ELDTRAINING

Risk Analysis and Risk Management

Opening

INTRODUCTIONS → OBJECTIVES

EXPECTATIONS → TRAINING PLAN

LOGISTICS → QUESTIONS
Introductions

About ELD

WELCOME
For 15 years, ELD has supported its development partners worldwide through practical training and consultancy. Our training services are available to development organizations and practitioners in Asia, Africa and Europe, and globally through Customized Training, Distance Training programs and
Objectives

- Improve the effectiveness of INF projects through:
  - Enhancing our ability to analyse Risk factors in Project Cycle Management
  - Learning a range of ways to manage Risk on specific projects
  - Documenting Risk analysis factors systematically within the project cycle
Expectations

- Impact / Effectiveness
- Activities / Methods
- Change in Skill
- Learning

Workshop Plan

- Introduction to Project Risk Management
- Managing and Measuring Risk
- Project Business and Risk Management
- Risk Roles and Responsibilities
- Identifying Risks and Opportunities
- Quantification and Analysis
- Project Planning and Risk Management
- Risk Identification and Analysis
Day One

- DAY 1: INTRODUCTION TO RISK ANALYSIS AND MANAGEMENT
  - INTRODUCTION TO RISK ANALYSIS AND MANAGEMENT
    - DEFINITION OF RISK
    - RISK CATEGORIES
    - INTERNAL AND EXTERNAL RISK FACTORS
    - CAUSE-AND-EFFECT RELATIONSHIPS
    - 'DO NO HARM' AND RISK MANAGEMENT
    - PROJECTS AND THE RISK MANAGEMENT PROCESS

Day Two

- DAY 2: RISK MANAGEMENT AND THE PROJECT CYCLE
  - INTRODUCTION TO PROJECT CYCLE MANAGEMENT
    - RISK, ISSUES AND ASSUMPTIONS IN PCM
    - ISSUES AND ASSUMPTIONS IN THE LOGICAL FRAMEWORK
    - STAKEHOLDER ANALYSIS AND RISK
  - PROJECT IMPLEMENTATION AND RISK ANALYSIS
    - IDENTIFYING PROJECT RISKS
    - DOCUMENTING RISK / ISSUES
    - COMMUNICATING RISK
    - SELECTING A RESPONSE TO RISK / ISSUES
  - PROJECT MONITORING AND EVALUATION AND RISK ANALYSIS
Day Three

- DAY 3: RISK / ISSUE ANALYSIS
- QUALITATIVE RISK ANALYSIS
  - THE RISK MATRIX
  - RISK REGISTERS / LOGS
  - ASSESSMENT / ANALYSIS OF RISK
- QUANTITATIVE RISK ANALYSIS
  - MARKING LEVEL OF RISK
  - ENTERING QUANTIFICATION INTO RISK LOGS
  - RISK PROBABILITY CURVES

Day Four

- DAY 4: RISK / ISSUE MANAGEMENT PLANNING
- IDENTIFYING ROLES AND RESPONSIBILITIES
- MONITORING RISK
- RESPONDING TO RISK
- COMMUNICATION AND ACCOUNTABILITY
- THEORY OF CHANGE AND RISK MANAGEMENT
- DEVELOPING A PROJECT RISK MANAGEMENT PLAN
Logistics

- Start time
- Sessions and activities
- Handouts and resource materials
- Note taking and questions
- Breaks
- Lunch
- Bathrooms
- Mobiles, Tablets and Phones (if useful for session)

Any Questions?
Introduction to Risk Analysis and Management

What is Risk?

- Impact of any uncertain, sudden and extreme event
- Any event or issue that could occur and adversely impact an organisation’s strategic objectives
- Operational objectives
- Achievement
- Can impact negatively / positively
- ‘A potential missed opportunity as well as a potential threat’ (UNESCO, 2010)
**Risk: Positive / Negative**

- Getting **worse** than ever
  - It hinders a plan going on
  - It requires extra cost
  - It jeopardizes keeping quality

- Getting **better** than ever
  - It makes a plan moving forward
  - It reduces a cost
  - It produces extra quality

**Risk or Issue?**

- **RISK**
  - The sign insight!
  - Going ahead
  - Can I see a sign?

- **EMERGENCY!**

- **ISSUE**
  - When you found it happened
  - then got it as the issue
**Risk or Issue?**

- **Risk**
  - Uncertain
  - Not happened yet
  - Will affect your plan
  - Preventative action should be planned

- **Issue**
  - Has already happened or is certain to happen
  - Needs to be solved
  - Is a problem the project team has to do something about

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**Risk or Issue? Group Discussion**

1. Difficulty in monitoring in programme districts during rainy season because of damaged roads
2. Delay in constitution-making process and restructuring process may affect activities
3. Delayed approval of project budget
4. Strong government but shifted political focus
5. Lack of capacity of staff on earthquake response
6. Increased possibility of landslide and collapse of buildings due to earthquake likely to hamper the field operation
7. Timely recruitment of staff
Mana Maya, 38, always crosses the river using the tuine to reach the nearest market. As a farmer, she has to go there regularly to sell her produce. There is no other option to cross the river because the nearest bridge is three hours’ walk from her village. Regarding her experience, she says, “we are used to using the tuine and now feel comfortable using it. But sometimes in rainy season, when we look down into the river while crossing we feel nervous.”

- Which risks do you notice in this picture and in this case?
- Do you think your identified risks might be similar to Mana Maya’s or the other villagers’?
- if your organization is going to work in this village, what risks would be identified during project design?
Risk Categories

- **Internal / Operational Risks**
- **External** Risks – political, natural
- **Relationship / Partnership** Risks - linked to the interface between one or more organizations (internal / external)
A Risk will always have a cause AND an effect.
### Cause-and-Effect Relationship

#### Sources / Causes of Risk
- **Internal Environment**
  - Capacity, Integrity
- **Organizational Interfaces**
  - Relationship, Partnership
- **External Environment**
  - Political Environment

#### Impact on Performance
- **Operational Performance**
  - Target Achievement
- **Reputation and Trust**
  - E.g. media attention
- **Individual Performance**
  - E.g. staff turnover
- **Financial Performance**
  - E.g. overspend or underspend

### ‘Do No Harm’
- Began in the early 1990s
- Assumes development assistance itself does not cause nor end conflict
- Asks the fundamental question ‘how can we provide assistance without exacerbating tensions or conflict?’
- Helps us understand the complexity of the conflict environments where we work
- It aims to assist to deal in the real complexities with less frustration
- Follows three steps of:
  - Gathering the facts
  - Analyzing the facts
  - Programming Alternatives
**‘Do No Harm’ Framework**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Understanding the Context of Conflict</td>
</tr>
<tr>
<td>2.</td>
<td>Analyzing Dividers and Tensions</td>
</tr>
<tr>
<td>4.</td>
<td>Analyzing the Assistance Program</td>
</tr>
<tr>
<td>5.</td>
<td>Analyzing the Assistance Program’s Impact on Dividers and Connectors</td>
</tr>
<tr>
<td>6.</td>
<td>Considering Program Options</td>
</tr>
<tr>
<td>7.</td>
<td>Test Program Options and Redesign</td>
</tr>
</tbody>
</table>

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**Important Points**

1. The word 'conflict' has regularly been used to describe negative, destructive inter-group relations. It has seldom been considered as positive, constructive debate or disagreement between groups for social change.
2. The word 'aid' has been used for all humanitarian welfare and development work carried out by international, national, local government and nongovernmental organizations.
3. Do No Harm is not a tool or approach for peace building. It does not expect that all agencies working in development should keep in mind the objective of peace building.
4. The only one mission of Do No Harm is to support organizations working towards their own objectives to achieve good performance.

(Care Nepal, 2005)
Risk Management is a systematic approach to managing risks throughout the whole organization by identifying, assessing, understanding, acting on and communicating risk issues.

(UNESCO, 2010)
Risk Management

- Risk and the associated cost to address risk varies over the project life cycle.
- In the initial phase there is a high chance of risk events, but low cost impact.
- In the final phase the likelihood of risk is low, but the cost impact is high.
- Identifying and managing risks will greatly affect project success.
Risk Management

Enhances:
- Good Governance
- Brand & Reputation
- Communication
- Reliability
- Decision-making
- Ability and Confidence

Reduced:
- Hasty, rash or poorly considered decisions
- Uncertainty
- Inconsistency
- Procrastination
- Adverse events or negative consequences
- Embarrassment or discredit

Outcomes:
- Increased stakeholder confidence
- Sensible handling of problems
- Improved accountability
- Better informed decisions
- Efficient allocation of resources
- Opportunities maximized

(The University of Adelaide, 2009)
**The Risk Management Cycle**

- **Risk Identification**: what / how things might happen that could affect the project
- **Risk Analysis**: prioritizing the identified risk & analysing its level of effects
- **Response Planning**: the process of developing strategic options and determining actions
- **Monitoring and Control**: to assess whether risk response actions are implemented, and new and changing risks are detected
How do we Identify Risks?

Possible Risks
1422. Alien Invasion
1423. City destroyed by angry Monkey God
1424. Building eaten by giant pig.

“Well he certainly does a very thorough risk analysis.”

How do we Analyse Risk Factors?

WHY DO YOU HAVE ONLY 40% OF AN UMBRELLA?

CHANCE OF RAIN IS ONLY 40%
How do we Analyse the Level of Risk?

I THINK IT’S TIME TO BRAINSTORM SOME CREATIVE PROJECT IDEAS!

LET’S HAVE OUR PROJECT TEAM MEETING!

How do we Respond?

“Let’s pretend they’re really sharp teeth, about to take a big bite our of our competition!”
Into Practice

What potential Risks and/or issues have been identified in your projects during the project design phase and/or implementation stage?

Day Review
Risk Management and the Project Cycle

Defining a Project

A project is about

- **Where are we?**
  - Analyze situation from a human rights perspective

- **Where do we want to be?**
  - Set Program Goals, Objectives, and Outcomes

- **How do we get there?**
  - Define programs, strategies, interventions, resources

- **How do we measure progress?**
  - Formulate Monitoring, Evaluation and Research plan
Project Cycle 1: Identification

- Problem Analysis
  - Stakeholder Consultations
  - Preliminary Feasibility Study
    - Identification of Funding
    - Consideration of Possible Approaches
    - Site Consultation
  - Possible Outputs
    - Concept Note / Paper
    - Proposal
    - Preliminary Feasibility Report
Project Cycle 2: Appraisal

- Appraisal (ex-ante)
  - Full feasibility study
  - Baseline study, needs assessment
- Possible outputs
  - Needs assessment report
  - Baseline data
  - Detailed set of indicators
  - Amended proposal
  - Logframe
  - Project plan, GANTT chart, etc.

Project Cycle 3: Negotiation / Approval

- Negotiation with finance provider
- Possible outputs
  - Project memorandum
  - Signed contract
**Project Cycle 4: Implementation / Monitoring**

- Team selection and activation
  - Person specification / job allocation
  - Interviews and selection
  - Terms of engagement
  - Lines of responsibility
  - Briefing
- Monitoring: systematic documentation of performance indicating whether project is performing as intended
  - Implementation of project management regime
  - Regular reports, meetings, workshops

**Project Cycle 5: Evaluation and Closure**

- Obtain sign-off from project participants
- Ex-post project evaluation
  - When possible assess full effects
  - External evaluator may be necessary / appropriate
  - Document lessons learned
  - Formulate recommendations for next phase
- Submission of completion report and evaluation
  - Donors may reserve right to demand concluding activities
The Logical Framework Approach (LFA)

- A management tool for designing, monitoring, and evaluating development projects
- Developed in 1969 for the U.S. Agency for International Development (USAID)
- From 1970 to 1971, 30 countries adopted the method
- Now widely used by multilateral donor organizations, such as AECID, GIZ, SIDA, NORAD, DFID, SDC, UNDP, EC and the Inter-American Development Bank
- Not to be confused with the Logical Framework (Logframe): the Logical Framework Approach is a project design methodology - the Logframe is a document

The Logframe

<table>
<thead>
<tr>
<th>NARRATIVE SUMMARY</th>
<th>INDICATORS</th>
<th>MEANS OF VERIFICATION</th>
<th>ASSUMPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOAL / IMPACT</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>PURPOSE / OUTCOME</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>OUTPUTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACTIVITIES</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

The Logical Framework takes the form of a four-by-four project table. The four rows describe four different types of events that take place as a project is implemented: Activities, Outputs, Outcome and Impact.
### The Logframe

<table>
<thead>
<tr>
<th>NARRATIVE SUMMARY</th>
<th>INDICATORS</th>
<th>MEANS OF VERIFICATION</th>
<th>ASSUMPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOAL / IMPACT</td>
<td>PROJECT RESULTS</td>
<td>PROJECT MONITORING AND EVALUATION</td>
<td>PROJECT CONTEXT</td>
</tr>
<tr>
<td>PURPOSE / OUTCOME</td>
<td>PROJECT OPERATIONS</td>
<td>PROJECT INPUTS</td>
<td></td>
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<td>OUTPUTS</td>
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<tr>
<td>ACTIVITIES</td>
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</tr>
</tbody>
</table>

### Vertical Logic: The Results Chain

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Objectively Verifiable Indicators</th>
<th>Means of Verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
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<td>Outcomes</td>
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<tr>
<td>Outputs</td>
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<td></td>
</tr>
<tr>
<td>Activities</td>
<td>Inputs</td>
<td>Preconditions</td>
<td></td>
</tr>
</tbody>
</table>

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Diagonal Logic

- Activities will lead to Outputs
- The Assumptions at the Outputs level must hold true for the Outputs to lead to achieving the Outcomes
- Assumptions at the Outcomes level must hold true for the Outcomes to lead to achieving the Goal
The Results Chain: Various Terms

- Goal / Impact
- Objective / Outcome / Purpose
- Outputs / Expected Results
- Activities / Interventions

Project Development Steps

- Understand the Context
- Problem Tree Analysis
- Identify the Stakeholders
- Formulate the Logframe
- Strategy Selection
- Objectives Tree
- Verify the Project Design
**Project Development Steps**

**Analysis Stage**
- Analyse the situation / problem
- Create a problem hierarchy (Problem Tree)
- Analyse the stakeholders – identify their stakes in the problem and modify the problem analysis if needed
- Create an objectives hierarchy (Objectives Tree)
- Analyse the strategy alternatives and select an approach or combination of approaches

**Planning Stage**
- Describe the project effects (Narrative Summary – Outcome and Impact)
- Describe the project operations (Narrative Summary – Outputs, Activities and Inputs)
- Describe the project context (Assumptions)
- Establish indicators and define Means of Verification (Project Monitoring and Evaluation)
- Verify the project design

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**RBM and the Project Cycle**

SET THE VISION

MANAGE AND APPLY LEARNING FROM EVALUATION

DEFINE THE RESULTS MAP AND THE RBM FRAMEWORK

PLAN FOR MONITORING AND EVALUATION

IMPLEMENT AND MONITOR

MONITORING

EVALUATION

PLANNING
In a project document of INF, how have the risks / issues been identified? (or) How are risks / issues identified in the project cycle in INF?

“Stakeholder management is a must in order to generate synergy and minimize conflict among key players.”
- Paul C. Dinsmore
**Stakeholder Analysis**

- People can just as easily grease a project’s wheels as stop it in its tracks.
- Stakeholder Analysis is about identifying all persons, groups and institutions who may have an interest in a project and taking steps to manage their interests and expectations so that the project runs as smoothly as possible.
- Stakeholder Analysis is the technique used to identify the key people who have to be won over.

**Stakeholder Analysis**

- The benefits of using a stakeholder-based approach are that:
  - You can use the opinions of the most powerful stakeholders to shape your projects at an early stage – their support matters and their inputs can help.
  - Support from powerful stakeholders helps your project to be successful.
  - By communicating with stakeholders early and frequently, you can ensure that they fully understand what you are doing and understand the benefits of your project – this means they can support you actively when necessary.
  - You can anticipate what people’s reaction to your project may be, and build into your plan the actions that will win people’s support.
**Stakeholder Analysis**

- A stakeholder is anyone who has or might have:
  - a political stake in the proposed project
  - an economic stake in the proposed project
  - an administrative role in the proposed project
- Or a person / group that:
  - May be harmed by the proposed project
  - May benefit from the proposed project
  - has taken a public stance on the proposed project

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**Stakeholder Analysis**

- Stakeholders are those who are influenced by or exert an influence on the project – those who will be influenced, positively or negatively, by the project. They include:
  - Rights holders (beneficiaries / end users)
  - Implementers and competitors
  - Decision makers / Government authorities
  - Donors/funders/collaborators
- Stakeholder analysis means mapping stakeholders and their respective roles, include gender, age, ethnic, regional and aspects of experience
1. Identify the stakeholders
2. Prioritise the stakeholders
3. Determine the needs of the stakeholders
4. Document the results in a stakeholder analysis plan
2: Prioritise the Stakeholders

- Keep Satisfied (High Power and Influence)
- Manage Closely (Low Power and Influence)
- Monitor (Low Power, High Interest)
- Keep Informed (High Power, Low Interest)

3: Determine their Needs

- What kind of interest do they have in the project outcome? Is it financial gain / loss? Is it emotional interest (e.g. attachment to tradition)? Is it positive or negative? What motivates them?
- What support do you need from them? What role will they play in the project?
- What do they need from you? What expectations do they have? What kind of information will they need?
- If the stakeholder’s attitude to the project is negative, what is their underlying fear? What actions can you take to address their fears or gain their support?
- If they are going to oppose the project, how will you deal with their opposition?
- Will dissatisfied stakeholders / opponents be able to influence or mobilise others? Do we also need to address these others as stakeholders before they join the opposition?
# 4: The Stakeholder Analysis Plan

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Level of interest/ level of influence</th>
<th>What support do we need from them?</th>
<th>What is the stakeholder’s role?</th>
<th>What are the stakeholder’s interests and concerns?</th>
<th>What is our strategy to gain support or minimise opposition?</th>
<th>How will we communicate with this group?</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

# The Risk Management Cycle

1. Identification
2. Analysis
3. Response Planning
4. Monitoring and Control
1. Risk Identification

- Identification of the sources of Risk, areas of impact, events and their causes and consequences

Some considerable questions for identification:

- What could happen?
- How could it happen?
- Where could it happen?
- Why might it happen?
- What might be the impact?
Risk Identification Process

- Risk Management Plan
- Activity Cost Estimates
- Activity Duration Estimates
- Scope Baseline
- Stakeholder Register
- Cost Management Plan
- Schedule Management Plan
- Quality Management Plan
- Project Documents
- Enterprise Environmental Factors
- Organizational Process Assets

**Tools & Techniques**
- Documentation Reviews
- Information Gathering Techniques
- Checklist Analysis
- Assumption Analysis
- Diagramming Techniques
- SWOT Analysis
- Expert Judgment

**Inputs**

**Outputs**

RISK REGISTER

Risk Register

- An output of the risk identification process
- A tool that project teams can use to address and document project risks throughout the project lifecycle
- Preparation of a risk register should be undertaken at the beginning of each phase of project
- It should be regularly updated
## Template for Risk Register

<table>
<thead>
<tr>
<th>Column</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>1. Active; 2. Retired (note: select one)</td>
</tr>
<tr>
<td>ID #</td>
<td>Enter a unique identifying number (ex: INF-2016-03)</td>
</tr>
<tr>
<td>Date Identified</td>
<td>10 March 2016</td>
</tr>
<tr>
<td>Risk Types (levels 1 and 2 only)</td>
<td>1. Threat; 2. Opportunity (note: select one)</td>
</tr>
<tr>
<td>Category</td>
<td>Ex: political, economical, natural disaster, environmental, external, organizational (note: select one)</td>
</tr>
<tr>
<td>Threat/opportunity Event (title)</td>
<td>Ex: Child Health Condition in School</td>
</tr>
<tr>
<td>Description</td>
<td>Ex: Lack of access to drinking water in school because of draught has been affecting the children's health. Till 30th April, 15 children (including 7 girls) were found water born diseases.</td>
</tr>
<tr>
<td>Current status/Assumption</td>
<td>Ex: The local health post is providing some useful medicine; and the district water supply office is exploring the water resources.</td>
</tr>
<tr>
<td>Risk Owner</td>
<td>The water and Sanitation Management Unit, INF</td>
</tr>
<tr>
<td>Last updated</td>
<td>13th May 2016</td>
</tr>
</tbody>
</table>

Note: You can use this template in word or Excel File.

## Into Practice

Prepare at least one risk register of an identified risk of a project in which you are currently involved.
Day Review

Risk / Issue Analysis
2. Risk Analysis

"We’ve considered every potential risk except the risks of avoiding all risks."
Risk Analysis: Basic Concepts

**Risk Analysis:** Developing a detailed understanding of risks

- Identify the causes, contributing factors and actual or potential consequences
- Identify existing or current controls
- Assess the likelihood & impact / consequences to determine the risk rating

Risk Analysis: Process

- **Identify the Existing Controls**
  - Controls may include legislation, policies or procedures, staff training, segregation of duties, personal protective measures and equipment, and structural or physical barriers
- **Assess the Likelihood**
  - ....described as rare, unlikely, possible, likely, or almost certain to occur
- **Assess the Consequence**
  - insignificant, minor, moderate, major or extreme
- **Rate the Level of Risk**
  - High, medium, low
**Qualitative Risk Analysis**

*Qualitative Risk Analysis* assesses the impact and likelihood of the identified risks and develops prioritized lists of these risks for further analysis or direct mitigation. Such process applies the qualitative technique of analysis.

**Process:**
- Rating the identified risks (i.e. very high, high, medium, low, very low...)
- Review the risk information,
- Evaluate the likelihood of risks
- Evaluate the consequences
- Prioritization of the risks

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**Probability and Impact Ratings**

![Probability and Impact Ratings Table]

[Table showing probability and impact ratings with different colors indicating levels from very low to very high]
The combination of the probability rating of the risk occurring and the impact rating positions the risk into one of the three colored zones in the risk matrix.

- The color of the zone indicates the priority of the risk for risk response:
  - Red zone signifies high importance, yellow is medium importance, and green is low importance.

For example, a risk having a moderate probability and a high impact falls into the red zone. Its impact score is $3 \times 8 = 24$. 

<table>
<thead>
<tr>
<th>Probability Rating</th>
<th>Very Low</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 = Very High</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>4 = High</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3 = Moderate</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 = Low</td>
<td></td>
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<td></td>
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<tr>
<td>1 = Very Low</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>
### Define Probability & Impact Scale

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Health and Safety</th>
<th>Probability Scale</th>
<th>Likelihood of Occurrence (events/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme</td>
<td>Fatality or multiple fatalities expected</td>
<td>Not Likely (NL) &lt;0.01% chance of occurrence</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>Severe injury or disability likely; or some potential for fatality</td>
<td>Low (L) 0.01 - 0.1% chance of occurrence</td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>Lost time or injury likely; or some potential for serious injuries; or small risk of fatality</td>
<td>Moderate (M) 0.1 - 1% chance of occurrence</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>First aid required; or small risk of serious injury</td>
<td>High (H) 1 - 10% chance of occurrence</td>
<td></td>
</tr>
<tr>
<td>Negligible</td>
<td>No concern</td>
<td>Expected (E) &gt;10% chance of occurrence</td>
<td></td>
</tr>
</tbody>
</table>

*Percentage may be adjusted as programme teams deem appropriate.

### Qualitative Terms as Numbers

<table>
<thead>
<tr>
<th>Probability (likelihood)</th>
<th>Synonyms</th>
<th>Approximate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>very high</td>
<td>almost certain</td>
<td>≤0.01%</td>
</tr>
<tr>
<td>high</td>
<td>likely</td>
<td>0.01 - 0.1%</td>
</tr>
<tr>
<td>medium</td>
<td>possible</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>low</td>
<td>unlikely</td>
<td>1 - 10%</td>
</tr>
<tr>
<td>very low</td>
<td>rare</td>
<td>&gt;10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact (consequence)</th>
<th>Synonyms</th>
<th>Approximate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>very high</td>
<td>very critical</td>
<td>≤10%</td>
</tr>
<tr>
<td>high</td>
<td>critical</td>
<td>8%</td>
</tr>
<tr>
<td>medium</td>
<td>moderate</td>
<td>4%</td>
</tr>
<tr>
<td>low</td>
<td>mild</td>
<td>2%</td>
</tr>
<tr>
<td>very low</td>
<td>very mild</td>
<td>≤1%</td>
</tr>
</tbody>
</table>

[1] Percentages may be adjusted as project teams deem appropriate.
Performing Qualitative Risk Analysis

**Tools & Techniques**
- Risk probability and impact statement
- Probability and impact matrix
- Risk data quality assessment
- Risk categorization
- Risk urgency assessment
- Expert Judgement

**Inputs**
- Risk Register
- Risk Management Plan
- Project Scope Statement
- Organizational Process Assets

**Outputs**
- Risk Register Updates

---

Update the Risk Register

<table>
<thead>
<tr>
<th>Column</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>1. Active; 2. Retired (note: select one)</td>
</tr>
<tr>
<td>ID #</td>
<td>Enter a unique identifying number (ex: INF-2016-03)</td>
</tr>
<tr>
<td>Date Identified</td>
<td>10 March 2016</td>
</tr>
<tr>
<td>Risk Types</td>
<td>1. Threat; 2. Opportunity (note: select one)</td>
</tr>
<tr>
<td>Category</td>
<td>Ex: political, economical, natural disaster, environmental, external, organizational (note: select one)</td>
</tr>
<tr>
<td>Likelihood (Consequence)</td>
<td>level 4</td>
</tr>
<tr>
<td>Impact level</td>
<td>3</td>
</tr>
<tr>
<td>Risk Level (LxI)</td>
<td>12</td>
</tr>
<tr>
<td>Threat/opportunity Event (title)</td>
<td>Ex: Child Health Condition in School</td>
</tr>
<tr>
<td>Description</td>
<td>Ex: Lack of access to drinking water in school because of drought has been affecting the children’s health. Till 31st April, 15 children (including 7 girls) were found water born diseases.</td>
</tr>
<tr>
<td>Current status/Assumption</td>
<td>Ex: The local health post is providing some useful medicine; and the district water supply office is exploring the water resources.</td>
</tr>
<tr>
<td>Risk Owner</td>
<td>Ex: The water and Sanitation Management Unit, INF</td>
</tr>
<tr>
<td>Last updated</td>
<td>13th May 2016</td>
</tr>
</tbody>
</table>
Why Qualitative Risk Analysis?

- Easier to understand and observe the level of risk
- Methods of calculation are simple to understand and implement
- Not necessary to quantify frequency occurrence of the threats
- Not necessary to determine the financial value of the assets
- Monetary value of information is not determined, which makes the analysis process easier
- Quantitative calculation of frequency and impact are not necessary
- Estimated cost of the measure that should be implemented are not calculated
- The most important areas of risk are evaluated

Limitations of Qualitative Risk Analysis

- The evaluation of risk and its result are subjective
- A cost benefit analysis is not implemented
- Insufficient differentiation between major risks
- Results depend on the quality of the risk management team
**Quantitative Risk Analysis**

- **Quantitative Risk Analysis** numerically estimates the probability that a project will meet its **cost and time** objectives.
- It is based on a simultaneous evaluation of the impacts of all identified and quantified risks.
- It is a **probability distribution** of the project’s cost and completion date based on the identified risks in the project.

---

**Monte Carlo Analysis**

- **Monte Carlo analysis** simulates a model’s outcome many times to provide a statistical distribution of the calculated results.
- To use a **Monte Carlo simulation**, you must have three estimates (most likely, pessimistic, and optimistic) plus an estimate of the likelihood of the estimate being between the most likely and optimistic values.
Sample of Monte Carlo Simulation Results for Project Schedule

Date: 1/14  11:13:56 AM
Number of Samples: 250
Unique ID: 1
Name: Widget

Completion Std Deviation: 5.2d
95% Confidence Interval: 0.6d
Each bar represents 2d

Completion Probability Table

<table>
<thead>
<tr>
<th>Prob</th>
<th>Date</th>
<th>Prob</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>2/4</td>
<td>0.55</td>
<td>2/17</td>
</tr>
<tr>
<td>0.10</td>
<td>2/8</td>
<td>0.60</td>
<td>2/18</td>
</tr>
<tr>
<td>0.15</td>
<td>2/9</td>
<td>0.65</td>
<td>2/19</td>
</tr>
<tr>
<td>0.20</td>
<td>2/10</td>
<td>0.70</td>
<td>2/22</td>
</tr>
<tr>
<td>0.25</td>
<td>2/11</td>
<td>0.75</td>
<td>2/22</td>
</tr>
<tr>
<td>0.30</td>
<td>2/12</td>
<td>0.80</td>
<td>2/23</td>
</tr>
<tr>
<td>0.35</td>
<td>2/15</td>
<td>0.85</td>
<td>2/24</td>
</tr>
<tr>
<td>0.40</td>
<td>2/15</td>
<td>0.90</td>
<td>2/25</td>
</tr>
<tr>
<td>0.45</td>
<td>2/16</td>
<td>0.95</td>
<td>2/26</td>
</tr>
<tr>
<td>0.50</td>
<td>2/17</td>
<td>1.00</td>
<td>3/10</td>
</tr>
</tbody>
</table>

Risk Utility Function and Risk Preference

<table>
<thead>
<tr>
<th>Risk-Averse</th>
<th>Risk-Neutral</th>
<th>Risk-Seeking</th>
</tr>
</thead>
<tbody>
<tr>
<td>utility</td>
<td>utility</td>
<td>utility</td>
</tr>
<tr>
<td>potential payoff</td>
<td>potential payoff</td>
<td>potential payoff</td>
</tr>
</tbody>
</table>
## Conducting Quantitative Risk Analysis

**Tools & Techniques**

- Data gathering and representation techniques
- Quantitative risk analysis and modeling
- Expert judgment

**Inputs**

**Outputs**

- Risk Register Updates

### Why Quantitative Risk Analysis?

- Risks are sorted by their financial impact, assets by their financial value
- The evaluation and the results are based on objective methods
- Security level is better determined based on the three elements: availability, integrity and confidentiality
- A cost-analysis can be implemented for choosing the best suited measures
- Data accuracy improves as the organization gains experience
Limitations of Quantitative Risk Analysis

- The methods of calculation are complex
- Without an automatic tool the process can be really difficult to implement
- There are no standards and universally accepted information for implementing this method
- The values of risk impacts are based on subjective opinions of people involved
- The process can take a long time
- The results are presented only in monetary values and are hard to understand by persons without experience
- The process is very complex

Into Practice

- Group meeting for analyzing the identified risks
- Analysis of the identified risks (using qualitative analysis)
- Update the risk register
Day Review

Risk / Issue Management Planning
The Risk Management Cycle

1. Identification
2. Analysis
3. Response Planning
4. Monitoring and Control

3. Risk Response Planning

**The George W. Bush Tradition of Disaster Response continues...**

**It's a postcard from Europe...**
## Risk Response Strategies

<table>
<thead>
<tr>
<th>FOR THREATS</th>
<th>FOR OPPORTUNITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Avoid</strong>: avoid by removing the causes</td>
<td><strong>Exploit</strong>: The aim is to ensure that the opportunity is realized.</td>
</tr>
<tr>
<td><strong>Transfer</strong>: to another party who is willing to take the responsibility</td>
<td><strong>Share</strong>: Allocate risk ownership of an opportunity to another party</td>
</tr>
<tr>
<td><strong>Mitigate</strong>: early action to reduce the probability and/or impact of a risk</td>
<td><strong>Enhance</strong>: The opportunity is enhanced by increasing its probability and/or impact, thereby maximizing benefits realized for the project.</td>
</tr>
<tr>
<td><strong>Acceptance</strong>: This strategy is adopted when it is not possible or practical to respond to the risk by any other means</td>
<td></td>
</tr>
</tbody>
</table>

## The 4 Ts

- **Tolerate**: accept the risk by keeping activities unchanged. This option may be applied when exposure is tolerable, control is impossible or cost of control exceeds potential benefit.
- **Treat**: adjust (add or revise) relevant activities
- **Transfer**: share the risk by involving stakeholders
- **Terminate**: avoid or cancel the activities that give rise to the risk

(UNESCO, 2010)
**Risk Response Process**

1. **Is a specific treatment necessary?**
2. **What kind of treatment is desirable?**
3. **Identify and design a preferred treatment option.**
4. **Implement agreed treatments.**
5. **Document the risk treatment plan.**
6. **Evaluate treatment options.**

Once the risk has been treated, assess the level of residual risk.

---

**Acting on Risks**

- **ORANGE**
  - Contingency Planning for Threats
  - Consider more Resources
- **RED**
  - Immediate Action
  - More Resources
  - Additional Controls
- **GREEN**
  - Business as Usual
  - Release Resources
  - Consider Releasing Controls
- **YELLOW**
  - Monitor
  - Existing Resources usually Enough
High impacts demand attention
If risk has high impact and high probability, it needs a response
High impact risks with low probability deserve attention – these are the kind of things that we hear about in the news: no-one really thought it would happen but the impact is severe
"All I’m saying is now is the time to develop the technology to deflect an asteroid."

Taking Action

- Medium-high risk
- High risk
- Risk informed decisions and plans
- Expected outcomes & results
- Low risk
- Medium-low risk

Arrows indicate the flow from actions and activities to expected outcomes.
### Update Risk Responses into Risk Resister (some examples)

<table>
<thead>
<tr>
<th>Description</th>
<th>Types</th>
<th>Proposed response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elections in donor country might delay or cancel funding</td>
<td>financial</td>
<td>Treat – Acceptance: Identify other possible sources of funding, fundraising possibilities, potential funding partners (contingency planning).</td>
</tr>
<tr>
<td>Hazardous materials encountered during construction will require an on-site storage area and potential additional costs to dispose.</td>
<td>Construction</td>
<td>Treat – Acceptance: Ensure storage space will be available.</td>
</tr>
<tr>
<td>Potential lawsuits may challenge the environmental report, delaying the start of construction or threatening loss of funding</td>
<td>Environmental</td>
<td>Treat – Mitigate: Address concerns of stakeholders and public during environmental process. Schedule additional public outreach.</td>
</tr>
<tr>
<td>Fatigue and burn out of individual staff members might lead to failure in timely delivery</td>
<td>Operation/ Human Resource</td>
<td>Treat - Mitigate: identify the potential regular staffs of organization</td>
</tr>
<tr>
<td>A design change that is outside of the parameters contemplated in the Environmental Document triggers a supplemental EIR which causes a delay due to the public comment period.</td>
<td>Building design</td>
<td>Treat-Avoid: Monitor design changes against ED to avoid reassessment of ED unless the opportunity outweighs the threat.</td>
</tr>
</tbody>
</table>

### Risk Response Planning

**Tools & Techniques**

- Strategies for negative risks or threats
- Strategies for positive risks or opportunities
- Contingent response strategy
- Expert Judgment

**Inputs**
- Risk Register
- Risk Management Plan

**Outputs**
- Risk Register Updates
- Risk-related Contract Decisions
- Project Management Plan Updates
The Risk Management Cycle

1. Identification
2. Analysis
3. Response Planning
4. Monitoring and Control

4. Monitoring and Control

"I'm no expert, but I think it's some kind of cyber attack!"
**Monitoring the Risk Response**

- Monitor changes to the source and context of risks, the tolerance for certain risks and the adequacy of controls
- Ensure processes are in place to review and report on risks regularly
- Keep track of the identified risks, residual risks, and new risks

**Control the Risk Response**

- Choosing alternative response strategies
- Implementing a contingency plan
- Taking corrective actions
- Re-planning the project, as applicable
**Monitoring the Risk Response**

- **Step 1:** Planning the Process
- **Step 2:** Gathering Data
- **Step 3:** Analyzing Data
- **Step 4:** Sharing the Information and Defining Actions to Be Taken

**Monitoring Procedures**

- **Continuous Monitoring** of the response action(s)
- Periodic Monitoring
- Periodical Review (internal/external)
- Project Audit (internal/external)

*Note: The Risk Monitoring process can be integrated into regular project monitoring*
Data Collection methods

- Interview
- Joint field visit
- Key informant Interview
- Focus Group Discussion
- Information collection by program staff on their specific area (e.g. PLC, Cooperatives, Infrastructure, etc.)
- Staff field visit reports
- Case Studies
- Spot check visit
- SWOT Analysis
- Observation

Monitoring and Controlling Risks

**Inputs**
- Risk Register
- Project Management Plan
- Work Performance Information
- Performance Reports

**Tools & Techniques**
- Risk reassessment
- Risk audits
- Variance and trend analysis
- Technical performance measurement
- Reserve analysis
- Status meetings

**Outputs**
- Risk Register Updates
- Organizational Process Assets
- Change Requests
- Project Management Plan Updates
Update the Status in the Risk Register

<table>
<thead>
<tr>
<th>Response</th>
<th>Review dates</th>
<th>Monitoring and control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action to be taken</td>
<td></td>
<td>Date, status and review comments (do not delete prior comments, therefore providing a history)</td>
</tr>
<tr>
<td>Ex: Finalize design to identify all wetlands that are impacted.</td>
<td>13th May, 2016</td>
<td>As of 15th Nov, 2015; there are only two potential areas where there could be additional wetland impacts. As of 2nd Dec, 2015; one agency has initiated for determination of additional wetland.</td>
</tr>
</tbody>
</table>

Into Practice

- Review the Risk Management Process
- Prepare Risk Response Planning for the identified Risks
- Update the Risk Register
Theory of Change and Risk Management

Theory of Change

- An articulation of HOW and WHY a given intervention will lead to a specific change
**Theory of Change**

Theory of change is about understanding **how** change takes place.

Results monitoring is about capturing **what** changes take place.

---

**Features of a Theory of Change**

A TOC describes **possible pathways to a development result, based on experience and evidence**, in order to:

- Explain and clarify **logic and assumptions** underlying the achievement of results over time
- Allow **stakeholders** (including evaluators) to check if the argument makes sense and assess if progress is being made as planned, or requires a change in approach
- Can be **forward-looking** for planning, monitoring, communication
- Can be **backward looking** for review, evaluation, etc.
- Can be a **narrative** including problem statement, long-term result, change pathway, and assumptions
- Can be **visual** in the form of a diagram showing a causal pathway of change (preconditions) that shows the connections between long-term, intermediate, and early results

There is **no standard format** for a TOC.
Assumption and Risk Analysis in Theory of Change

- Assumptions are underlying conditions, beliefs, values, or resources that need to exist for a planned change to occur
- Normally unquestioned or taken for granted, as believed to be true
- Usually implicit in programme design
- Context-specific

Example of Assumption Analysis in Theory of Change
Example of Risk Analysis in Theory of Change

Long-term Change
- 35% women in decision making in public sector

Medium-term Change
- More women pass the civil service exam
- PSC exam process becomes gender-friendly
- Women's voice of opportunities in public service

Immediate Change
- Advocacy for women's equality completed
- Institutional capacity of PSC and private service providers built
- Gender equality policy in civil service approved

Risks
- There are very few new vacancies in the civil service
- Sexual harassment high in workplace
- Private sector providers work only in urban and accessible areas
- Women cannot afford the time and do not have the environment at home to prepare for the exam

WRAPPING UP
Course Review

- Risk vs. Issue
- Categories of risk
- Process of Risk Management
- Role of Stakeholder Analysis in Risk Management
- When to analyse risk in the project cycle
- How to record / update identified risks
- Importance of the Risk Log
- How to monitor risks

Expectations Review

- Impact / Effectiveness
- Activities / Methods
- Change in Skill
- Learning
Course Evaluation

Rapid Evaluation

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>RATING / 10</th>
<th>ANY COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL, WERE YOUR EXPECTATIONS AND OBJECTIVES MET?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WERE THE MATERIALS, METHODOLOGY AND TOPICS COVERED SUPPORTIVE IN YOUR LEARNING?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DID YOU LEARN WHAT YOU NEEDED?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DO YOU FEEL CONFIDENT / ABLE TO APPLY WHAT WAS LEARNED?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DO YOU THINK THIS TRAINING WILL HAVE A POSITIVE IMPACT ON FUTURE PROJECTS?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>