CHAPTER-I

INTRODUCTION

1.1 General Background

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 not only deal with the money also it deals with credit and remittance and expanding business and the perform the agent between the two party.

Bank is an institution which performs the intermediary between the surplus and deficit in the financial resources. Every economic activity is directly or indirectly channeled through the bank. Bank is the only one perfect institution which can perfectly mobilize the ideal fund of the people and also that institution which make easier the investment. So that 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 “a condition 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 condition in which there exist a possibility of deviation from a desired outcome that is expected or hoped for. Other definitions include the restriction that risk is based on real world events, including a combination of circumstances in the external environment. We do not agree with this limitation. Potential risks that might occur in the future are

excluded. In addition, we do not limit the range of risk to circumstances 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 require that the probability be quantified, only that it must exist. The degree of risk may not be measurable, for whatever reason, but the probability of the adverse outcome must be between 0 and 100 percent. Another key element of the definition is the "deviation from a desired outcome that is expected or hoped for." The definition does not say how such an undesirable deviation is defined. There are many ways of building expectations. 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 expectations is to forecast by using information directed toward the future, not by looking back. The definition of *expectations* is absolutely key in the concept of risk. Any misconception of the expectations will distort the measurement of risk substantially.

Many definitions of risk include the term *adverse deviation* 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 connotations from the concept of risk. We believe that risk has two sides, which both have to be included in the definition, and that risk itself has no dimension, negative or For the purposes of this discussion, *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. Therefore, risk is defined here as: risk A condition in which there exists a possibility of deviation from a desired outcome that is expected or hoped for.

Banks and other regulated financial institutions have been forced by government 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 of top management's function and thus a non delegable responsibility and liability. Driven by law, the financial sector has developed over the past years strategies, culture, and considerable technical and management know-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 scrutinized risk management practices and techniques. A closer look at some of the accidents makes it apparent that managers, regulators, and investors have partially lost control of risk management, overestimated their own capabilities and capacities, and brought companies and entire markets to the edge of the abyss. Therefore, Risk management is the good topic for the researcher. commercial bank have to assume different kind of risk; market risk ,operational risk, credit risk and other risk of them credit risk cover the significant risk of the total risk.

Though the banking sector has been facing different types of risks, major banking problems have been either explicitly or indirectly caused by the weaknesses in credit risk management. So, 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

1.2 Brief Introduction of Kumari Bank Limited

Kumari bank limited commenced its operation on April 03,2001 as the 15th commercial bank in the country. The bank was established with an objective to provide state –of the art financial services tailored to meet customer's individual requirements. The bank is promoted by a group of highly reputed Nepalese businessmen and professionals, and is managed by experienced and dynamic professionals. In short period of time, the bank has been able to win the trust and confidence of all stakeholders by offering innovative need-centered products and services, maintaining high standard of corporate governance and shouldering on social and humanitarian issues. The main focus of bank is long term win-win relationship, excellence on business, managing change and innovative sights. The bank has 14 branches including head office of putalisadak and now its corporate office is in Darbarmarg.

Kumari bank Limited (KBL) with diversification and risk based lending strategy has been able to increase the loan portfolio in fiscal year 2006/07.The total loans and advance recorded for the year 2006/07 was RS.9,062 million with a growth of 29.32% .The bank has properly balanced its lending portfolio on retail and corporate sector, where credit concentration is of 13% and 87% respectively. Continued discipline in implementing risk –adjusted pricing model has resulted higher quality exposures maintaining Non performing loan ratio at 0.73%(one of the lowest in industry) from 0.92% of previous year.

The bank has adopted computerized system in banking. The main software of the bank is called Globus and the bank has the Any Branch Banking System (ABBS). The bank also provides different services such as ATM and electronic banking etc. The bank has been providing loans and advances in various sectors such as agriculture, manufacturing, deprived sector, industry and consumer financing etc. *(Annual Report, 2006/07)* [i]

Based on the personal interview with key personal, it is found that risk is considered as the major threatening factor in KBL, which is given high priority by the top management for its proper management. The bank has developed well defined polices and procedure with structured organizational layers for management of risks. Accordingly, the bank has categorized the overall risk into credit risk, interest risk, liquidity risk, foreign exchange risk, operation risk etc. The main risk management committee includes Asset Liability Management Committee, Audit Committee and Human Resource Commit

1.3. Statement of the Problem

Kumari bank is fairly young in terms of its operation; the bank has been pursuing an integrated, multi-channel strategy in order to address customer's needs. Branch network expansion is one of the continuous strategies of the bank to serve the customers, having unfulfilled banking needs, located in various geographical areas of the country. Similarly, the bank is also adopting various technologies such as Debit card, internet banking,SMS banking in order to serve their needs without forcing them in come on to the bank premises.Further,the strategic alliance made by the bank with various business partners has also increased the choices for the customers to get the services of Kumari Bank Limited.

To sustain further growth of asset, income and risk absorbing capacity, the bank has continuously enhanced its capital base. The bank now has total capital fund of Rs.1115 million, comprising core and supplementary of Rs1,020 million and Rs.95 million respectively in fiscal year 2006/07.The current paid up capital of the bank is Rs.750 million, which will be increased to Rs. 1,600 million by the end F/Y 2012/13.In order to strengthen and leverage the capital base through internal and external sources. Similarly, the bank has maintained the capital adequacy ratio at 11.20% in F/Y 2006/07, which is well above the statutory requirement of 11%. The bank has contributed NPR 67 million to the Government of Nepal in form of corporate tax during the fiscal year 2006/07.

The essence of financial soundness of company lies in balancing its goals, commercial strategy, product market choice and resultant financial and statically tools such as financial ratios income and expenditure statement analysis etc. Many questions relating to company overall profitability, liquidity position and long term solvency, operating effectively inter firm comparison assets utilization should be assumed will answered financial condition of the company and risk minimizing policy.

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

1) What are the major factor effecting the financial performance of KBL
2) What are the risk dealt by the KBL in the market and with in the organization? Has KBL is able to avoid the risk of these of their own destination?
3) What are the strength and weakness of the KBL? Whether the earning power and operation efficiency is satisfactory?
4) How far KBL is able to meet the short as well as long term obligation to its creditors?
5) What is the financial position of the bank in the market?

The major issue of the banking sector in Nepal is the Credit Risk. Poor lending practices, which are indicated by poor financial analysis of borrowers, inadequate or substandard collateral and improper portfolio analysis, poor tracking of credit and intention of borrowers to default have resulted in the high amount of Non Performing Loan of major commercial banks such as Nepal Bank Ltd (NBL) and Rastriya Banijya Bank (RBB).

Similarly, there is the problem of high credit concentration risk. The recovery of loan is also the major challenge for Nepalese Commercial banks. The willful defaulter, that is the client who defaults the loan intentionally, is also one of the major problem of Nepalese commercial banks especially for NBL and RBB.

Further, the issuance of new 16 unified directives by the NRB in 2005 has also provided the commercial banks different measures related to credit risk, interest rate risk, foreign exchange risk, liquidity risk and operation risk coupled with maintaining adequate capital to safeguard the interest of investors, depositors and shareholders. The commercial banks need to comply with many prudential's, which have also provided the challenges to the commercial banks of Nepal. Among these, the loan loss provisioning and capital adequacy measures have been providing the major challenges to Nepalese commercial banks. That is why; the researcher has mainly focused on the credit risk. Likewise, the plan for implementation of Basel II from 2007 in Nepal in parallel way has also been the challenge for Nepalese Commercial Banks. Basel II is mainly concerned with the management of various types of risks and the capital framework for providing enough cushions to absorb the risks faced by commercial banks. The Basel II has categorized Nepal as the high-risk country with ECA (Export Credit Rating Agencies) rating 7. This means that the Nepalese Commercial banks assets are rated risky up to 150%. *(Basel, 2005).*

1.4 Objectives of the Study

The study aims to study and analyze how the selected commercial Banks have managed different types of risk in this competitive Nepalese banking industry. The specific objectives of this study are:

To analyze the following types of risk in selected commercial bank

- Credit Risk
- Market Risk
- Interest Rate Risk
- Liquidity Risk
- Operation Risk

- To analyze Nepal Rastra Bank's directives and measures on the risk management of Commercial Banks
- To analyze the risk management system of KBL focused on credit risk.

1.5 Rationale of the Study

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. The success of any organization is largely dependent on how properly the organization can manage the risk. Banking sector also involves several risks, which need to be handled promptly for the survival and growth. As this research 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 banks and bank's action for its management. The key stakeholders who will be largely facilitated by this research includes, Kumari Bank under will highly be benefited by this research. This research identifies major risks of this bank, its current risk management styles, NRB guidelines on risk management and organization of basic compliance of such guidelines etc. Further, the bank will know not only the current performance but also the idea about its strength and weaknesses.

Individuals, who have keen interest in Nepalese economy and banking sector, will be benefited. This research provides an insight into the organizational risk management patterns within the standards set by NRB.

Investors, depositors, borrowers also know about the actual risks with this bank to carry out business.

Policymakers will also be benefited as this paper provides the exact problems in risk management and identifies the need for formulation of new policies or amendment of old policies.

1.6 Limitations of the Study:

The outcome of the study is an individual effort. Therefore management, resource mobilization and time constraints limit the in-depth study of all commercial banks operating except commercial banks under study.

The study is also based on primary data especially through personal interview and questionnaire. Therefore, the accuracy of results and conclusions highly depends on the reliability of these facts.

The evaluation is made through the analysis of financial statement published and presented by the banks. Therefore generalization of the whole banking industry cannot be made.

Resource, time, money constraints and inaccessibility of sufficient information also limit the conclusion drawn from study.

This study may not be precise as it is prepared to fulfill the partial requirement of the MBS program.

The study has covered only the five years data from fiscal year 2002/2003 to 2006/07

1.7 Organization of the Study

The study is organized into the following five chapters:

Chapter I – Introduction.

Chapter II – Review of Literature.

Chapter III – Research Methodology.

Chapter IV – Data Presentation and Analysis.

Chapter V – Summary, Conclusion & Recommendations.

Chapter I is the introductory part of the study. This chapter describes the general background of the study, focus of the study, statement of the problem, objectives of the study, rationale of the study and limitations of the study.

Chapter II includes a discussion on the conceptual framework and review of the related and pertinent literature available. The conceptual considerations and review of related literature conducted in this chapter provides a framework with the help of which the study has been accomplished.

Chapter III describes the research methodology employed in the study. In this chapter, research design, nature and sources of data, methods of data collection and tools and techniques of data analysis are discussed.

Chapter IV consists of presentation and analysis of data, which deals with the empirical analysis of the study and the major findings of the study.

Chapter V is the summary, conclusion and recommendations of the study.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Conceptual Review

2.1.1 Meaning of Risk

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 A condition in which there exists a possibility of deviation from a desired outcome that is expected or hoped for. 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 and then developing strategies 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 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 uncertainty 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. Kupper (2000) defines risk as the volatility of corporation's market value. 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 affect of the risk, and accepting some or all of the consequences of a particular risk.

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 risk 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:

Figure No. 2.1 Risk Profile of Banking Business

Source: NRB Economic Survey

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) 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.

ii. Market Risk

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:

- *Liquidity Risk*
- *Interest Rate Risk*
- *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, Basel September (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. Leippoldy (2003)

2.2 Review of NRB Directives Related to Credit Risk

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. 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.

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

2.2.1.1. 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 are 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..

Notes: 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.
- Misuse of Loan.

Note:

- 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.
- If the project or business for which the loan is provided is not in the condition of operating or if it is closed.
- Credit card loan not written off which is due since 90 days.

c. 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 1 year.

d. 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

1. 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.

2. 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.

2.2.1.2. Loan Loss Provisioning

1. 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	**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.

2. Loan Loss Provisioning in respect of reschedule, restructured or swapped loan For rescheduled/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.

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

4. 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.

2.2.2. 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.

Sector wise lending

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

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.

2.2.3. 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:

Table 2.1

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:

Table 2.2

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

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

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

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

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 2006/07.

2.3 Review of Related Studies.

Santomero (1997) has analyzed the various risk faced by commercial banks. According to him, the major risk of commercial bank includes credit, market risk, interest risk, counterparty risk and liquidity risk. He has categorized this risk into following categories:

- Risk that can be eliminated by simple business practices.
- Risk that must be actively managed at the firm level.
- Risk that can be transferred to other participants.
- According to him, the main reason for the risk management is:
- Managerial self interest
- Non linearity of tax structure
- Cost of financial distress
- Existence of capital market imperfection.

- The main method prescribed in his research for credit risk management includes:
- Sound evaluation of credit rating and making rating system compatible.
- Credit losses, currently regularly related to credit rating, need to be closely monitored.
- Sound analysis of the evaluation of the diversified portfolio.

Basel Committee of Bank Supervision (2000) has mentioned that the main reason of serious problems in banking sector is related to lack of credit standards for borrowers and counterparties, poor portfolio risk management or lack of attention to changes in economic or other circumstances that can led to a deterioration in the credit standing of a bank's counterparties. This phenomenon is common for both G 10 and non G 10 Countries.

In this publication, the credit risk has been defined as the potential that a bank borrower or counterparty will fail to meet its obligation in accordance with the agreed terms. Five principal has been laid down for the credit risk management. They are:

- Establishing appropriate credit risk environment
- Operation under sound credit granting process
- Maintaining appropriate credit administration, measurement and monitoring process
- Ensuring adequate controls over credit risk
- Effective role of supervisor

Kupper (2000) has made a study to identify the different types of risk and prescribes the method to handle those risks. He has identified three types of risk in the banking business (i.e. credit risk, market risk and operation risk) According to his study; credit risk has almost 70 % of shares in total banking

risks. The typical credit risk share of total capital is 80% in Wholesale Banking, 50 % on Personal Banking and 10 % on financial Market.

He has presented the role of a banks' risk management function in the context of the need to break the vicious cycle of risk. The cycle refers to the process by which a bank assumes uneconomic risks and by definition, key large losses. As a consequence, the risk appetite of the bank is reduced, lending and trading risks are foregone and the bank loses market share. In turn, the bank adopts an aggressive marketing strategy to regain market share and the cycle starts over. His vicious cycle aptly describes the risk taking practices observed in the industry time and time again.

Rana (2001) alerts commercial banks of the directives issued by Nepal Rastra Bank on 2002. The article gives bird's eye view of major changes made in the new directive and suggests measures to be taken by commercial bank to comply with the new directives. Mr. Rana has highlighted the following points in his article:

Capital adequacy ratio for commercial bank prescribed by Nepal Rastra Bank is even higher than the requirement in India.

Classification of loans and advances into four category instead of six categories prescribed earlier.

The newly prescribed change in income recognition system will require most of the banks to either upgrade or change their banking software.

Banks will find it very difficult to maintain records of all persons, who are included in the definition of family/ relative.

In order to comply with the new NRB directives, he has suggested following measures:
Upgrade/ change the banking software, which facilitates generating numerous reports required by Nepal Rastra Bank.

Foresee capital adequacy position for a number of years ahead and initiate measures for increasing the capital if required.

Review and revise overall credit polices to address new directives governing loan classification and loan loss provisioning.

Strengthen banks' monitoring and follow-up department". Time has come to inculcate financial discipline to the customers. A number of interaction programs should be organized with credit customers so that NRB's new directives could be explained to them.

Update their record with Credit Information Bureau (CIB). Also Banks should timely submit required return to CIB for its effective functioning.

Banks that fail to have deep understanding of credit risk management will continue being caught in the time warp of the old banking paradigm and be targets for acquisitions by larger banks that have stronger risk management policies in place. The only key to survival and sustainable success is to reengineer and reform the risk strategy that maximizes shareholder value. It would thus be fallacious for the CEO to think of Basel II as just a compliance issue but he should rather use it as an opportunity to really get on top of using risk management as a cornerstone of strategic decision making.

Panta(2001),has studied on "A study of commercial banks deposit and its utilization " got to notice that the percentage of the total credit supplied by commercial banks within five years period(1995-2000) is more or less same

while in the collection of deposits. The percentage has increased too much. Thus the increasing gap between collection and utilization shows economic requirement and to contribute the economic upliftment of the country, commercial bank should a fair sector wise and planned policy, he suggested.

Pandey (2002) has carried out study with the objectives to find out the impact of changes in NRB directives on the performance of the commercial banks and to find out whether the directives were implemented or not. According to his findings the directives if not properly addressed have potential to wreck the financial system of the country. The directives in themselves are not that important unless properly implemented. The implementation part depends upon the commercial banks. In case commercial banks are making such huge profit with full compliance of NRB directives, then the commercial banks would deserve votes of praise because they would then be instrumental in the economic development of the country. All the changes in NRB directives made impacts on the bank and the result are the followings:

- Increase in operational procedures of the bank, which increase the operational cost of the bank.
- A short term decreases in profitability, which result to fewer dividends to shareholders and less bonus to the employees.
- Increase protection to the money of the depositors through increased capital adequacy ratios and more stringent loan related documents.

All the aforesaid result lead to one direction the bank will be financially healthy and stronger in the future. HBL will be able to withstand tougher economic situation in the future with adequate capital and provision for losses. The tough time through which the bank is undergoing at present will prevail only for a couple of years but in the long run, it will be strong enough to attract more deposits and expose itself to more risk with capital cushion behind it. The quality of the asset of the banks will become better as banks will be careful before creation credit. Ultimately, the changes in the directives will bring

prosperity not only to the shareholders but also to the depositors and the employees and the economy of the country as a whole.

Pandey has made his research on the impact on changes in new directives. In his study, he has studied only the provision related to loan provisioning and capital adequacy. However, besides Loan Loss Provision and capital adequacy, the other factors like concentration risk, sector-wise lending risk can further be discussed. A study on the organizational structure or management techniques applied for the proper implementation of NRB directives and for management of credit risk can also be made.

Shrestha (2003) in her thesis "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." has tried to find out the following things:

- Impact of NRB directives on commercial banks.
- 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. There exists a gap regarding the study of management teams formed by the commercial banks to manage the credit risk besides those NRB directives. Similarly, commercial banks compliance in regard to those directives as well as banks policy and procedure to manage credit risks can be studied further.

Bhattarai, (2004) in her study "Implementation of Directives Issued by Nepal Rastra Bank: A comparative Study of Nepal SBI Bank Ltd and Nepal Bangladesh Bank Ltd", has made an attempt to analyze various aspects of NRB directives with respect to Capital Adequacy and Loan Classification and Provisioning.. As per her view the process of continual review and classification of loans and advances enables banks to monitor the quality of

their loan portfolios and to take remedial action to counter deterioration in the credit quality of their portfolios.

She concluded that with the new provisions, the banks will have its provision amount increasing in coming years and subsequently profitability of the banks will also come down However, the true picture of the quality of the asset will be painted in the coming years to come. She recommends, "the banks should be very careful while analyzing the repayment source & capacity of its credit clients". With longer period of past due, the bank will end up increasing its provisions which will keep the bottom line low if the bank is not careful.

The major research gap found in her study is she has limited her study in Capital Adequacy and loan classification and provisioning. The research is mainly aimed to identify the NRB provision related to loan loss provision and Capital Adequacy Measures. There exists a gap to study the detail credit risk analysis of the banks.

More research can be made on the whole credit risk such as concentration risk, collateral risk, exposure risk, organization's credit risk management system etc. Similarly, capital adequacy can also be studied as measure against the credit risk of commercial banks.

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:

- To determine impact of deposit in liquidity and its effect on lending practices.
- To know the volume of contribution made by both bank in lending.
- To examine lending efficiency and its contribution in profit.
- 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. Therefore, the major gap in this research is study of the risk involved in the lending practices or the study of credit risk. Therefore, further study on the risk involved in creating credit can be made.

Shrestha (2005) on "A study of Non performing 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:

- To find out the proportion of non-performing loan in the selected commercial banks.
- To find out the factors leading to accumulation of non performing loan in commercial banks
- To find out the relationship between loan and loan loss provision in the selected commercial bank.
- 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 exists 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 to analyze how the selected commercial banks (i.e. Machchhapuchhre Bank Ltd. and Kumari Bank Ltd.) have managed different types of risk in this competitive Nepalese banking Industry. The major objective of this thesis was:

- To analyze the following types of risk of selected commercial banks in Nepal
- Credit Risk
- Market Risk
- 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 KBL 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 polices 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.

2.4 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 Kumari 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 KBL by studying its credit risk management system. This study also aims to find out the organizational structure of KBL 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 Kumari 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(Thyer 1993:94)

This study is the combination of descriptive and a exporatory 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. KBL 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 KBL working in Credit and Credit Administration and Control Departments. While collecting the data, in KBL, 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 KBL.

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:

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 ($\overline{X}$) = $\frac{X}{n}$ Where, $\overline{X}$ = Mean

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

$$S.D = \sigma = \sqrt{\frac{1}{n} \sum (x - \bar{x})^2}$$

Greater the magnitude of standard deviation, higher will be the fluctuation and vice versa. *(Gupta, 2002).*

Default Probability

Default probability is the probability that the borrowing client will default or the probability of non-repayment by the borrowing client. In the loan market, the adverse selection is the situation that occurs as the interest rate rises and the honest borrowers decide not to borrow. Therefore, the bank with higher interest rate on loans is left with an adverse pool of borrowers – those who know they are more likely to default. We can calculate the Default Probability by using the following formula:

$$P (1+K) = 1+ i$$

Or,

$$P \times \frac{(1 + i)}{(1 + K)}$$

Where,

K = Promised Interest on Loan/Average Interest on Loan

i = Risk Free Rate of return

P= Repayment Probability

&

Default Probability = 1 – P = 1 – Repayment Probability

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 H_o 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 H_1.

¡2 – Test (Chi- square test)

$\Re^2$ – 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,

$$\Re^2 = \frac{fO\ Z\ E\AA}{E}$$

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 $\aleph^2$ tables in certain degree of freedom and level of significance. Here, the level of significance is assumed 5 %. *(Sharma and Chaudhary, 2001)*

In this study, $\aleph^2$ – 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.

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
ii. Non-performing Loan to Total Loans and advances Ratio
iii. Loan Loss Provision to Non Performing Loan Ratio
iv. Loan Loss Provision to Total Loans and Advances
v. Core Capital to Total Risk Weighted Asset (RWA)
vi. Supplementary Capital to Total Risk Weighted Asset
vii. Capital Fund to Total Risk Weighted Asset (RWA)

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

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. 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 KBL 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	KBL		
	Loan & Advances	**Total Risk Weighted Asset**	**Ratio (%)**
2002/03	2137.59	2,528.77	84.53
2003/04	3697.98	4,449.40	83.11
2004/05	5681.01	6,291.84	90.29
2005/06	7007.79	7,625.05	91.90
2006/07	9006.24	9959.91	90.42
		Mean	**88.05**
		S.D.	**3.52**

Source: Annual Reports

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 KBL the overall ratio of KBL is 88.05%. From this, it is clear that out of total risk weighted assets in balance items the proportion of loans and advances of KBL is 88.05% . This means that the credit risk in KBL. Likewise, the standard deviation of KBL is 3.52. This indicates that the ratio deviate more from the average in case of KBL.

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)

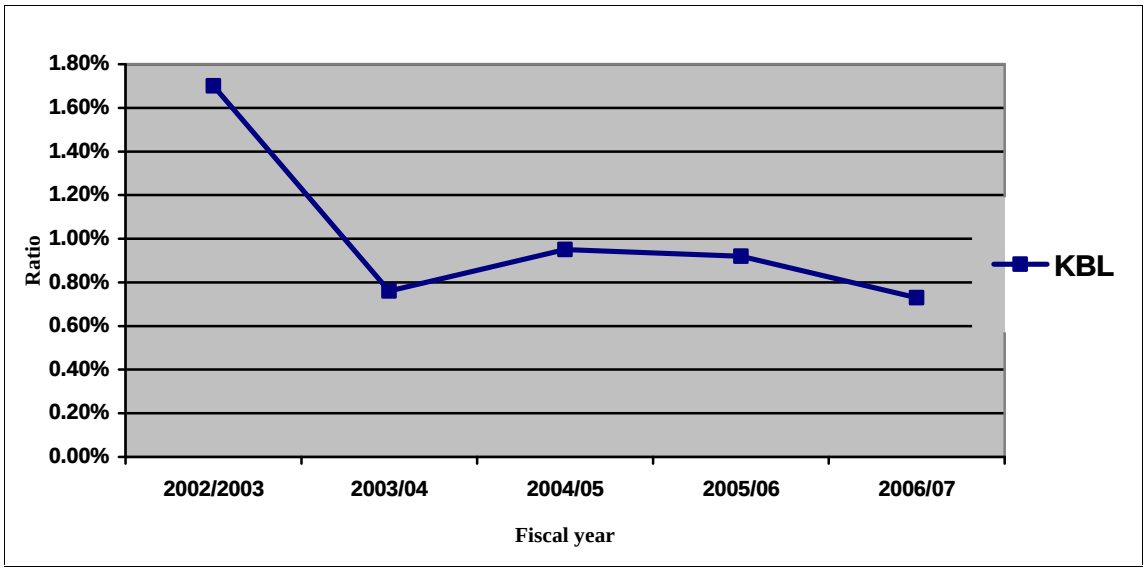
Fiscal year	KBL		
	NPL	**Loan & Advances**	**Ratio (%)**
2002/03	36.32	2137.59	1.70
2003/04	28.19	3697.98	0.76
2004/05	53.99	5681.01	0.95
2005/06	64.35	7007.79	0.92
2006/07	66.12	9062.43	0.73
		Mean	**1.01**
		S.D.	**0.35**

Source: Annual Reports

Table 4.2. Exhibits the ratio of non-performing loans to total loans and advances of KBL for five consecutive years. It is found that the NPL of KBL is in decreasing trend though the loans and advances are in increasing trend. The average NPL ratios of KBL is 1.01% . The highest amount of NPL in fiscal year 2002/03 (i.e. 1.7%). But in more recent years the NPL of the KBL has been decreasing significantly. The standard deviation of KBL is 0.35.

Figure No.: 4.1

Trend showing ratio of Non-performing Loans to Total Loans & Advance



Source: Table No. 4.2

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 KBL was very high in the FY 2002/03 but after that it is in a significantly decreasing trend and has reduced significantly to 0.73 in the FY 2006/07 from 1.70 of FY 2002/03. However, the ratio of KBL 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	KBL		
	LLP	**NPL**	**Ratio (%)**
2002/03	31.85	36.32	87.69
2003/04	48.98	28.19	173.75
2004/05	90.09	53.99	166.86
2005/06	115.93	64.35	180.16
2006/07	133.42	66.12	201.78
		Mean	162.05
		S.D.	45.88

Source: Annual Reports

Table 4.3. Shows the ratio of provision held to non- performing loan of KBL for five consecutive years. The figure represented in the table depicts that the

KBL has the higher ratio in all years except in fiscal year 2002/03. The NPL ratio of KBL is fluctuating. The NPL ratio of or the provisioning of KBL is highest of 201.78 in fiscal year 2006/07. The overall ratios of LLP to NPL of KBL are 162.05%. This ratio shows that KBL the degree of cushion of provisioning to non-performing loan. The standard deviation of KBL is 45.88%. This means that there exists deviation in the ratio from the average ratio in KBL.

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	**KBL**		
	LLP	**Loan & Advances**	**Ratio (%)**
2002/03	31.85	2137.59	1.49
2003/04	48.98	3697.98	1.32
2004/05	90.09	5681.01	1.59
2005/06	115.93	7007.79	1.65
2006/07	133.42	9062.43	1.47
		Mean	1.51
		S.D.	0.11

Source: Annual Reports

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 1.51 of KBL. . This reflects the proportion of loan loss provision to loan and advance of KBL. Likewise the Standard deviation of KBL is 0.11, From this, it portray the ratio of KBL 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,

4.2.2.1 Collateral/ Security wise Lending of KBL

This analysis will help to identify the various types of securities on the basis of which loans have been provided by KBL. This also assists to analyze the credit risk of a bank. As more liquid the collateral, low credit risk to the bank. Here, security wise lending includes 12 types of securities, including without collateral lending.

Table No. 4.5

Ranking of KBL Collateral on the basis of amount of loan extended

(Rs. In million)

S. No.	Security against lending	2002/03	2003/04	2004/05	2005/06	2006/07	Average Lending Against Each Collateral	Rank
1	Movable/Non Movable Property	1440	3006	4266	5564	7463	4348	1
2	Guarantee against local bank and finance companies	199			137		67	4
3	Government Guarantee			42			8.4	9
4	Guarantee against internationally rated bank						-	
5	Against export Bill	31	65	83	102	122	80	3
6	Own bank's FDRs				21	22	9	8
7	Other bank's FDRs	24	32	51	64	85	51	5
8	Loan against Government Bills	56	134	1	0.59		38	6
9	Counter Guarantee						-	
10	Loan against Personal Guarantee			0.21	178		36	7
11	Others	387	461	1238	1099	1480	933	2
12	Without collateral							
	Total	2138	3698	5681	7165.59	9,172		

Source: Annual Reports

From the table 4.5., it is clear that over the five years the KBL has extended the credit mostly against the Movable/non Movable Property. The average lending against the movable/ non-movable property is 4,348million, which is the

highest among the lending against all securities. The bank has not granted any loan without collateral, which is the good sign of lending practice. The bank even does not have lending against the guarantee of internationally rated bank and counter guarantee. The bank has extended least credit against the personal guarantee, which is ranked 7th position on the basis of average amount of lending. The bank also has been granting loan against the more liquid and secured collateral such as Government bonds, own bank's Fixed Deposit Receipt (FDR) and other banks FDR, which is ranked 5, 8, and 6 respectively. Besides the above-mentioned collateral, the bank has also granted credit against the other collaterals, which is ranked 2nd position. The bank also granted the credit against the Guarantee of local institutions as well as against government guarantee, which ranks 3rd and 6th position respectively on the basis of average amount of loan extended against these securities. This means that the bank has been granting the loan against diversified collateral. However, the large portion of loan has been granted against the movable/non movable property.

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 4.6

Proportion of different category of risk weighted lending of KBL

Security	Risk Weighted (%)	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Risk Free Lending to Total Loan	0%	2.62	3.62	0.03	0.32	0.24	1.37
Moderate Level Risk Lending to Total Loan	20%	1.13	0.87	0.90	0.91	0.94	0.95
High Level Risk Lending to Total Loan	100%	96.25	95.51	99.07	98.77	98.82	97.68

Source: Annual Reports

Table 4.7 exhibits the percentage of different categories of risk lending of KBL for 5 years. The table further reveals that KBL has the highest lending on 100 % risk weighted lending i.e. on high-risk category lending. The bank has extended 2.62, 3.62, 0.03, 0.32 and 0.24% of total lending against the risk-free collateral (i.e. own banks FDRs and Government bonds) in fiscal year 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 respectively. Likewise the bank has extended 1.13, 0.87, 0.90, 0.91 and 0.94 percent of total loan against the moderate-level risk collateral in the fiscal year 2002/03, 2003/04, 2004/05, 2005/06 and 2006/07 respectively. In five years, the bank has made lower amount of high-level risk lending (i.e. 95.51 %) in fiscal year 2003/04. The average lending in 5 years on risk free, moderate level and high risk level lending is 1.37 %, 0.95% and 97.68 % respectively. It can also be said that KBL has been providing more loan against own & other banks FDRs and government bonds.

4.2.4. Credit Concentration on Single Sector

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:

Table 4.7

Credit Concentration on different Sector on fiscal year 2006/07

Sector	KBL (%)	Rank for KBL
Agriculture	2.77	10
Mining	3.65	9
Productions (Manufacturing)	20.37	1
Construction	11.87	4
Metal Productions, Machinery & Electric Tools & Fittings	1.72	12
Transport equipment, Production & Fitting	4.83	8
Transport, communication and public services	2.01	11
Whole Seller & Retailer	8.19	5
Finance Insurance & Fixed Assets	17.12	2
Service Industries	7.36	6
Consumer Loan	6.56	7
Local Government	-	13
Others	13.56	3
Total	**100.00**	

Sources: NRB, Banking &financial static's

Table 4.9 shows that KBL has extended more than 10 % of their total loan in 4 sector. Similarly, KBL have invested highest of 20.37% of total loan in production or manufacturing sector where the bank have extended least credit in Agriculture and Mining sector. Loan to local government is the neglected area in Kumari bank. It seems that KBL is highly concentrated with 20.37% of its loan in production sector and has very less portion of its loan on Transport, communication and public service loan sector. This indicates that KBL has higher concentration risk on production, Finance Insurance and fixed assets as the exposure on this sector is 20.37% and 17.12% of total loan respectively.

4.2.5. Sector-wise Loan to Core Capital

This is the ratio between loans extended by bank in a sector and core capital. Core capital includes share capital, retained earning, general reserve, capital adjustment fund, non-redeemable preferred stock etc. According to NRB directive no. 3 of Unified Directive 2005, the loan exposure on single sector more than 50 % of core capital needs to be verified at least quarterly as there exists the concentration risk. Similarly, single sector loan concentration more 100 % of core capital needs to be approved by the board of directors as it involves very high risk. The core capital of KBL is 1019.89 million respectively in fiscal year 2006/07.

Table 4.8

Sector-wise loan to Core Capital in fiscal year 2006/07

(Rs. In million)

S.N.	Sector	Loan-KBL	Sector-wise loan to Core Capital (%)
1	Agriculture	316.58	23.10
2	Mine	418.37	30.53
3	Manufacturing	2332.75	170.24
4	Construction	1359.06	99.18
5	Metal and Electric Products	196.84	14.37
6	Transport equipment	553.03	40.36
7	Transport, communication and public utilities	229.41	16.74
8	Whole Seller & Retailer	937.21	68.40
9	Finance Insurance & Real Estate	1960.526	143.08
10	Service Industries	591.52	4.32
11	Consumer Loan	750.52	54.77
12	Local Government	0	0
13	Others	1552.21	113.28
	Total	**6918.5**	

Source: NRB, Banking & Financial Statistics, Mid July 2006

Table 4.10 exhibits the percentage of loan on single sector to core capital of KBL in fiscal year 2006/07. Above table depicts that the ratio of KBL has concerned more in manufacturing, finance, insurance and real state and other sectors. Out of them, the sector wise loan to core capital ratio of KBL has crossed 100 % in 3 sectors.. KBL has highest ratio in manufacturing sector, Finance insurance and real state which is 170.24 % and 143.08% respectively. This ratio is higher than 100. There is wide range of differences in the ratio of different loan sectors of KBL.

4.2.6. Default Probability

The default probability is the probability that the borrowing client will default and will not repay the loan. Therefore, higher default probability shows the higher credit risk of the banks and vice-versa. Default probability can be calculated on the basis of the interest rate on loans.

Table 4.9

Calculation of Default Probability

	KBL (%)	**Remarks**
Average Interest Rate on Loan	9.4712	
Risk Free rate of return	3.25	T-bill rate 3.25% for 90-days & 3.95 for 364 days.
Repayment Probability	0.9432	= (1.0325/1.094712) & (1.0325/ 1.083077)
Default Probability	0.0568 i.e. 5.68%	

Source: "Annual Report, NRB" & "Banking & Financial Statistics, Mid-July 2007) (see Annex-8 and Annex-9 for details)

We have,

$P(1+K) = 1+ i$

Or,

$$P \quad X \quad \frac{(1 \ \Gamma \ i)}{(1 \ \Gamma \ K \ )}$$

Where,

K = Promised Interest on Loan/Average Interest on Loan

i = Risk Free Rate of return

P= Repayment Probability

The Default probability of KBL 5.68 %. This is due to the situation of adverse selection. In the loan market, the adverse selection is the situation that occurs as the interest rate rises and the honest borrowers decide not to borrow. The bank is left with an adverse pool of borrowers – those who know they are more likely to default. Thus due to the higher average interest rate of KBL, it has more default probability .Thus, we can say that there is a positive relation between interest and default probability.

4.2.7. Organizational Structure for Credit Risk Management

As the credit risk occupy the highest proportion of risk in banking sector, the bank should have a well-defined mechanism to analyze and manage the credit risk. For handling the credit function of bank, the bank has credit department headed by the Head-Credit manager. The final credit decisions are taken by the credit manager or Assistant General Manager, CEO or sometimes by Board of Directors depending upon their lending authority. If the bank has to extend credit to single borrowers above 25 % of fund based and 50 % of non fund based loan, the final credit decision must be taken by the Board of Directors. For the effective credit risk management, KBL has committees, which monitors the risk associated with the lending practice and develop strategies and plans to minimize the credit risk.

a. Kumari Bank Ltd (KBL)

Pokharel, B. (2007) states that Board of Directors of KBL 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 KBL 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 KBL to manage the credit risk.

4.2.8. 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 KBL 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 KBL,NRB, some of the most common problems are related to the broad areas of concentrations, credit processing, and market- and liquidity-sensitive credit exposures.

4.2.8.1 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.

4.2.8.2 Credit Process Issues

Many credit problems reveal basic weaknesses in the credit granting and monitoring processes. While shortcomings in underwriting and management of 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.

4.2.9. 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.

4.2.9.1. Core Capital to Total Risk Weighted Asset (RWA)

Core Capital to Total Risk Weighted Asset (RWA) ratio measures the proportion of funding of total Risk Weighted Asset from the core capital. Risk weighted asset refers to all the on balance sheet and off balance sheet asset which has been weighted by some portion of risk. The assets have been weighted on the basis of their risk level (e.g. 0 % for cash & investment on government bills to 100% on loans and advances). The total loans, advances and overdrafts covers more than 80% in average of the total risk weighted assets in case of KBL of the total risk weighted assets is covered by the total loans, advances and overdrafts. Core Capital, on the other hand, refers to the shareholders equity, which includes Share Capital, Retained Earning, General Reserve, Net profit & Non redeemable Preference Share). The higher ratio does a bank maintain, the better position a bank has and vice versa. Higher ratio also means more use of equity while financing the asset, which means lower use of debt (i.e. borrowings and deposit). As we know the lower the use of the debt, the less risk a bank has and vice versa; the higher ratio is always preferred.

Table 4.10

Core Capital to Total Risk Weighted Asset

(Rs in million)

Fiscal Year	Statutory Ratio (%)	KBL		
		Core Capital	Total RWA	Core Capital/ RWA (%)
2002/03	5.00	359.55	2,528.77	14.22
2003/04	5.50	529.68	4,449.41	11.90
2004/05	5.50	641.72	6,291.84	10.20
2005/06	5.50	858.52	7,625.05	11.26
2006/07	5.50	1019.89	9959.91	10.24
		Average		**11.56**
		S.D		**1.47**

Source: Annual Reports

Table 4.12 exhibits the ratio of core capital to total risk-weighted asset of KBL for 5 years. The bank has maintained the ratio more than that of statutory requirement prescribed by NRB. The bank has maintained higher ratio in earlier years which is also because of bank's lower risk weighted asset. The average core capital to RWA ratio of KBL is 11.56% . This indicates that KBL has employed higher capital to finance the risk-weighted asset. KBL has higher amount of cushion against the losses. . This ratio indicates that KBL can slightly increase its risk-weighted asset. The higher capital ratio does a bank maintain, the higher amount of asset can be increased by the bank and vice versa, which also means higher income and profit. The standard deviation of the ratio of Core Capital to RWA of KBL is 1.47%. These figures indicate that the actual ratio of KBL is slightly fluctuating from the average which shows inconsistency.

4.2.9.2. Supplementary Capital to Total Risk Weighted Asset

This ratio measures how much supplementary Capital a bank has to finance the total RWA. Supplementary Capital refers to the reserve maintained by the bank for specific purpose such as loan loss, foreign exchange loss etc. The higher ratio does a bank maintain, the higher will be the capital cushion for a bank to cover the risk and vice versa

Table 4.11

Supplementary Capital to Total Risk Weighted Asset

(Rs. In million)

Fiscal Year	KBL		
	Supplementary Capital	RWA	Supplementary Capital/RWA
2002/03	31.36	2,528.77	1.24
2003/04	40.47	4,449.41	0.91
2004/05	63.81	6,291.84	1.01
2005/06	82.46	7625.05	1.08
2006/07	95.31	9959.91	0.96

	Mean	**1.04**
	S.D	**0.16**

Source: Annual Reports

Table 4.13 exhibits Supplementary Capital to Total Risk Weighted Asset ratio of KBL for 5 years. The bank has very low percentage of supplementary capital to finance the total RWA. The average ratio of KBL for 5 years is 1.04 %. . The higher amount of supplementary capital indicates that KBL has maintained higher amount of reserve to combat the specific risk such as loan loss, asset revaluation loss and foreign exchange loss etc. KBL has maintained highest amount of supplementary capital in 2006/07 i.e 98.31, thus we can say that KBL has increasing the amount of reserve of supplementary capital to combat the specific risk such as loan loss, asset revaluation loss and foreign exchange loss.
The standard deviation of the ratio of KBL is 0.16%.This indicates that the ratio of KBL fluctuate , which depicts the less consistency in part of KBL.

4.2.9.3. Capital Fund to Total Risk Weighted Asset (RWA)

Capital fund to total RWA ratio measures how much RWA is financed from the Capital Fund. Capital Fund includes Core Capital plus Supplementary Capital. The higher the ratio does a bank have, the better is the bank's financial position and the bank will be in less risky position and can increase its asset, which ultimately will increase bank's overall profit.

Table 4.12

Capital Fund to Risk Weighted Asset

(Rs. In million)

Fiscal Year	**Statutory Ratio (%)**	**KBL**			
		Total Capital Fund	**RWA**	**Capital Fund/ RWA**	**Excess/ Shortfall**
2002/03	10	390.91	2529	15.46	5.46

2003/04	11	570.15	4449	12.81	1.81
2004/05	11	705.53	6292	11.21	0.21
2005/06	11	940.98	7625.05	12.34	1.34
2006/07	11	1115.21	9989.91	11.20	
		Mean		**12.61**	
		S.D		**1.56**	

Source: Annual Reports

Table 4.14 exhibits Total Capital fund to Risk Weighted Asset (RWA) of KBL for 5 years. The bank has capital adequacy ratio higher than the statutory requirement in all 5 years. The average ratio of KBL is 12.61%. This shows that KBL has higher Capital Adequacy Ratio than it need for provision, which signals that KBL is in good position. The ratio of KBL was in decreasing trend till 2004/05 but in the F/Y 2005/06 it has increased to 12.34%. As the bank started to grow the capital will be more utilized on the asset. . Similarly, the average standard deviations is 1.56.The standard deviation of the ratio of Total Capital fund to RWA of KBL is 1.56 which indicates that the ratios of KBL fluctuate .

4.2.10 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 KBL. The questionnaires have been filled by 10 employees of KBL. The responses of the questionnaire have been analyzed as below:

Proportion of credit risk: The 10 staffs of KBL have responded that the proportion of credit risk is more than 60 % of total banking risk. This means that in KBL, the credit risk has the highest proportion on total risk.. From this response, it is clear that in Kumari 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 4.13

Ranking of different characteristic while lending

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

Table 4.15 clearly shows that KBL 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 KBL has responded that KBL should lend 0-10% of total loan on single sector, where as 2 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 KBL and

Table 4.14

Ranking of Sector for lending

Sector	**KBL**
Agriculture	6
Mines and Minerals	5
Real Estate	3
Manufacturing	1
Consumer loans	4
Service Industry	2

Table 4.16 exhibits that KBL 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 KBL .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 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.

4.2.10.1. 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 4.15

Hypothesis test regarding the ranking of sector of lending

Bank	Agriculture	Mines and Minerals	Real Estate	Manufacturing	Consumer loans	Service Industry	Total
KBL	33	39	58	70	55	63	**318**

Source: Field study (See Annex 8 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

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

$$= \frac{318}{6} = 53$$

Test of Chi- Square:

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E)2/E
33	53	-20	7.55
39	53	-14	3.69
58	53	5	0.47
70	53	17	5.45
55	53	2	0.08
63	53	10	1.88
Total			**19.12**

Test Statistics:

ℜ- Calculated = $\frac{\phi fO\,ZEÅ}{E}$ = 19.12

Degree of Freedom:

Degree of freedom (d.f) = n-1

= 6-1

= 5

ℜ- Tabulated at 5 % level of significance for 5 d.f. is 11.07

Decision:- Since tabulated value of ℜ is greater than calculated value of ℜ (i.e. 19.12 > 11.07), Alternative hypothesis is accepted which means that there is significant difference between observed and expected ranking of lending on different sectors.

<u>Hypothesis- II</u>

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 4.16

The Ranking of Various Factors to be Considered, While Lending

Rank	Character	Collateral	Capital	Condition	Capacity	Total
KBL	63	58	46	48	55	**270**

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

Alternative Hypothesis (H_1): 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):

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

$$= \frac{270}{5} \qquad = 54$$

Test of Chi- Square:

Observed Frequencies (O)	Expected Frequencies (E)	(O-E)	(O-E)2/E
63	54	9	1.5
58	54	4	0.29
46	54	8	1.16
48	54	6	0.67
55	54	1	0.02
Total			**3.66**

Test Statistics:

¡ **2- Calculated** $= \phi \frac{(O-E)2}{E} = 3.66$

Degree of Freedom:

d.f. = n-1

= 5-1

d.f = 4

$\mathfrak{R}$- tabulated at 5 % level of significance for 4 d.f. is 9.49

Decision: - Since tabulated value of $\mathfrak{R}$ is greater than calculated value of $\mathfrak{R}$ (i.e. 9.49 > 3.66), 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 can not 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. However, the sector wise lending analysis portrays that KBL has growth rate 29.32 of loan in a different sector respectively in FY 2006/07. The single sector loan to core capital shows that the ratio crossed

100% in 2 sectors of KBL . In regard to concentration risk, KBL 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 KBL.

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. KBL has chosen others sector and real estate business in 2nd and 3rd position respectively.

Likewise, KBL 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.

From the analysis of lending against various collaterals, it has been found that the bank has lent highest amount of loan against the movable/ immovable property. The average lending over 5 years period of KBL against movable/ immovable property is increased Rs.7,463 million from 2005/06 to and 2,673 million in 2006/07 respectively. 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. The average lending against own bank's FDR is 9 million. On the contrary, KBL 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,

The average core capital to total risk weighted assets of KBL during the study period is 11.56%. Over this five years period, the proportion of core capital on total risk weighted assets of KBL was in increasing trend till now. In the FY 2005/06,it has940.98 million and now it become to 1115.21m in the FY 2006/07, where as the proportion of core capita on total risk weighted asset of KBL is more increasing. From this, it can be said that Kumari Bank has maintain a good statutory ratio.

And the average capital fund to risk weight assets is 12.6%.The average amount of average amount of total capital fund is also increasing .The core capital in F/Y 2005/06 is 858.52m and now in F/Y 2006/07 1019.89m. From this analysis we can say that the performance of Kumari bank is satisfactory.

Analysis of supplementary capital to risk weighted assets , the proportion of supplementary capital to risk weighted assets is 1.04. The supplementary capital of KBL in F/Y 2005/06 is 82.46m and now in F/Y 2006/07 is 95.31m.It shows that the supplementary capital of KBL has increasing trend.

Analysis of non- performing loans to total loans revealed that average NPL to Total loans and advances of KBL is 1.01 . This means that average performing loan of KBL is 98.99%. With higher amount of performing loan of KBL, the impact of it will be on the net profit of the bank. However, in recent years, KBL has managed to decrease the non-performing loan below 1 %, which is due to more stringent credit practices and recovery system.

Average ratio of Loan Loss Provision to Non-performing Loan of KBL was found to be 162.05 %.which depicts that the provision against the non-performing 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 KBL 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 2005/06 is 64.35 million and in F/Y 2006/07 is 66.12 million.

The average Loan loss Provision to total loan ratio of KBL is 1.51 % . The higher percent of LLP indicates that the bank has higher amount of non-performing loan. Because of the higher amount of non-performing loan of in total, the provisioning amount is in higher side. This figure indicates that KBL is in better credit position.

Analyzing the organizational structure for the credit risk management, it has been found that KBL has rigorous organization structure for credit risk management. In KBL, 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 KBL portrays that KBL 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 KBL 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 KBL has invest its more money in manufacturing sector which equivalent 2332.75 and it represent the 170.24 of core capital.

4.3.2 Banking Risk and Capital Adequacy Measures

Analysis of capital adequacy measures of the bank reveals following findings:

The average Core Capital to Total Risk Weighted Asset of KBL is 11.56% .The bank has higher percentage of core capital than the statutory requirement made by NRB. The average ratio indicates that KBL has higher proportion of Core Capital to finance the risk-weighted asset.

The average Capital Fund to Total Risk Weighted Asset of KBL is 12.61 %. The bank has higher capital adequacy ratio than NRB statutory requirement. The average ratio indicates that KBL has higher proportion of Capital Fund to finance the risk-weighted asset .In present condition the bank has increased its capital in greater proportion than the RWA.

In KBL, the portion of supplementary capital is very low. The average supplementary capital to total RWA is 1.04% in KBL. This ratio indicates that the bank has been fulfilling the Capital Adequacy Requirement more by core capital than supplementary capital.

4.3.3. Credit Risk Management Procedure

From the analysis of interview of key respondents of KBL 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, KBL 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 KBL, 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 KBL, 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 KBL 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, KBL has more defined and structured department in regard to managing credit risk. It has been found that the recent organization restructuring of KBL 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 22 commercial banks (till Mid July 2008), 1 bank has taken as sample using judgmental sampling method. KBL 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 Kumari bank have been analyzed to meet the objective of the study.

The major risk in KBL 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 KBL is 88.05 % . 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. non performing loan (NPL)) indicate that average NPL of KBL is 1.01.

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 KBL.

Similarly, credit concentration on single sector of KBL shows that the bank have very high amount of concentration in single sector. In production sector, KBL has 19.88%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 KBL is found more stringent & advanced. In KBL, 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 KBL, 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 KBL portrays that KBL 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 KBL 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 Kumari 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 22 (till Mid July 2008) 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 22 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 bank 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 KBL, 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 KBL 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 KBL

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

1. KBL has higher amount of loan and advances in total risk weighted assets. 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.
2. 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.

3. The bank has extended the highest amount of loan against the movable and non-movable property, which has 100 % risk weight. So the bank needs to diversify its lending against different securities.
4. NPL of KBL is increasing with the increase in loan and advances. So, KBL need to be more careful while taking credit decision.
5. KBL 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.

APPENDIX

Annex-1

Key Credit Performance Indicators of KBL

(Rs. in Million)

FY	Risk Weighted Assets (RWA)	Total Loans & Advances	Performing Loans	Non-performing Loans	Loan Loss Provision
2002/03	2,528.77	2137.59	2101.26	36.32	31.85
2003/04	4,449.40	3697.98	3669.79	28.19	48.98
2004/05	6,291.84	5681.01	5627.02	53.99	90.09
2005/06	7,625.05	7007.79	6943.43	64.35	115.93
2006/07	9959.91	9062.43	8996.31	66.12	133.42

Annex – 2

Net Profit of KBL

(Rs in million)

Fiscal Year	KBL
2001/02	1.34
2002/03	12.47
2003/04	48.69
2004/05	103.66
2005/06	170.26

Annex - 3

Calculation of Average Interest Rate on Loan

S.No.	Loan Type	Interest Rates	
		KBL	
1	Overdraft	10-12	11
2	Export Credit	9.5-10.5	10
3	Import L/C	8-11	9.5
4	Against FDR	+2	+2
5	Against HMG Bond	7.75-9	8.375
6	Against BG/CG	X	X
7	Against other guarantee	X	X
8	Industrial Loan	10-12	11
9	Commercial Loan	10.5-12	11.25
10	Priority Sector	10-12	11
11	Deprived Sector	6-7	6.5
12	Term Loan	11-12	11
13	Working Loan	10-12	11
14	Hire Purchase Loan	9-11	10
15	Others	8-13	10.5
Average		**9.4712**	

BG- Bank guarantee

CG – Corporate Guarantee

Source: "Banking & Financial Statistics, Mid-July 2007)

Annex-4

Ranking of KBL Collateral on the basis of amount of loan extended

(Rs. In million)

S. No.	Security against lending	2002/03	2003/04	2004/05	2005/06	2006/07	Average Lending Against Each Collateral	Rank
1	Movable/Non Movable Property	1440	3006	4266	5564	7463	4348	1
2	Guarantee against local bank and finance companies	199			137		67	4
3	Government Guarantee			42			8.4	9
4	Guarantee against internationally rated bank						-	
5	Against export Bill	31	65	83	102	122	80	3
6	Own bank's FDRs				21	22	9	8
7	Other bank's FDRs	24	32	51	64	85	51	5
8	Loan against Government Bills	56	134	1	0.59		38	6
9	Counter Guarantee						-	
10	Loan against Personal Guarantee			0.21	178		36	7
11	Others	387	461	1238	1099	1480	933	2
12	Without collateral							
	Total	2138	3698	5681	7165.59	9,172		

Source: Annual Reports

Annex-5

Credit Concentration on different Sector on fiscal year 2006/07

Sector	KBL (%)	Rank for KBL
Agriculture	2.77	10
Mining	3.65	9
Productions (Manufacturing)	20.37	1
Construction	11.87	4
Metal Productions, Machinery & Electric Tools & Fittings	1.72	12
Transport equipment, Production & Fitting	4.83	8
Transport, communication and public services	2.01	11
Whole Seller & Retailer	8.19	5
Finance Insurance & Fixed Assets	17.12	2
Service Industries	7.36	6
Consumer Loan	6.56	7
Local Government	-	13
Others	13.56	3
Total	**100.00**	

Sources: NRB, Banking &financial static's

Annex-6

Core Capital of KBL for last five years

(Rs. In million)

S. No.	Particulars	2002/03	2003/04	2004/05	2005/06	2006/07
1	Paid Up Capital	350	500	500	625	750
2	Share Premium					
3	Non-Redeemable Preference Share					
4	General Reserve Fund	2.76	12.50	30.08	50.81	84.86
5	Cumulative profit/Loss	(2.98)	6.78	17.18	20.21	35.03
6	Capital Redemption Reserve					
7	Net Profit after Provision, Tax & Bonus (Current Year)	9.76	10.39	(5.54)		
8	Capital Adjustment Fund			100	37.5	150
9	Other Free Reserve				125	
10	**Less:** Goodwill					-
	Investment in excess of prescribed limit					-
	Fictitious Assets					-
	Investment in securities of companies with financial interest					-
	Primary Capital	**359.55**	**529.68**	**641.72**	**858.52**	**1019.89**

Annex-7

Proportion of different category of risk weighted lending of KBL

Security	Risk Weighted (%)	2002/03	2003/04	2004/05	2005/06	2006/07	Average
Risk Free Lending to Total Loan	0%	2.62	3.62	0.03	0.32	0.24	1.37
Moderate Level Risk Lending to Total Loan	20%	1.13	0.87	0.90	0.91	0.94	0.95
High Level Risk Lending to Total Loan	100%	96.25	95.51	99.07	98.77	98.82	97.68

Source: Annual Reports

Annex-8

Calculation of Default Probability

	KBL (%)	**Remarks**
Average Interest Rate on Loan	9.4712	
Risk Free rate of return	3.25	T-bill rate 3.25% for 90-days & 3.95 for 364 days.
Repayment Probability	0.9432	= (1.0325/1.094712) & (1.0325/ 1.083077)
Default Probability	0.0568 i.e. 5.68%	

Source: "Annual Report, NRB" & "Banking & Financial Statistics, Mid-July 2007)

(see Annex-8 and Annex-9 for details)

We have,

P(1+K) = 1+ i

Or,

$$P \quad X \quad \frac{(1 \ \Gamma \ i)}{(1 \ \Gamma \ K \ )}$$

Where,

K = Promised Interest on Loan/Average Interest on Loan

i = Risk Free Rate of return

P= Repayment Probability

Annex- 9
Risk Weighted Asset of KBL

(Rs. In million)

S. No.	Particulars	2002/03		2003/04		2004/05		2005/06		2006/07	
		Asset	RWA	Asset	RWA	Asset	RWA	Asset	RWA	Assets	RWA
1	On Balance Sheet Asset	3018	2391	5543	4049	7528	5817	9,126	7,217	10993	9401
2	Off Balance Sheet Items	340	138	855	400	1140	475	881	408	925	558
	Total Assets	**3358**	**2529**	**6398**	**4449**	**8668**	**6292**	**10,007**	**7,625**	**11918**	**9959**

Annex-10
On Balance Sheet Risk Asset's Risk Weight

On-Balance Sheet Assets	Weight
Cash Balance	0%
Gold (tradable)	0%
Balance With Nepal Rastra Bank	0%
Investment in HMG Bonds	0%
Investment in NRB Bonds	0%
Fully Secured Loan against Banks Own Fixed Deposit Receipt	0%
Fully Secured Loan against Government Bond	0%
Interest Receivable NSB	0%
Balance With Local Banks and Financial Institutions	20%
Fully Secured Loan against Other Banks Fixed Deposit Receipt	20%
Balance With Foreign Banks	20%
Money at Call	20%
Loan against Guarantee of Internationally Rated Banks	20%
Other Investment in Internationally Rat0ed Banks	20%
Investment in Share, Debenture and Bond	100%
Other Investment	100%
Loan, Discount and Overdraft	100%
Fixed Assets	100%
All Other Assets (Excluding Tax Paid)	100%
AIR (Accrued Interest Receivable)	100%

Annex - 11

Off Balance Sheet Asset' risk weight

Off-Balance Sheet Assets	Weight
Bills Collection	0%
Forward Foreign Exchange Contract	100%
Letter of Credit with maturity less then 6 months	20%
Guarantee against counter guarantee of internationally rated foreign banks	20%
Letter of Credit with maturity more then 6 months	50%
Bid Bond/Performance bond & Underwriting	50%
Advance Payment Guarantee	100%
Financial Guarantee/Other Guarantee	100%
Irrevocable Loan Commitment	100%
Contingent Liability On Income Tax	100%
Acceptance and Other Contingent Liability	100%

Annex- 12

Total Capital Fund of KBL for last five years

(Rs. In million)

No.	Particulars	2002/03	2003/04	2004/05	2005/06	2006/07
1	Primary Capital	359.54	529.68	641.72	858.52	1019.89
2	Supplementary Capital	31.37	40.47	63.81	82.46	95.31
	Total Capital Fund	**390.91**	**570.15**	**705.53**	**940.98**	**1115.20**

Responses of Questionnaire

1. Do you agree that Banking is a High Risk Business?

The following responses have been made by the respondents of KBL.

	Agree	Strongly Agree	Disagree	Strongly Disagree
KBL	1	9	0	0
MBL	0	10	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	**KBL**
0-20 % (Low)	
20-40 % (Average)	
40-60 % (High)	**1**
Above 60 % (Highest)	**9**

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

Single Sector loan	**KBL**
0-10 %	**8**
10- 20 %	**2**
20- 30 %	
30-100%	

4. Does the bank have credit rating system?

Response	**KBL**
Yes	**10**
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 KBL Employees

Rank	**Character**	**Collateral**	**Capital**	**Condition**	**Capacity**	**Total**
1	1	3	7	6	2	**19**
2	4	4	4	4	6	**22**
3	6	5	6	6	7	**30**
4	9	8	3	4	5	**29**
(Rank X Frequency)	**63**	**58**	**45**	**48**	**55**	**269**

6. On the basis of priority of lending, please rate the following sectors (Rate 5 for the highest priority sector and 1 for least priority sector)

Ranking by KBL Employees

Rank	Agriculture	Mines and Minerals	Real Estate	Manufacturing	Consumer loans	Service Industry	Total
1	12	7	2	0	2	2	25
2	5	8	5	2	7	3	30
3	3	4	6	6	5	5	29
4	0	1	7	12	6	10	36
(Rank X Frequency)	31	39	58	70	55	63	316

7. To what extent, today's banking industry is affected by the problem of NPL?

Response	KBL
Not affected	
Nominally affected	
Moderately affected	**1**
Severely affected	**9**

8. How important do you think is the directives related to loan classification and provisioning for a commercial banks?

Response	KBL
Very Important	**10**
Not Important	

9. What will be the impact of new directives on provision for loan loss of commercial banks?

Response	KBL
Will increase provision for loan loss	**10**
Will decrease provision for loan loss	
Will have no impact	
Others	

10. How do you think the shareholders of the bank are going to be affected by present loan classification and provisioning directive?

Response	KBL
Will enjoy lesser dividend	**10**
Will have their EPS decreased	**10**
Will not be affected at all	
Others	

All the respondents agree that it will decrease the profit and so dividend in the short run and in the long run it will be beneficial for the shareholders as it will put the bank in more safe side.

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