Sustainable Water Integrated Management (SWIM)

Expert Facility Activity No EFS-LB-2

Procurement of PPP in the Water/Wastewater Sector

Day 3 – Session 3.1:
Risk Assessment and Management in PPPs in WSS

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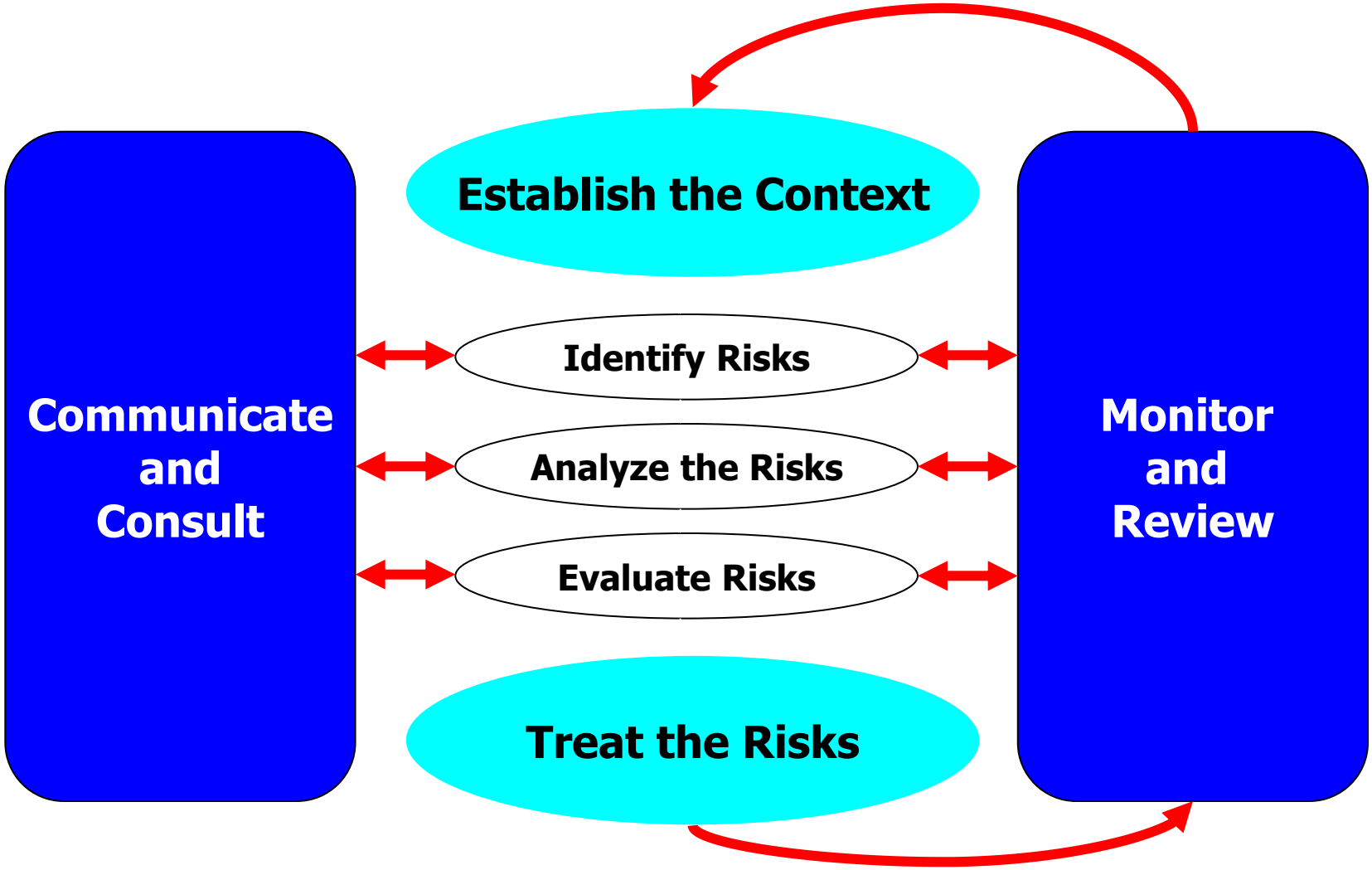
Background

Globally, there is a move by utilities towards using a Risk Management Framework to enhance safety of water supply / delivery. Recent initiatives include:

- Hazard Analysis and Critical Control Point (HACCP)
- New Zealand Public Health Risk Management Plans
- Australian Framework for Management of Drinking Water Quality
- From Source to Tap: the Multiple Barrier Approach to Safe Drinking Water (Canada)
- WHO Drinking Water Guidelines – Water Safety Plans
- The Bonn Charter – A Drinking Water Quality Framework for the 21st Century

Risk Assessment – Risk Management
The Cycle



Risk Assessment – The Likelihood Index (Probability Factor)

Need to identify the likelihood or probability of the risk occurring

- High – Very frequent occurrence
- Medium to high – 50 to 70% chance
- Medium to low – 15 to 50% chance
- Low – 1 to 15% chance

Risk Assessment – The Severity Index (Vulnerability Factor or Impact)

Once the risk is identified, need to establish the **severity** of the risk. Severity is defined as the impact of the risk. Need to assess the impact on:

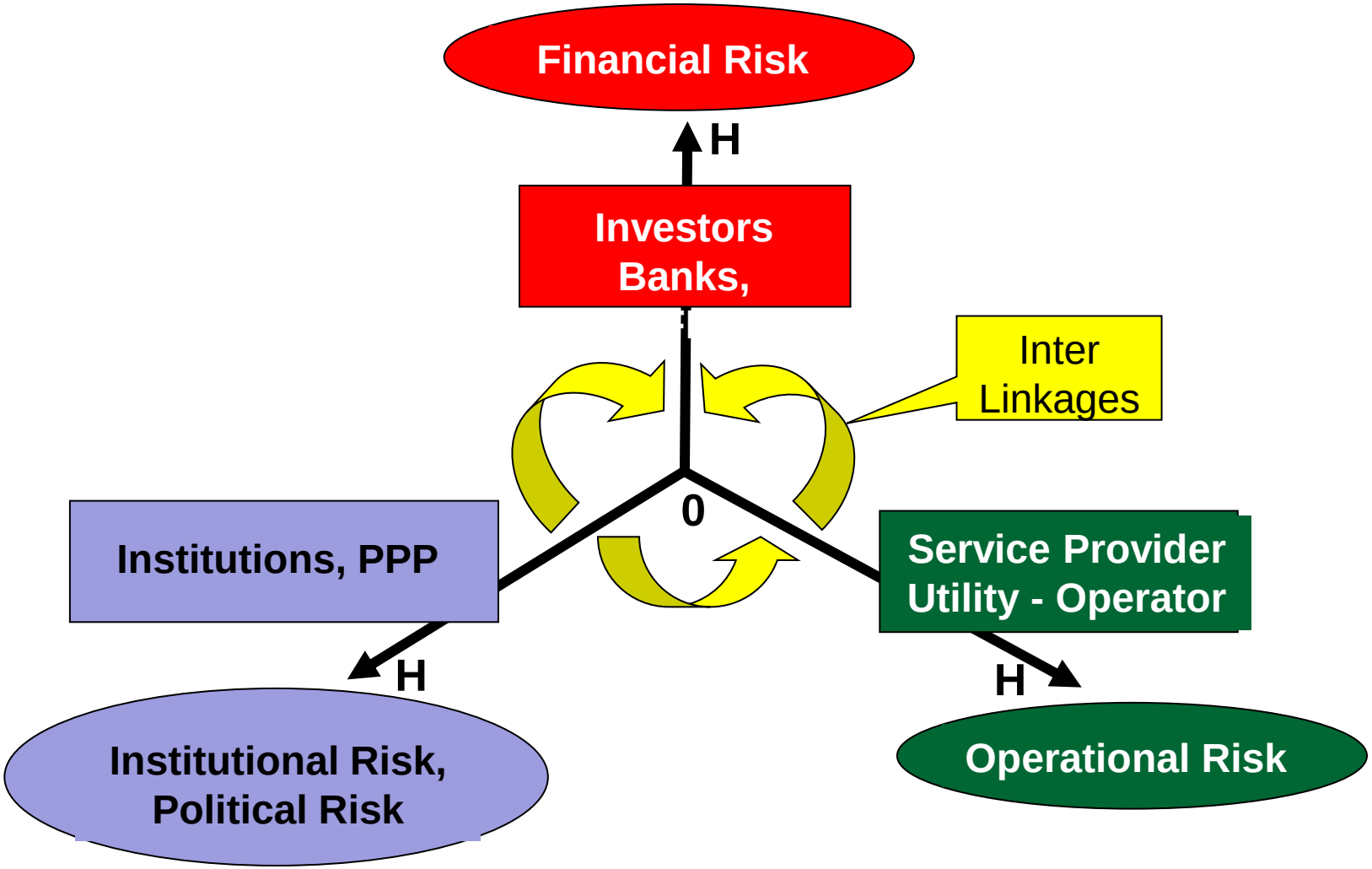
- Public health
- Environment
- Compliance
- Commercial
- Financial
- Reputation

Risk Management Matrix

Vulnerability Factor (VR) / Impact	Probability Factor (CI)/ Likelihood Index				
	Severity Impact	Probability Likelihood	High	Medium	Low
			3	2	1
	High	3			
	Medium	2			
	Low	1			

- Action Required
- Contingency Plan Prepared
- Review and Address
- Monitor
- Acceptable, Ignore

Risk Management - a 3-Dimensional View …



Risk Identification Process - 1

Risk identification is a process started in the preparation of the business case as is the heart of a PPP project

Fundamental for every action/area ask

- **What can go wrong ?**
- **What is the chance that it will ? (likelihood)**
- **What happens when it does ? (impact)**
- **Who is responsible ?**
- **What can be done now about it ?**

The Basic Process for Allocating Risk Responsibilities

- Allocate each area of Responsibility and Risk to the party best able to undertake and manage it, taking into account of the parties' ability to:
  - ✓ **Predict** changes in the relevant factors
  - ✓ **Influence** or control the risk factor
  - ✓ **Control** the impact of the risk on the value of the business
  - ✓ Diversify or **absorb** the risk
- Design the Arrangement to achieve the best allocation of risks and responsibilities

In addition

Every Project will be different, so as long as it is systematic, it is a personal choice, but the Process is the same:

- ✓ **Identify and understand the risk**
- ✓ **Check acceptability of risk by the allocated party;** Do not push risk transfer too far – Needs to be fair and equitable
- ✓ **Assess the probability**
- ✓ **Assess the impact and quantify**
- ✓ **Consider interrelationships**
- ✓ **Consider mitigation and migration**
- ✓ **Assess impact of remaining risk**

Quantification of Risks

- ✓ Assign a Monetary value to the impact for each classification (What will it cost to correct replace)
- ✓ Value at risk = Sum of (monetary value of impact X the probability percentage)
- ✓ Value at risk can be reduced by mitigation measures but costs to be incorporated
- ✓ Mitigation only justified if value at risk is reduced with more than the costs

Risk Categorisation

Commercial Risk

- Carried by Entrepreneurs, Banks, Financial Institutions, Insurance Underwriters
- Can be researched and mostly controlled

Bad management
Unrealistic business plans
Strategic errors

Indirect and Derived Risk

- Uncontrollable, Carried by the entrepreneur
- Often gradual

Collapse of Support Infrastructure like telecommunication, roads

Political risk

- Unpredictable, Uncontrollable
- Long term risk carried by Public entities

Expropriation
Breach of Contract
War and civil disturbance
Currency convertibility

Risk Acceptability

Concessions, Leases, Operating and Management Contracts

	Concession	Affermage / Lease	Operating Contract	Management Contract
Operational	◆◆◆	◆◆◆	◆◆	◆
Commercial	◆◆◆	◆◆	◆	◆
Technical	◆◆◆	◆		
Financial	◆◆◆	◆		
Forex	◆◆	◆		
Regulatory	◆◆◆	◆◆	◆	◆

BOT Major Risks

- **Construction risks**

  Delay, costs overruns, penalties

  Non-acceptance of the plant by the Client

- **Operation risks**

  Non-performance of the plant,

  Penalties, costs overruns

- **Financial risks**

  Non-achieved equity returns expectations,

  Financial support to the Lenders in case of SPC default

Risks on which the SPV (or SPC) has little leverage

- Revenue - Demand Curves = Revenue sufficient to cover costs
- Exchange - Revenue in Local Currency - Costs in Foreign Currency
- Interest Rate - Variations impact costs
- Financing - Availability of Finance when needed
- Floods, Earthquakes etc.
- Political - Changes in laws etc
- Regulatory – tariffs or standards

Risks that would drive the private partner away …

- ✓ Political instability
- ✓ Lack of law enforcement
- ✓ No or limited possibilities to take dividends out of the country
- ✓ Lack of track record or several failures or cancellations in DBFO / BOT project development
- ✓ Lack of strong rationale for DBFO / BOT format vs. DB / DBO
- ✓ Lack of trust in the bidding and evaluation process
- ✓ Record of severe currency devaluation

Risks that would drive the private partner away … (cont.)

- ✓ Project should be limited to one object:
  A project including too many different technical aspects requiring too many expertise will generate Interface risks, and difficulty to set up strong consortium including all these expertise
- ✓ Commercial risk / affordability issues:
  Tariff not affordable and/or lack of efficient tax collection system
- ✓ Absence or insufficient guarantees
- ✓ Overall unbalanced risk allocation
- ✓ Abusive termination clauses

Operator willing to take Operational Risk if…

- Existing assets are in good shape or rehabilitated
- Supply conditions (power, chemical) are acceptable
- Contractual performance targets are compatible with assets and supply conditions

Operator willing to take Commercial Risk if…

- Coercive measures for non payment are enforceable
- Tariff level and structure are adequate
- Substitutes (e.g. ground water) are regulated
- Proper budgeting and payments of Government water bills exist

Operator willing to take Financial Risk if…

- No or limited equity to be brought in
- Commercial debt can be mobilized on the merits of the Project
- Strong reliance on cash generated by operations
  - ✓ adequate tariff level
  - ✓ low operating costs

Operator willing to take Foreign Exchange Risk if…

- Most expenses are in local currency
- Tariff is (partially) indexed on exchange rates variation

Operator willing to take Regulatory Risk if…

Confidence in Regulatory Framework

- Transparency
- Competence
- Independence
- Predictability
- Arbitration

Country Risk

Country risk is the total risk that an investor will consider when making investment decisions and consists of the total of

- Political risks
- Business environment risks
- Commercial risks
- Economic risks
- Convertibility and profit expatriation
- Currency risk

Political Risk

- Political risk remains as the substantial go or no component of an investment decision where projects returns are financially attractive
- Developing economies can be unstable politically with the potential of rapid and often violent change
- This has an adverse impact on business with substantial changes to the business environment

Political risk is therefore defined as:

The risk that political decisions or politically induced events will affect the profitability of an enterprise or the assets of the enterprise

Events Causing Political Risk

- War and civil unrest and strife
- Expropriation or nationalisation
- Unilateral breach of contract
- Destructive government actions
- Discriminatory tax policies
- Restrictions on repatriation of profits

Political Risk Insurance

Institutions like the World Bank Group through MIGA, EIB and others, recognised the need to encourage investments in developing economies and a number of instruments entities have been put in place to allow the mitigation of some of the uncontrollable risk originating from political events.

Fiscal Contingent Liabilities

An important Risk that Governments need to address:

- When Governments enter into PPP Arrangements, fiscal liabilities may arise
- Fiscal liabilities are generally classified in four categories:
  - Direct Liabilities - predictable obligations
  - Indirect or Contingent Liabilities - obligations triggered by a discrete but uncertain event
  - Explicit liabilities - defined by law or contract
  - Implicit Liabilities - de facto obligations for the Government

Fiscal Contingent Liabilities

- **Explicit contingent liabilities***:* promises or guarantees of payments by the government to the concessionaire explicitly mentioned in the contract and triggered by exogenous events (e.g. minimum revenue guarantee)
  - **Explicit direct liabilities with uncertain amounts:** payment commitments by the government to the concessionaire which will have to be made with certainty, but whose size is not known at the time of signing the concession contract (e.g. land expropriation compensation)
  - **Explicit contingent assets:** promises of payment by the concessionaire to the government explicitly mentioned in the concession contract and triggered by exogenous or endogenous events (e.g. revenue sharing agreements)
- **Implicit contingent liabilities:** risks inherent to a concession program, which are not specifically stipulated in the concession contracts, but have been shown to sometimes turn into liabilities of the government by international experience (e.g. early termination risk)

Thank you