

Risk Management

To think about

“You want a valve that doesn’t leak and you try everything possible to develop one. But the real world provides you with a leaky valve.

You have to determine how much leaking you can tolerate”

Mr Arthur Rudolph, developer of rocket in first Apollo flight

Risk vs. Issue

What is the difference between the following:

Risk Management

vs.

Issue Management

Why do we have to manage these?



Risk = Uncertainty that impacts the project objectives

SOURCE	UNCERTAINTY	THAT IMPACTS
Management Of Risks (M_o_R) (2010)	“An uncertain event or set of events..”	“...that should it occur will have an effect on the achievement of objectives”
APM Body Of Knowledge (2012)	“An uncertain event or set of circumstances..”	“...that, should it or they occur, would have an effect on the achivement of one or more project objectives”
PMBOK Guide 5th edition (2012)	“An uncertain event or condition..”	“...that if it occurs has a positive or negative effect on a project’s objectives”
ISO 31000 (2009)	“Effect of uncertainty..”	“...on objectives”
Institute of Civil Engineers RAMP (2014)	“A possible occurrence..”	“...which could affect (positively or negatively) the achievement of objectives for the investment”

- Stochastic uncertainty
 - Aleatoric uncertainty (variability)
 - Epistemic uncertainty (ambiguity)
 - Ontological uncertainty (emergent)
-
- If it impacts the projects objectives then it must be managed

- Uncertain future events that may or may not happen
- Examples:
 - We may lose a critical resource just when we need them
 - A key contractor may go out of business during the project
 - One of the contractors may propose enhancements to our processes

- Certain future events with variable characteristics
- Examples:
 - Productivity may be above or below target
 - Unseasonal weather conditions may occur
 - The number of errors found during the testing of the product may be lower or higher than expected
 - The construction of the bridge may take longer or shorter than expected
- How to express as a single future event when it's variable?
- Probability distributions
 - Needs realistic and feasible ranges to reflect uncertainty
 - Min/Most Likely/Max, Beta, Lognormal, etc
- The idea is to reduce the variability (smaller spread between min and max) and expected value
- Identify risk drivers of extreme outcomes and expected outcomes



UNOPS Ambiguity Risk (aka Epistemic)

- Certain future events with ambiguous characteristics
- Something we don't know or don't understand
- Examples:
 - Partner demands use of new technology outside our experience
 - New regulations are expected, but the scope of change is unknown
 - Our planned design has a high inherent complexity
- Define scope of knowledge deficit, understand the boundaries of ambiguity
- Seek external expertise, benchmark best practice
- Use incremental development and prototyping
- Make sure there is clear and documented acceptance criteria
- **Explore, experiment!**



UNOPS Emergent Risk (aka Ontological)

- Conceptual limitations of world view
- We can't see them because we can't imagine them
- Examples:
 - Game-changers
 - Disruptive inventions
 - Cross-over technologies
- “Unknown and unknowable unknowns”
- If they don't happen, we remain unaware
- If they do happen, it's too late for risk management
 - Identify key vulnerabilities
 - Use environmental scanning to spot emergent risks
 - Create and monitor Early Warning Indicators
 - Build resilience (appropriate contingency, flexible project processes, empowered team with clear objectives, frequent reviews)

What is a risk in UNOPS Project Management?

- A Risk is an **uncertain event** or set of events that, should it occur, will have an **effect** on the achievement of UNOPS PROJECT objectives
- It consists of a combination of the probability of a perceived **threat** or **opportunity** occurring and the magnitude of its impact on objectives



UNOPS

Why is it so Important?





UNOPS

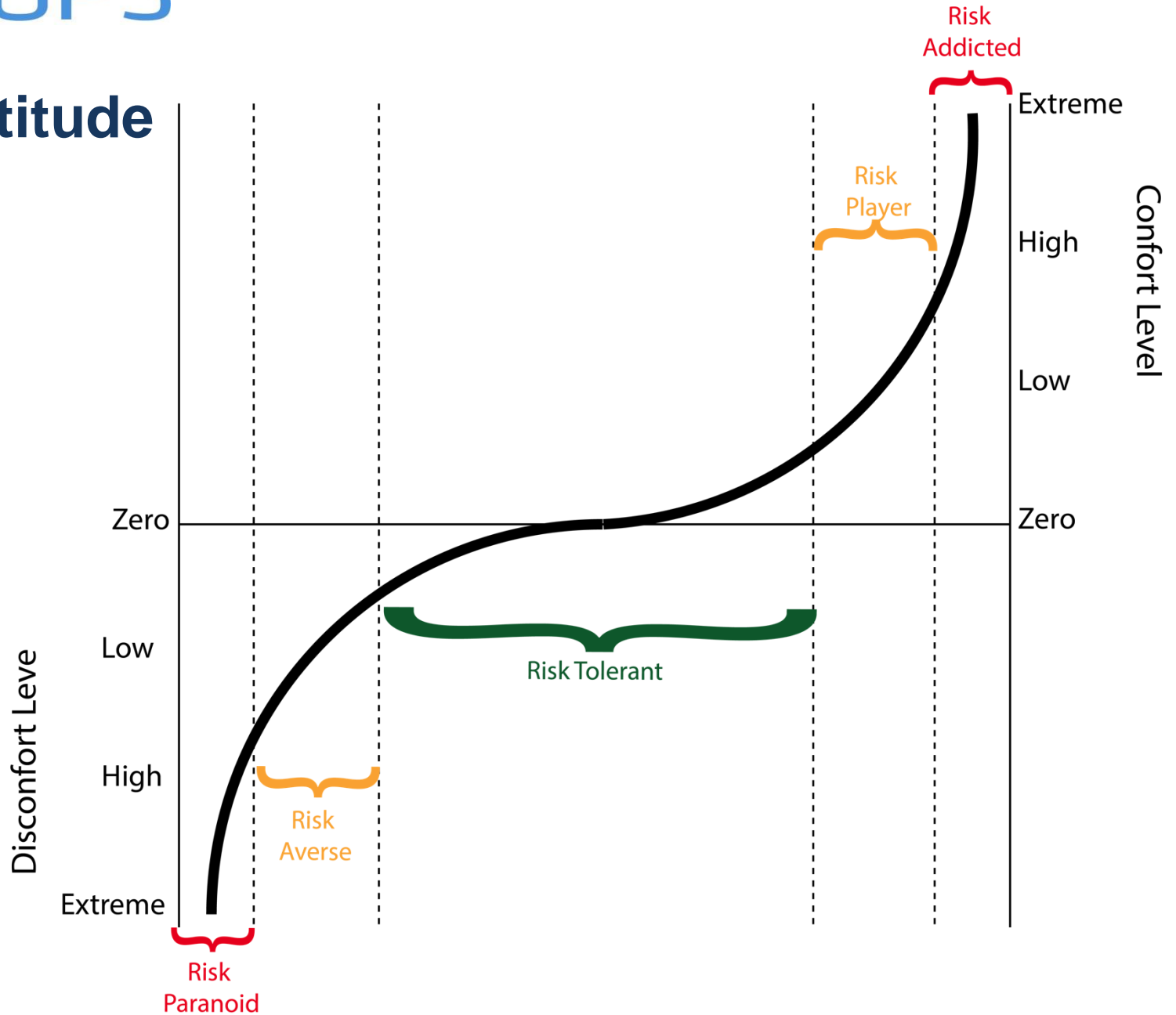
Why is it so Important?

- Some risk-taking is inevitable to achieve project objectives (No perfect conditions). Effective Risk Management could contribute to:
 - Fewer sudden shocks and unwelcome surprises
 - More effective use of resources
 - Reduce waste and fraud
 - Better service delivery
 - Reduction in management time spent fire-fighting
 - Increased likelihood of achieving change initiatives.
 - More focus on doing the right things properly.

What is Risk Management?

- Risk Management is conducting processes and activities to plan, identify, analyse, prioritize, develop risk responses and control risks on a project
- It allows the project team and stakeholders to better understand the nature and complexity of the project in order to minimize threats and maximize opportunities
- Risk management is supposed to be on-going and proactive

Risk Attitude



Risk Tolerance

Stage Level Tolerance

- Determine how many products/deliverables are assessed as having a "Likelihood" of failure and if they do fail, how many will have a "High Impact" on the outcomes/benefits of the project.

Project Level Tolerance

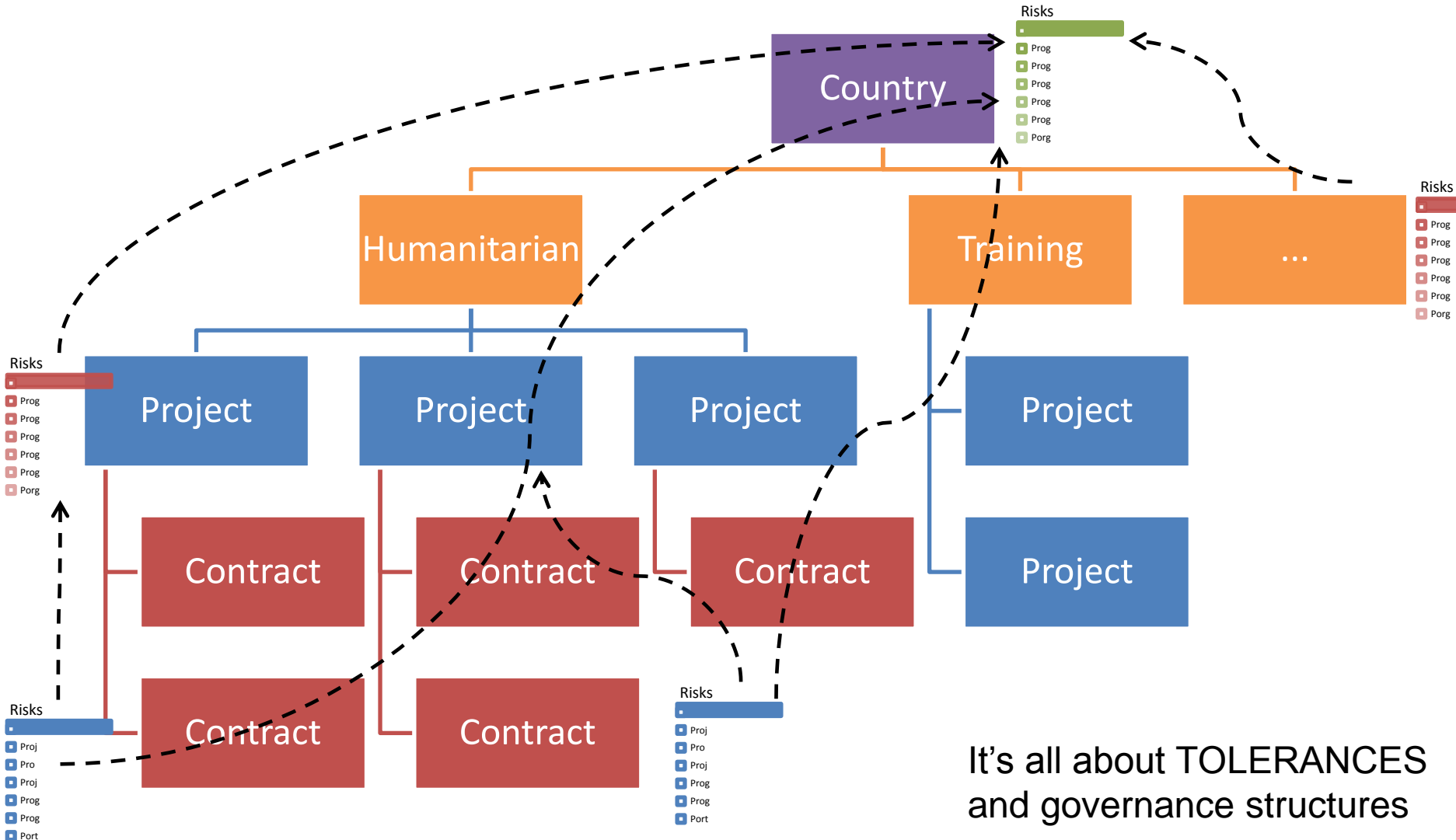
- Determine how many risks on the risk register at the beginning of the project are assessed as both "High Likelihood" of occurring and if the risk did happen would have a "High Impact" on the project.
- The Project Board can either allocate the project manager with a "risk reduction" target if there is too much risk or agree at what point the project manager has to raise an exception report.

Programme Level Tolerance

- The SRO/Sponsoring group needs to determine how many concurrent high risk projects are acceptable.

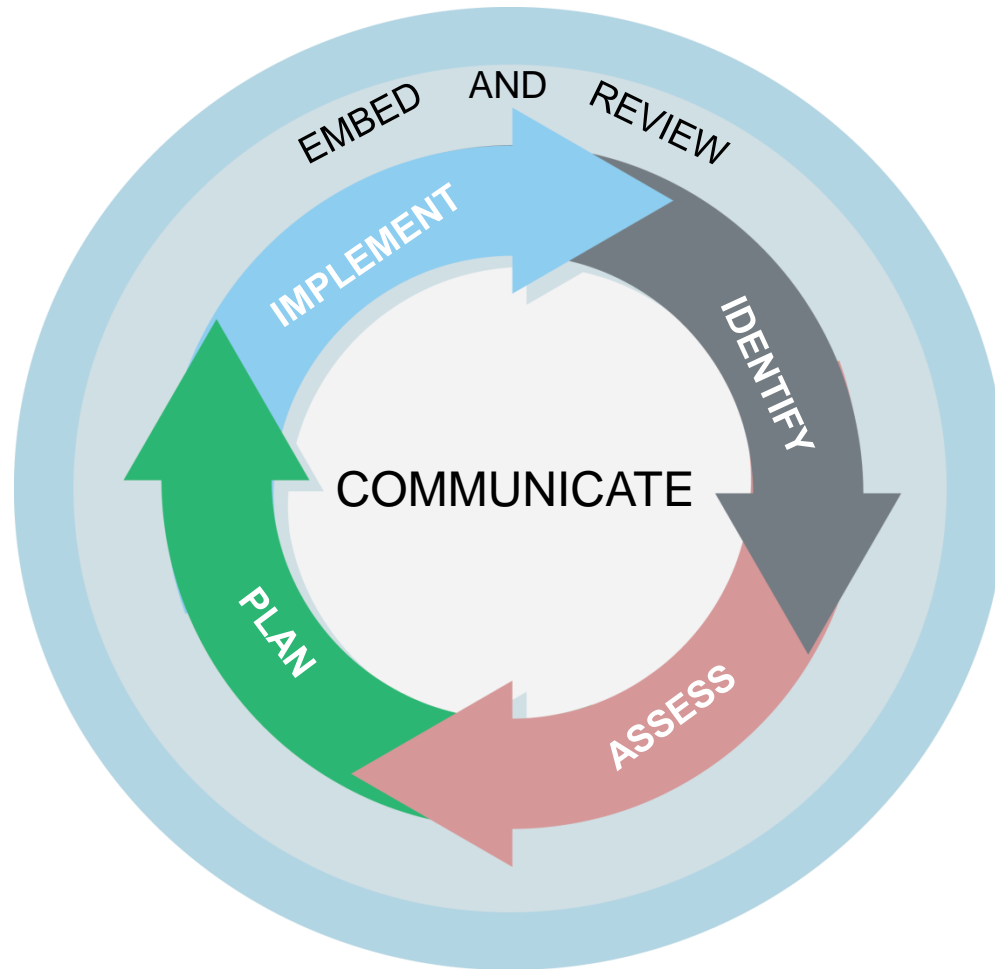
There is no fast formula for setting tolerance, the most effective is based on experience and the organisation's appetite for risk.

Risk Governance in the Country Offices

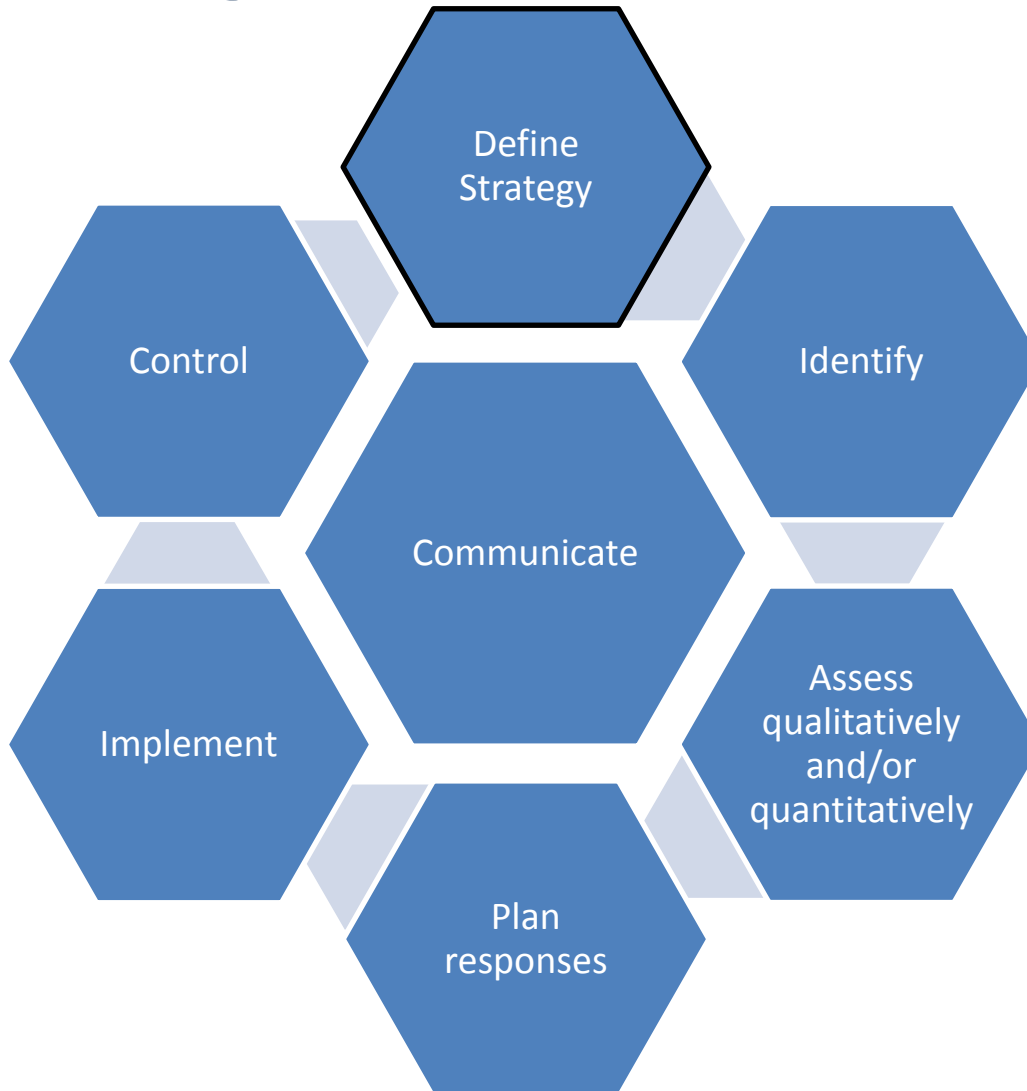


It's all about TOLERANCES and governance structures

The Core of Management of Risks®



Risk Management in a Nutshell



Define Strategy

- **Agree risk management strategy**
 - Tools & techniques to be used
 - Risk reporting
 - Timing of risk management
 - Roles and responsibilities
 - Risk Tolerances
 - Early warning indicators e.g. % of work completed to schedule
 - Risk Budget? And if so who will control it?
- **Understand the clients view of the specific risk captured**
- **Understand the client's view**
 - Risk attitudes and expectations

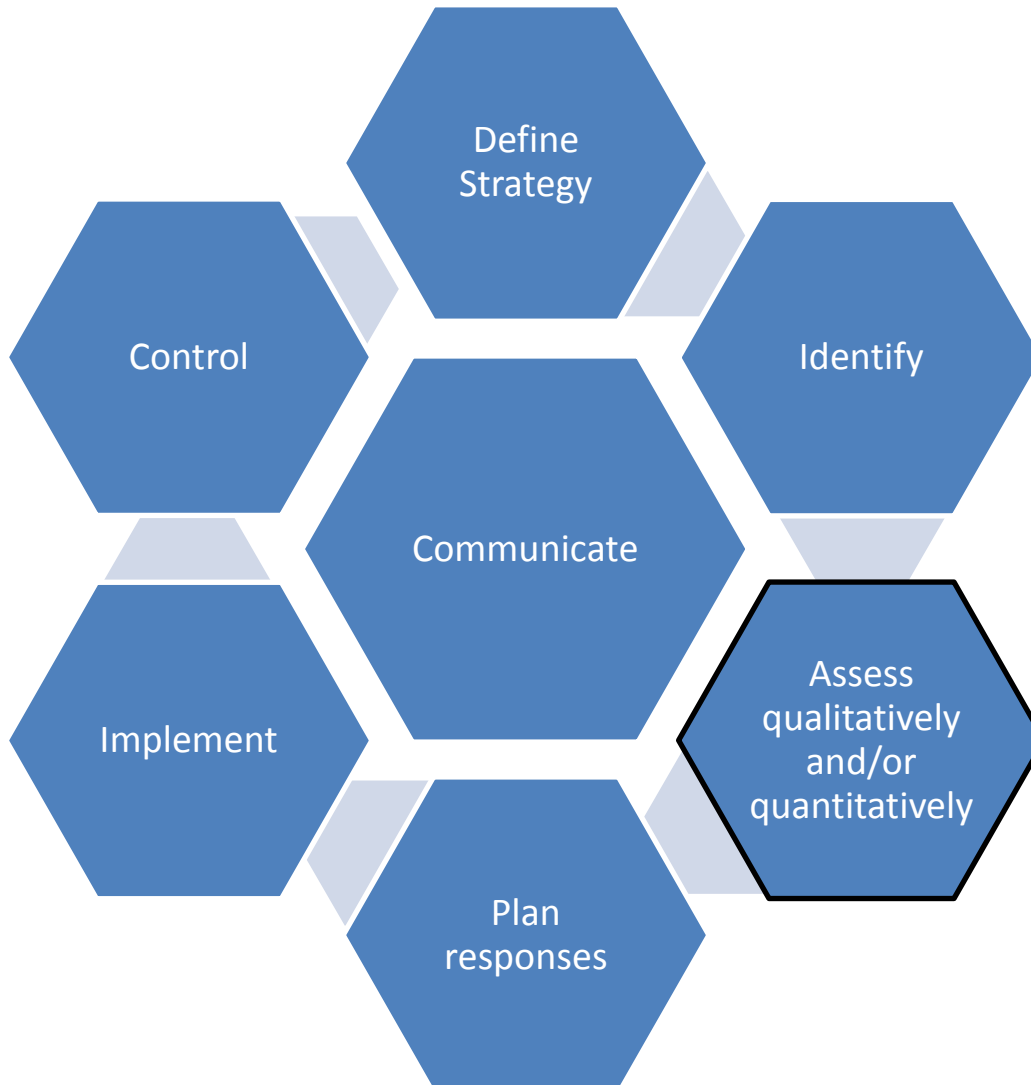
Risk Management in a Nutshell



Identify

- **What project objectives are at risk?**
 - Risk Workshop?
 - Engage relevant stakeholders
 - What sources will we be looking into?
 - Run risk identification sessions
 - Describe risk events properly
 - Categorize risks
 - Assign risk ownership

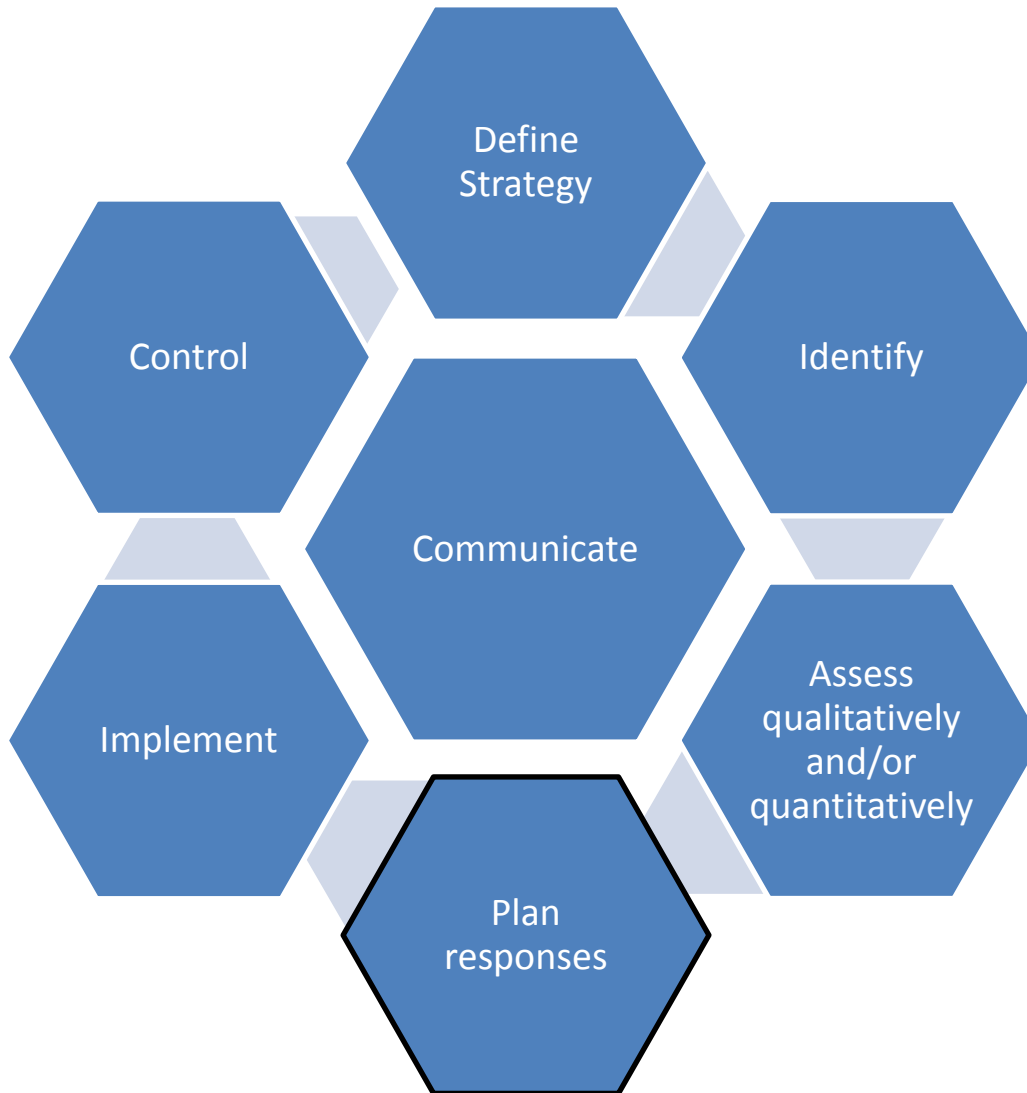
Risk Management in a Nutshell



Assess

- **ESTIMATE** risk in terms of probability and impact
- **ASSESSMENT** can be made **qualitatively** using a simple or more elaborate scale, and/or **quantitatively** using % and \$ impact
- **EVALUATE** net effect of all risks when aggregated together- overall severity of the risks facing the project

Risk Management in a Nutshell



Plan Responses

- **PREPARE** management responses to risks to remove or reduce risk and maximise opportunities

Threat Responses	Opportunity Responses
Avoid	Exploit
Reduce Fall Back Transfer	Enhance
Share	
Accept	Reject

Risk Management in a Nutshell



Implement Responses

- **ENSURE** planned risk responses are **ACTIONED**
- **ENSURE** clear roles and responsibilities for Project manager in management of risks e.g.
 - Risk Owner – responsible for mgmt of risk
 - Risk Actionee – carry out risk response

Risk Management in a Nutshell



Control

- **KEEP TRACK** of identified risks, identify new risks, monitor residual risks
- **EVALUATE** the effectiveness of the risk processes throughout the project

Risk Management in a Nutshell



Communicate

- Continual communication within the project and externally to stakeholders via:
 - Checkpoint reports
 - Highlight reports
 - End Stage reports
 - End Project Reports
 - Lessons Learned

Risks During the Lead Phases

- Effective risk management depends on organizational effort, personal discipline, accountability, a governance system in place and buy-in (especially executive)
- In order to get off on the right foot, risk management must begin in the early phases of **business development**

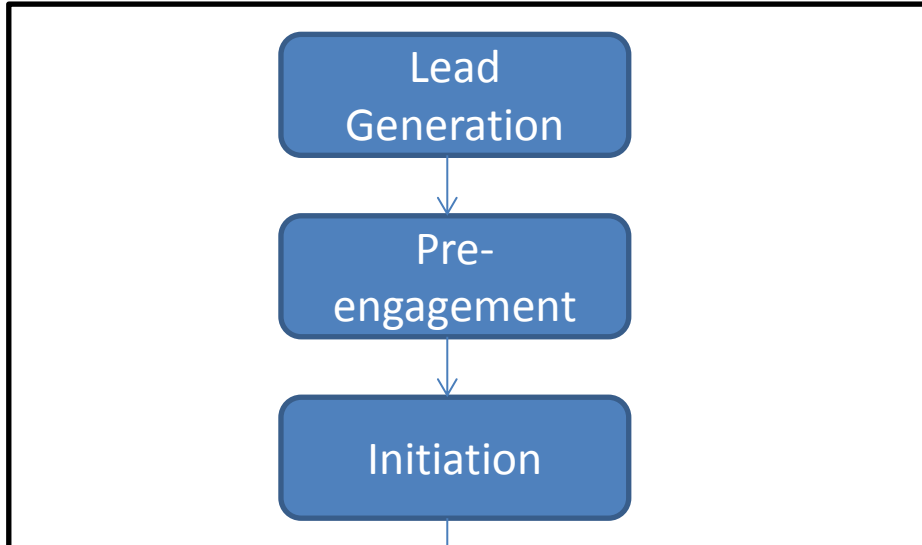
Risks During the Lead Phases

- Imprecise or lack of information heavily impacts project planning, which in turn impacts project execution and the delivery of expected benefits and capabilities
 - Use of historical information from partners and lessons learned from similar projects raises risk awareness and potentially mitigates threats
 - Use of realistic evaluation of project complexity helps determine the most adequate resources needed
 - Involving the Project Manager (or a project management expert) during the development of the lead greatly increases the chances of identifying and assessing potential risks

Consideration of Risks in the Lead Phases

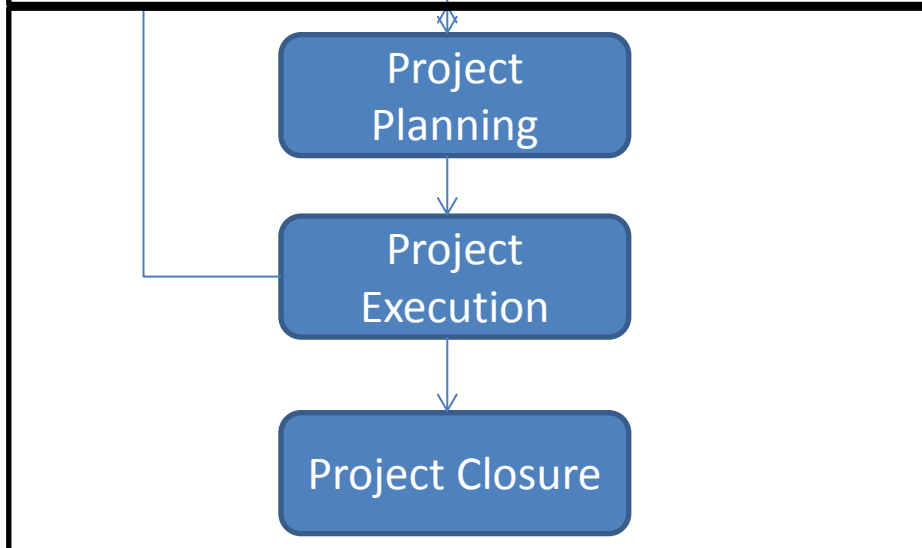
Lead Phases

The initial Risk Register should be created here

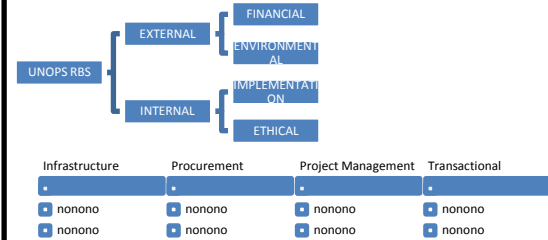


Project Life Cycle

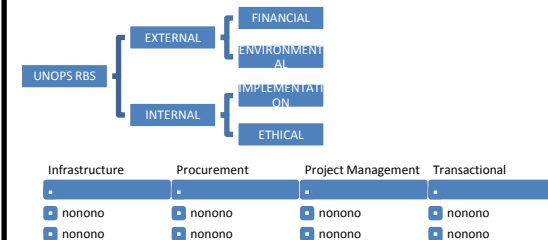
And further developed and detailed here



High level risks



Detailed risks



Sources for Identifying Project Risks – a short list

- Lead System
- Business case
- Requirements x Scope definition x Acceptance criteria
- Plans
- Schedules
- Budgets
- Contractors x Procurement x Logistics
- Resources
- Stakeholder expectations, needs, perceptions
- Communication
- Quality of products
- Dependencies (external and internal)
- Other corporate requirements
- Local context
- Management / Governance
- Project management skills / Project management processes
- Organizational project management maturity

Context of Managing Risks in UNOPS

- UNOPS is **unique** in that it is wholly self financing and therefore must mitigate and manage its risks or face insolvency.

Context of Managing Risks in UNOPS

In accepting Engagements UNOPS has a two fold responsibility:

1. to guard the Risks to the UNOPS **Internal Business Case** &
2. to guard the Risks to the Engagement of the client.

Risks to the Engagement will typically include risks to UNOPS.

However, it is important to be sensitive in how risks are portrayed and in what is released to the client. There are potential risks to UNOPS that will not concern the client, or are related to the client. If in doubt, bring them to the engagement Authority's attention.

New Engagement Checklist

This document highlights essential negotiation elements that need to be considered before submitting or approving a business case for an engagement. Detailed guidance on the engagement acceptance process can be found on the Project Management Practice intranet page.

Risks

- **Implementation risks**
 - Non-standard practices
 - Complex
 - Concerns
 - New partners
 - Sets precedents

● **Mandate risks**

- Mandate conflict
- Military / intelligence / arms involvement

● **Ethical risks**

● **Security risks**

● **Financial risks**

- Very large projects
- Pricing policy non-compliance
- Concerns

● **Environmental risks**

● **Legal risks**

Planning

- Within our capabilities?
- Each stage of Project Cycle identified
- Closure criteria agreed upon

● **Budget includes:**

- **Direct costs**
 - Allocable charges
 - Direct support
 - Proformas Used
- **Indirect costs**

Legal

- Pre-specified asset disposal

● **Interest Accrued**

- No use clause
- Negative interest

● **Approach specified**

- Pre-selections
- Pre-conditions
- Grants methods

- Single audit principle

Financial

- **Automatic report acceptance**

● **Reporting**

- Format / Schedule agreed
- Costs budgeted

● **Pricing policy applied**

- Cost plus
- Time and materials
- Fixed
- Meets minimum revenue
- Risk increment

● **Direct support approved**

- **Closure costs**
 - Mobilizations budgeted
 - Leave budgeted
 - Defects liability

Communications

- Capacity and sustainability addressed
- Client role clear
- Allocable charges
- Project executive identified
- Visibility standards agreed
- Budget available for communications
- Cross-cutting issues standards

Security

- **Security Risk Assessment**
- **Minimum Operating Security Standards**
- **Minimum Operating Residential Security Standards**

Key UNOPS Risks

Typically require the **Engagement Authority** to refer to the ED for a decision

Implementation risks

Mandate risks

Ethical risks

Security risks

Financial risks

Environmental risks

Legal risks

Other risks

Implementation Risks

- Outside of approved practice areas.
- Complicated implementation arrangements
- Engage new funding sources or clients (no prior experience or not member of OECD)
- Development Assistance Committee (OECD-DAC) group or, not a host country government.
- Financial, operational or policy precedents.

Mandate Risks

- Infringe on other United Nations entity mandate
- Not covered by the United Nations Development Assistance Framework (UNDAF) or not supported by the Resident Coordinator or host country
- Has a military component (funding source or client or nature of engagement) or involve the procurement of arms.

Financial Risks

- The size of an Engagement would create significant dependence on it at regional or unit level (as defined in the delegated authority).
- The Engagement may not meet revenue / cost recovery requirements provided by the Cost Recovery and Client Pricing Policy.
- Currency volatility or any potential liability may threaten the financial viability of the Engagement.

Other Risks

- **Ethical risks** which may cause harm to the United Nations or its partners.
- **Security risks**, with significant threats to safety of personnel that are not identified and agreed in the Engagement Acceptance and Business Plan.
- **Environmental risks**, where significant environmental risks may exist
- **Legal risks** like no general termination rights for UNOPS in the agreement, third party claims, and UN privileges and immunities being jeopardized.
- **Other risks** as communicated by the Executive Director from time to time.

Risk Management for Projects

Characteristics of Risks

- Situational
- Interdependent
- Perceptions are affected by the proximity of risks occurring
- Values play an important role

Risk Identification

Identifying Project Risks – Useful Techniques

Interviews with
experts

Brainstorming

Delphi
Technique

Nominal Group
Technique
(NGT)

Crawford's Slip

Analogy

Checklists,
Questionnaires,
Templates

Describing Project Risks

- Be as specific as possible
- Use complete sentences, include the impact to the project
- Don't make questions
- Your ability to assess the risk will depend on the completeness of its description

As a result of the sub-recipient not being able to finish the construction of section A1 due to the new logistics constraints imposed by the recent change in regulations, we might not be able to finish section B1 as required to deliver its outcomes and start the realization of its corresponding benefits.

Cause: as a result of the new logistics constraints imposed by the recent change in regulations

Risk: we might not be able to finish B1 as required to deliver its outcomes

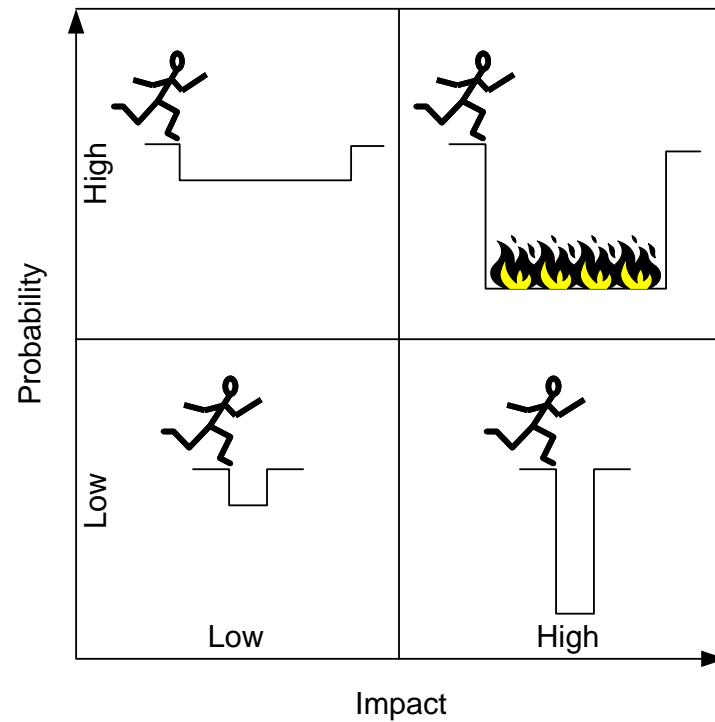
Impact: the realization of its corresponding benefits will be delayed until the issue is solved

Assessing Project Risks

Assessing Project Risks

- The process of prioritizing the project risks based on an analysis of their probabilities and impacts to the project objectives
- Assessment can be **qualitative** and/or **quantitative**
- When qualitative, a **scale** must be previously defined as well as levels of **tolerance** be established so that **risk responses** are triggered based on the risk exposure

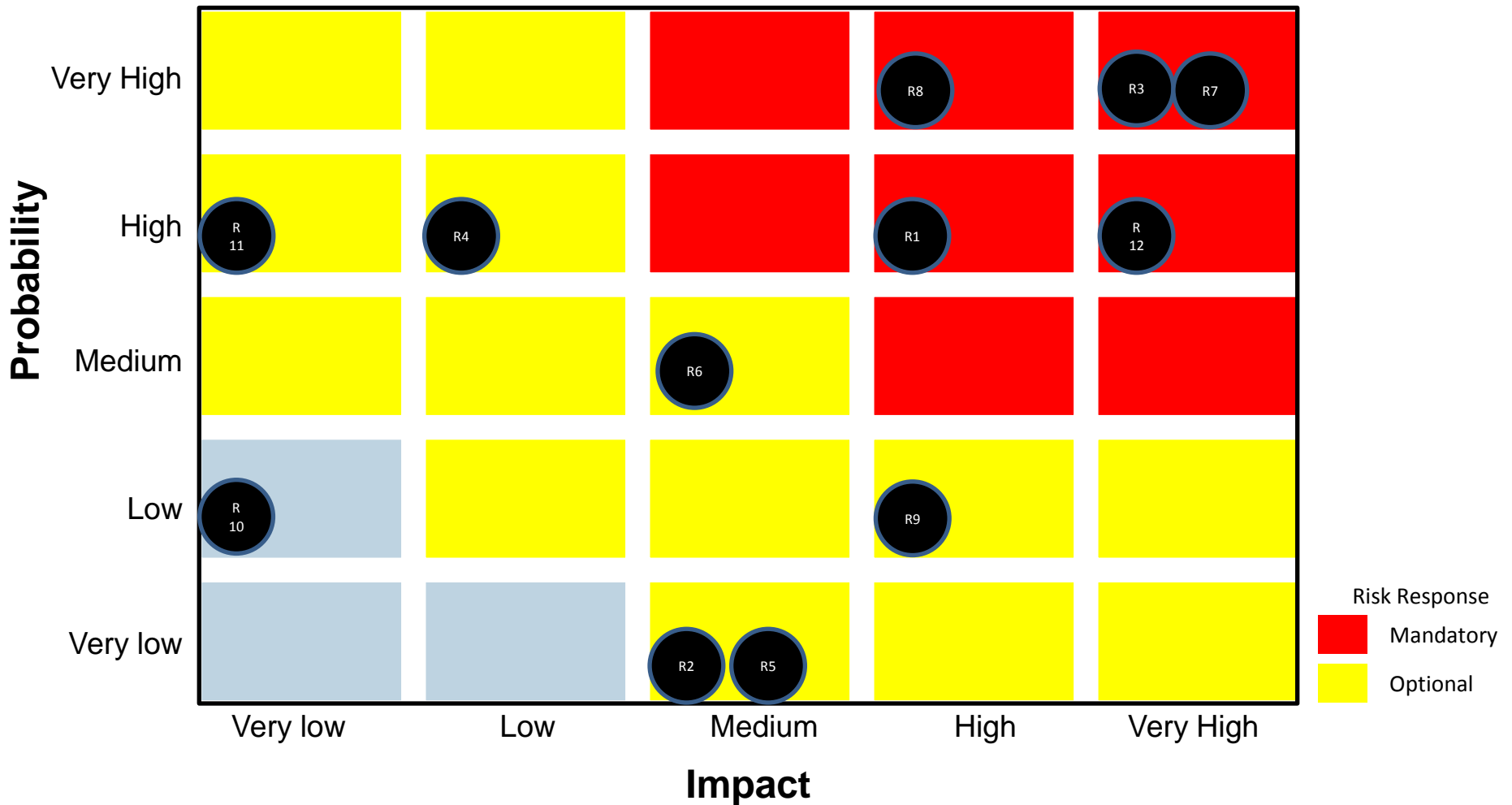
Assessing Project Risks



Planning – Assess the risk, plan to manage

Risk Description	In terms of the cause, event (threat or opportunity) and effect
Probability and Impact	It is helpful to estimate the inherent values (pre-response action) and residual values (post-response action).
Proximity	This would typically state how close to the present time the risk event is anticipated to happen (e.g. imminent, within stage, within project or beyond).
Risk Response	How the project will treat the risk in terms of the project's chosen categories (e.g, avoid, reduce, fallback, transfer, accept, share)
Risk actions	Actions to resolve the risk. Note that more than one risk response may apply to a risk. A Risk action owner (or Risk actionee) is the one responsible for implementing the risk responses
Risk owner	The person responsible for managing the risk

Planning – Assessing Risk



Assessing Project Risks - Qualitative

- It's usually the first step in assessing the risks
- It's done to determine the level of exposure of each risk
- It's easier to do
- It carries a certain degree of subjectivity because it uses pre-defined scales of probability and impact (to the project's objectives)
- All risks should be qualitatively assessed
- It helps prioritize the risks

Developing Risk Responses

- Risk response options (strategies)
 - Avoid a threat
 - Exploit an opportunity

 - Reduce a threat (aka mitigate)
 - Enhance an opportunity (aka mitigate)

 - Transfer the risk

 - Share the risk

 - Accept the risk

Developing Risk Responses – an example

Risk Id	Risk Description	Risk Owner	Prob	Impact	Expected Value	Response
1	The local customs might go on strike in the second semester of 20xx, delaying the import of equipment XYZ and impacting the delivery of	Mrs Accolade	High	High	High	Mandatory

Risk Cause	Action Plan	Risk Actionee	Date	Cost	Measure of success	Current status
1.1	1.1.1	Mr Robert	...	\$ ...	...	done
1.1	1.1.2	Mrs Maria	...	\$ ...	...	Pending
1.1	1.1.3	Mr Kadi	...	No cost	...	Pending
1.2	1.2.1	Mrs Accolade	...	No cost	...	done

Group Exercise

- Using a flipchart, create a Risk Register using the headlines below. Then
 - Write down the project risks your group has just identified
 - Assess the Probability and Impact using a simple scale (1 – low, 2 – medium, 3 – high)
 - Calculate the Risk Exposure
 - Determine the Proximity (when is this most likely to happen)
 - Indicate the Risk response strategy (avoid, mitigate, transfer, accept, exploit)
 - Develop the Action Plan (for every cause, there can be more than one action to take)
 - For each Risk, determine the Risk Owner. For each response action, determine the Risk Actionee (named individual)

Risk Description; Category; Owner; Probability; Impact; Exposure; Proximity; Response strategy
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Cause; Action plan; Risk actionee; Date to be completed; Measure of success; Status

Going Further with Qualitative Assessment

- When assessing the impact of the risk to the project's objectives should the risk materialize, the impact on each of the following 5 categories has to be considered (individually)
- Cost, Benefits, Schedule, Sustainability and Scope
- Example:

Description	Probability	Cost	Benefits	Schedule	Sustainability	Scope	Proximity	Exposure	Response
Due to the current instability in the region XYZ, the cement may not be available on time because the supplier may encounter logistics difficulties to make the delivery to the job site.	High	Medium	Medium	Very High	Very Low	High	High	High	Mandatory

Going Further with Qualitative Assessment

Calculated by Excel

Description	Probability	Cost	Benefits	Schedule	Sustainability	Scope	Proximity	Exposure	Response
The sub-recipient might not be able to finish the construction of section a1 due to the new logistics constraints imposed by the change in regulations	High	Low	Medium	Low	Very Low	Very Low	Low	Low	Optional
The local customs might go on strike in the second quarter, causing a delay in the import of equipment and ...	Medium	Medium	Medium	Very High	High	Medium	Very High	High	Mandatory
..... etc etc.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTAL PROJECT RISK EXPOSURE									-9.63 (-38%)

Assessment informed by the project manager and team

Calculated by Excel

Assessing Project Risks - Quantitative

- The probability of occurrence in % and the financial impact in \$ to the project's objectives must be known
- It determines the **expected monetary value** of the risk that, when aggregated, should ideally be incorporated into the project's budget (upon approval)
- It is optional during project execution as it requires reliable data in numbers for the calculation

Description	Probability	Impact	Exposure
The sub-recipient might not be able to finish the construction of section a1 due to the new logistics constraints imposed by the change in regulations	70%	\$100.000	\$70.000
The local customs might go on strike in the second quarter, causing a delay in the import of equipment and ...	60%	\$70.000	\$42.000
If the project uses the new technology Sdruffis, we will be able to finish 3 months earlier, generating an outcome that will result in savings	60%	-\$50.000	-\$30.000
PROJECT CONTINGENCY RESERVE			\$82.000

How do we embed Risk Management ?

- Group discussion

Useful resources

- UNOPS risk management guidance for projects on SPMPG Intranet
- UNOPS project management tools and templates on SPMPG Intranet
- On-line PRINCE2 Foundation and Practitioner courses (for all staff)
<https://intra.unops.org/Practices/HR/learning-development/Pages/New-Prince2-Online-training.aspx>
- On-line Management of Risks (MoR) training (only with Country Director approval)
[send request to: learning@unops.org]
- General info on UNOPS training courses:
<https://intra.unops.org/Practices/HR/learning-development/Pages/ProjectManagement.aspx>

Useful resources

Managing Risk Article:

<https://intra.unops.org/ToolsResources/KnowledgeSystem/projectmanagement/Pages/Endorsed/Managing%20Risk.aspx>

Headquarters Copenhagen

O.D. No. 27

8 July 2008

ORGANIZATIONAL DIRECTIVE NO. 27

INTERNAL CONTROL AND RISK MANAGEMENT FRAMEWORK

Headquarters, Copenhagen

12 February 2010

ORGANIZATIONAL DIRECTIVE No. 32

Establishment and approval of write-offs and
provisions for write-offs

Headquarters, Copenhagen

O.D. No. 33

16 April 2010

ORGANIZATIONAL DIRECTIVE No. 33

UNOPS Strategic Risk Management Planning Framework

Thank you