

# The Role of the RBO as a Facilitator of Water-Related Disaster Management in the River Basin



**Neil Britton**

Senior Disaster Risk Management Specialist

Asian Development Bank

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# What Will Be Covered

- **Introduction**
  - **Flood Realities and Trends**
  - **Drivers of Flood Risk**
- **Role of RBOs in Water-Related Disaster Management**
- **Hyogo Framework of Action**
- **From Flood Management to Flood Risk Management**
- **Achieving Flood Risk Reduction: A Framework for River Basin Organizations**



# Flood Realities and Trends

## In Asia-Pacific

- 2/3rds current disasters are weather-related
- 49% of world's total floods over last century
- annual average of 58 flood disasters in 2000-2004
- top 10 most affected countries: India, China, **Indonesia**, **Bangladesh**, **Philippines**, Iran, **Thailand**, Pakistan, **Japan**, **Viet Nam**
- By 2050, the number of people at risk from flood damages will reach 2 billion



# Human Induced Drivers of Flood Risk

## Weak Governance ( → Weak Planning)

- Made more difficult by rapid pace of urbanisation and lack of awareness of hazard in population and governing institutions
- Infrastructure incapable of handling demands as growth of urbanisation exceeding by far growth of infrastructure
  - Existing infrastructure not properly maintained



## ➤ Weak Zoning Laws

- Settlement and/or commercial/industrial utilisation of floodplains, low-lying river banks and low-lying coastal areas
  - Not enough consideration of flood taken into account in layout of buildings and streets – flooding of roadways/expressways common
- ## ➤ Elimination of natural inundation areas (wetlands, mangroves, floodplains)
- Buffers no longer available
- ## ➤ Over-reliance on *ad hoc* hard measures such as river regulation – channel straightening, embankments, etc – often without due consideration of total effects of measures

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# RBO Roles in the River Basin

Licensor

Planner

Coordinator

Developer

Monitor

Allocator of water  
rights

Arbitrator

Advisor

Enforcer

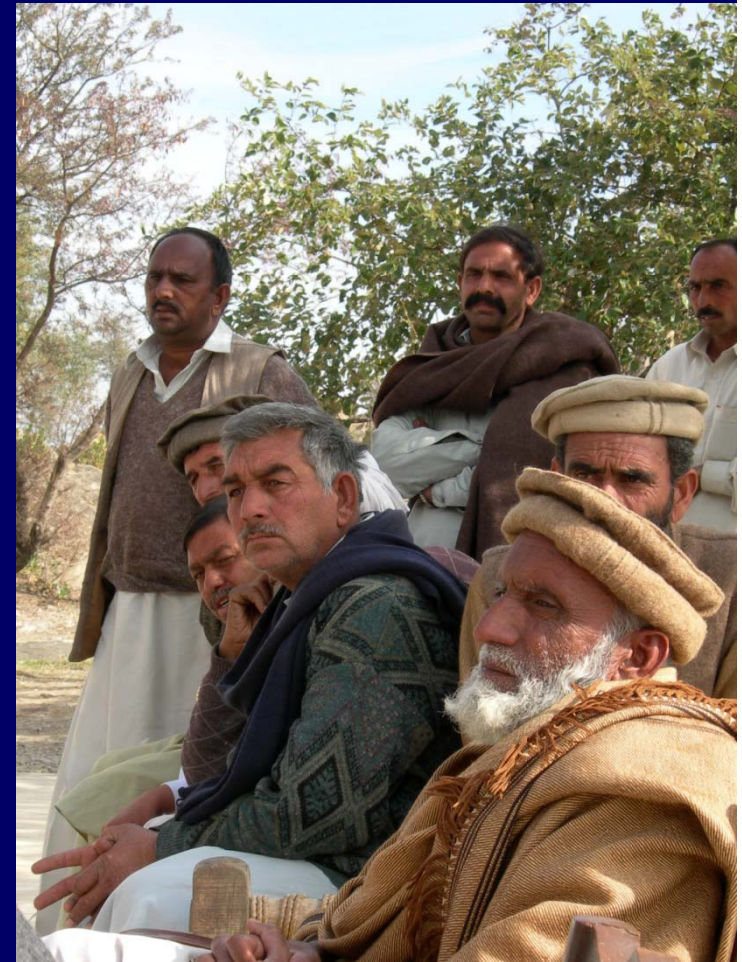
Operator



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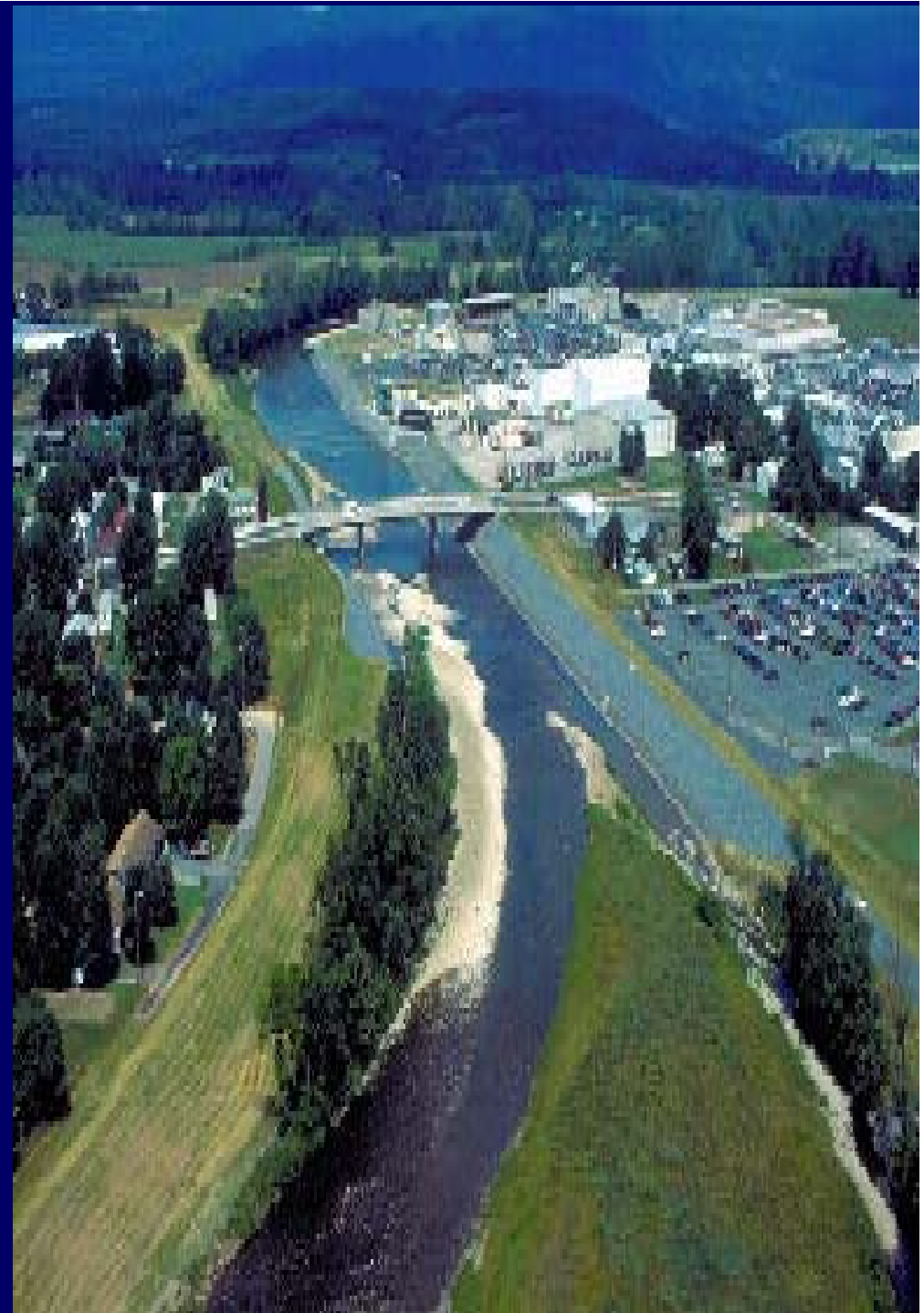
## RBOs as Trouble-shooters

- Solve basin problems
  - Alleviate water shortages
  - Improve water quality
  - Resolve conflicts
- Avoid basin problems
  - Minimize water use conflicts
  - Transfer water rights
  - Monitor
- Build enabling environment
  - Improve basin planning
  - Develop rules, guidelines
  - Develop decision-support info



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# Hyogo Framework of Action (HFA) Summary of Commitment, 2000-2015

<b>Expected Outcome</b>	<ul style="list-style-type: none"><li>• Substantial reduction of disaster losses—in lives and in the social, economic, and environmental assets of <b>communities and countries</b></li></ul>
<b>Strategic Goals</b>	<ul style="list-style-type: none"><li>• Integration of disaster risk reduction (DRR) into sustainable development policies and planning <b>at all levels</b></li><li>• Development and strengthening of institutions, mechanisms, and capacities to build resilience to hazards <b>at all levels</b></li><li>• Systematic incorporation of risk-reduction approaches into the implementation of emergency preparedness, response, and recovery <b>at all levels</b></li></ul>
<b>Priorities for Action</b>	<ul style="list-style-type: none"><li>• Ensure disaster risk reduction is a national and <b>local priority</b> with a strong institutional basis for implementation</li><li>• Identify, assess, and monitor disaster risks—and enhance early warning <b>at all levels</b></li><li>• Use knowledge, innovation, and education to build a culture of safety and resilience <b>at all levels</b></li><li>• Reduce underlying risk factors at all levels</li><li>• Strengthen disaster preparedness for effective response <b>at all levels</b></li></ul>



## **Disaster risk management (DRM)**

The systematic process of using administrative decisions, organizations, operational skills, and capacities to implement policies, strategies, and coping capacities of a society to reduce the impacts of disasters

# The story so far ...

- Water-related disasters are increasing
- Weak governance systems
- Planning not linked to hazard management
- Communities-at-risk not directly involved
- RBOs have troubleshooting and coordinating roles
- HFA mandated to reduce disaster losses at local level
- HFA based on risk management (DRM)



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# From Flood Management (FM) ...

- “Defending against floods”
- Established FM practices typically focus on:
  - controlling natural processes and providing physical protection
  - engineering orientation with structural solutions
- Water hazards managed by engineers on behalf of vulnerable communities
  - Tends to be a top-down approach run by specialists

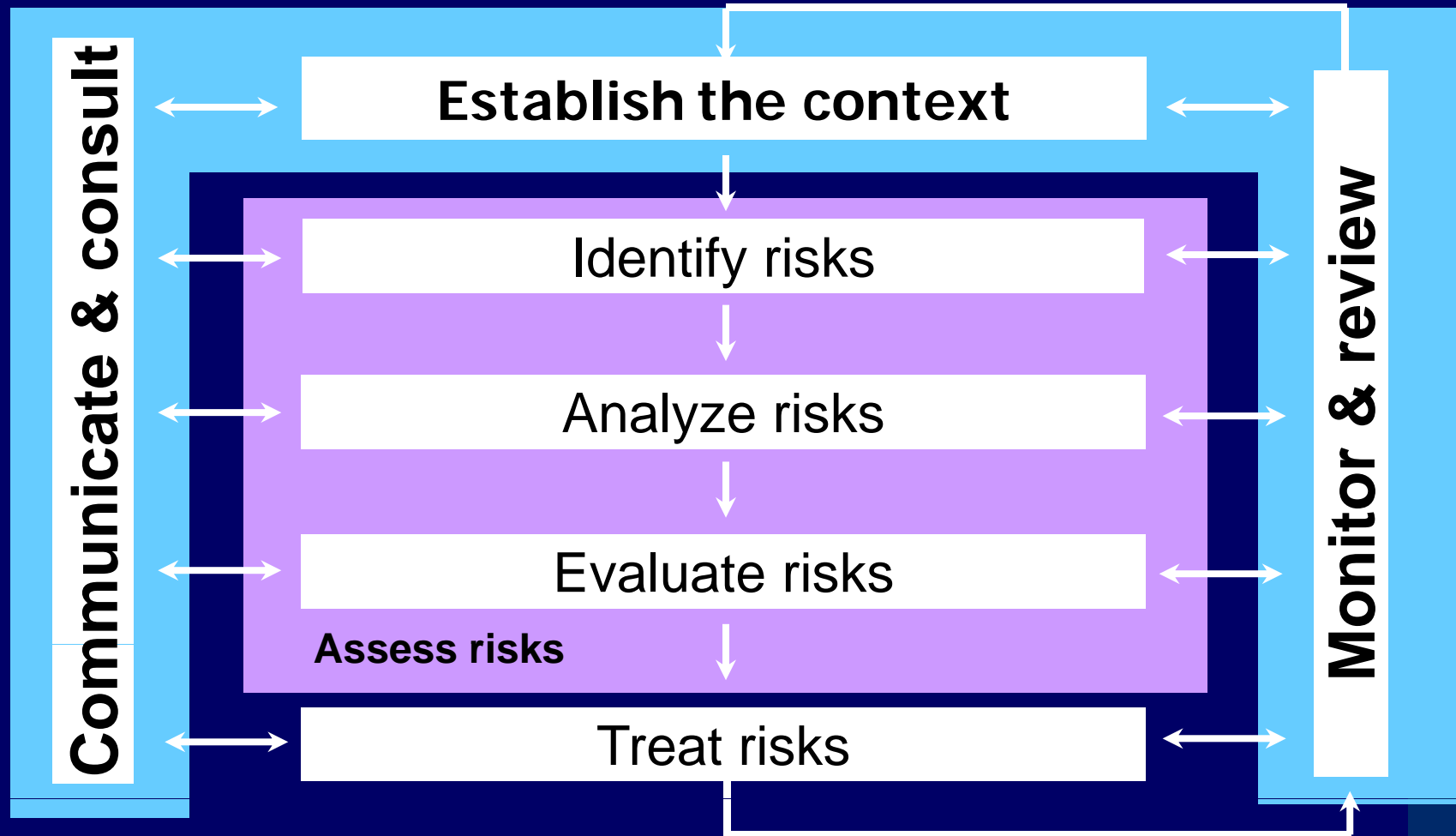


## ... To Flood Risk Management (FRM)


- “Living with rivers”
- Purpose of FRM is to:
  - Reduce risk to society caused by floods as low as reasonably practicable
  - Improve the understanding of flood risk to all stakeholders
  - Enable society to function in the confidence that floods are managed
- Considers physical and socio-economic aspects equally
  - Integrated and holistic approach
- Long-term strategies
  - Sustainable water management
  - Sustainable development.
- Working with vulnerable communities



# The Risk Management Model – AS/NZS 4360:2004 (3<sup>rd</sup> edition)



# The Process



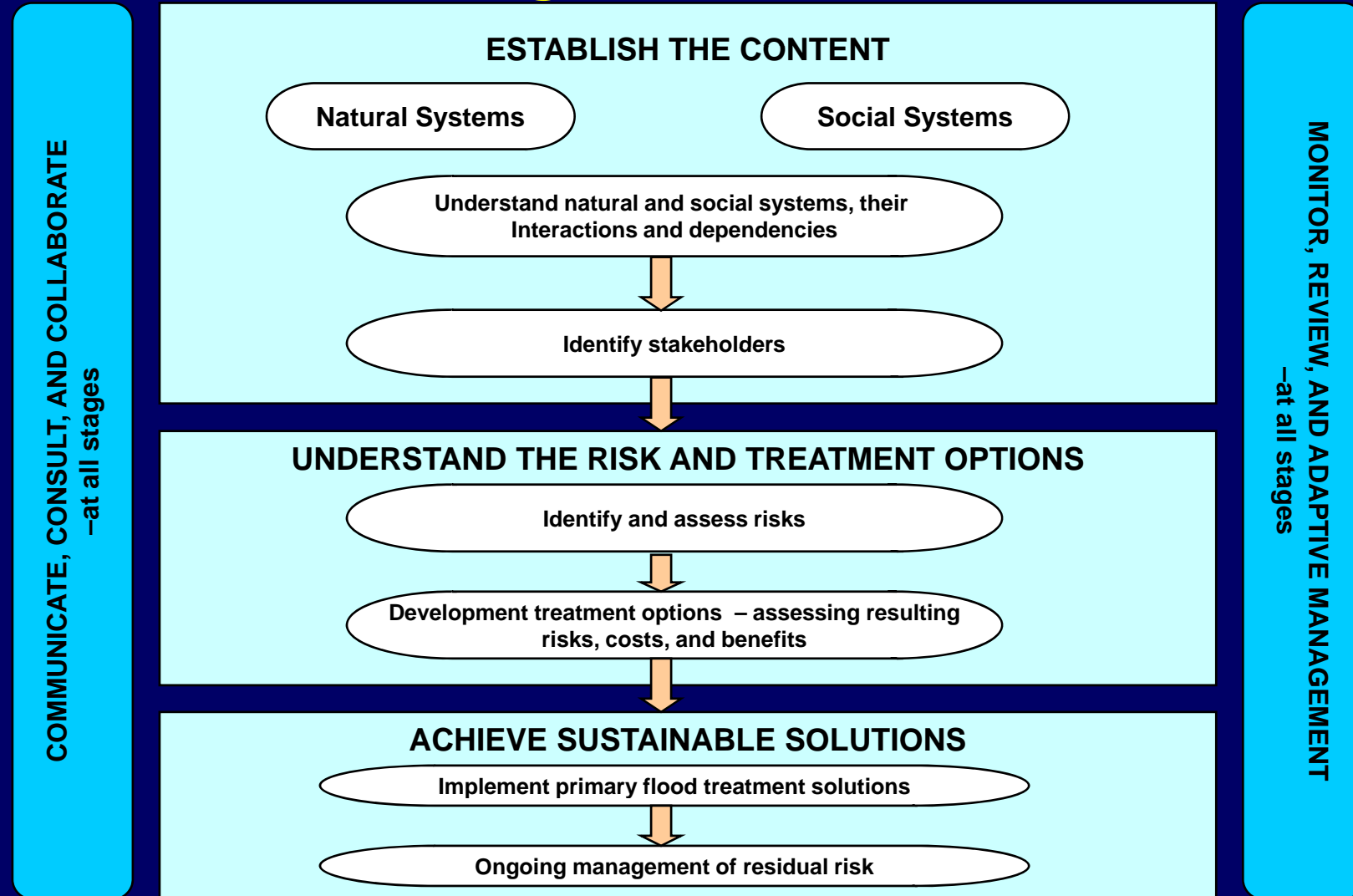
**Understand context**  
**Identify hazards and vulnerabilities**  
**Establish goals and risk level**  
**Recognize areas of improvement**  
**Execute action plans**

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# Flood Risk Management Process Summary

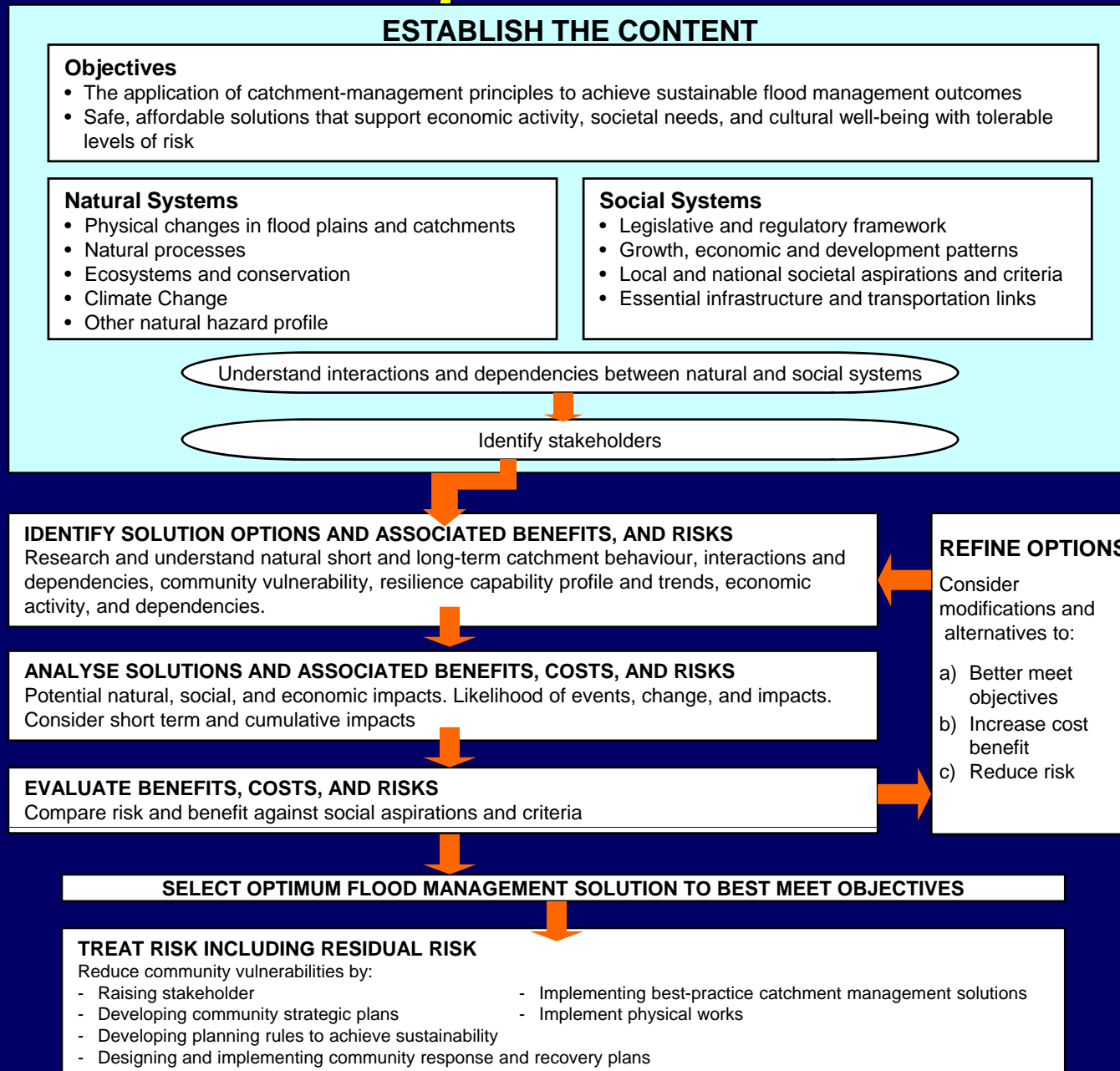


**OUTCOME**  
Safe, affordable, and sustainable flood management that supports economic activity, environmental integrity, societal needs, and cultural well-being, with tolerable levels of risk

# Flood Risk Management Process Summary

**COMMUNICATE, CONSULT, AND COLLABORATE – at all stages**

Ensure community interests are understood and full involvement achieved

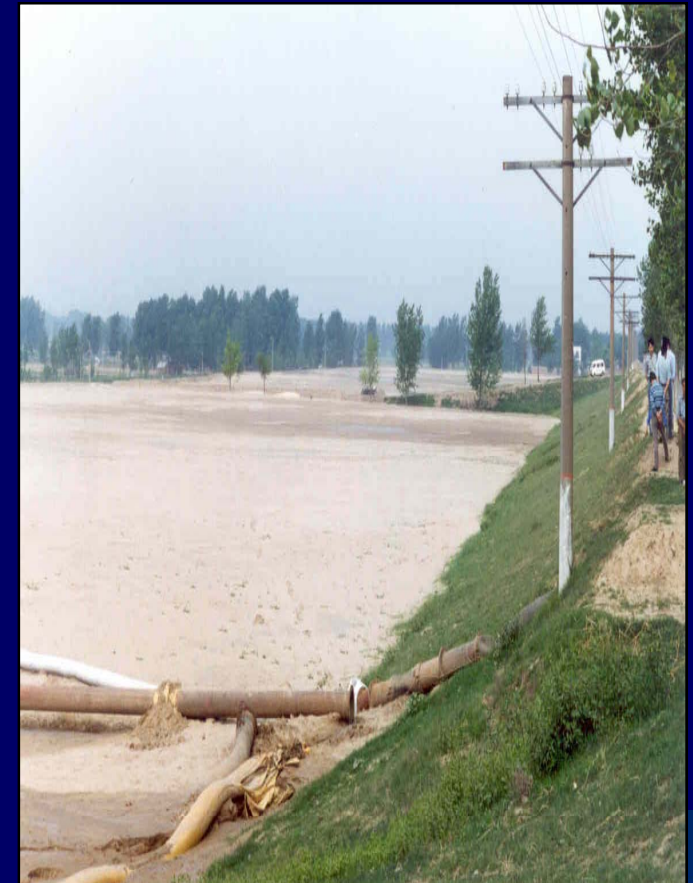


**MONITOR, REVIEW, AND ADAPTIVE MANAGEMENT – at all stages**  
Learn, understand impact of change, and adapt management of flood solutions to ensure objectives will be and are being met

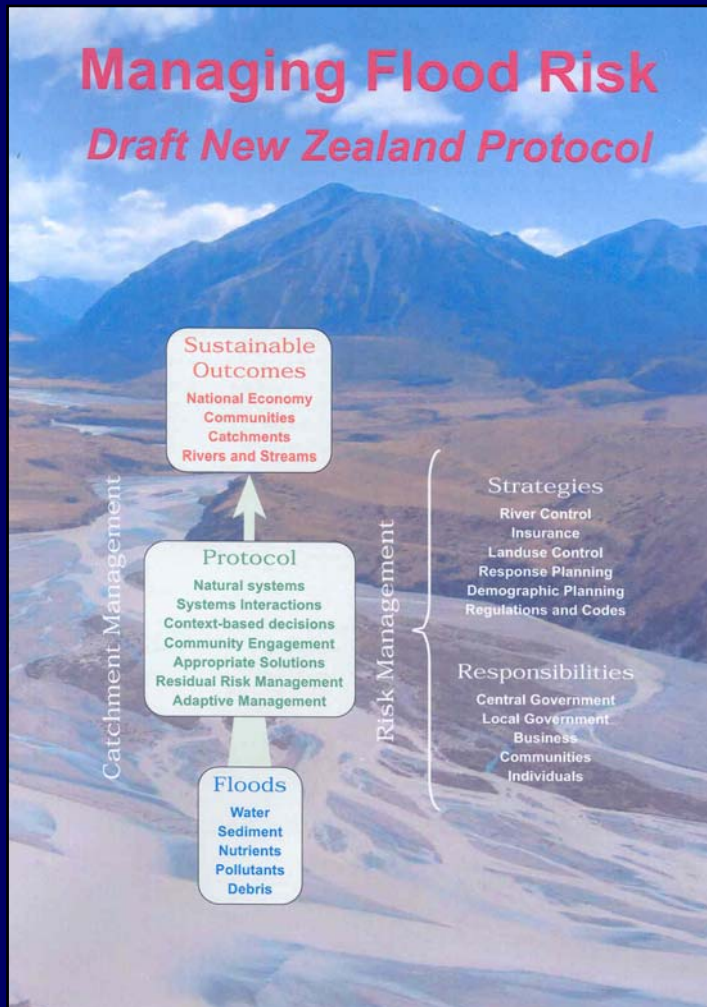
# Flood Risk Management Framework

## PRINCIPLES

1. Engaging communities and stakeholders
2. Understanding natural systems and catchment
3. Understanding the interaction between natural and social systems
4. Decision-making at local level
5. All possible forms and levels of management
6. Addressing residual risk



# Flood Risk Management Frameworks



Towards a New National Flood Emergency Framework

Civil Contingencies Secretariat | Environment Agency | defra

**Towards a New National Flood Emergency Framework**

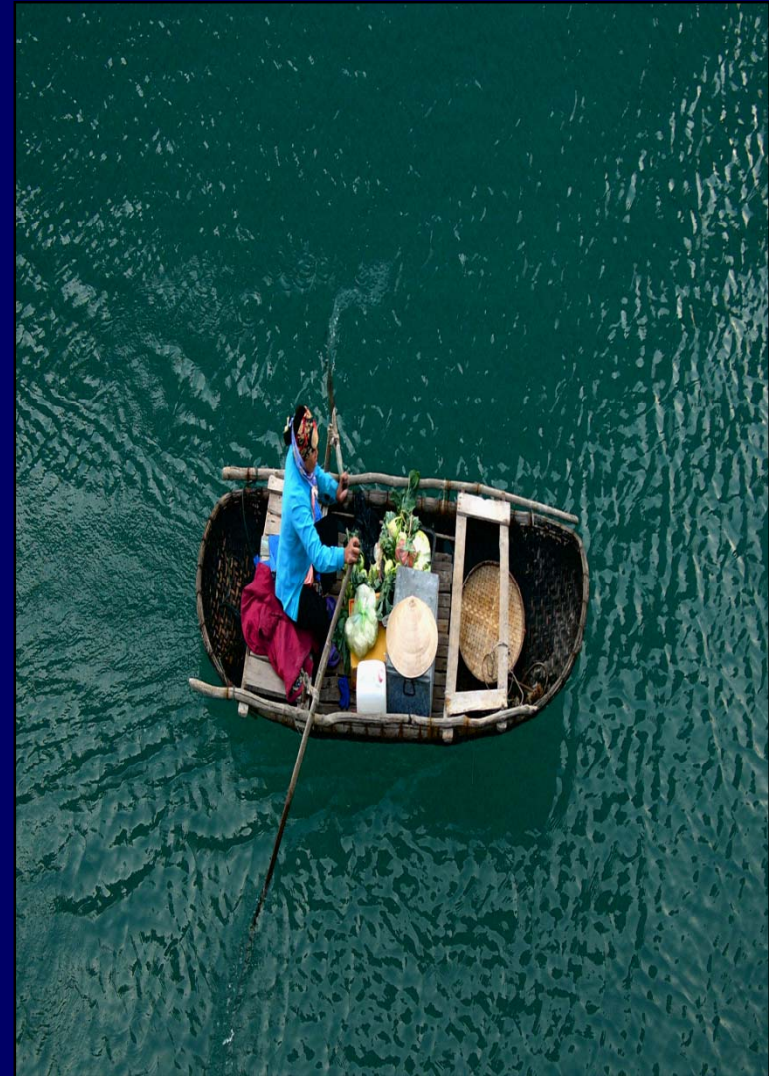
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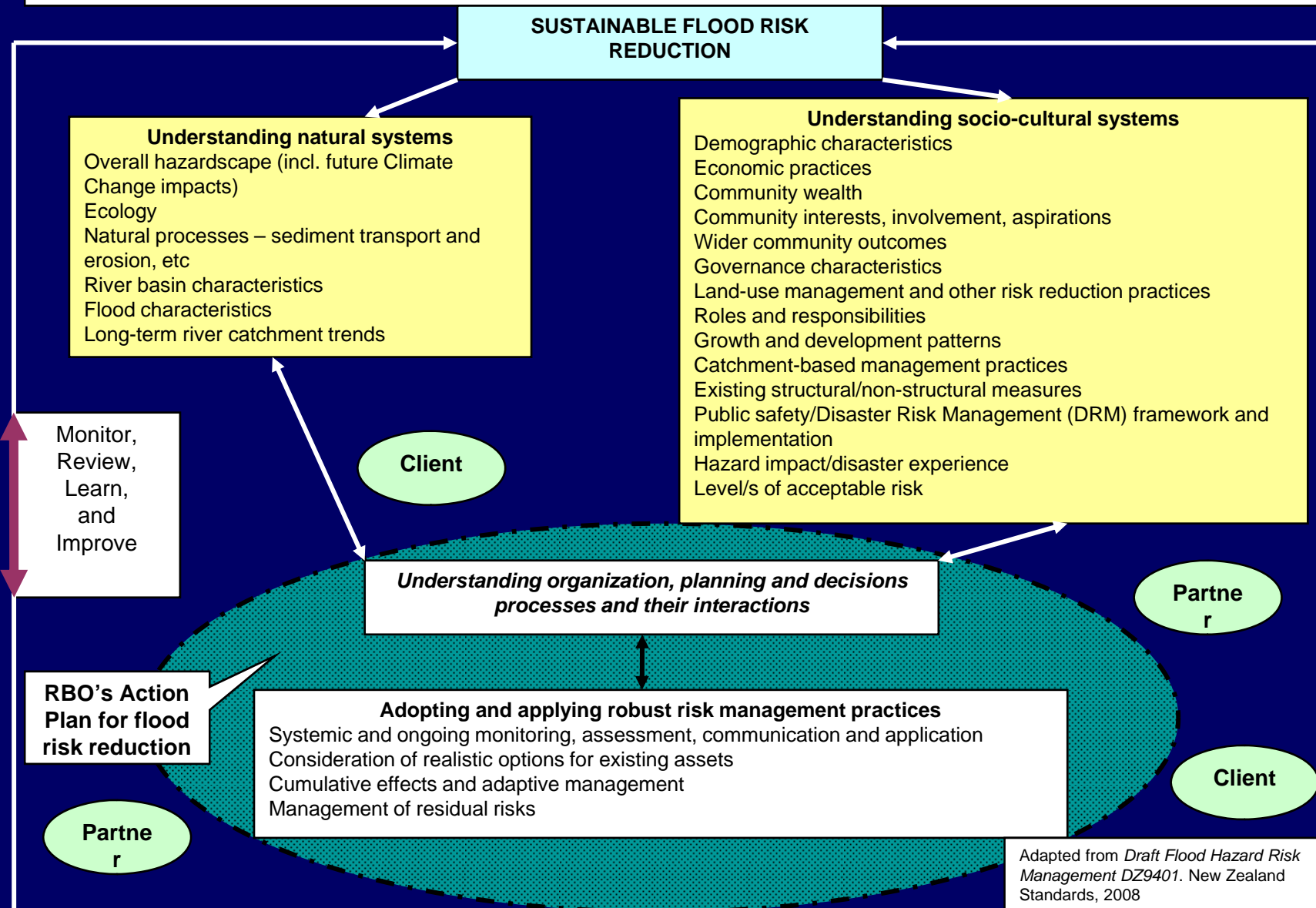


# Proposed ADB Project: Supporting Investments for Water-Related Disaster Management

- 2-year technical assistance for \$2 million in alliance with ICHARM
- Reduce vulnerability to water-related disasters
- Reduce flood risk for 100m people under ADB's Water Financing Program 2006-10
- Support investment projects and regional cooperation for integrated flood management starting 2008
- **Support for community-managed flood preparedness and DRM practices**



# Achieving Flood Risk Reduction: A Framework for River Basin Organizations



ADB. Manila, October 2008

# The RBO as an FRM Focal Point

- What are your current strengths, weaknesses, opportunities and threats?
- Who might be your best allies, and what do they need?
- Who are your key clients and what might they expect from you?
- Who are best people in your RBO to lead?
- **What role will YOU be doing?**

