector, risk refers to the possibility that the bank will turn into liquidation there are several inherent risks in banking which can be classified into three broad categories i.e. Credit Risk, Market Risk and Operational Risk. Primarily, risk in the banking context is credit risk through lending, which occupies about 60% of total risk portfolio. Therefore, this study is mainly focused on the credit risk. However, the brief introduction of Market Risk and operational Risk has also been included. The major sources of risk in banking business are briefly discussed as below:

i. Credit Risk

Credit risk is most simply defined as the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms**.** Anthony Saunders defines the credit risk as "the risk that the promised cash flows from loans and securities held by FIs (Financial Institutions) may not be paid in full". Credit risk

involves inability or unwillingness of a customer or counterparty to meet commitments in relation to lending, trading, hedging, Settlement and other financial transactions Santomero (1997, A.D.), views credit risk is generally made up of transaction risk or default risk and portfolio risk. The portfolio risk in turn comprises intrinsic and concentration risk. The portfolio risk depends on both external and internal factors. The external factors are the state of the economy, wide swings in commodity/equity prices, foreign exchange rates and interest rates, trade restrictions, economic sanctions, Government policies, etc. The internal factors are deficiencies in loan policies/administration, absence of prudential credit concentration limits, inadequately defined lending limits for Loan officers/Credit Committees, deficiencies in appraisal of borrowers' financial position, excessive dependence on collaterals and inadequate risk pricing, absence of loan review mechanism and post sanction surveillance, etc. Another variant of credit risk is counterparty risk. Counterparty risk comes from non-performance of a trading partner.

The non-performance may arise from counterparty's refusal to perform due to an adverse price movement caused by systematic factors, or from some other political or legal constraint that was not anticipated by the principals. Diversification is the major tool for controlling nonsystematic counterparty risk. Counterparty risk is like credit risk, but it is generally viewed as a more transient financial risk associated with trading than standard creditor default risk. In addition, counterparty's failure to settle a trade can arise from other factors beyond a credit problem. So, the goal of credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Bank should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization**.** *(Bhandari, 2003:44).*

ii. Market Risk

Market risk is the risk that the value of a portfolio, either an investment portfolio or a trading portfolio, will decrease due to the change in value of the market risk factors. The four standard market risk factors are stock prices, interest rates, foreign exchange rates, and commodity prices. The associated market risks are as with other forms of risk, the potential loss amount due to market risk may be measured in a number of ways or conventions. Traditionally, one convention is to use Value at Risk. The conventions of using Value at risk are well established and accepted in the short-term risk management practice.

However, it contains a number of limiting assumptions that constrain its accuracy. The first assumption is that the composition of the portfolio measured remains unchanged over the specified period. Over short time horizons, this limiting assumption is often regarded as reasonable. However, over longer time horizons, many of the positions in the portfolio may have been changed. The Value at Risk of the unchanged portfolio is no longer relevant.

In addition, care has to be taken regarding the intervening cash flow, embedded options, changes in floating rate interest rates of the financial positions in the portfolio. They cannot be ignored if their impact can be large.

Market risk is the risk incurred in the trading of assets and liabilities due to changes in interest rates, exchange rates, and other asset prices. So, Market risk is exposure to the uncertain market value of the firm's asset. Major factors affecting Market risk are:

a. Liquidity Risk
b. Interest Rate Risk
c. Foreign Exchange Risk

a) Liquidity Risk*:*

Anthony Saunders says, **"**Liquidity risk arises whenever financial institutions' liability holders, such as depositors or insurance policyholders, demand immediate cash for their financial claims". When liability holders demand cash immediately – that is, put

their financial claims back to the FI – the FI must either borrow additional funds or sell off assets to meet the demand for the withdrawal of funds. An institution is said to have liquidity if it can easily meet its liability holders' demand for cash either because it has cash on hand or can otherwise raise or borrow cash. In banking sector, Liquidity risk is created when banks hold different sizes of assets and liabilities and mismatch occurs in maturity of the assets and liabilities. Extreme illiquid asset in bank may result in bankruptcy where as excess liquid asset may carry interest rate risk over the period of time. As it is fatal risk, prudent liquidity management is the primary function of banking sector. Liquidity management is also to make sure that expected shortfall amounts are funded at a reasonable cost, ensure excess fund are invested properly with reasonable returns and without carrying any interest rate risk to the bank

b. Interest *Rate Risk (IRR)*

Interest rate risk is the risk incurred by a financial institution when the maturities of its assets and liabilities are mismatched. Interest Rate Risk is the probability of decline in earnings, due to the adverse movements of the interest rates in various markets. The applicable interest earned on assets and liabilities and hence net interest margin is the function of market variables and it may get changed overnight or over a period of time according to the market situation. Changes in the interest rate can significantly alter net interest income depending on the mismatch of assets and liabilities held by the bank. Changes in interest rates also affect the market value of bank's equity.

c. Foreign Exchange Risk:

Foreign exchange risk is the risk that exchange rate changes can affect the value of a bank's assets and liabilities denominated in foreign currencies. The bank is also exposed to foreign exchange risk, which arises from the maturity mismatching of foreign currency positions. In the foreign exchange business, banks also face the risk of default of the counterparties or settlement risk. While such type of risk crystallization will not cause principal loss, banks may have to undertake fresh transactions in the cash/spot market to replace the failed transactions. Thus, the bank may incur replacement cost, which depends upon the currency rate movements.

iii. Operational Risk

Operational risk *is* associated with the problems of accurately processing, settling, and taking or making delivery on trades in exchange for cash. It also arises in record keeping, processing system failures and compliance with various regulations. The Basel Committee on Banking Supervision (2000), defines operational risk as "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events." Operational risk arises from inadequate control systems, operational problems and breaches in internal controls, fraud and unforeseen catastrophes leading to unexpected losses for a bank. Many of the operational-risk-related functions such as regulatory compliance, finance management, frauds, IT, legal, and insurance are carried out by the staff and thus human resources itself becomes a cause for operational risk.

2.1.3 Fundamental Elements of Sound Risk Management

The fundamental elements of sound risk management are easy to describe in the abstract but are far more difficult to apply case by case. Each situation is unique, built around the roles and capabilities of individuals and the structures, activities and objectives of the institutions. What works for one firm may, of course, possibly be unsatisfactory for another. Moreover, in the context of particular firm, the definition of sound or adequate risk management system is ever changing, as new technology accommodates innovations and better information as market efficiency grows. To remain competitive, institutions must adopt and constantly improve their process. Apart from these contingencies, however certain basics apply quite generally. In any institutions, support for crucial programs must come from the top. Each entity's senior management and governing board must set the institutions risk appetite by establishing appropriate policies, limits and standards, and ensuring that they are followed and enforced. Throughout the institution, risk must then be measured, monitored and reported to key decision makers. There must also be adequate accountability, clear lines of authority and separation of duties between business function and those involved in risk management and internal control.

2.2 Review of NRB Directives

The main focus of this study is to analyze the directives of Nepal Rastra Bank related to Credit Risk Management of Commercial Banks. The directives issued from time to time are one of the tools used by the central bank to control and monitor the commercial banks. In the present context, the directives are issued by NRB quite regularly. In 2005, NRB, by using the rights given by the Nepal Rastra Bank Act 2058, has issued unified directives to regulate all three categories of financial sectors in Nepal to ensure that the banking industry functions as per the international standard and also to have more effective control mechanism for overall financial sector.

Legal Provision Regarding Risk Management in Nepal

Regarding, risk management there are certain directives given by Nepal Rastra Bank to commercial bank to minimize various types of risks. According, to NRB act, 2012, section 22, subsection 38, the major risks faced by bank are divided into following categories:

- Liquidity risk
- Interest risk
- Foreign exchange risk
- Credit risk

(Source: NRB Directives, 2066)

A bank is judged on the basis of Capital, Assets quality, Management, Earning, Liquidity and Sensitivity to market risks (CAMELS).Almost all the government banks are running at loss .Though almost all the private sector banks are showing profit, it is very difficult to call them sound if appraised from CAMELS approach. Some banks have very low Capital Adequacy Ratio (CAR) while some banks have piled up Non-Performing Assets (NPAs).Similarly; it appears banks do not have proper system in place for management of market risks. The people have been raising question over the correctness of credit classification and provisioning of some banks. Should the suspicion come true, it will prove very costly to the depositors, creditors and national economy as a whole. It

would be prudent to advise NRB to strictly implement its recently introduced directives so that other banks avert the fate of NBL, RBB and NIDC.

Similarly, there is an unhealthy competition among the banks to attract and retain the new and old customers respectively. In this regard, they have compromised on security aspects and sanctioned loans to customers beyond customers' real requirement. In the long run, it will prove very costly to both the borrowers and the bank.

In this new unified directive, loan classification and provisioning of loans of financial institutions are mentioned on E. Pra. Directive No. 2/ 061/62 with the objective to minimize the possible risks associated with credits extended by financial institutions in the form of overdraft, loans and advances, bills purchased and discounted. Therefore, as per this new unified directive No. 2, banks should classify the loans and advances on the basis of aging of principal amount into the following 4 categories.

Directive No. 1- Capital Adequacy Ratio

Capital Adequacy Ratio (CAR) is the proportion of Capital Fund or Shareholders equity on the total risk weighted asset of a bank. In other words, it is the capital portion, which is used to finance the asset. The total risk weighted asset, on the other hand, includes both on & off balance sheet items, which has been rated with certain percentage of risk. The risk weight of asset ranges from zero for cash, balance at NRB and investment in government bonds to 100 % for loans and advances. The higher the risk weighted asset means lower will be the capital adequacy ratio as CAR is the ratio between Capital fund and Risk Weighted Asset. According to unified directive 2005, the capital fund includes two types of capital,

A. Primary Capital

Primary capital refers to core capital of a bank, which includes the share capital employed by the shareholders and all the reserve maintained by a bank, primary capital includes:

Primary Capital

1) Paid Up Capital
2) Share Premium
3) Non-Redeemable Preference Share
4) General Reserve Fund
5) Retained Earnings
6) Capital Redemption Reserve
7) Net Profit after Provision, Tax & Bonus (Current Year)
8) Capital Adjustment Fund
9) Other Free Reserve
10) General Reserve Fund

B. Supplementary Capital

Supplementary Capital refers to all the reserves bank has made for specific purpose, such as loan loss, foreign exchange loss etc. The supplementary capital includes:

Supplementary Capital

1) General Loan Loss Provision (Good Loans)
2) Asset Revaluation Reserve
3) Hybrid Capital Instrument
4) Unsecured Subordinated Term Debt
5) Exchange Equalization Reserve
6) Additional Loan Loss provision
7) Investment Adjustment Reserve

C. Capital Fund

Capital Fund includes both the primary and supplementary capital. It can be stated in equation as below:

Capital Fund = Primary Capital + Supplementary Capital Risk Weighted Asset, on the other hand, refers to the all the on and off balance sheet assets, which has provided certain percent of risk weight that ranges from zero for cash, balance with NRB,

investment in government securities to 100 percentage for loans and advances, fixed asset etc. Risk Weighted Asset includes both the on and off balance sheet assets. On balance sheet asset includes three types of risk-weighted asset (i.e. 0 %, 20 % and 100%). Zero percentage risk weighted assets include cash and bank balance, gold (tradable), investment in NRB and Government Bonds, loan against own bank's fixed deposit receipts and government bonds, Interest receivable on National Saving Bonds. 20 % risk weighted asset includes balance with local and foreign banks, loan against other bank's fixed deposit receipts, money at call, loan against internationally rated bank's guarantee and other investment on internationally rated banks. 100 % risk weighted asset includes investment on shares and debentures, loans and advances, fixed assets, other investment, all other assets (excluding tax paid and accrued interest receivable.) off balance sheet assets includes four types of risk-weighted asset (i.e. 0 %, 20%, 50 % and 100%). Bills collection has 0 % risk. Letter of credit with maturity period less than 6 months and guarantee against counter guarantee of international rated foreign banks have 20 % risk. 50 % risk weighted asset includes letter of credit with maturity period more than 6 months, bid bond, underwriting and performance bond. 100 % risk weighted items include advance payment guarantee, financial guarantee, other guarantee, irrevocable loan commitment, contingent liability on income tax and acceptance and other contingent liability. The Capital Adequacy ratio of a bank is calculated as below:

a. Capital Adequacy Ratio for Core Capital

Capital Adequacy Ratio =Total Risk Weighted Assets Core Capital

b. Capital Adequacy Ratio (CAR) for Total Capital Fund

Capital Adequacy Ratio =Total Risk Weighted Assets

Capital Funds

According to NRB directive 2005, the statutory Capital Adequacy Ratio (CAR), for core capital is 6 %, where as CAR for total capital fund is 11 % for fiscal Year: 2008/09.

Directive No. 2 - Classification of Loans and Advances and Loan Loss Provision

Classification of Loans and Advances:

a) Pass Loan

Loan and advances which principal amount payment are not due yet or if the due has not exceeded the due date for a period of 3 months are included under this category. Such loans and advances are defined as Performing Loan.

b. Substandard Loan

All the loans and advances, which due principal amounts have exceeded the due date for a period of 3 months to 6 months are included in this category.

c. Doubtful Loan

All the loans and advances, which principal amount is due for a period of 6 months to 1 year, are included under this category.

d. Bad Loan

All the loans and advances which principal amount has crossed the due date for a period of more than 1 year as well as the advances which have least possibility of recovery or considered unrecoverable and those having thin possibility of even partial recovery in future shall be included in this category. Pass Loans and advances are defined as Performing Loans. Loans and advances falling under the category of Sub-standard, Doubtful, and Bad Loan are classifieds and defined as Non- Performing Loan. There is no restriction to grade the loans and advances from low-risk category to high-risk category. For e.g. Substandard loans and advances can be graded to the Doubtful or Bad Loans Category; and the Doubtful loans and advances can be graded under the Category of bad Loans on the basis of the internal discretion of the bank's management. The term "Loans and advances" also includes the Bills Purchase and Discounts.

a. Additional arrangements in respect of Pass Loan

The loans and advances that are fully secured by gold, silver, fixed deposit receipts and Nepal Government securities shall be included under "Good-loan/Pass Loan" category. However, where the fixed deposit receipt or government securities or NRB Bonds is

placed as secondary collateral for security against loan for other purposes, such loan has to be classified on the basis of ageing. Loans against Fixed Deposit Receipts of other banks shall also qualify for inclusion under Pass Loan. If the working capital loans of one year maturity period is renewed that can be graded into pass loan category. In working capital loans, if the interest payments are not timely made, such loans can be graded as per the due days.

b. Additional arrangements in respect of "Bad Loan"

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

Insufficient collateral, If the borrower has been declared bankrupt. The borrower is absconding or cannot be found Purchased or discounted bills are not realized within 90 days from the due date; and if the non-funded facilities like Letter or credit, guarantee, and other liabilities turn into funded facilities and is not repaid within 90 days.

c. Misuse of Loan

Here misuse of Loans means if the loan has not been used for the original purpose for which it was taken, the business for which is the loan is taken is not in operation, the incomes from the concerned business are used for other purposes instead of repaying of loan, and if the misuse of the funds are proved on inspection by the inspector or by the auditor. Owing to non-recovery, initiation as to auctioning of the collateral has passed six months and if the recovery process is under litigation. Loans provided to the borrowers who are blacklisted by the Credit Information Center.

Credit card loan not written off which is due since 90 days.

d. Additional arrangements in respect of Term Loan

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

Note: Term Loan means the loans with the maturity period of greater than 1year.

The principal and interest amount cannot be charged by overdrawing the current account of the borrowing client or by exceeding the overdraft limit of the client.) The principal and interest amount cannot be recovered by overdrawing the current account of the borrower.

e. Letter of Credit and Guarantees

If non-funded facilities such as letter of credit, guarantees and other liabilities turn into funded liabilities and have to be paid by the financial institutions, these credits have to be categorized into "Pass Loan" up to 90 days and if not paid within 90 days then treated as "Bad Loan".

f. Rescheduling and restructuring of Loan

In respect of loans and advances falling under the category of Substandard, doubtful or loss, banks may reschedule or restructure such loans upon receipt of a written plan of action from the borrower citing the following reason:

Evidence of adequate collateral and documentation regarding loans, an evaluation of the borrower enterprise's management with particular emphasis on efficiency, commitment and high standards of business ethics. In the written plan of action, the borrower should mention the internal and external causes contributing to deterioration of the quality of loan. The reduced degree of risk inherent to the borrower enterprise determined by analyzing its balance sheet and profit and loss account in order to estimate recent cash flows and to project future one, in addition to estimate recent cash flows and to project future ones, in addition to assessing market conditions.

Note: Rescheduling means to extend the loan payment period that have been borrowed by the customer. Restructuring means to change the loan type and terms and conditions and including the changes in loan payment schedule.

To reschedule or restructure the loans, it is mandatory that at least 25% of past due interest up to rescheduled or restructured date should be paid by the borrower. If all

interests have been recovered before renewal of loans, it can be categorized into Pass Loan.

Loan Loss Provisioning

The loan loss provisioning on the basis of the outstanding loans and advances and bills purchases are classified as per the new unified directives 2005, shall be provided as follows:

Classification of Loan Loss Provision

Good 1 Percent, Substandard 25 Percent Doubtful 50 Percent Bad 100 Percent Loan loss provision set aside for performing loan is defined as "General Loan Loss Provision" and Loan Loss provision set aside for Non-Performing Loan is defined as "Specific Loan Loss provision".

Where the banks provide for loan loss provisioning in excess of the proportion as required under directives of NRB, the whole amount of such additional provisioning may be included in General Loan loss Provision under the supplementary Capital.

Loan Loss Provisioning in respect of reschedule, restructured or swapped loan for scheduled/restructured loan, loan loss provision should be at least 12.5%. In case of rescheduling or restructuring or swapping of insured or guaranteed priority sector credit, the loan loss provisioning shall be provided at one fourth of the percentage mentioned in clause (a) if interest and principle of rescheduled / restructured loans have been served regularly for two years, such loans can be converted into "Pass Loan" Category.

i. Priority sector or deprived sector loans which are not insured should be provisioned as per above clause no. 1.

Additional Provisioning in the case of Personal Guarantee Loans where the loan is extended only against personal guarantee, a statement of the assets, equivalent to the personal guarantee amount not claimable by any other shall be obtained. Such loans shall be classified as per above and where the loans fall under category of Pass, Substandard and Doubtful, in addition to normal loan loss provision applicable for the

category, an additional provision by 20 percent point shall be provided. Classification of such loans and advances shall be prepared separately. Hence the loan loss provision required against the personal guarantee loan will be 21%, 45%, and 70 % for pass, Substandard and Doubtful category respectively.

Directive No 3 (Single obligor limit)

Single obligor limit refers to the limit of credit facility to a single person, a firm, a company or a group of borrowers. That means, there is certain limit beyond which a bank cannot provide credit facilities to a borrower or the borrowers who comes under the same group. NRB has provisioned single obligor limit while providing credit facilities by the bank. According to unified directive No 3, the single obligor limit for the fund-based loan is 25 % of core capital where as for non-fund based loan is 50 % of core capital. The main reason of this provision is to protect bank from suffering losses due to investing in single client. In another word, this directive is intended to diversify the concentration risk.

Loan Loss Provision for minimizing concentration risk

According to NRB Directives, if any firm, person or group of borrowers is provided the credit more than the limit of single obligor; the bank should have to make 100 % provision for the loan exceeding the limit.

Security wise Lending

NRB has issued a directive for the commercial banks to send security wise lending report on a monthly basis. The main objective of this report is to identify the different securities on the basis of which the bank has extended its credit.

Loan Concentration on Single Sector

According to NRB directive No. 3, if the commercial bank has extended the credit facilities more than 100 % of core capital in single sector, such loan should have to be approved by the board of directors.

2.3 Review of Journals and Articles

Berkowitz and Brien's (2002) in their article *"How Accurate are Value-At-Risk Models at Commercial Banks"* have focused on first direct evidence on the performance of value at risk model for trading firms. The result shows that VAR forecasts for six large commercial banks have exceed nominal coverage levels over the past two years and for the some banks, VARs we substantially removed from the lower range of trading P & l. While such conservative estimates imply higher levels of capital coverage for trading risk, the reported VARs are less useful as a measure of actual portfolio risk.

Gitman, Lawrence J. (1985) in their article "*Principle of Managerial Finance"* Risk implications for the Financial Service Industry have focused on risk implication of banking and private sectors. The research paper has included many other studies some of the studies find that bank expansion into banking activities can affect of events that permitted only limited entry by banks into non-banking activities. The study is conducted on systematic, unsystematic and total risk, such risk are calculated by using statistical tools i.e. variance and standard deviation, T-statistical and signed rank which is recently by Aminud, Delong and Saunder in 2002, A.D. The study has included 340 banks for the sample size than they partition two sub- samples: 46 large banks and 294 small banks. The major finding of the study is that evidence of a significant decline in systematic risk for the banks securities firm and insurance companies but a significant increase in total and unsystematic risk for the banks and insurance companies. The study has included five years period data. The study also found that bank and insurance companies are less risk than other securities business. If security wants to decline in risk, security firm can be explained by their ability to diversify into less risky banking and insurance activities. The research paper result suggests that regulators should carefully monitor and supervise banking activities in new era of financial modernization to mitigate adverse effects from the increase in risk

2.4 Review of Thesis

Aryal (2003) has submitted a thesis named, *"A Evaluation of Credit Investment and Recovery of Financial Public Enterprises in Nepal"* a case study of ADB/N. His research

statement of problem was as; because of high interest rate of non- institutional sources, people are unable to pay their credit at fixed time.

The basic objectives of this thesis are:

1. To analysis the credit disbursement, collection and outstanding.
2. To analysis relation between credit disbursement and collection.

These institutions compel them to transfer their property to the moneylender resulting himself or herself as a landless person. ADB/N is one of the major financial institutions supporting for the people for the different purpose like agro, industries, tea, coffee, livestock farming etc. ADB/N provides the credit for individual and cooperative sector to all region of the country. Credit outstanding amount is increasing day by day but the collection amount is not good. However, ADB/N has increased its effort to collect its credit. It is said that those people who really need do not receive sufficient amount of credit from ADB/N. So Mr. Aryal chose this bank to analyze the credit disbursement and recovery pattern of ADB/N.

Major findings:

1. Actual credit disbursement, collection and outstanding are increasing in decreasing rate.
2. Yearly increase in credit disbursement is higher than that of collection.
3. Positive relation between credit disbursement and collection that is 0.996.
4. Targeted credit collection and disbursement fixed by planning and project department is not significantly different than the actual.
5. Most of the customers are unaware of the policy of the bank.

Shrestha (2003), has conducted a study on *"Impact and Implementation of Nepal Rastra Bank (NRB)'s Guidelines (Directives) on commercial banks. A study of Nabil Bank Ltd. and Nepal SBI Bank Ltd."*

The objectives of this thesis are:

i. Impact of NRB directives on commercial banks.
ii. Whether the directives are actually implemented and are being monitored by NRB or not.

In this thesis as well, researcher has studied the impact of NRB directive, especially related to loan loss provisioning, on selected banks.

Major findings:

1. There exists a gap regarding the study of management teams formed by the commercial banks
2. To manage the credit risk besides those NRB directives. Similarly,
3. Commercial banks compliance in regard to those directives as well as banks policy and Procedure to manage credit risks can be studied further.

Regmi (2004), conducted a thesis *"A Study on Credit Practices of Joint Venture Commercial Banks with Reference to Nepal SBI Bank Ltd. and Nepal Bangladesh Bank Ltd."*

The basic objectives of this thesis are:

i) To determine impact of deposit in liquidity and its effect on lending practices.
ii) To know the volume of contribution made by both bank in lending.
iii) To examine lending efficiency and its contribution in profit.
iv) To analyze trend of deposit utilization towards loan and advances and net profit and their projection for next five years.

This study is mainly focused on the lending practices and the volume of credit in comparison to the deposits.

Major findings:

1. Yearly increase in credit disbursement is higher than that of collection.
2. Positive relation between credit disbursements.
3. Study of the risk involved in the lending practices or the study of credit risk.
4. The risk involved in creating credit can be made.

Shrestha (2005), has conducted a study on *"A Study of Nonperforming Loan & loan loss Provision of Commercial Bank, A case study of NABIL, SCB and NBL"* has made study about a part of credit risk associated with those banks.

The main objectives of her study were:

i) To find out the proportion of non-performing loan in the selected commercial banks.
ii) To find out the factors leading to accumulation of nonperforming loan in commercial banks
iii) To find out the relationship between loan and loan loss provision in the selected commercial bank.
iv) To study and the impact of loan loss provision on the profitability of the commercial banks.

The major finding in her study was that the NBL has the highest portion of the loan in total asset followed by NABIL and SCBNL. She concludes that the SCBL shows the risk-averse attitude. Likewise the non-performing loan to total loan is found highest in NBL, NABIL and SCBNL. Likewise the Loan Loss Provision is also highest in NBL where as the SCBL has the least Loan Loss Provision.

Likewise, the NBL has the highest portion of Loss loan followed by NABIL and SCBL. This study is more concentrated on non-performing loans; however, there exist lots of areas in credit risk management where further research is called for. In context of credit risk, collateral risk, concentration risk, organization risk management system can be studied.

Subba (2006) has carried out the study on *"Risk Analysis of Machchhapuchhre Bank Ltd. and Lumbini Bank Ltd".* To analyze how the selected commercial banks (i.e. Machchhapuchhre Bank Ltd. and Lumbini Bank Ltd.) have managed different types of risk in this competitive Nepalese banking Industry.

The major objective of this thesis was:

i. To analyze the following types of risk of selected commercial banks in Nepal
ii. Credit Risk
iii. Market Risk
iv. Operation Risk.

The major finding of his study was that in commercial banks, minimizing the risk is the major challenge. For minimizing the risk, both the banks have taken several measures. One of the major measures is capital adequacy ratio. The capital adequacy ratio depicts that both LBL and MBL has higher CAR than statutory requirement

He concludes that: For credit risk management, both banks have Credit Policies Guidelines (CPG). Similarly, NPL is regularly monitored by both the banks on regular basis and provisioning is done on quarterly basis by categorizing the loan as per NRB guidelines. Similarly, sector wise and security wise lending is being analyzed by these banks on monthly basis. Gap analysis of both types of asset and liabilities (i.e. Rate Sensitive and Fixed Rate) is required for the interest rate risk management. Besides, analysis of cost of fund, yield on loan & spread is made continuously in these banks to ensure that banks have competitive interest rate, which is profitable for the banks.

In regard to operational risk, the major steps banks are taking to reduce it are preparing and implementing the different operational guidelines and policies & frequently monitoring their compliance. Most of these policies are prepared as per NRB guidelines. Similarly, employees' training is also the major tools for minimizing the operation risk in these banks. For minimizing the loss arising due to occurrence of the above risks, capital and reserve have been maintained by these banks within the standard prescribed by NRB.

However, the trend of Capital Adequacy ratio of these banks suggests that both the banks need to increase their capital fund, which is possible mainly by issuing shares, debentures or preference share. The major gap in this study is the focus on the credit risk. This research has been made on the study on different types of risk including market risk and operational risk.

Pandey, (2007), has conducted a study on *"Risk and Return Analysis of Common Stock Investment"* by taking six insurance companies as sample. She has used analytical tools like rate of return, standard deviation, coefficient of variance, beta coefficient and t-test has used.

The main objectives of his study are to calculate the risk and return of the common stocks and portfolio and also to understand and identify the problem faced by the individual investor and insurance companies.

The major findings of the study are generally public have least understanding about the risk of the investments which may be due to poor education, lack of adequate information, etc., that may obstruct the development of stock market.

There is no significant different between the performance of common stock of insurance companies and overall market portfolio. The study has covered five years period

As a recommendation given by Chand, ADB/N should play a significant role in such direction as to fulfill the credit demands of rural areas. For effective credit recovery from the borrowers or clients, credit should be channeled through the borrower groups.

Karki (2008) has conducted a study on *Risk Management of Himalayan Bank Ltd. "A Case Study of Himalayan Bank Ltd."*

In order to achieve the basic objectives are:

- To analyze the level of different types of risk faced by Himalayan Bank Ltd.

- To assess the financial performance of HBL through the help of financial ratios and standards.

Major findings:

- Proper policies, procedures, guidelines and tools have been developed with appropriate triggers. That forms the guiding pillars for its operations.
- The banks believe in corporate culture that emanates from the "Think Customers" philosophy at all levels of the banks. Teamwork, camaraderie, sincerity, dedication, trust, respect, equality, dignity and valuing each contribution are key pillars on which the corporate culture of the banks thrives on.
- The banks have a competitive salary package in place that is revised on a regular basis to reward strong performance. The employees are also provided with early bonus another facilities on a requirement basis.

Chand, (2009), has conducted a study on *"Credit Disbursement and Repayment of Agriculture Development Bank Nepal".*

His research Objectives of the study are:

- To see the repayment situation.
- To find out the growth rate of investment.
- To explain possible causes of non and delay repayment.

Major findings:

- There is systematic relationship between credit disbursement and repayment .The coefficient of correlation value as calculated is 0.94 which shows significance relationship.
- Repayment situation is satisfactory on production and agro-based industry, warehouses and farm mechanization, irrigation, tea horticulture, livestock, poultry and fisheries is less satisfactory.

As a recommendation given by Chand, ADB/N should play a significant role in such direction as to fulfill the credit demands of rural areas. For effective credit recovery from the borrowers or clients, credit should be channeled through the borrow

Shrestha (2009) has submitted her thesis on *"Credit Risk Management of Commercial Bank in Nepal".*

In order to achieve the basic objective the following other objectives are:

- To evaluate the status of the loan portfolio of the banks.
- To evaluate problems and weakness in credit risk management.
- To review the prevailing laws rules and regulation enforced by Nepal Rastra Bank and assess its impact on profitability and liquidity of bank.
- To offer suitable suggestions based on findings of this study.

Major findings:

- NABIL and NIB have increasing trend in collecting deposit the rate of increment of total deposit for NIB seems to be higher than that of NABIL Here NIB has better position in collecting deposit than NABIL.
- The total investment trend line of NABIL and NIB is upward slopping where as NABIL has little high upward slopping of total investment trend line than NIB. It refers that NABIL has better increasing trend of total investment than NIB.
- The trend line of Net profit for NABIL and NIB is upward slopping, But NIB has little high than NABIL. NABIL has smoothly increasing trend. The position of NIB is better in order to generate profit than NABIL.

Research Gap

The purpose of research is to develop some expertise in one's area, to see what new contribution can be made and to receive some ideas, knowledge and suggestions in relation to risk management of Lumbini Bank Limited. Thus previous studies can't be ignored because they provide the foundation to the present study. In other word, there should be continuity in research. This continuity in research is ensured by linking the present study with past research study and try to fulfill the gap of the research. From

the review of various literatures, it has been found many research work have been done on the study of NRB Directives and its compliance and analysis of credit management through loan loss provision, non-performing loans and capital adequacy; however, very few thesis have been found on the credit risk management which is the most important aspect of the banking sector. So, the researcher can make further research on capital adequacy, concentration risk, collateral risk, and the actual practices followed by the management of Nepalese commercial banks from its own side besides the NRB directives to manage and control the credit risks etc. Hence the researcher had attempted to fill this gap by measuring the credit risk of LBL by studying its credit risk management system. This study also aims to find out the organizational structure of LBL for the proper implementation

CHAPTER-III
RESEARCH METHODOLOGY

3.1 Introduction

Research is an original contribution to the existing stock of knowledge for its advancement and it is also essentially an intellectual and creative activity. IT is the pursuit of truth with the help of study, observation, comparison, experiment and may help the creative problem solver to reach his/her objectives more efficiently. Similarly, methodology refers the various steps that are generally adopted by a researcher in studying his/her research problem along with the logic behind it. Research methodology is a systematic way to solve the research problem. In other words, research methodology describes the methods and process applied in the entire aspect of the study. Kothari (1994)ii defines Research methodology as the various sequential steps (along with a rational of each steps) to be adopted by a researcher in studying a problem with certain objectives in view. Thus, research methodology is a way to systematically research the problem. The main objective of this research is to measure the credit risk of the Lumbini bank and to study the various management techniques and principles used by the Nepalese commercial banks to manage the credit risk. Thus, this chapter consists of the research methodology applied in the study for the fulfillment of the stated objectives. Thus the overall approach to the research is presented in this chapter. This chapter consists of research design, sample size and selection process, data collection procedure and data processing and presentation techniques and tools.

3.2 Research Design

Research design is a plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variance. It provides only a guideline for the researcher to enable him to keep track of his/her actions and to know that s/he is moving in the right direction in order to achieve his goal. The design may be a specific presentation of the various steps such as selection of a research problem.

The formulation of the hypothesis, conceptual clarity, methodology, survey of literature Bibliography, data collection, Interpretation, presentation and report writing in the process of research. A research design is a blueprint (or detailed) plan for how a research study is to be completed opertionalizing variables so they can be measured, selecting a sample of interest to study, collecting data to be used as a basis for lasting hypothesis and analyzing the results. This study is the combination of descriptive and a exploratory type of research. Historical data are used to identify and analyze the credit risk of a bank in the past period. Similarly, management system, organizational structure and policies for mitigating the credit risk and the credit risk management procedures have been presented in descriptive form so as to identify the current status from which pitfalls can be identified. From collection of past data and information from key informants, the credit risk management system has been analyzed and recommendations have been made for improving the credit risk management of bank. Since only one bank has been selected for the study, this study is a individual study of single bank in credit risk and their management system.

3.3 Population and Sampling

The principle object of sampling is to get maximum information about the population with minimum effort or with limited resources such as time, money and personnel. The small group that is chosen for study is called a sample and the whole group which it is believed to represent is called population. The number of observation in the sample is termed the sample size. Sampling refers to the choosing of a sample from a population. Since the research topic is about credit risk management of commercial banks, all the commercial banks of Nepal form population of the study. The sampling allows the researcher more time to make an intensive study of a research problem. The population for the study comprises all the Nepalese commercial banks and among the total population only one commercial bank under the study constitutes the sample for the study. The sample is chosen with an objective to find out the credit risk management system of new commercial bank, which has completed 7 years. LBL is taken for the study this bank has appropriate information about many respects such as capital base, profit, deposit, lending and date of establishment etc.

3.4 Sources of Data and Collection Procedure

For this study, both primary and secondary data are used. Secondary data are collected mainly from published sources like annual reports, prospectus, newspaper, journal, Internet and other sources. Secondary data published in the annual reports of concerned organizations are collected through personal visit in respective organization as well as from their web sites. Whereas, primary data are mainly collected through questionnaire, interview and direct observation. For the credit risk analysis, information is collected through questionnaire from 10 staffs each from both LBL working in Credit and Credit Administration and Control Departments. While collecting the data, in LBL, the total staffs in Credit and Credit Administration and Control Departments is 12, out of which 10 staffs have responded to the questionnaire. Besides this, interview has also been taken from 2 key officials of LBL.

3.5. Data Processing and Presentation

The data obtained from the different sources are in raw form. The raw data is processed and converted into required form. For this study, required data are taken from the secondary source (bank's publication) and presented in this study. For presentation, different tables and charts are used. Besides this, primary data collected from different sources, are also presented whenever required. Raw data are attached in annexure. Computation has been done with the help of scientific calculator and computer software program.

3.6. Data Analysis Tools

In order to get the concrete results from the research, data are analyzed by using different types of tools. As per topic requirements, emphasis is given on statistical tools rather than financial tools. So for this study following statistical tools are used:

Financial Tools

Ratio Analysis

In this study, various ratios have been used as per requirement. The major ratios used in this study include:

i. Loans and advances to Total Risk Weighted Assets Ratio

The ratio of loans, advances and bills purchased to total risk weighted assets measures the volume of loans and advances in the structure of total risk weighted assets (i.e. the total assets after the adjustment of certain degree of risk or the risk assets).

$$= \frac{\text{Loans and advances}}{\text{Total Risk Weighted Assets}}$$

ii Non-performing Loan to Total Loans and advances Ratio

This ratio determines the proportion of non-performing loans in the total loan portfolio. As per Nepal Rastra Bank directives the loans falling under category of substandard, doubtful and bad loan are regarded as non-performing loan. Higher the ratio implies the bad quality of assets of banks in the form of loans and advances. Hence the lower NPL to total credit ratio is preferred.

$$= \frac{\text{Non} - \text{performing Loan}}{\text{Total Loans and advances}}$$

iii. Loan Loss Provision to Non Performing Loan Ratio

This ratio determines the proportion of provision held to non-performing of bank. This ratio measures up to what extent of risk inherent in NPL is covered by total loan loss provision.

$$= \frac{\text{Loan Loss Provision}}{\text{Non Performing Loan}}$$

iv. Loan Loss Provision to Total Loans and Advances

This ratio indicates the amount of Loan Loss Provision, a cushion for the possibility of default, to total loans and advances of a bank. Since high provision has to be made for non-performing loan, higher provision for loan loss reflects increasing non performing loan in volume of total loans and advances.

$$= \frac{\textbf{Loan Loss Provision}}{\textbf{Total lone and advances}}$$

Statistical Tools

Arithmetic Mean:

Arithmetic Mean has been widely used in this study. It has been used to calculate the average for 6 years data in some cases for 5 and 4 years due to unavailability of complete data. This tool has been used to calculate the single figure that can represent the whole data for the period. The Arithmetic Mean of loan, deposits, non-performing loan, loan loss provision etc. have been calculated in this study. It is computed by using following formula:

Mean (X) $= \frac{\sum X}{n}$

Where,

X = Mean

$\sum X$ = Sum of all the Variable X

N = Variables involved

Standard Deviation:

Standard Deviation is a tool to measure the risk. Standard Deviation has been used wherever the mean is calculated to study the deviation of the data from the mean. Here, standard deviation is used as a measure of dispersion. It has also been used as a measure to identify the risk. Higher the deviation greater the risk and vice-versa. Mathematically, it is defined as the positive square root of their arithmetic mean of squares of the deviation of the given observations from their arithmetic mean of a set of value. Here, it is denoted by the letter sigma S.D. and (δ).

It can be computed by using following formula

Standard deviation (S.D) $= \sqrt{\frac{\sum (X - \overline{X})^2}{n}}$

Greater the magnitude of standard deviation, higher will be the fluctuation and vice versa.

3.7 Hypothesis Test

Hypothesis Test In this study, hypothesis test has been used as one of the important aspects of decision-making. It consists of decision rules required for drawing probabilistic inferences about the population parameter. Hypothesis is a quantitative statement about the population parameter, where as hypothesis test is the act of verification of such statement. While testing a hypothesis, two complementary hypotheses are set up at one time. If one of the hypotheses is accepted, then the other hypothesis is rejected. The two types of hypotheses include,

a. Null Hypothesis

Null hypothesis is a statistical hypothesis made about the population parameter to test its validity for the purpose of possible acceptance. It is usually denoted by Ho or "H sub- zero".

b. Alternative Hypothesis

A complementary hypothesis to null hypothesis is called alternative hypothesis. In other words, a hypothesis test, which is set up against the null hypothesis, is called an alternative hypothesis. It is indicated by H1.

χ^2– Test (Chi- square test)

$\chi 2$ – Test is a non-parametric test, which describes the magnitude of difference between observed frequencies and expected (theoretical frequencies). In other word, it describes the magnitude of the discrepancy between theory and observation. It is defined as,

$$\chi 2 = \frac{\sum (O-E)^2}{E}$$

Where,

O = Observed frequencies

E = Expected Frequencies

The calculated value is compared with the table value. The table value is determined by referring to the $\chi 2$ tables in certain degree of freedom and level of significance. Here, the level of significance is assumed 5 %.

In this study, $\chi 2$ – Test has been used to test the magnitude of the discrepancy between observed and expected frequencies related to preference of banks staffs regarding various factor for lending and sector for lending.

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The data, after collection by different methods has to be processed and analyzed in accordance for the purpose of the research plan. The main purpose of analyzing data is to change it from an unprocessed from to an understandable presentation which consists of organizing, tabulating and performing the statistical data. The presentation of data is the basic organization and classification of the data for analysis. This is the section where, the filtered data are presented and analyzed. This is one of the major chapters of this study because it includes detail analysis and interpretation of data from which concrete result can be obtained. This chapter consists of various calculation made for the analysis of credit risks of the sample bank. To make our study effective, precise and easily understandable, this chapter is categorized in three parts; presentation, analysis and interpretation. The analysis is fully based on secondary data. In presentation section, data are presented in terms of table and charts. The presented data are then analyzed using different statistical tools mentioned in chapter three. At last the results of analysis are interpreted. Though there is no distinct line of demarcation for each section (like presentation section, analysis section & interpretation section). In this thesis primary data, which is collected through questionnaires and personal interview with the various staffs, are also used equally.

4.2 Analysis of Credit Risk

Credit risk management is to maximize a bank's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Banks should also consider the relationships between credit risk and other risks. The effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization*. (Basel Committee on Banking Supervision, 2005)* In order to

manage credit risk, it has to be measured. Measurement of credit risk requires thorough assessment of credit appraisal by applying various statistical tools and techniques. The key credit performance indicators of LBL have been analyzed using various financial and statistical tools which are as follows:

4.2.1. Ratio Analysis

4.2.1.1. Total Loans, Advances & Bills Purchased to Risk Weighted Assets (RWA) Ratio

The ratio of loans, advances and bills purchased to total risk weighted assets measures the volume of loans and advances in the structure of total risk weighted assets (i.e. the total assets after the adjustment of certain degree of risk or the risk assets). The total RWA do not include the risk-free assets like cash because they hold 0% risk. The high degree of ratio of Total loans & advances to Total RWA indicates the proportion of the loans and advances in the total RWA. This indicates the high degree of risks for the bank because loans and advances except against Fixed Deposit Receipt, government securities and against guarantees of internationally rated banks are considered as 100% risky assets. Further, the high degree of the ratio is representative of low liquidity ratio. Granting Loans and advances always carry a certain degree of risk. Thus this asset of banking business is regarded as risky assets. Hence this ratio measures the management attitude towards risky assets. The lower ratio is indicative of lower proportion of income generating assets, high degree of safety in liquidity and low degree of risk and vice versa.

Table 4.1
Loans, Advances and Bills Purchased to Total Risk Weighted Asset Ratio (%)
(Rs. in Million)

Fiscal Year	Loan & Advance	Total Risk Weight Asset	Rate (%)
2004/05	3167.72	4489.17	70.56
2005/06	2983.90	4125.95	72.32
2006/07	3840.69	5566.55	69
2007/08	4489.50	6005.16	74.77
2008/09	4983.39	7379.72	67.53
		Mean	70.83
		S.D.	2.53

Source: Detailed In Annex- 1

Table 4.1 exhibits the loans and advances to total risk weighted assets of one commercial bank for five consecutive years. This ratio shows the fluctuating trend of LBL the overall ratio of LBL is 70.83%. From this, it is clear that out of total risk weighted assets in balance items the proportion of loans and advances of LBL is 70.83% . This means that the credit risk in LBL. Likewise, the standard deviation of LBL is 2.53. This indicates that the ratio deviate more from the average in case of LBL.

4.2.1.2. Non-Performing Loan to Total Loans and Advances Ratio

This ratio determines the proportion of non-performing loans in the total loan portfolio. As per Nepal Rastra Bank directives the loans falling under category of substandard, doubtful and bad loan are regarded as non-performing loan. Higher the ratio implies the bad quality of assets of banks in the form of loans and advances. Hence the lower NPL to total credit ratio is preferred.

Table 4.2
Non-Performing Loan to Total Loans and Advances)

(Rs. in Million)

Fiscal Year	NPL	Loan & Advance	Rate (%)
2004/05	482.44	3167.72	15.23
2005/06	924.71	2983.90	30.99
2006/07	782.35	3840.69	20.37
2007/08	669.83	4489.50	14.92
2008/09	623.42	4983.39	12.51
		Mean	18.80
		S.D.	6.60

Source: Detailed In Annex- 2

Table 4.2. Exhibits the ratio of non-performing loans to total loans and advances of LBL for five consecutive years. It is found that the NPL of LBL is in decreasing trend though the loans and advances are in increasing trend. The average NPL ratios of LBL is 18.80% . The highest amount of NPL in fiscal year 2005/06 (i.e. 30.99%). But in more recent years the NPL of the LBL has been decreasing significantly. The standard deviation of LBL is 6.60% Fig 4.1. is the graphical presentation of the Table No. 4.2 which shows that the ratio of NPL to Total loans and advances of LBL was very high in the FY 2005/06 but after that it is in a significantly decreasing trend and has reduced significantly to 12.51% in the FY 2008/09 from 30.99% of FY 2005/06. However, the ratio of LBL is in a fluctuating trend.

4.2.1.3. Loan Loss Provision to Non Performing Loan (NPL) Ratio

This ratio determines the proportion of provision held to non-performing of bank. This ratio measures up to what extent of risk inherent in NPL is covered by total loan loss provision. The higher the ratio, the better cushion that the bank provides for recovering from loss caused by NPL. Hence higher ratio signifies the better arrangement for the credit risk of a bank.

Table 4.3
Loan Loss Provision to Non-Performing loan (%)

(Rs. in Million)

Fiscal Year	**LLP**	**NPL**	**Rate(%)**
2004/05	109.22	482.44	22.63
2005/06	786.34	924.71	85.03
2006/07	178.63	782.35	22.83
2007/08	100.95	669.83	15.07
2008/09	92.35	623.42	14.81
		Mean	32.07
		S.D.	32.109

Source: Detailed In Annex- 3

Table 4.3. Shows the ratio of provision held to non- performing loan of LBL for five consecutive years. The figure represented in the table depicts that the LBL has the higher ratio in all years except in fiscal year 2005/06. The NPL ratio of LBL is fluctuating. The NPL ratio of or the provisioning of LBL is highest of 85.03% in fiscal year 2005/06. The overall ratios of LLP to NPL of LBL are 32.07%. This ratio shows that LBL the degree of cushion of provisioning to non-performing loan. The standard deviation of LBL is 32.109%. This means that there exists deviation in the ratio from the average ratio in LBL.

4.2.1.4. Loan Loss Provision to Total Loans and Advances

This ratio indicates the amount of Loan Loss Provision, a cushion for the possibility of default, to total loans and advances of a bank. Since high provision has to be made for non-performing loan, higher provision for loan loss reflects increasing non-performing loan in volume of total loans and advances. The low ratio signifies the good quality of assets in the volume of loans and advances and makes efforts to cope with probable loan loss. Higher ratio implies that the bank has the higher proportion of NPL in bank loan portfolio and thus the bank is greater exposed to the credit risk.

Table 4.4
Loan Loss Provision to Total Loan and Advances (%)

(Rs. in Million)

Fiscal Year	LLP	Loan &Advance	Rate(%)
2004/05	109.22	3167.72	3.44
2005/06	786.34	2983.90	26.35
2006/07	178.63	3840.69	4.65
2007/08	100.95	4489.50	2.24
2008/09	92.35	4983.39	1.85
		Mean	7.70
		S.D.	9.37

Source Detailed In Annex-3

From above table, it is found that the bank have least portion of loan loss provision. This means that bank have least amount of non-performing loan. The average LLP to total loan and advances ratio is 7.70% of LBL. . This reflects the proportion of loan loss provision to loan and advance of LBL. Likewise the Standard deviation of LBL is 9.37%, From this, it portray the ratio of LBL deviation from its average ratio.

4.2.2. Collateral/Security-wise Lending

Security wise lending refers to the lending of banks to the client against the various collateral. As the collateral is also key aspect as a partial remedy for the credit risk while lending, the analysis of security helps to identify the credit risk position of the bank. The collateral can be anything ranging from the more liquid and secure collateral such as government bonds, bills, Fixed deposit Receipt to Illiquid Fixed asset and Immovable property. Banks even can lend without collateral for the trustworthy customers. The analysis of security wise lending is as below,

4.2.3. Risk Weighted Lending Analysis

Risk Weighted lending refers to weight provided to the bank loan according to the level of risk. The inherent risk level of the loan can be categorized on the basis of the collateral. The lending against own bank Fixed deposit receipt and government securities are considered as risk free lending or possess 0% risk weight. Similarly, the

loan against other banks Fixed Deposit Receipt and Counter guarantee of internationally rated banks are considered as moderate level risk lending, and the loan against all other securities or without collateral are taken as high level risk lending. The risk weighted for moderate level and high-level risk lending is 20% and 100% respectively. The higher the risk-free and moderate-level lending, the lower is the credit risk of the bank and vice versa. The loan has been categorized on the basis of NRB Risk weighted Asset basis. The proportion of different category of risk weighted lending of the bank is presented below:

Table 4.5
Proportion of different category of risk weighted lending of LBL

Security	Risk Weighted (%)	2004/05	2005/6	2006/07	2007/08	2008/09	Average
Risk Free Lending to Total Loan	0	1.65	3.21	0.86	0.42	0.33	1.29
Moderate Level Risk Lending to Total Loan	20	0.95	0.76	0.80	0.90	0.92	0.85
High Level Risk Lending to Total Loan	100	96.25	95.51	99.07	98.77	98.82	97.68

Source: Detailed In Annex-4

Table 4.5 exhibits the percentage of different categories of risk lending of LBL for 5 years. The table further reveals that LBL has the highest lending on 100% risk weighted lending i.e. on high-risk category lending. The bank has extended 1.65, 3.21, 0.86, 0.42 and 0.33 of total lending against the risk-free collateral (i.e. own banks FDRs and Government bonds) in fiscal year 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. Likewise the bank has extended 0.95 ,0.76 ,0.80 ,0.90 and,0.92 percent of total loan against the moderate-level risk collateral in the fiscal year 2004/05, 2005/06, 2006/07, 2007/08 and 2008/09 respectively. In five years, the bank has made lower amount of high-level risk lending (i.e. 95.51%) in fiscal year 2005/06. The average lending in 5 years on risk free, moderate level and high risk level lending is 1.29 %, 0.85% and 97.68 % respectively. It can also be said that LBL has been providing more loan against own & other banks FDRs and government bonds.

4.2.4 Sector-wise Loan of Lumbini Bank

This analysis helps to find out the credit concentration of banks in different sectors. The higher the concentration of bank's credit in one sector, the higher will be the risk for a bank and vice versa. It is because when there is a problem or crises in that particular sector, it will result in a significant loss to the bank. The proportion of sector wise lending to total loan has been presented in table below:

Sector	LBL(M)	Rank for LBL
Agriculture	139.9	8
Mining	0.0	11
Production (Manufacturing)	1058.9	3
Construction	249.7	6
Metal productions, machinery & Electric Tool & Fitting	4.3	9
Transport equipment, production & fitting	7.1	9
Transport, communication and public services	375.5	5
Whole Seller & Retailer	1172.4	2
Finance Insurance & Fixed Assets	179.5	7
Service Industries	544.7	4
Consumer Loan	3.5	10
Local Government	0.0	12
Others	1829.0	1
Total	**5564.4**	

Source: NRB, Banking & Financial Statistics, Mid July 2009

Table 4.5 exhibits the proportion of loan on single sector to core capital of LBL in fiscal year 2008/09. Above table depicts that the ratio of LBL has concerned more in manufacturing, finance, insurance and real state and other sectors. Out of them, the

sector wise loan to whole seller and retailer, manufacturing, service industries higher than other sectors which is 1172.4,10589 and 544.7 respectively. There is wide range of differences in the ratio of different loan sectors of LBL

a. Lumbini Bank Ltd (LBL)

Board of Directors of LBL will have the overall responsibility for formulating policies on Credit Risk Management and the ultimate authority for deciding the overall credit risk monitoring and management. The credit decision-making authority goes up in hierarchy from Assistant General Manager to CEO to Executive Sub Committee (ESC) and finally to Board of Directors. The credit decisions which are beyond the jurisdiction of Chief Executive Officer are taken by the Executive Sub Committee (ESC) and the Board of Directors takes the decisions even beyond the jurisdiction of ESC. The Executive Sub Committee reviews credit, operational and other banking facilities in timely and accurate manner. It is chaired by the Chairman of the bank and constitutes other 2 non executive members.

At the management level, Asset Liability Management Committee (ALCO) is the main committee concerned with development and implementation of strategy and plans related to management of various risks. The Chief Executive Officer of the bank heads the ALCO with all the head of the various departments (such as credit, marketing, operations, strategy and planning and treasury). CEO may invite additional members in ALCO, according to business needs. ALCO is required to meet on regular interval and major decisions made to be briefed to the Board. There is also an Operations Committee to manage and discuss upon Banks Operations, Credit and Marketing issues. In LBL all the credit activities is governed by the Credit Policies Guidelines and the corporate credit and retail department perform the credit functions. These departments are headed by the Senior Manager, Assistant Manager or Deputy Manager.

The bank also has set up a Risk Assessment Division independent of the normal Credit Relationship Unit to analyze the potential risk associated with both funded and non-funded credit exposures and to ensure credit facilities are within the risk appetite of

the bank. The Department consists of 3 distinct units, Risk Approval, Credit Administration and Recovery. The Division carries out independent credit proposal reviews and assessment, ensures NRB Directives and Internal Guidelines relating to Credit are properly followed. It also handles recovery issues related to credit.

The Credit Administration and Control Department also monitors all the credit documentations and post-credit performance of the credit client. This department has responsibility to monitor the credit client once the credit department has extended the loan in order to maintain the high-quality risk assets. The existing practice of obtaining adequate collateral (Fixed assets) is the major strength of LBL to manage the credit risk.

4.2.5 Common Sources of Major Credit Problems

Major banking problems have been either explicitly or indirectly caused by weaknesses in credit risk management. According to the experience of key respondents of LBL as well as Nepal Rastra Bank, certain key problems tend to recur in the banking industry that results in the high credit losses. Severe credit losses in a banking system usually reflect simultaneous problems in several areas, such as concentrations, failures of due diligence and inadequate monitoring. According to the key respondents of LBL, NRB, some of the most common problems are related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

4.2.5.1 Concentration

Concentrations are the one of the most important cause of major credit problems. Credit concentrations are viewed as any exposure where the potential losses are large relative to the bank's capital, total assets, and overall risk level. Relatively large losses may reflect not only large exposures, but also the potential for unusually high percentage losses. Credit concentrations can further be grouped roughly into two categories as follows:

- **Conventional credit concentrations** include concentrations of credits to single borrowers or counterparties, a group of connected counterparties, and sectors or industries, such as commercial real estate, oil and gas etc.

- **Concentrations based on common or correlated risk factors** reflect more situation-specific factors, and often cannot be covered through analysis. Disturbances in economic sector because of strikes, curfew, and blockade have also slowed down the business of the banks as well as the borrowers. Similarly, a highly leveraged borrower will produce larger credit losses for a given severe price or economic shock than a less leveraged borrower whose capital can absorb a significant portion of any loss.

4.2.5.2 Credit Process Issues

Many credit problems reveal basic weaknesses in the credit granting and monitoring processes. While shortcomings in underwriting and management ofs market-related credit exposures represent important sources of losses at banks, many credit problems would have been avoided or mitigated by a strong internal credit process. According to the key respondents, carrying out a thorough credit assessment (or basic due diligence) is a substantial challenge for all banks. For traditional bank lending, competitive pressures and the growth of loan syndication techniques create time constraints that interfere with basic due diligence.

The absence of testing and validation of new lending techniques is another important problem. Adoption of untested lending techniques in new or innovative areas of the market, especially techniques that dispense with sound principles of due diligence or traditional benchmarks for leverage, have led to serious problems at banks. Sound practice calls for the application of basic principles to new types of credit activity. Any new technique involves uncertainty about its effectiveness. That uncertainty should be reflected in somewhat greater conservatism and corroborating indicators of credit quality. Some credit problems arise from subjective decision-making by senior management of the bank. This includes extending credits to companies they own or with which they are affiliated, to personal friends, to persons with a reputation for

financial acumen or to meet a personal agenda, such as cultivating special relationships with celebrities. Lack of effective credit review process is also one of the major sources of credit risk in the commercial banks.

Credit review at banks usually is a department made up of analysts, independent of the lending officers, who make an independent assessment of the quality of a credit or a credit relationship based on documentation such as financial statements, credit analysis provided by the account officer and collateral appraisals. The purpose of credit review is to provide appropriate checks and balances to ensure that credits are made in accordance with bank policy and to provide an independent judgment of asset quality, uninfluenced by relationships with the borrower. So, the lack of the effective credit review is also the key factors for higher credit risk. A common and major source of the credit risk is the failure to monitor borrowers or collateral values. The negligence by the banks to obtain periodic financial information from borrowers or real estate appraisals in order to evaluate the quality of loans on their books and the adequacy of collateral has resulted banks failure to recognize early signs that asset quality was deteriorating and missed opportunities to work with borrowers to stem their financial deterioration and to protect the bank's position.

This lack of monitoring led to a costly process by senior management to determine the dimension and severity of the problem loans and resulted in large losses. In some cases, the failure to perform adequate due diligence and financial analysis and to monitor the borrower can result in a breakdown of controls to detect credit-related fraud. For example, banks experiencing fraud-related losses have neglected to inspect collateral, such as goods in a warehouse or on a showroom floor, have not authenticated or valued financial assets presented as collateral, or have not required audited financial statements and carefully analyzed them. A related problem is that many banks do not take sufficient account of business cycle effects in lending.

As income prospects and asset values rise in the ascending portion of the business cycle, credit analysis may incorporate overly optimistic assumptions. Industries such as retailing, commercial real estate and real estate investment trusts, utilities, and

consumer lending often experience strong cyclical effects. Sometimes the cycle is less related to general business conditions than the product cycle in a relatively new, rapidly growing sector, such as health care and telecommunications. Effective stress testing which takes account of business or product cycle effects is one approach to incorporating into credit decisions a fuller understanding of a borrower's credit risk.

4.2.6 Banking Risk and Capital Adequacy Measures

Capital Adequacy Ratio (CAR) is one of the major tools of minimizing the overall risk of a bank including the credit risk through adequate arrangement of capital. In other words, it is the cushion to cover the loss suffered by the bank. The higher the CAR of a bank, more safe the bank will be. It is because in case of losses, the capital will be used to cover those losses. So it is the great safeguard measure for the bank, depositors and investors. For the management of default risk of bank, NRB has prescribed capital adequacy ratio for primary capital and total capital fund. All the commercial banks need to maintain the required ratio. If any bank fails to maintain the required ratio, bank is not allowed to increase its assets, disburse loans, collect deposits and distribute dividend.

4.2.7 Analysis of Primary Data

Under the analysis of primary data, a questionnaire and personal interview has been conducted to the staffs of the concerned departments of LBL. The questionnaires have been filled by 10 employees of LBL. The responses of the questionnaire have been analyzed as below: *Detailed In Annex-5*

Proportion of credit risk:

The 10 staffs of LBL have responded that the proportion of credit risk is more than 60 % of total banking risk. This means that in LBL, the credit risk has the highest proportion on total risk.. From this response, it is clear that in Lumbini bank, the proportion of credit risk is very high.

Credit Risk Rating System: All the 10 staffs have answered that bank have risk rating system for the credit clients. Ranking of different characteristics(5Cs) while granting

credit has been made on the basis of majority ranks for each attribute given by the respondent.

Table 4.6
Ranking of different characteristic while lending Attributes LBL

Attributes	LBL
Character	1
Collateral	2
Capital	5
Condition	4
Capacity	3

Table 4.6 clearly shows that LBL prefers character and collateral as the most important attributes while extending the credit where as the MBL gives more importance to capacity of credit client than the collateral.

Credit Concentration / Single Sector Lending: The 8 staffs of LBL has responded that LBL should lend 0-10% of total loan on single sector, where as2 have responded that it should lend 10-20 % of total loan in single sector.

Risk Attributes: For the credit risk analysis of the corporate borrowing clients, all the 20 respondents agreed that following attributes must be taken into considerations: a) Financial risk, b) Market risk, c) Management risk, d) Labor risk, e) Government/policy risk, f) Succession risk, g) Liquidity Risk, h) Default risk, i) Pricing risk, j) Security Risk, k) Technological Risk.

Various internal and external environmental factors impact the overall business of the corporate credit clients. Therefore, the strengths, weaknesses, opportunities and threats associated with the business should be analyzed by considering the above Risk Attributes.

NPL: When asked about to what extent today's banking industry is effected by problem of NPL, 90% of the respondents were of the view that it is severely affected. Whereas

10% were of the view that today's banking industry is moderately affected by the problem of NPL

Preference on Sector: Regarding ranking of preference on sector wise loan, following responses have been made by the staffs of LBL and

Table 4.7
Ranking of Sector for lending

Sector	LBL
Agriculture	6
Mines and Minerals	5
Real Estate	3
Manufacturing	1
Consumer Loans	4
Service Industry	2

Table 4.7 exhibits that LBL prefers Manufacturing, Service Industry, Real Estate, Consumer loans, mine and minerals and agriculture in first, second ,third, fourth, fifth, sixth respectively. This chart depict that the interest of LBL. The bank would like to invest more on the manufacturing sector and least to the agriculture sector.

Importance of NRB Directives: Regarding an importance of the directives related to loan classification and provisioning, 100% of the respondents agreed that the directives are very important. Regarding an impact of new directives on provision for loan loss of commercial bank, 100% of the respondents are of the view that newly issued directives regarding loan classification and provisioning will increase the provision. When asked about the effect of present loan classification and provisioning directive on the shareholders of present loan classification and provisioning directive on the shareholders of the bank, 100% of the respondents think the shareholders will enjoy lesser dividend and will have their EPS decreased however everyone believes that is only for short term

4.2.7.1. Test of Hypotheses

Hypothesis- I

In 10 random samples of respondents, it contains the following ranking distribution. The test is to draw the ranking of sector wise lending by the staffs of the bank.

Table 4.8
Hypothesis test regarding the ranking of sector of lending

Bank	Agriculture	Mines and Minerals	Real Estate	Manufacturing	Consumer loans	Service Industry	Total
LBL	35	40	57	68	54	64	**318**

Source: Field study (See Annex 6 for detail)

Null Hypothesis (Ho): There is no significant difference between observed and expected frequencies regarding the choice of sector of lending

Alternative Hypothesis (H1): There is significant difference between observed and expected frequencies regarding the choice of sector of lending. Fixing the level of significance at 5 %

Calculation of expected frequencies (E):

Under the null hypothesis, the expected frequency each sector is

$$\text{Expected frequency (E)} = \frac{\text{Total Observed Frequency}}{\text{Grand Total}}$$

$$= \frac{318}{6}$$

Test of Chi- Square:

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E)2/E
35	53	-18	6.113
40	53	-13	3.189
57	53	4	0.302
68	53	15	4.245
54	53	1	0.019
64	53	11	2.283
Total			**16.151**

Test Statistics:

Test Statistics:

X^2-Calculated = $\frac{\Sigma(O-E)^2}{E}$

= 16.151

Degree of Freedom:

d.f. = n-1

= 5-1

d.f = 4

$\mathbf{x^2}$- tabulated at 5 % level of significance for 4 d.f. is 9.49

Decision:- Since tabulated value of $\mathbf{x^2}$ is greater than calculated value of $\mathbf{x^2}$ i.e. 16.151 > 11.07), Alternative hypothesis is accepted which means that there is significant difference between observed and expected ranking of lending on different sectors.

Hypothesis- II

In 10 random samples of respondents, it contains the following ranking. The test is to identify the ranking of various factors to be considered while lending.

Table 4.9
The Ranking of Various Factors to be Considered, While Lending.

Rank	Character	Collateral	Capital	Condition	Capacity	Total
LBL	60	55	48	50	53	**266**

Details From Annex-6

Null Hypothesis (Ho): There is no significant difference between observed and expected frequencies regarding the ranking of various factors

Alternative Hypothesis (H1): There is significant difference between observed and expected frequencies regarding the ranking of various factors Fixing the level of significance at 5 %, calculation of expected frequencies (E):

$$\text{Expected frequency (E)} = \frac{\text{Total Observed Frequency}}{\text{Grand Total}}$$

$$= \frac{266}{5}$$

$$= 53.20$$

Test of Chi- Square:

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E)2/E
60	53.2	6.8	0.869
55	53.2	1.8	0.061
48	53.2	-5.2	0.508
50	53.2	-3.2	0.192
53	53.2	-0.20	0.001
Total			**1.631**

Test Statistics:

X^2-Calculated = $\frac{\Sigma(O-E)^2}{E}$ = 1.631

Degree of Freedom:

d. f = n-1

d. f = 4

x^2- tabulated at 5 % level of significance for 4 d.f. is 9.49

Decision: - Since tabulated value of X^2 is greater than calculated value of 2 (i.e. 9.49 > 1.631), null hypothesis is accepted which means that there is no significant difference between observed and expected ranking of different factors to be considered while lending.

4.3 Major Findings of the Study

The bank believes that effective risk management and control are the integral parts of the bank in providing consistent and high quality returns to shareholders. The bank consider risk taking as an inevitable part of the business, which cannot be completely eliminated rather can be minimized and appropriately balanced with return through systematic assessment of potential risk developments in both normal and stressed conditions. The bank primarily focuses on strategic management of risk in individual exposures, portfolio and in aggregate business. Comprehensive, transport and objectives risk disclosures to our senior management, the Board of directors, shareholders, regulators, and other stakeholders in the cornerstone of the risk control process.

From the above analyses of credit risks, following major findings have been obtained:
The major problems in credit risk are related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures. From the analysis of primary data, it is found that the majority of the respondents of the bank has favored with the bank's single sector, which is up to 10% of total loan. In regard to concentration risk, LBL has more risk in manufacturing and others sector.. From the personal interview of the key respondents it was found that the bank have been

extending credit in those highly concentrated sectors after getting approval from the board of director.

This clarifies that concentration risk is the main source of credit risk for LBL. Similarly, lack of systematic and thorough credit processing is also the major source of credit risk in the bank. The problems in credit processing include lack of thorough credit assessment, absence of testing and validation of new lending techniques, subjective decision-making by senior management**,** lack of effective credit review process, failure to monitor borrowers or collateral values, and failure of bank to take sufficient account of business cycle effects etc. Likewise the market-sensitive and Liquidity-sensitive exposures also increase the credit risk of the bank. Similarly, it is found that the bank has their own rating system of the credit client and the sectors. The bank has ranked 1st to the manufacturing sector where as the Agriculture sector has been ranked the last on the basis of priority. LBL has chosen others sector and real estate business in 2nd and 3rd position respectively. Likewise, LBL has ranked Character, Collateral and Capacity of borrower first, second and third criterion for granting credit.

The hypothesis test on the preference of the bank's staff also proves that there is no significant difference between observed and expected frequency of ranking.

Similarly, the lending against others securities (i.e. other than prescribed by NRB) is second position for the bank, whereas the lending against guarantee of local banks and finance companies is in third position. On the contrary, LBL has not granted any loan without backing any collateral.

4.3.1. The Key Performance Indicators

The key performance indicators of the bank in regard to credit management are found as follows,

Analysis of non- performing loans to total loans revealed that average NPL to Total loans and advances of LBL is 18.80. This means that average performing loan of LBL is 81.20%. With higher amount of performing loan of LBL, the impact of it will be on the net profit of the bank. However, in recent years, LBL has managed to decrease the non-

performing loan below 7.4%, which is due to more stringent credit practices and recovery system.

Average ratio of Loan Loss Provision to Non-performing Loan of LBL was found to be 32.07%. Which depicts that the provision against the nonperforming loan. This also indicates that in case of default, the bank can cover the loss amount without any problem, as there is sufficient amount of reserve for non-performing loan. However, on the other side, low ratio of LBL also suggests that out of non-performing loan, the proportion of bad loans is lower. The higher amount of bad loan does a bank have, the higher will be the provision. The amount of non performing loan in F/Y 2007/08 is 669.83 million and in F/Y 2008/09 is 623.42 million. The average Loan loss Provision to total loan ratio of LBL is 7.70%. The higher percent of LLP indicates that the bank has higher amount of nonperforming loan. Because of the higher amount of non-performing loan of in total, the provisioning amount is in higher side.

This figure indicates that LBL is in better credit position. Analyzing the organizational structure for the credit risk management, it has been found that LBL has rigorous organization structure for credit risk management. In LBL, Asset Liabilities Management Committee (ALCO), mainly concerned with all types of risks management including credit risk.. Similarly, the establishment of Credit Administration, Control & Recovery Department, risk Assessment department in LBL portrays that LBL has been giving more importance to the control and recovery aspects of the loan as well as credit risk rating of borrowers.

From the risk weighted lending analysis, it has been found that LBL also has been lending against the risk-free and moderate-level risk category even though the proportion to them in total lending is very small. The major portion of the total lending of the bank has against the collateral of High-level risk category. From the above sector wise loan distribution we know that LBL has invest its more money in manufacturing sector which equivalent 1058.9 million and transport, communication and public services 375.5 million.

4.3.2. Credit Risk Management Procedure

From the analysis of interview of key respondents of LBL the facts of annual reports, following credit risk management procedures are in use in these commercial banks:

1. Standard & Reports

In the bank, the risk management techniques involve two different sets of conceptual techniques (i.e. setting standard and financial reporting).The bank apply consistent evaluation and rating scheme to all its investment opportunities. Most of the investment decisions are guided by the standard set by top-level management and NRB directive. In regard to credit risk management, a substantial degree of standardization of process and documentation has been set in the bank to make credit decision in a consistent manner and for the resultant aggregate reporting of credit risk exposure to be meaningful.

The bank has their own standard for rating both to borrowers and credit portfolio that presents meaningful information on overall quality of the credit portfolio. Interview with the respondents have revealed that the bank have a dual system for credit rating, where both the borrowers and credit facilities are rated. While rating borrowers, the general worthiness of borrower is rated, which is the most important aspect in the bank to extend the credit? In case of the corporate borrowing clients, analysis of the various aspects of the risk like financial risk, management risk, market risk, succession risk, security risk etc are done. Similarly, the credit facilities rating include rating of collateral and covenants. In regard to collateral, the bank has granted highest loan against the movable and non-movable property. However, LBL gives equal importance to both borrower's quality and credit quality. The basis standard and guidelines for credit decision in both banks is Credit Policy Guidelines (CPG). CPG clearly set standard of various documents required from the customer before granting credit. These documents include tax related documents, financial document, asset valuation document etc. Further, the bank has been weighting the pros and cons of specialization and concentration by industry group and establish subjective limit for their exposure. This is carried out with both limits and guidelines set by senior management.

2. Position Limit

For the proper management of credit risk the bank has set different organizational position to take decision. Similarly the limit of jurisdiction has also been provided in consistent with position. In LBL, the main committee for overall risk management is Asset Liabilities Management Committee (ALCO). It is concerned with asset liabilities management, analysis of various risks such as credit, interest rate risk, liquidity risk, foreign exchange risk and operation risk. ALCO includes the member of top-level management.

3. Monitoring and Control

Credit administration & Control department is mainly concerned with monitoring the credit facilities and borrowers. It continuously reassesses the borrowers' financial condition, loan repayment and health of the risk assets. It also frequently revaluate the collateral as well as its marketability to ensure that collateral is enough to cover the loss if any. More over in LBL, there exist a recovery department under the Risk Assessment Division, which is mainly concerned with prompt recovery of loan. However, in credit department in cooperation with credit administration department performs the function of recovery. Similarly, there exists a risk assessment department also under Risk Assessment Division in LBL that analyze the risk of borrowers before granting credit to the clients. This department also makes portfolio analysis of different loans (such as overdraft, term loan, retail loan etc) and sectors. From the above analysis, it is found that the bank has common procedure of risk management. However, in regard to organization structure, LBL has more defined and structured department in regard to managing credit risk. It has been found that the recent organization restructuring of LBL has made organization more stringent for credit risk management.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Economic development is not possible without the proper development of banking sector in a country, as banks are the real facilitator for mobilizing the resources. Banks are the institutions, which collect the scattered small savings from the public and invest them into productive sector that ultimately contributes to economic development of a country. Besides providing the services for economic development, they are established to earn profit. In the context of current competitive scenario, banks need to face challenges from all around. One of the major challenges for Nepalese commercial banks is to properly manage the risk, especially the credit risk as it covers about 60% of the total risk that a bank face. Considering the importance of credit risk management in commercial banks, this research aimed at studying the credit risk management system of selected commercial banks. For this purpose, descriptive cum analytical research design was adopted. Out of total population of 28 commercial banks (till Mid July 2010), 1 bank has taken as sample using judgmental sampling method. LBL have been taken for the study because of its appropriate data in terms of business size, date of establishment, capital size etc. Both primary and secondary data have been used in this study.

Primary data has been collected mainly from personal interview with key position staff, telephone interview & structured questionnaire. Annual reports and other publication of these banks and NRB directives and reports are the bases of secondary data. The data collection from various sources are recorded systematically & presented. Appropriate statistical and financial tools have been applied to analyze the date. The data of five consecutive years of the Lumbini bank have been analyzed to meet the objective of the study. The major risk in LBL is associated with credit decision as the proportion of credit risk on total risk is high. Based on the response of structured questionnaire, it has been found that the proportion of credit risk on total

risk is more than 60%. The average loans and advances to total risk weighted assets ratio of LBL is 70.83% This means that loan and advances hold major portion in total risk weighted assets. The credit risk of the banks mainly arises due to non-payment of loan by borrowers, poor appraisal of borrowers' financial condition and substandard collateral. Poor tracking of borrowers and improper diversification of lending across industries also result in higher credit risk in commercial banks. The major problems in credit risk can be categorized into three areas of concentrations; credit processing, and market- and liquidity-sensitive credit exposures. The main indicators of loan default (i.e. nonperforming loan (NPL)) indicate that average NPL of LBL is 18.80.

Collateral is also one of the important factors while extending credit. When the borrowers default, collateral is the only means to cover such losses. 100% of provision is to be made for this sort of loan, which reduces the bank's profit, and also bank doesn't have any asset to claim on in case of default. This sort of practice is not found in case of LBL.

Similarly, credit concentration on single sector of LBL shows that the bank have very high amount of concentration in single sector. In production sector, LBL has 1058.9 million of total loan exposure, which is the sign of putting all the eggs in one basket. Improper portfolio management also remains one of the significant problems in credit management of these banks.

The bank has Credit Policies Guidelines (CPG) and well-defined organizational structure for proper management of credit risk. The organizational structure of LBL is found more stringent & advanced. In LBL, Asset Liabilities Management Committee (ALCO) is concerned with all types of risks management including credit risk. There is also an Executive Sub Committee to review credit facilities in timely and accurate manner. In LBL, Credit Committee, which includes the members of board of directors and management, is the main body for managing credit risk. Similarly, the establishment of Recovery Department and Risk Approval Department under Risk Assessment Division in LBL portrays that LBL has been giving more importance to the recovery aspects of the loan as well as credit risk rating of borrowers. In commercial

banks, minimizing the credit risk is the major challenge. For combating the credit risk, both the banks have taken several measures. One of the major measures is capital adequacy ratio. The capital adequacy ratio depicts that LBL has higher CAR than statutory requirement. However in recent years, the CAR is in decreasing trend. Similarly, in total capital fund, the portion of supplementary capital in both banks is low. Therefore these banks are fulfilling the capital fund requirement mainly from the core capital. In risk-weighted asset, the bank have higher portion of on-balance sheet assets than off-balance sheet assets. The lower amount of off-balance sheet assets means the bank need to increase the off-balance sheet items, which helps to diversify bank's source of income. The credit risk management procedure in the bank includes four basic procedures. The major outlines for credit risk management include setting standards for all the transactions such as lending, borrowing etc, and preparing financial reports.

A substantial degree of standardization of process and documentation has been set in the bank to make decision in a consistent manner and for the resultant aggregate reporting of credit risk exposure to be meaningful. Similarly, the position for managing the credit risk as well as jurisdiction limit is also set. Investment policy is prepared in consistent with the NRB guidelines and this is the major guideline for making investment decisions. This policy outlines the amount to be invested in various sectors such as loan and advances, government bonds, shares and debentures of corporation, placements etc. Likewise, to ensure the proper implementation and functioning of credit policies of the bank, the monitoring and controlling body of the bank frequently monitors all the jobs performed. The main body for monitoring & controlling the credit facilities is Credit Administration and Control Department and there is also an Internal Audit and Compliance Department. The Audit department also audits the functioning of credit departments continuously to ensure that organization is functioning professionally and in consistent with bank's internal policy as well as NRB policy. In the Lumbini Bank, Internal Audit Department reports to the Audit Committee, which includes both the top level management and board of directors?

5.2 Conclusion

Nepalese government has started to liberalize the financial sector since 1980s to streamline the financial sector of the country. Prior to liberalization, there were 2 commercial banks, 1 central bank, and 2 development banks. After the adoption of financial sector liberalization policy, the financial sector widened with more banks and financial institutions.

Commercial banking sectors have made a significant mark with the establishment of 28 (till Mid July 2010) commercial banks. Though banking sector developed rapidly in quantity, it has remained far behind in terms of quality compared to international banks. Commercial banks are established with an objective to maximize the shareholders' value by performing the function of mobilizing the idle funds collected from the society to productive sector, which will help to achieve the economic development of a country. Bank needs proper handling of several problem and challenges.

In current scenario, the major challenge of commercial banks is keen competition among 28 commercial banks. Proper risk management is required to remain competitive in the market & achieve the goals. The major banking risks include credit risk, market risk (i.e. liquidity risk, interest risk, operation risk etc). Among these risks, credit risk has the major impact on banking (i.e. more than 60%). Because of the credit risk, the Non Performing Loan (NPL) of bank will increase. With the increase in NPL, the loan loss provisioning will also increase simultaneously leading to decrease in profit. The decrease in profit results in low dividend to shareholder and bonus to employees. To remain alert and prepare plans and policies to tackle unpredictable factors such as violence riots, natural disaster, technology and employees, fault and fraud of customers and outsiders are the challenges for these commercial banks.

For proper management of the credit risk, the banks have their own set of policies and practices, which is in consistence with NRB guidelines. For credit risk management, both banks have Credit Policies Guidelines (CPG). Similarly, NPL is regularly monitored by the banks on regular basis and provisioning is done on quarterly basis by

categorizing the loan as per NRB guidelines. Similarly, sector wise and the bank on monthly basis is analyzing security wise lending. Organizational structure of the bank is frequently restructured for proper credit risk management as per requirement. For minimizing the loss arising due to occurrence of the credit risks, capital adequacy have been maintained by the bank within the standard prescribed by NRB. However, the trend of Capital Adequacy ratio of these banks suggests that the bank need to increase their capital fund, which is possible mainly by issuing shares, debentures or preference share. Though the bank have their own set of procedures for assessing various risks and their management, problems are still prevalent in the bank. In credit risk, single sector loan concentration is the main problem in the bank. In LBL, with the increase in total loan, NPL is also increasing. So, proper adjustment is needed for managing the NPL.

5.3 Recommendations

From the above analysis of the credit risk management procedure of LBL following recommendations are made to the bank, NRB and Nepal government in respect to credit risk management:

General Recommendations

Following general recommendations can be made to the bank regarding credit risk management in the current context; the bank has been applying old techniques for managing the credit risk. These techniques should be changed with changes in the environmental forces. It can also conduct comprehensive stress and scenario testing on all of their portfolios and counter parties to measure the credit risk. The bank needs to upgrade the credit risk analysis system with the changes in both level and pace of technological changes in external environment. The credit risk management should be used as a strategic management tool to align Risk Adjusted Return on Economic Capital (RAROC) with ROE. These are the key tools for credit that can enable banks to select optimal portfolios and allocate their resources locally into branches, regionally and globally. The bank should believe that credit risk management is really about

maximizing shareholder value and that NRB Directives and the Basel II are "compliance".

They should believe that credit risk management is critically important so as to ensure that they do not get downgraded by rating agencies There is WTO deadline of 2010, by which Nepal's Banking Sector will have to allow foreign banks to open their branches here. Therefore, the bank that still continues the old banking paradigm will be the targets for acquisitions by larger banks that have stronger credit risk management policies in place. The only key to survival and sustainable success is to reengineer and reform the credit risk strategy that maximizes shareholder value. The banker should be able to think that Basel II and NRB Directives are not just a compliance issue but rather an opportunity to use credit risk management as a cornerstone of strategic decision making. Following the directives of NRB and acting upon it also reduces bank's risk. Therefore, both the banks are recommended to adhere to the directives and come up with a stronger internal audit and compliance to ensure that the directives are properly followed up. It is often said, "Prevention is better than cure". Hence it is recommended for the bank to take preventive measures before the risk occur and will suffer loss. The bank is recommended to develop an information system to gather all the possible information and activities to take timely precaution.

ii. Specific Recommendations to LBL

Specific recommendations suggested to the bank under study (LBL) are as follows:

1. LBL has higher amount of loan and advances in total risk weighted assets.
2. So to minimize the credit risk, the diversification in investment is needed in the bank. The bank needs to diversify investment in government bonds and placements etc.
3. The bank needs to properly diversify its lending portfolio. The high amount of lending in manufacturing sectors need to be diversified into various sectors, which will decrease concentration risk.
4. NPL of LBL is increasing with the increase in loan and advances. So, LBL need to be more careful while taking credit decision.

5. LBL needs to follow following principles for the proper credit risk management;

A. Establishing an appropriate credit risk environment

Under this following factors need to be considered:

The board of directors should have responsibility for approving and periodically (at least annually) reviewing the credit risk strategy and significant credit risk policies. The strategy should reflect the bank's risk tolerance and the level of profitability the bank expects to achieve for incurring various credit risks. Senior management should have responsibility for implementing the credit risk strategy approved by the board of directors and for developing policies and procedures for identifying, measuring, monitoring and controlling credit risk. Such policies and procedures should address credit risk in all the bank's activities and at both the individual credit and portfolio levels. The bank should identify and manage credit risk inherent in all products and activities. The bank should ensure that the risks of products and activities new to them are subject to adequate credit risk management procedures and controls before being introduced or undertaken, and approved in advance by the board of directors or its appropriate committee.

B. Operating under a sound credit granting process

The bank must operate within sound, well-defined credit-granting criteria.

These criteria should include a clear indication of the bank's target market and a thorough understanding of the borrower or counterparty, as well as the purpose and structure of the credit, and its source of repayment. The bank should establish overall credit limits at the level of individual borrowers and counterparties, and group of connected counterparties that aggregate in a comparable and meaningful manner for different types of exposures, both in the banking and trading book and on and off the balance sheet.

A clearly established process in place for approving new credits as well as the amendment, renewal and re-financing of existing credits is the need for the bank. All extensions of credit must be made on an arm's-length basis. In particular, credits to related companies and individuals must be authorized on an exception basis,

monitored with particular care and other appropriate steps taken to control or mitigate the risks of non-arm's length lending.

C. Maintaining an appropriate credit administration, measurement and Monitoring process

The bank should have in place a system for the ongoing administration of their various credit risk-bearing portfolios. The bank must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves. Bank encouraged developing and utilizing an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and complexity of a bank's activities. The bank must have information systems and analytical techniques that enable management to measure the credit risk inherent in all on and off-balance sheet activities. The management information system should provide adequate information on the composition of the credit portfolio, including identification of any concentrations of risk.

D. Ensuring adequate controls over credit risk

The bank must establish a system of independent, ongoing assessment of the bank's credit risk management processes and the results of such reviews should be communicated directly to the board of directors and senior management. The bank must ensure that the credit-granting function is being properly managed and that credit exposures are within levels consistent with prudential standards and internal limits. Bank should establish and enforce internal controls and other practices to ensure that exceptions to policies, procedures and limits are reported in a timely manner to the appropriate level of management for action. The bank must have a system in place for early remedial action on deteriorating credits, managing problem credits and similar workout situations.

E. Capital Adequacy Measure

The bank required to focus on their supplementary capital as the proportion of supplementary capital on total capital fund is very low.

iii. Specific Recommendations to Nepal Government and NRB:

From 2009/10, Nepal Government has allowed to establish banks in Nepal by foreigners without joint venture of Nepalese investors. This will certainly provide threat to Nepalese banks. So, Nepal Government should provide some incentives to local banks to face the competition of foreign banks. Nepal Government should provide adequate measures for taking action against the willful defaulters. NRB, in addition to imposing directives, needs to provide training for commercial banks to apply new methods and system.

NRB should make a clear cut policies related to banking supervision. Confusing policies need to be removed. NRB needs to establish a separate Credit Rating Organization, which will help to minimize bank's credit risk.

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ANNEX-1
Loans, Advances and Bills Purchased to Total Risk Weighted Asset Ratio

Year	Loan and Advance	Total Risk Weight Assets	Rate(%)x	$(X-\overline{X})^2$
2004-05	3167.72	4489.17	70.56	0.073
2005-06	2983.90	4125.95	72.32	2.220
2006-07	3840.69	5566.55	69	3.349
2007-08	4489.50	6005.16	74.77	15.524

2008-09	4983.39	7379.72	67.53	10.890
N= 5			**ΣX= 354.15**	$\sum(X-\overline{X})^2$ **32.056**

Mean $(\overline{X}) = \frac{\sum X}{N} = 70.83$

Standard Deviation (S.D.)$= \sqrt{\frac{(X-\overline{X})^2}{N}} = 2.53$

ANNEX-2
Non-Performing Loan to Total Loans and Advances

Year	NPL	Loan & Advance	Rate (%)	$(X-\overline{X})^2$
2004-05	482.44	3167.72	15.23	12.745
2005-06	924.71	2983.90	30.99	148.596
2006-07	782.35	3840.69	20.37	2.465
2007-08	669.83	4489.50	14.92	15.054
2008-09	623.42	4983.39	12.51	39.564

N= 5			**∑X= 94.02**	$\sum(X-\overline{X})^2$ **218.424**

Mean $(\overline{X}) = \frac{\sum X}{N} = 18.80$

Standard Deviation (S.D.)$= \sqrt{\frac{(X-\overline{X})^2}{N}} = 6.60$

ANNEX-3
Loan Loss Provision to Non-Performing loan

Year	LLP	NPL	Rate (%)	$(X-\overline{X})^2$
2004-05	109.22	482.44	22.63	89.114
2005-06	786.34	924.71	85.03	4393.562
2006-07	178.63	782.35	22.83	85.378
2007-08	100.95	669.83	15.07	289
2008-09	92.35	623.42	14.81	297.908
N= 5			**∑X= 160.350**	$\sum(X-\overline{X})^2$ **5154.962**

Mean $(\overline{X}) = \frac{\sum X}{N} = 32.07$

Standard Deviation (S.D.)= $\sqrt{\frac{(X-\overline{X})^2}{N}} = 32.109$

ANNEX-4
Loan Loss Provision to Total Loan and Advances

Year	LLP	Loan & Advance	Rate(%)	$(X-\overline{X})^2$
2004-05	109.22	3167.72	3.44	18.148
2005-06	786.34	2983.90	26.35	347.823
2006-07	178.63	3840.69	4.65	9.303
2007-08	100.95	4489.50	2.24	29.812
2008-09	92.35	4983.39	1.85	34.223
N= 5			**ΣX= 38.50**	$\sum(X-\overline{X})^2$ **439.309**

Mean $(\overline{X}) = \frac{\sum X}{N} = 7.70$

Standard Deviation (S.D.)$= \sqrt{\frac{(X-\overline{X})^2}{N}} = 9.37$

ANNEX-5

Proportion of different category of risk weighted lending of LBL

Security	Risk Weighted(%)	2004/05	2005/6	2006/07	2007/08	2008/09	Average
Risk Free Lending to Total Loan	0	1.65	3.21	0.86	0.42	0.33	1.29
Moderate Level Risk Lending to Total Loan	20	0.95	0.76	0.80	0.90	0.92	0.85
High Level Risk Lending to Total	100	96.25	95.51	99.07	98.77	98.82	97.68

Loan							

ANNEX-6
RESPONSES OF QUESTIONNAIRE

1. Do you agree that Banking is a High Risk Business?
The following responses have been made by the respondents of LBL.

Agree Strongly Agree Disagree Strongly Disagree

	Agree	**Strongly agree**	**Disagree**	**Strongly Disagree**
LBL	2	8	0	0

2. What is the proportion of Credit Risk on total banking risk?

The following responses has been made by 20 respondents

Proportion of Credit Risk LBL	**LBL**
0-20 % (Low)	
20-40 % (Average)	1
40-60 % (High)	3
Above 60 % (Highest)	16

3. How much proportion of total loan does the bank can lend in a single sector/borrower?

Single Sector loan LBL	
0-10 %	
10- 20 %	
20- 30 %	
30-100%	

4. Does the bank have credit rating system?

Response	**LBL**
Yes	20
No	

5. How do you rank the following aspects while granting credit? (Rank 4 for the highest priority and 1 for lowest priority)

Ranking by LBL Employees

Rank	**Character**	**Collateral**	**Capital**	**Condition**	**Capacity**	**Total**
1	1	3	7	7	2	20
2	4	4	5	3	6	22
3	6	5	6	6	7	30
4	9	8	2	4	5	28