

Risk Management at Central Bank of Nepal

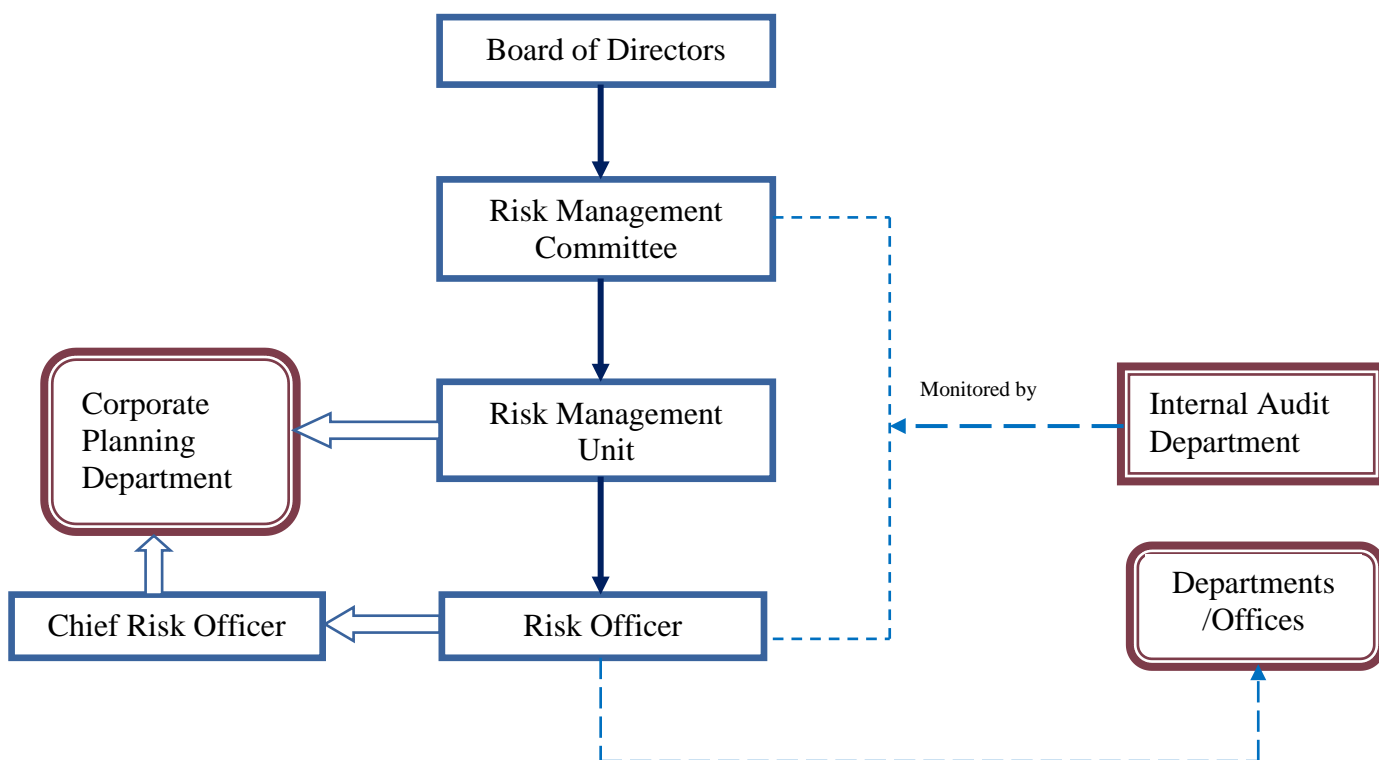
A. Introduction to Supervisory Risk Management Framework in Banks

- Nepal Rastra Bank(NRB) Act, 2058, section 35 (a) requires the NRB management is to design and implement sound risk management practices at the bank and ensure all possible risks are identified and monitored on a timely basis. It also requires Audit Committee to supervise the risk management practices in the bank.
- The Audit Committee of the bank is also responsible to review whether all the major risks, to which the bank is exposed, as assessed and identified by the management, have been reviewed and systems have been established to mitigate those risks. This requirement has put the bank management to place an effective organization wide risk management practices.
- Nepal Rastra Bank, therefore, has issued Risk Management Directive 2009, approved by the NRB Board, including the provisions of establishment of Risk Management Committee (RMC), its role, responsibilities and authorities are clearly stipulated in this Directive. Corporate Planning Department acts as the secretariat for the RMC. This Directive empowers the Committee to formulate necessary guidelines related to risk management and its work procedures.

B. Key Elements of Risk Management Framework

a. Governance and Organizational Structure

- The ultimate responsibility for the management of risk at central bank rests on the Board of Directors and their involvement in the key aspects of the risk management process is essential, particularly in setting the parameters of the process and in the review and consideration of the result.
- The board of directors is likely to delegate elements of the risk management to a committee but they are responsible for the key aspects and results.
- In practice, all the Department heads with the help of Risk Officer should be responsible for identifying and mitigating risks. They are also responsible to report to the Risk Management Unit on the progress of risk management exercise through the maintenance of risk register for their respective departments. Risk Management Unit is responsible for the regular follow up and maintenance of risk register of different departments.
- The Risk Management Structure at Nepal Rastra Bank is as follow :



b. Role and Responsibilities of Board and Senior Management

BOARD OF DIRECTORS

The ultimate responsibility for the management of risk at central bank rests on the board of directors. The board of directors is responsible for:

- the overall responsibility for the management of risk
- decision making related to the risk management of overall NRB
- approval the risk tolerance policy and residual risk
- receiving risk reports from the Risk Management Committee on a half yearly basis (annual update of risk situation, overview of residual risk and approved during the year)
- delegating risk management function to Risk Management Committee
- ensuring that the identification, assessment and mitigation of risk is linked to the achievement of the bank's operational objectives;
- ensuring the process covers all areas of risk (accounting to systems) are focused primarily on major risks;
- ensuring that the process seeks to produce a risk exposure profile that reflects the board of directors' views as to levels of acceptable risk;
- reviewing and considering the principal results of risk identification, evaluation and management;
- ensuring that the risk management is ongoing and embedded in management and operational procedures

RISK MANAGEMENT COMMITTEE

The Risk Management Committee confirms the Risk 'likelihood' and 'impact' and assigned risk-mitigating actions where appropriate. The Risk Management Committee is responsible for:

- receiving risk report on a quarterly basis from Risk Management Unit
- giving direction and supervision to Risk Management Unit
- identification, assessment and mitigation of their own risk
- maintenance and enhancement of risk management framework and the methodology, documentation and coordination
- leading the development and improvement of the integrated risk management policy framework, and obtains management approval
- providing risk management guidance and advice to other members of senior management
- regular review of all risks recorded in the Risk Register
- allocating risk mitigating actions
- closing risks which are no longer likely to impact
- communicating the actions taken to mitigate risk to Internal Audit Department

DEPARTMENT HEADS

Department Heads are responsible for the overall identification and mitigation of risk in their department. Department Heads are responsible for:

- identifying the risk related to their departments
- carrying out the risk management trainings to the staff for the mitigation of risk
- receiving risk register report from risk officer on quarterly basis to be sent to risk management unit
- carrying out special studies to find out the new way of mitigating risk
- providing suggestions regarding risk management of organization to the higher level management

CHIEF RISK OFFICER

Chief Risk Officer(CRO) is responsible for providing comprehensive and understandable information on risks, enabling the management to understand the bank's overall risk profile. He/she is responsible for:

- identifying, measuring, monitoring, controlling or mitigating, and reporting on risk exposures.
- reconciliation of the aggregate level of risk in the bank to the board-established risk tolerance/appetite.
- coordinating different departments for the effective management of risk at central bank

- reporting to the board of directors and risk management committee in the matter of risk management of the bank
- conducting the interaction between the board of directors and different departments regarding the risk management
- facilitating all parties involved in risk management exercise
- consolidating risk registers received from departments
- preparing risk reports to be sent to the Risk Management Committee, Board of Directors and in the annual report.
- identifying the risk that have not been identified by the departments

CORPORATE PLANNING DEPARTMENT

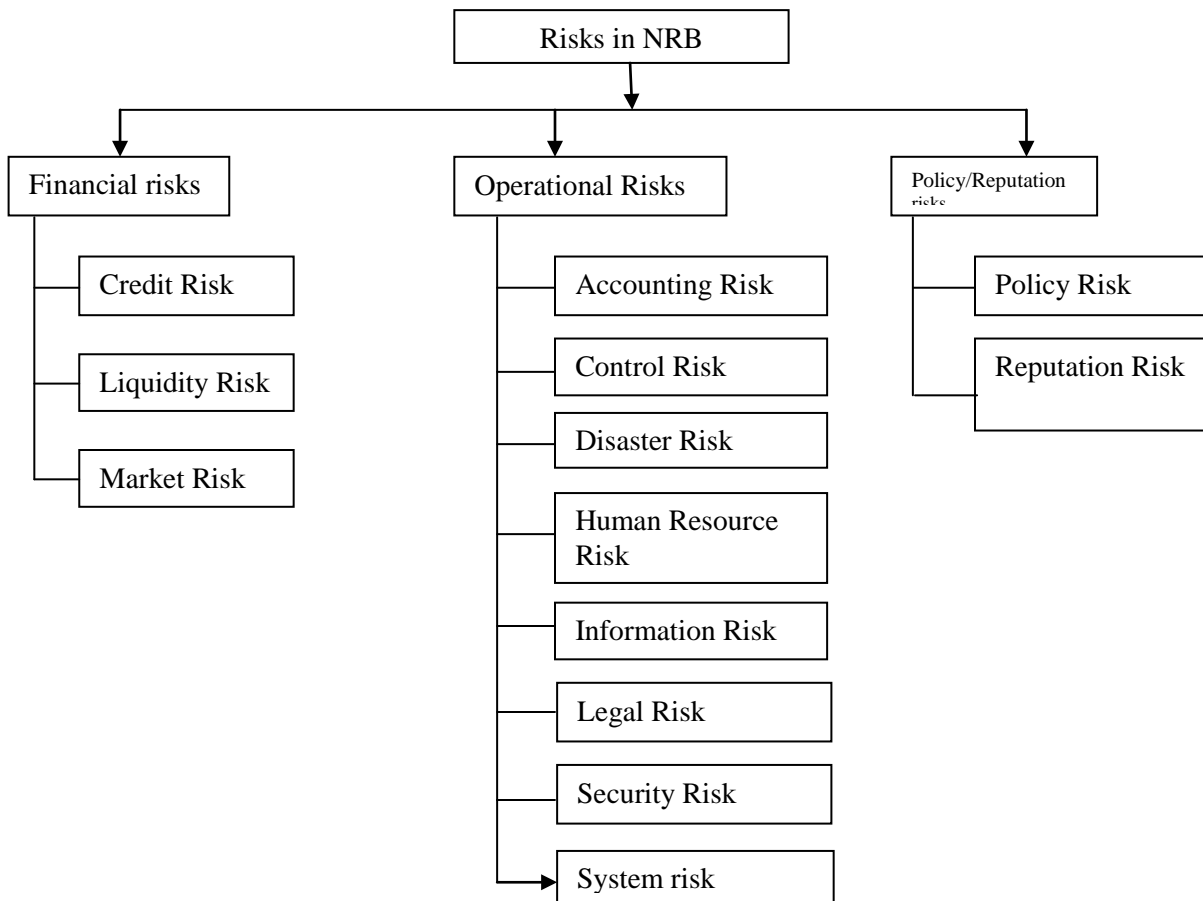
The Corporate Planning Department (CPD) consolidates all the departments' risk reports and prepares the Final Risk Reports. The risk report prepares by six month and present to the Risk Management Committee (RMC). Then, the report will be submitted to Governor for approval to put an agenda on Board of Directors meeting. Before to submitting report to governor Risk Management Committee makes the detail assessment of existing risks.

i. Clearly defined Risk Appetite and Strategy

- Risk appetite is the amount (or range) of risk, which is treated as acceptable and justifiable by the bank. It differs according to the environment within which the bank operates. It should be dealt with keen consideration while developing the policy of NRB. In setting a risk profile and risk tolerance level, NRB should examine all the risks compatible including those arising from off-balance sheet transactions.
- Bank should express risk appetite as a series of boundaries appropriately authorized by the bank's executive management. The employees at all levels should be informed of risk appetite through the clear guidance by management.
- Discussion should be regularly held at the executive level to define the risk appetite and communicate the same across the departments. Discussions should encompass political, economic, social, technological, legal, environmental and financial issues that impact on agencies and on the whole-of-Government.
- Risk tolerance can be defined as the acceptable variance from the bank's risk appetite boundaries. The bank should develop processes to determine acceptable limitations and whether or not they are negotiable. Both, the risk appetite and risk tolerance will generally are dynamic in nature. They will differ depending upon the particular challenge or opportunity at the time. They may change over time as new information and outcomes become available and also as stake holder's expectations evolve.

- The management body and senior management should be responsible for setting the bank's risk appetite and risk tolerance at a level, which is commensurate with its sound operation and the strategic goals of the bank.
 - Senior management should be responsible for risk management on a day-to-day basis because of the volatile nature of economy, risk measurement should be regularly reviewed and scrutinized against the NRB's strategic goals, risk appetite and risk tolerance.
- ii. **Well defined policies procedure and systems for identification/classification, acceptance, measurement, monitoring, reporting, control and review of various risk categories**

Classification of Risks in NRB



Financial risk associates with the financial transactions of NRB in terms of loans and investment. It can also occur due to change in market scenario such as change in interest rate, change in exchange rate, change in security price in market etc. It can be further segregated into three risk elements.

- Credit** risk arises from the potential that counterparty is either unwilling to perform its obligation or its ability to perform such obligation is impaired resulting in economic loss to the institution.

- b. **Liquidity** risk is the potential that an institution will be unable to meet its obligations as they become due. Liquidity risk can be further subdivided into two segments;
 - i. Funding Liquidity risk is an inability to liquidate assets or obtain adequate fund at the time of requirement.
 - ii. Market Liquidity risk is an inability of assets to be sold out without inducing a significant movement in the price and with minimum loss of value.
- c. **Market** risk represents the risk posed to a financial institution's condition resulting from adverse movements in market rates or prices, such as interest rates, foreign exchange rates, equity prices and commodity price. Even a slight variation in market variables bring about substantial variation in income and economic value of the bank. Market risk takes the form of:
 - 1. Interest Rate Risk
 - 2. Foreign Exchange Rate (Forex) Risk
 - 3. Commodity Price Risk and
 - 4. Equity Price Risk

Operational Risk:

Operation risk is the composite of all those events either internal or external to the bank that can impede its operation or the routine activities. Operational risk can emerge from the people, systems, and processes over which bank operates.

- a. **Accounting** risk arises due to incorrect entry on accounts or infrequent accounting information, which is used for internal decision-making or external reporting.
- b. **Control** risk stands for the probability of loss that would arise from the ineffectiveness of internal control system of the bank. An ineffective internal control system increases the likelihood of control risk.
- c. **Disaster** risk is cluster of all those external or environmental shocks that are beyond the bound of control of the bank such as natural disasters, terrorism and so on.
- d. **Human Resource risk** is connected with human resource of the bank. Such risk can be the outcome of either intentional or accidental behaviour of the employees. Inadequacy in knowledge and skill level, inappropriate placement, low level of employee morale, motivation and commitment etc. can be the inducer of such type of risk.
- e. **Information** risk is the risk that stemmed up when the availed information tends to be inaccurate or insufficient, loss of data, lack of suitable MIS, information security and confidentiality.
- f. **Legal** risk arises from the potential that unenforceable contracts, lawsuits, or adverse judgments can disrupt or otherwise negatively affect the operations or condition of a banking organization.
- g. **Security** risk is connected with the probability of breakdown of the overall security system of the bank. Losses of life, threat to intellectual property, damage of

physical assets and deterioration of the bank's reputation, are some of the incidents that characterize the security risk.

- h. **System** risk appears due to the failure in any one or the entire system of the bank. It can be emerged due to the failure or lack of integrity of IT system, inadequate IT systems, unauthorized access, data corruption, model/software/methodology failure, inadequate documentation of systems and processes etc.

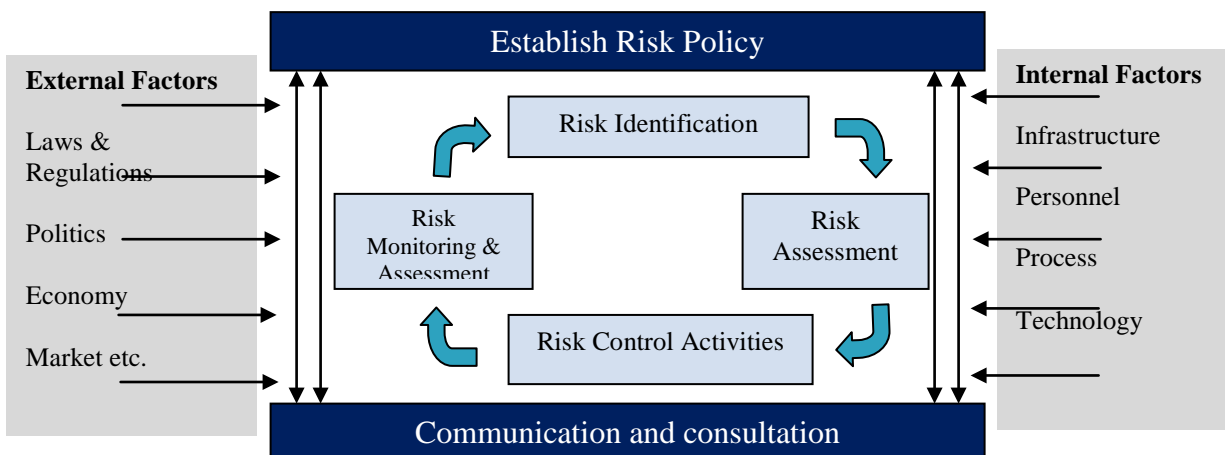
Policy and Reputation Risk

- a. **Policy** risk arises due to alteration in policies of the government, the bank and its counterparties. Policy risk become more apparent when there is frequent changes in different policies relating to investment, borrowing, foreign currency, gold stock, supervision bylaws, etc.
- b. **Reputation** risk is a possibility that the bank's goodwill would be degraded in terms of fulfilment of its responsibilities toward the public, employees, stakeholder and the entire economy. Reputation risk becomes more prone when the bank becomes unable to manage all the above mentioned risk proactively and systematically.

RISK MANAGEMENT PROCESS

- Risk Management Process is a method by which risks are formally identified, quantified and managed during the execution to ensure risks are avoided, transferred or mitigated. The process entails completing a number of actions to reduce the likelihood of occurrence and the severity of impact of each risk.
- The Risk Management in Nepal Rastra Bank includes the following steps:
 - a. Establish policy
 - b. Risk identification
 - c. Risk assessment
 - d. Risk response/control activities
 - e. Periodic monitoring and assessment
 - f. Communication and consultation

Risk Management Process in NRB



RISK IDENTIFICATION

- After establishing the policy and setting required environment, within which the bank operates, is the identification of individual risks. The comprehensive identification is crucial for the overall risk management process, because a risk that is not identified at this stage will not be included in further analysis.
- Senior management of the bank identifies and manages all relevant risk across all business lines at the portfolio and daily operation whatever the nature of the risk exposure (contractual or not, contingent or not on or off-balance sheet). The objective of risk identification stage is to produce a comprehensive list of risks and to assess them, narrowing the list down to the top risks facing the organization.
- Bank management uses different methods for the risk identification in their daily work. Either one or combination of two or more approaches can be used to develop a comprehensive list of risks. Concerned Risk Officer are responsible for the identification of risk which could arise in their departments through:
 - a. Bank documents, such as the strategic and operational plans, performance reports, budgets, and audit observations and recommendations
 - b. Internal processes and issues highlighted at Board meetings
 - c. Media reports and commentary

RISK ASSESSMENT

- Identified risks need to be put into perspective in terms of the potential severity of impact and likelihood of their occurrence. Assessing and categorizing risk assists in prioritizing and filtering the risks identified and establishing further action (if any) required and at what level. One method is to consider each identified risk and decide for each the likelihood of it occurring and the severity of the impact of its occurrence on the bank.
- Risk Officer of concerned department considers using a scoring system to assess which risks need further work. For example, severity of impact could be scored from 1(Negligible) to 5 (Disastrous) and similarly the likelihood of occurrence could be scored from 1 (remote) to 5 (certain). The impact score is usually multiplied by the score for likelihood and the product of the scores used to rank those risks that the responsible authorities regard as most serious. In this way, every identified risk of a department can be fit into the following risk matrix.

Risk Matrix used in NRB

<i>Likelihood</i>	5	L	M	M	H	H
	4	L	L	M	M	H
	3	L	L	M	M	M
	2	L	L	L	L	M
	1	L	L	L	L	L
		1	2	3	4	5
	<i>Consequences</i>					

Legends:

Likelihood

- 5 = Certain
- 4 = Likely
- 3 = Moderate
- 2 = Unlikely
- 1 = Remote

Consequences

- 5 = Disastrous
- 4 = Major
- 3 = Moderate
- 2 = Minor
- 1 = Negligible

Combined Score (Likelihood x Consequences)

- 17-25 = High
- 9-16 = Medium
- 1- 8 = Low

Table: Likelihood

Level	Descriptor	Definition	Indicative frequency
A	Almost certain	Is expected to occur in most circumstances.	80 – 99%
B	Likely	Will probably occur in most circumstances.	60 – 79%
C	Possible	Might occur at some time.	40 – 59%
D	Unlikely	Could occur at some time.	20 – 39%
E	Rare	May occur only in exceptional circumstances.	1 – 19%

RISK RESPONSE AND CONTROL ACTIVITIES

- After risk has been identified and analysed, bank management evaluates to determine which risks are to be treated and the priority for treatment implementation. This process is known as risk evaluation. The bank should consider:
 - a. External and internal environment the bank operates in (that is, the established bank context)- this will largely involve the overall strategic direction of the bank
 - b. Risk appetite of the bank, as established earlier in the risk management process- for example, where the bank is involved in speculative activities, high risk activities may not always require priority treatment
 - c. Risk appetite of parties other than the bank (that is, the stakeholders)- for example, some high risk activities may be more acceptable to the public than others
 - d. Any legal, regulatory or other requirements which may exist- for example, if the risk could result in legal action against the bank, this risk may be a high priority if the probability of occurrence is high, and
 - e. Cost/benefits of treating the risk.
- The highest priority should be given to those risks that are evaluated as being the least acceptable. High priority risks should be given regular attention, review and evaluation. Over time, specific risks and risk priorities will change, and a bank will need to review and evaluate its prioritization process.

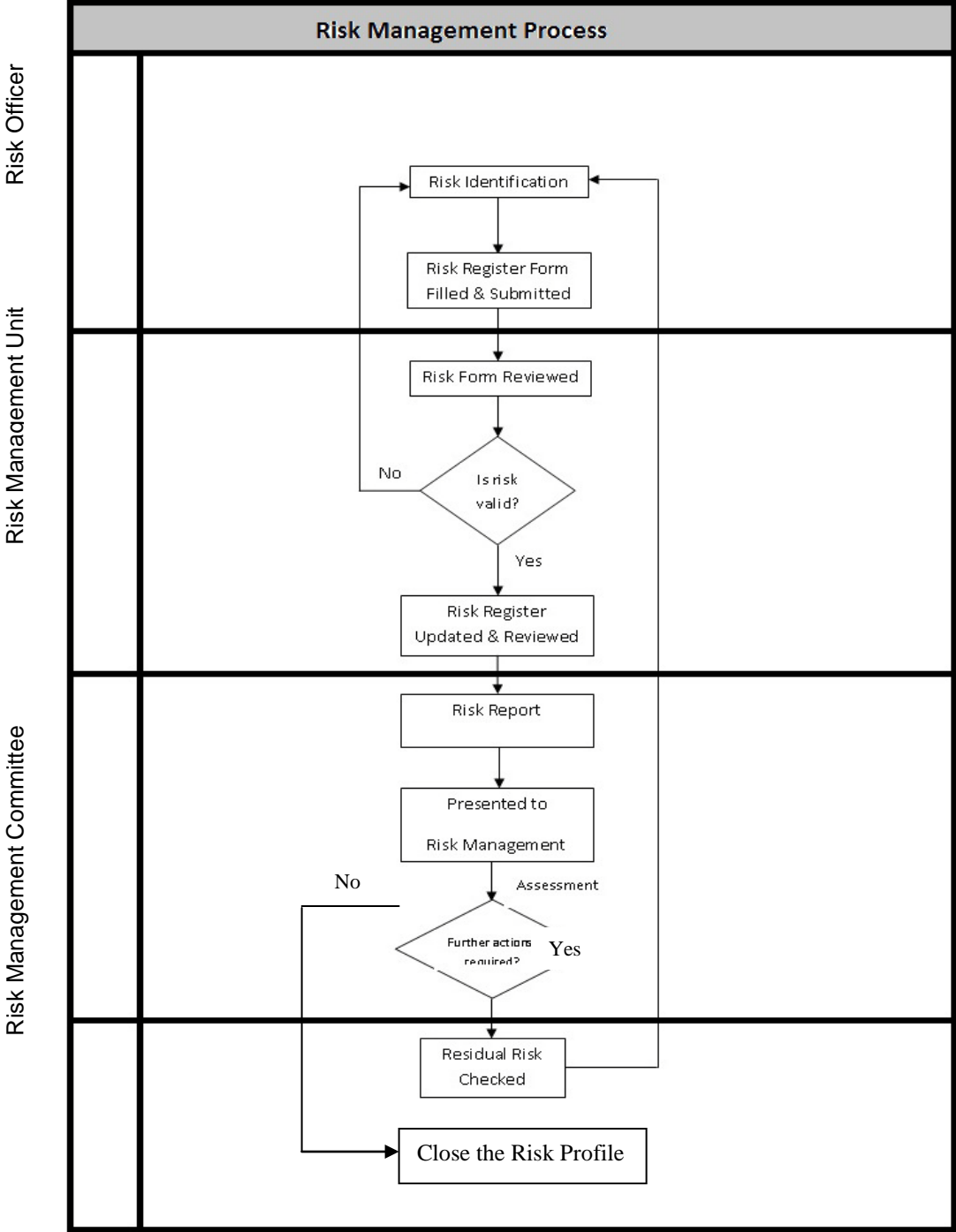
PERIODIC MONITORING AND ASSESSMENT

- The primary purpose of monitoring and assessment of risk by bank management determines whether risks still exist, whether new risks have arisen, whether the likelihood or impact of risks have changed, and to reassess the risk priorities within the internal and external context of the bank. It helps to get feedback with regard to assurance over the efficiency and effectiveness of controls implemented to treat risks. It enables the bank to analyse and learn lessons from event successes, failures and near misses.
- Risk management committee of the bank is responsible for monitoring and reporting which are clearly defined, and those results are documented and shared with all appropriate internal and external stakeholders. This includes sharing experiences and better practices internally and across government.
- Risk management unit of bank uses the results of monitoring and reviewing the risk management process as input to the review of the risk management framework. This enables continuous improvement of the risk

management process and framework, which will lead to improvements in the bank's management of risk and its organizational risk culture.

RISK REPORTING AND MIS SYSTEM

- The operational procedures of risk management in NRB considers the following steps.



- The above risk management process diagram shows the step-by-step approach for managing risk at NRB. It clearly shows the process involved along with the responsible authority for the action.
- As a first step, a Risk Officer at Department/Offices should be responsible for:
 - a. Identifies a risk as defined in the risk management guideline
 - b. If the Risk Officer considers the risk valid, then a formal risk is recorded in the Risk Register. The Risk Officer will assign the level of 'impact' and 'likelihood' based upon the risk's severity.
 - c. Risk Officer completes a Risk Form and submits the form to the Risk Management Unit after discussing in their department.
- Risk Management Unit reviews all risks submitted and determine whether or not each risk identified is applicable to the valid in the context of central bank operation. This decision will be primarily based upon whether or not the risk impacts on the activities and function of NRB.
- The Risk Management Committee then complete a formal review of each risk listed in the Risk Register and decide (based upon the risk 'impact' and 'likelihood') whether or not to:
 - a. Close the risk profile in the Risk Register if there are no outstanding risk actions and the risk is no longer likely to impact on the project
 - b. Send it to re-identification.
- After reviewing all the relevant risk by Risk Management Committee, then risk management unit prepares risk report based on the risk register. Then risk report will be discussed in Risk Management Committee. On the basis of risk report BoD will issue directives to mitigate risk.
- The Risk Management Unit then communicates the action taken to the concern departments.

c. Independent Risk Management & Internal Audit Functions

INTERNAL AUDIT DEPARTMENT

- It is an independent entity which is not directly involved in working process of the organization
- Carries out the effectiveness and appropriateness of the risk management framework adopted by the bank on annual basis
- Provides consultative ideas on risk management practices

d. Role and Responsibilities of individuals and Supervisors involved in the Risk Management Process

RISK OFFICERS

The Risk Officer identifies the risk and formally communicates the risk to the Risk Management Unit. The Risk Officer is responsible for:

- Responsible for identifying, assessing, mitigating and reporting risks as applicable to their concerned department
- Documenting the risk (by completing a Risk Form)
- Submitting the Risk Form to the Risk Management Unit for review
- Prepare risk register to be sent to Risk Management Unit on a quarterly basis
- Responsible for maintenance and enhancement of Risk Register

RISK MANAGEMENT UNIT

The Risk Management Unit receives each risk form and records and monitors the progress of all risks within the central bank. The Risk Management Unit is responsible for:

- Reports of the different departments are summarized
- Receiving all Risk Forms and identifying whether the risk is appropriate to the project
- Recording all risks in the Risk Register
- Presenting all risks to the Risk Management Committee
- Communicating all decisions made by the Risk Management Committee
- Monitoring the progress of all risk actions assigned
- Result of risk assessment are checked
- Performs whole risk management process

C. Contingency Planning & Stress Testing

- It is often said that Business Continuity Management is a subset of risk management where environmental factors or poor operational controls raise the potential for loss or damage to the system. Business continuity management or planning is the development, implementation and maintenance of policies, frameworks and programs to manage a business disruption, as well as build business resilience.
- Higher-level management of NRB considers about maintaining the uninterrupted availability of all key business resources required to support essential operations. Any organization's business strategies and decisions are based on an assumption of the business continuing. An event that violates this assumption is a significant occurrence, interrupting directly on its ability to fulfil its business objectives and the reputation of the bank and the government.
- Higher Level management of NRB develops the measures that seek to prevent business interruption events from occurring in the first place. It also encompasses establishing appropriate responses should such an event occur.
- To develop the business continuity planning, NRB shall use a six-step processes as follows:
 - Step 1: Document bank's activities and critical processes and systems and updating

Step 2: Undertake business impact analysis to assess probability and impact

Step 3: Develop Business Continuity Plan (BCP)

Step 4: Implement or update BCP

Step 5: Training to introduce into the day-to-day operations of the bank

Step 6: Regular testing

- NRB management develops a Risk Management Framework including business continuity planning as a priority for the operational risks that they face and critical functions and activities that they perform. The development of a BCP should also be an integral part of the day-to-day operations of the bank. The six-step process to develop, implement, test and maintain the BCP will provide the bank with the practical steps needed to ensure that this occurs.

E. Conclusion/Recommendations

Nepal Rastra Bank has been continuously trying to manage risk at the optimal level. However we are facing some challenges to maintain reputational risk. Reputational risk has arisen through the maintenance of price rise and financial system. This is global problem. Timely assessment of risk and time consistent policy is the best solution.

Thank you !

Example of Risk Register
Department

Risk Areas Identified	Likelihood of occurrence (score)	Severity of Impact (Score)	Overall or Gross Risk	Control Procedure	Retained or net risk	Monitoring Process	Responsibility	Further Actions Required	Date of Review
1. Accounting Risk: Wrong Posting	Likely (4)	Major (4)	Medium (16)	Installation of Accounting Software Mechanism of cross checking would be develop	Low	Effectiveness of new software will monitored Effectiveness of cross checking will evaluated	Director	No	Quarterly basis
2. Control Risk: Certificate may lost or theft	Moderate (3)	Major (4)	Medium (12)	Stored in a safe place, Register and key kept in Directors room	Low	Review of this procedure by ED	No	No	Quarterly Basis

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