

GLOBAL PLATFORM for Disaster Risk Reduction

Side Event on

**Managing Floods
for Sustainable Development**

Integrated Flood Management

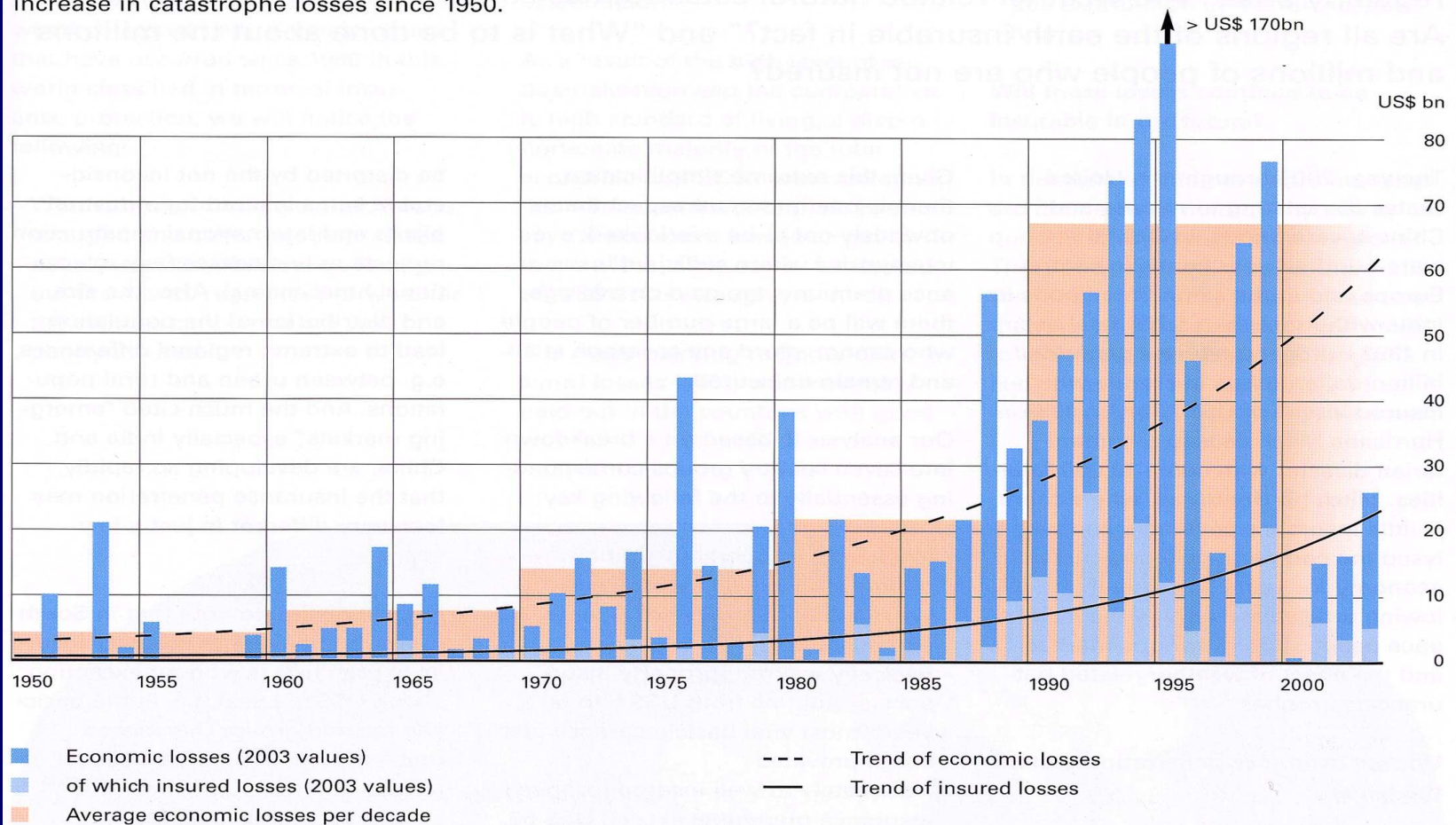
7th June, 2007

GENEVE

**Avinash C Tyagi
World Meteorological Organisation
Geneve, Switzerland**

Flood risks and consequently flood disasters are on the rise

The chart presents the economic losses and insured losses – adjusted to present values. The trend curves verify the increase in catastrophe losses since 1950.



Shortcomings of past FM Practices

- Emphasis has been on ‘Control’ rather than ‘Management’**
- FC measures have been Ad-hoc and stand alone**
- Reactive rather than proactive**
- Emphasis has been largely on structural measures**
- Monodisciplinary**
- River morphological behaviour is not factored**
- Lessons from past failures have rarely been learnt**

New challenges!

Increasing Flood Risks

**Increasing Climate variability and
Potential change**

Absolute safety against floods is a myth

Growing environmental concerns



Integrated Flood Management



Integrated Flood Management: Objectives

- Sustainable development: balancing development needs and flood risks**
- Maximising benefits: ensure livelihood security and poverty alleviation thereby reducing vulnerability**
- Minimising loss of life**
- Environmental preservation**

Integrated Flood Management:

A Holistic Approach

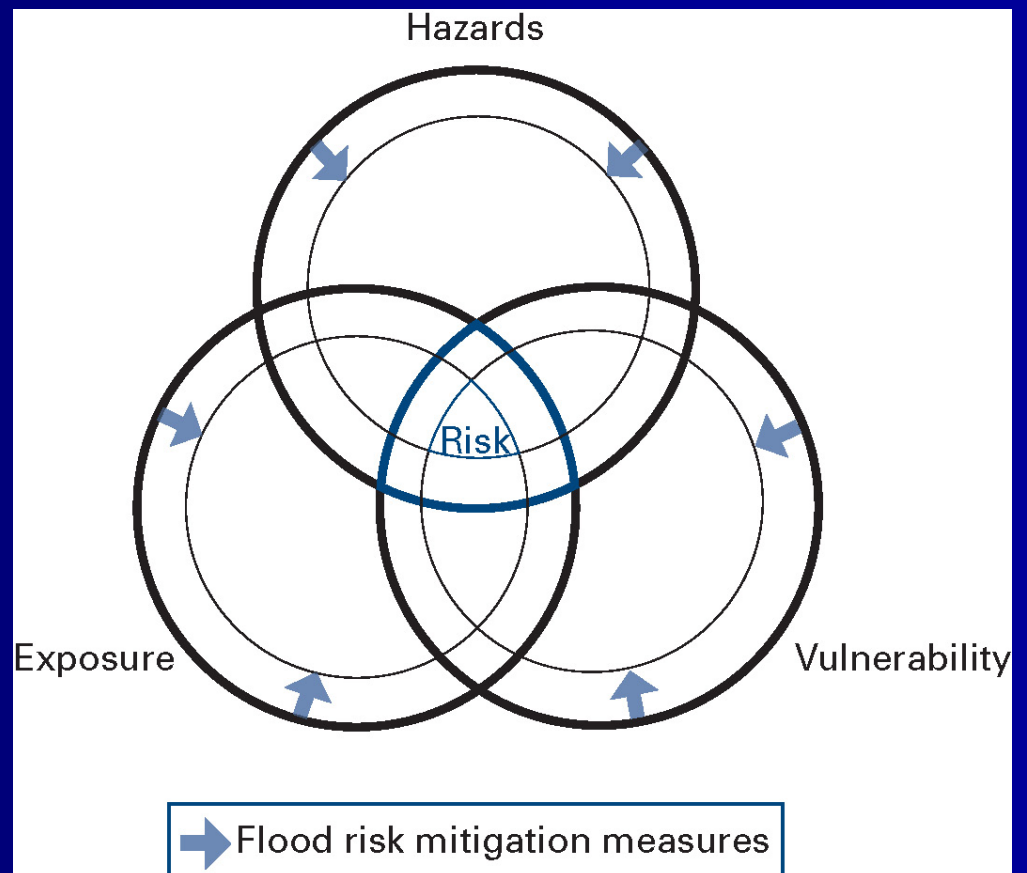
■ Integration of

- Land and Water management**
- Structural and Non-structural**
- Upstream and Downstream**
- Short term and Long-term**
- Local and basin level measures**
- Top down and Bottom up decision making**
- Development needs with ecologic and economic concerns**
- Functional Integration of Institutions**

IFM: PRINCIPLES

Risk Management

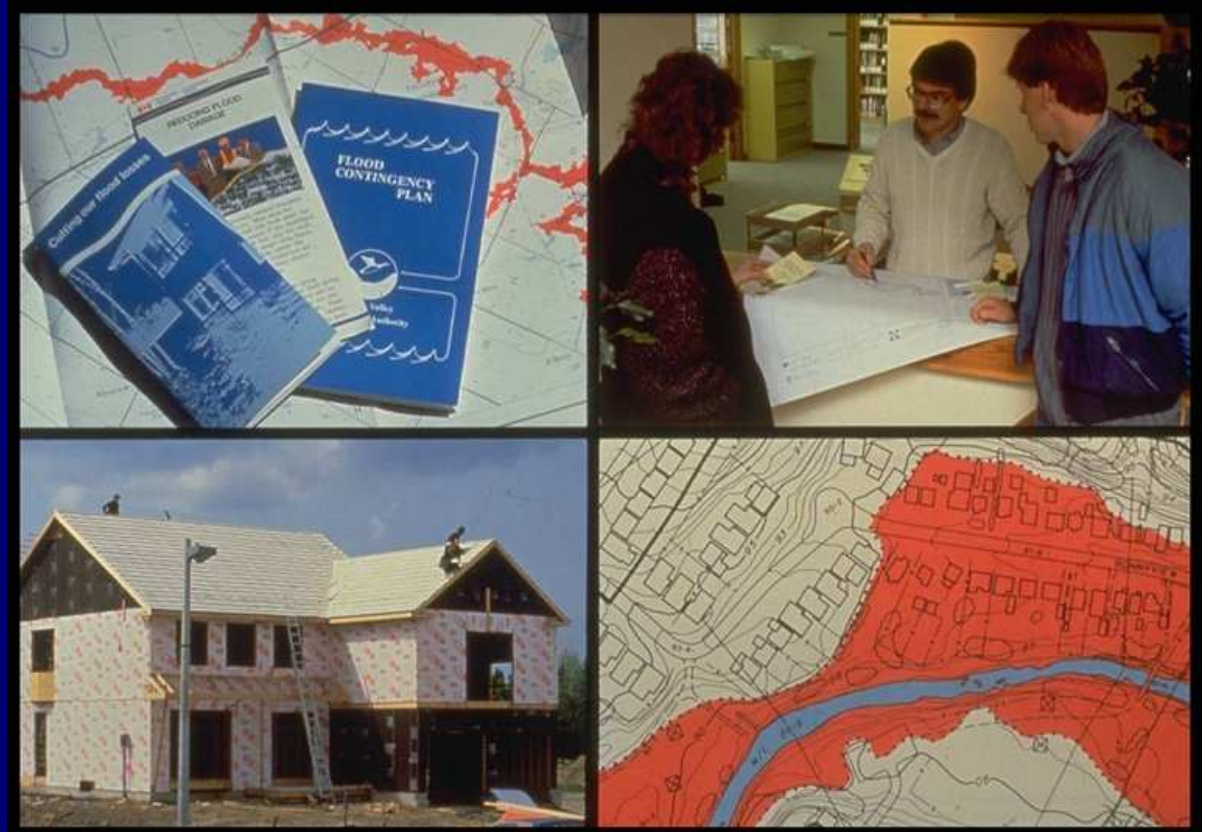
Understanding the Flood Risks



IFM: PRINCIPLES

Risk Management

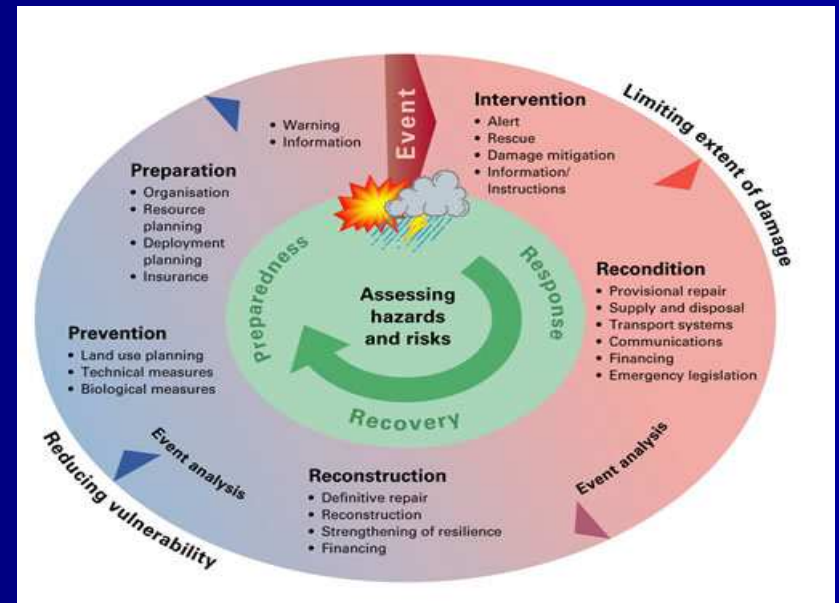
Comprehensive Assessment of Risks



IFM: PRINCIPLES

Risk Management

- Mitigation and Preparedness
- Response
- Recovery and rehabilitation
- Residual risks



IFM: PRINCIPLES

Risk Management

Water Cycle as a whole



IFM: PRINCIPLES

Risk Management

Water Cycle as a whole

Multi-hazard approach



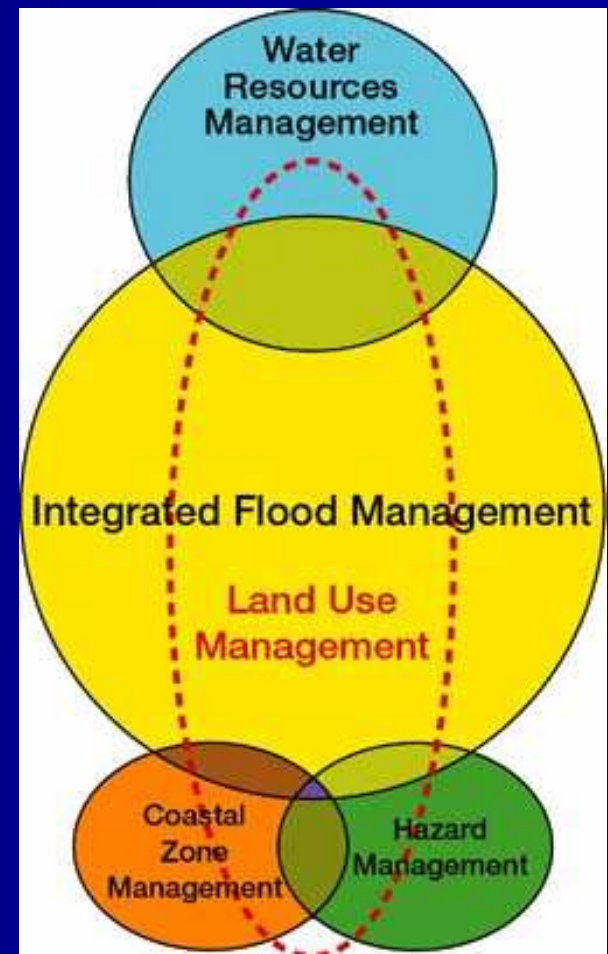
IFM: PRINCIPLES

Risk Management

Water Cycle as a whole

Multi-hazard approach

River basin as a planning unit



IFM: PRINCIPLES

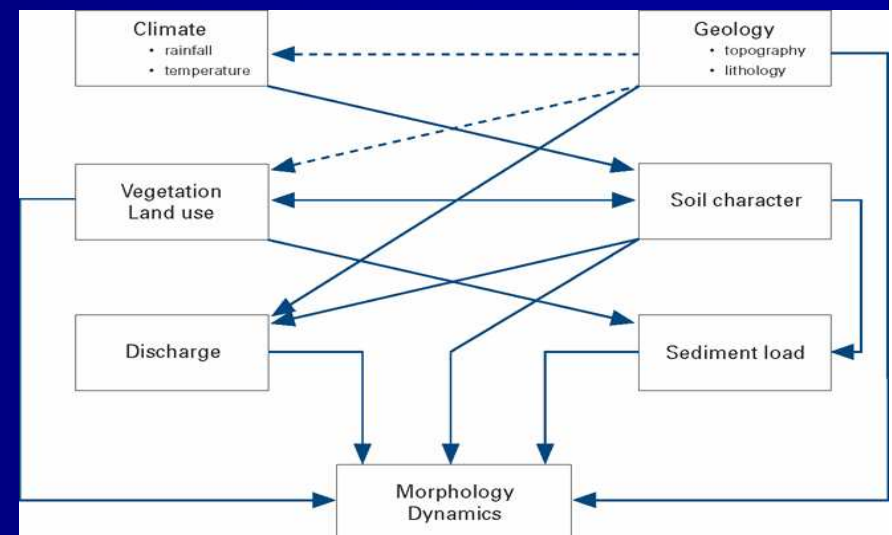
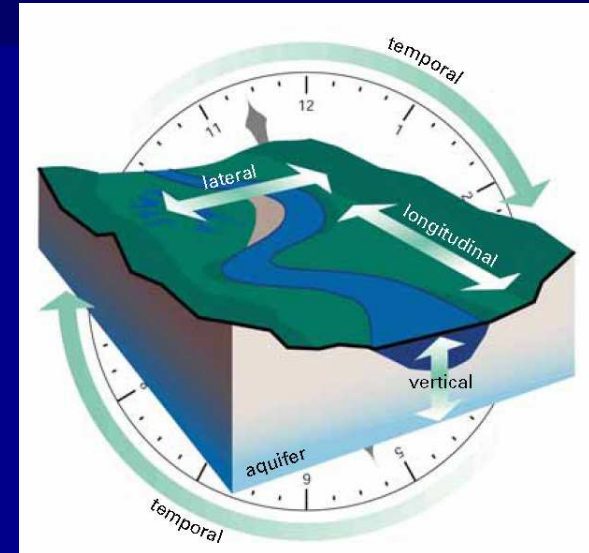
Risk Management

Water Cycle as a whole

Multi-hazard approach

River basin as a planning unit

Inter-disciplinary



IFM: PRINCIPLES

Risk Management

Water Cycle as a whole

Multi-hazard approach

River basin as a planning unit

Inter-disciplinary

Stakeholders participation



Requirements of IFM

Clear and objective policies

- Comprehensive assessment and understanding of flood risks;
- Multi-sectoral approach to reach the objectives;
- Appropriate legislation and regulations; and
- Innovative economic instruments.

with a multidisciplinary approach

- Appropriate Institutional structures for proper coordination and linkages;
- Enabling participatory processes; and
- Information management and exchange mechanisms.

Flood Management Policy Series

- Instrumental in bridging disciplinary gaps for IFM
- Expert-group based
- Peer-reviewed
- Specific target groups
 - Policy Makers
 - Flood Managers
 - Experts in respective special fields
- Target group adapted language and format





Home

About APFM

IFM Concept

Advocacy for IFM

❖ Case studies

Regional pilot project

Newsletters

Publications

FM Databases

Events

Case Studies



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THANK YOU

A number of case studies on flood management were, and are being, collected from various regions of the world, based on the experiences of organizations active in flood management. The main objectives in collecting these case studies are to: