



Training Workshop on Flood Risk Management

Dakar, Senegal, 18 - 19 March 2013



Associated Programme on Flood Management: IFM, HelpDesk activities and outcomes

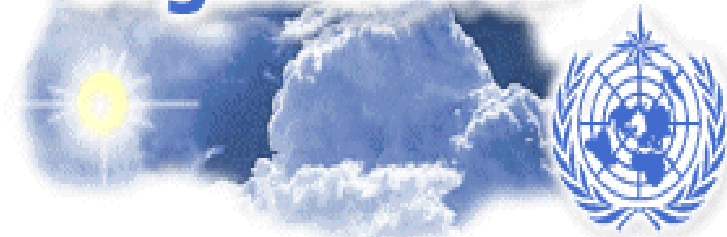
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What is WMO?

World Meteorological Organization



A United Nations Specialized Agency

Working together in Weather, Climate and Water



- Based in Geneva
- Regional Offices in Paraguay and Kenya
- 260 staff members

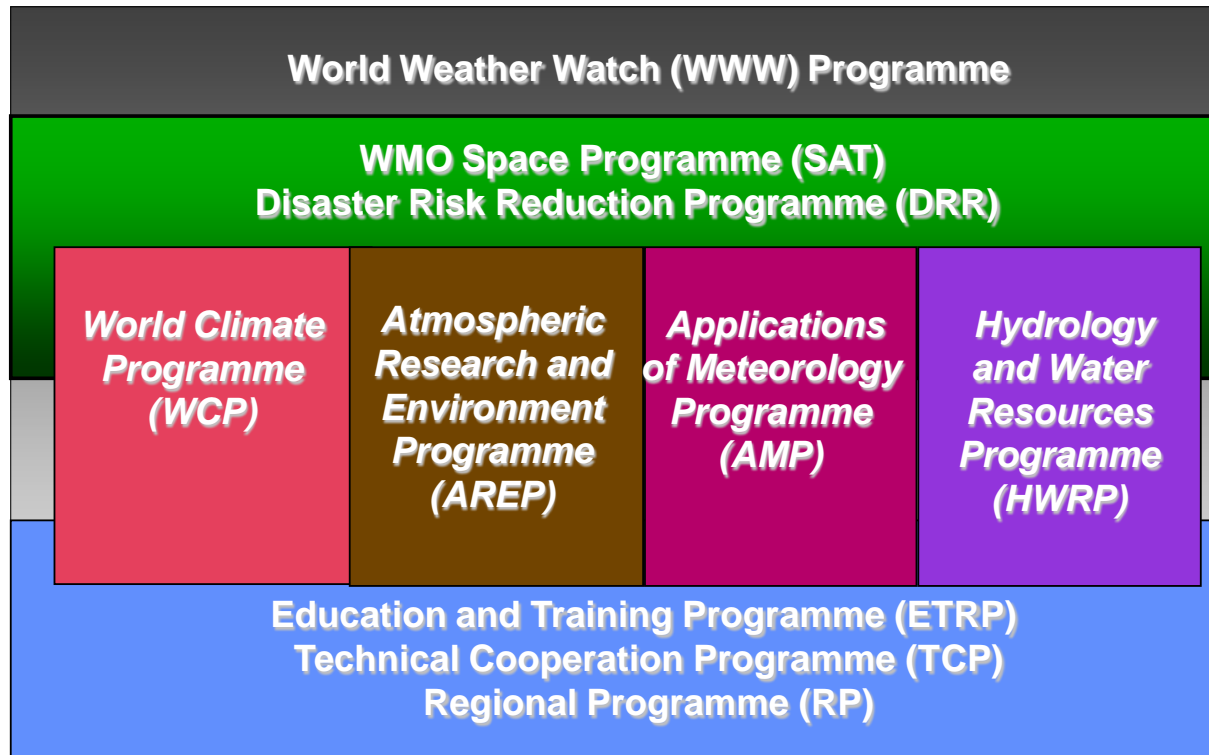


WMO's objectives

- **Facilitate worldwide cooperation** in the field of meteorology and hydrology and their application to the benefit of all;
 - Promote the establishment and maintenance of systems for the **rapid exchange of data information** in meteorology, climatology and hydrology;
 - Promote **standardization** of observations and ensure the uniform publication of observations and statistics;
 - Further the application of meteorology, climatology and hydrology to **development issues** (transportation, water management, agriculture, etc.);
 - Encourage **research and training**, and assist in coordinating their international aspects.
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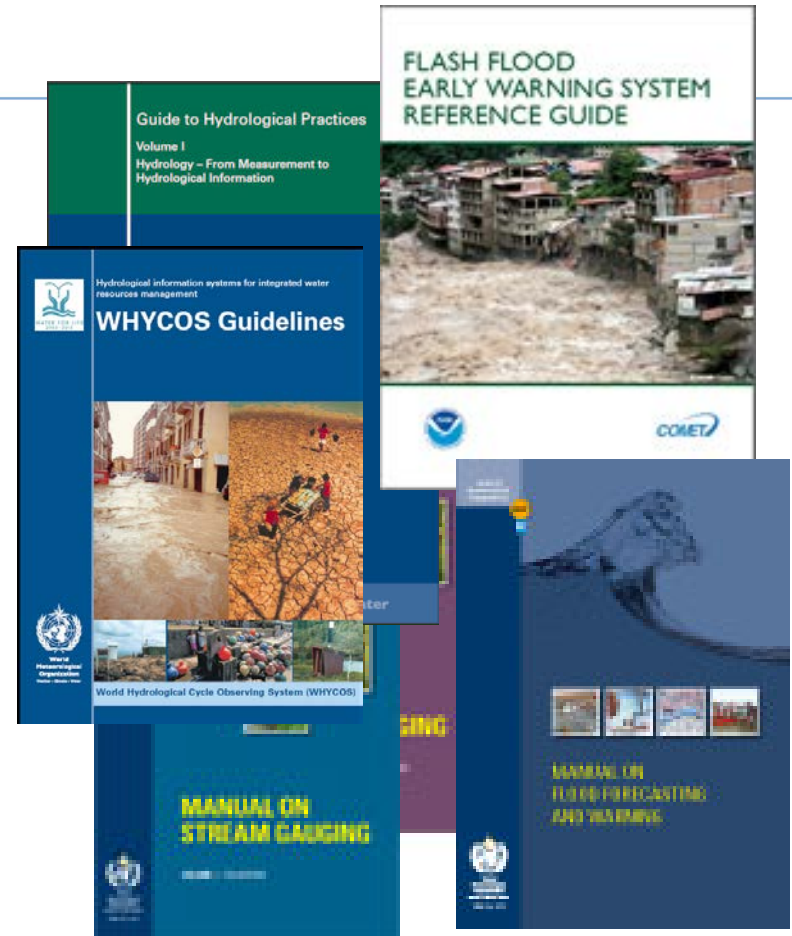
WMO's Programmes





Main HWR Activities

- QMF - Hydrology
- WHYCOS
- International Flood Initiative
 - APFM
 - FFGS
- HOMS
- Capacity building
- Integrated Drought Management Programme





Associated Programme on Flood Management

Mission

“to support countries in the integrated management of floods within the overall framework of Integrated Water Resources Management.”





APFM Background

Joint Initiative

World Meteorological Organization (WMO)

Global Water Partnership (GWP)

Secretariat

Technical Support Unit (TSU) embedded in the Hydrology and Water Resources Branch (6 staff)

Trust Fund contributors: Japan, USAID and Switzerland

In-kind contributors: Japan, Germany, Italy

Currently in its 11th year of activity



Settling on floodplains has enormous advantages...





...but at the same time poses great risks





Changing perceptions of floods

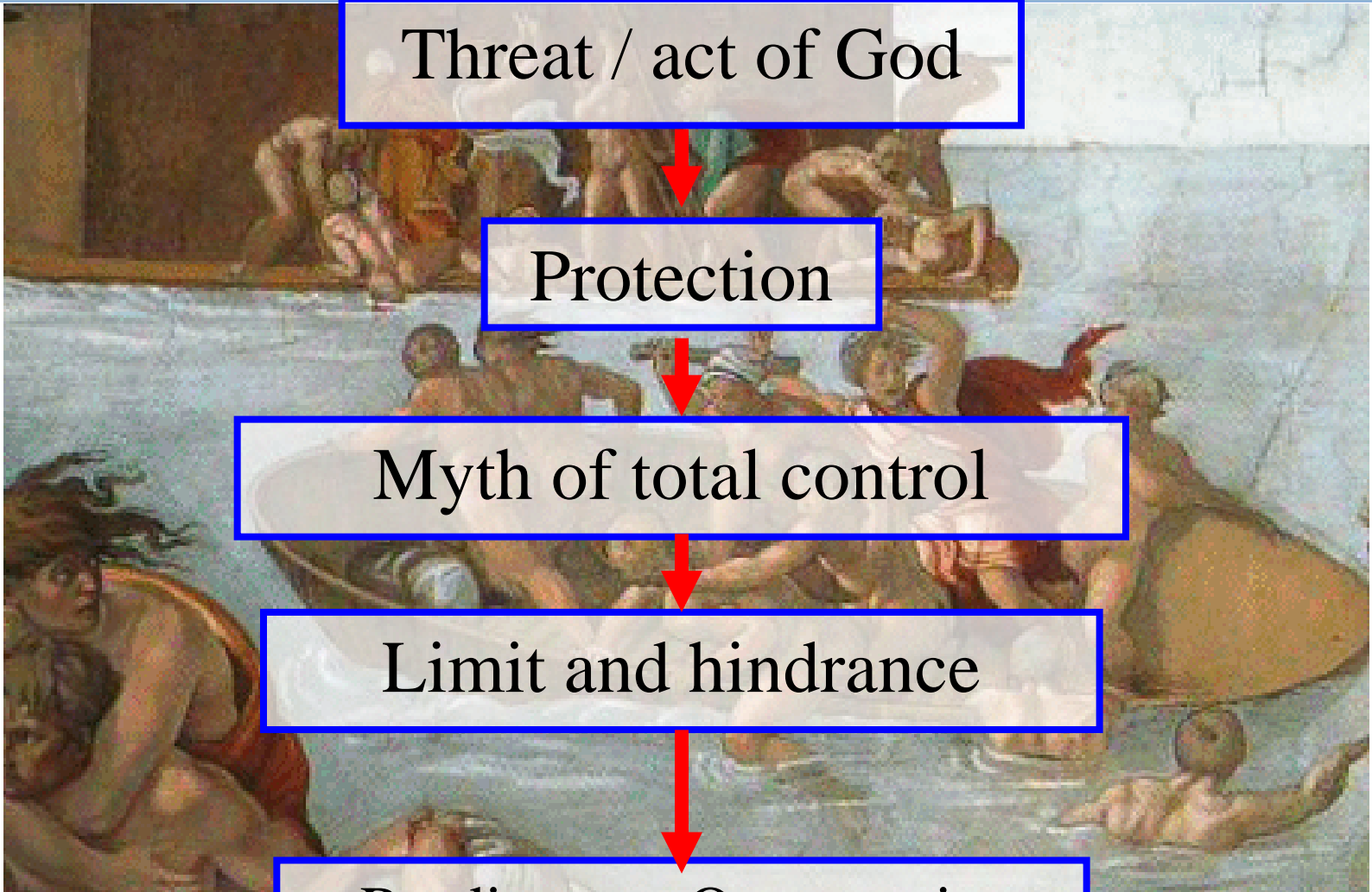
Threat / act of God

Protection

Myth of total control

Limit and hindrance

Re-discover Opportunity

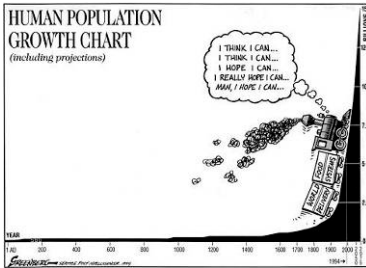




Challenges of flood management



Climate change,
climate variability



Demographic pressure



Urbanization and
settling on floodplains



Absolute safety from
flooding is a myth



Decision making
processes
Community Participation, multi-
stakeholder involvement



Ecosystem conservation



Securing livelihoods



Saving lives, and
Early-warning systems



Wake up and Start up!

Review:

1

Which instruments are currently used in Flood Management?
(Masterplans....)

2

Why are current flood management practices not sufficient ?
What are the main critical deficits in your perception ?

3

What is your understanding of the word « Integration »
in the context of flood management ?



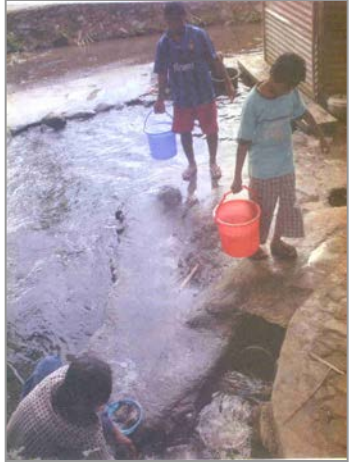
Traditional Flood Management Practices

- Physical separation of rivers from populations and goods (instead of integrating them)
- Capacity enhancement of rivers
- Storage and retention of runoff
- Emergency management
- Flood recovery





Traditional interventions



- ✓ **Emphasis on ‘Control’** rather than ‘Management’
- ✓ **River morphological behaviour** is not factored
- ✓ **Structural measures** generally disturb eco-system balance and give a false sense of security to people
- ✓ Rather than mitigating flood risk we largely succeeded in only **shifting them spatially & temporarily**
- ✓ Planned in isolation from other development issues and on local scales (**local and partial solution**)

- ✓ Problem primarily addressed based on engineering solutions (**monodisciplinary**)
- ✓ Comprehensive flood management policies are **neglected policy issues**
- ✓ Non-structural measures:
 - weak coordination
 - poor communication strategies
 - limited or passive community participation





Shortcomings of past FM Practices

- **Emphasis on ‘Control’** rather than ‘Management’
- Focused on only part of the basin / river: rather than being mitigated the **flood risk is only shifted**
- FC measures often planned in isolation from other development issues and on local scales (**local and partial solution**)
- **Reactive** to flood events **rather than proactive**
- Emphasis on **structural measures**
- Problem primarily addressed based on engineering solutions (**monodisciplinary**)
- River **morphological behaviour** is not factored
- Lessons from past failures need to be continuously internalized into management practice

Comprehensive flood management policies are neglected policy issues



Paradigm shift required



- From reactive to **pro-active** approaches;
- From Ad-hoc to **Integrated Flood Management**
- Towards a **culture of prevention** by managing flood risk & living with floods;
- **Balancing flood risk** and achieving sustainable development needs;
- **Change in decision making processes** to include risk management approaches.



Maximize Net benefits

Gain

Derived from the activities and use of floodplains (agriculture, urban development, transportation, recreational use, etc.)

Losses

Direct damages and mid to long term impacts on environment and socio-economics

—

> 0

The objective is to maximize benefits while minimizing losses



Integrated Flood Management (IFM)

- IFM integrates land use and water resources management in river basins within the framework of Integrated Water resources Management (IWRM);
 - IFM is different from conventional flood management as it shifts focus from FLOOD CONTROL to FLOOD MANAGEMENT;
 - This provides for the concept of integrated management of both flood risk and living with floods.
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IFM Principles

- 1. Risk Management**
- 2. River basin as a planning unit**
- 3. Inter-disciplinary approach**
- 4. Stakeholders participation**



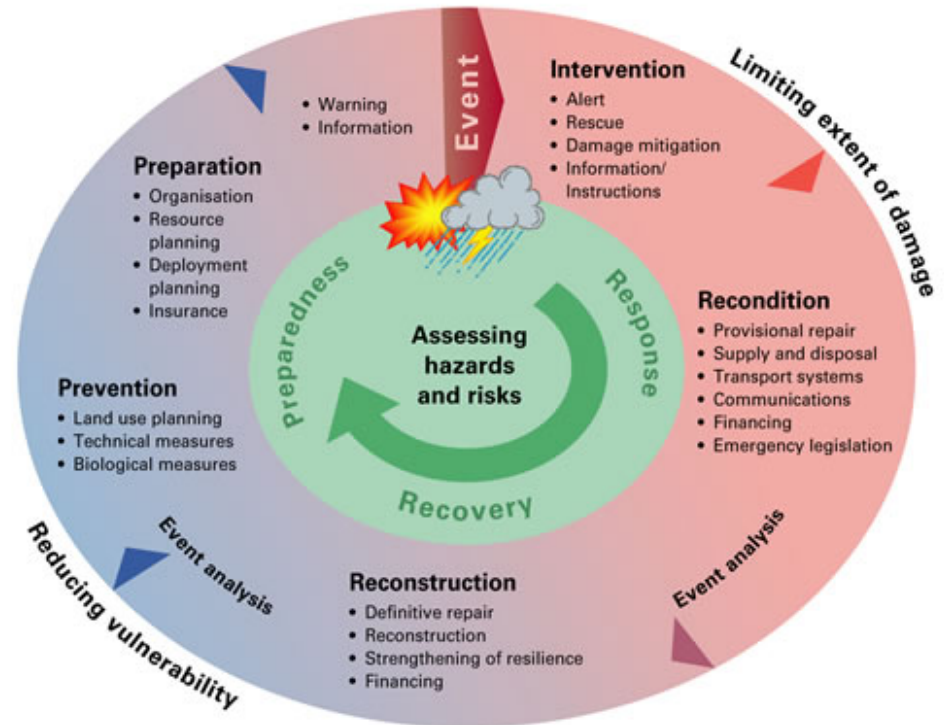


1. Risk Management

- **Preparedness:** to ensure effective response
- **Response:** to reduce adverse impacts during the flooding
- **Recovery:** to increase the resilience of affected communities

Keep an eye on Residual risks!

Risk assessment indispensable (first step: risk maps)

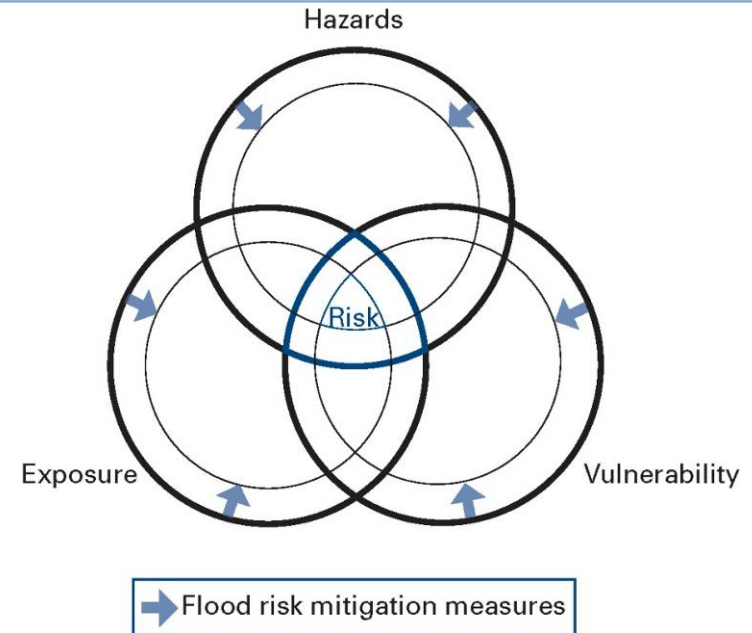




IFM Principles

Understanding flood risk

- Flood risk consists of
 - **Hazard:** probability of a particular discharge or water level at a particular place
 - **Exposure:** Land and assets, human activities in the inundation area
 - **Vulnerability:** ability/disability of the people or assets to withstand, cope with or recover from the negative effects of a flood

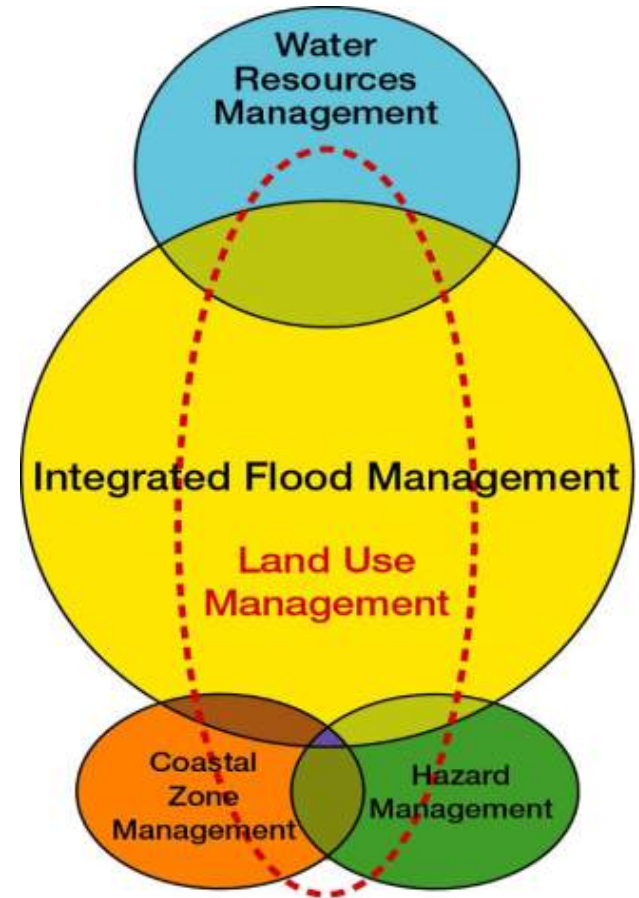




2. River Basin as a Planning Unit

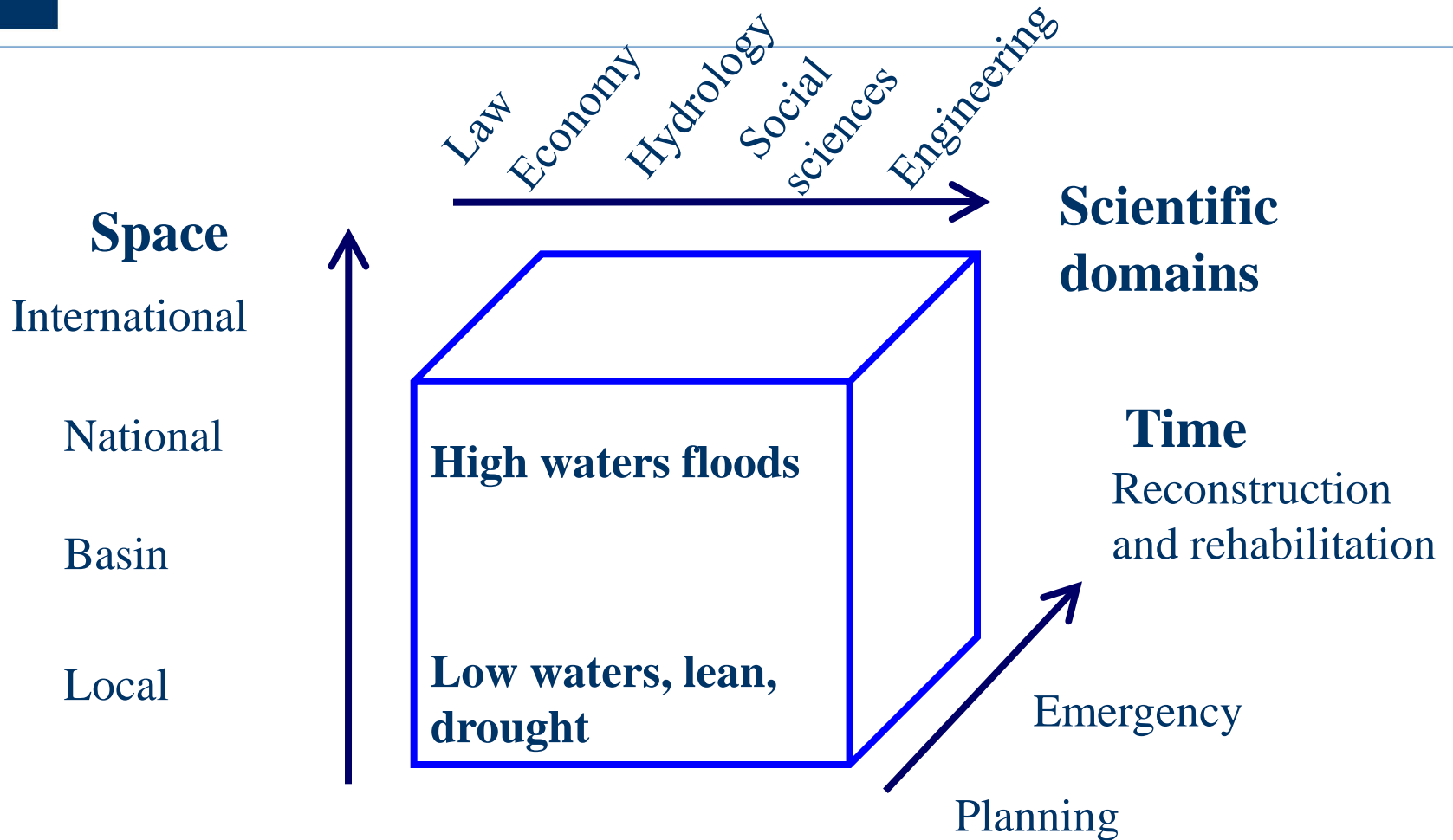
Integration of :

1. Land and Water Management
2. Upstream and Downstream
3. Structural and Non-structural
4. Short-term and Long-term
5. Local and Basin Level Measures
6. Top Down and Bottom Up Decision Making
7. Development Needs with Ecological and Economic Concerns
8. Functional Integration of Institutions and Stakeholders





3. Interdisciplinarity

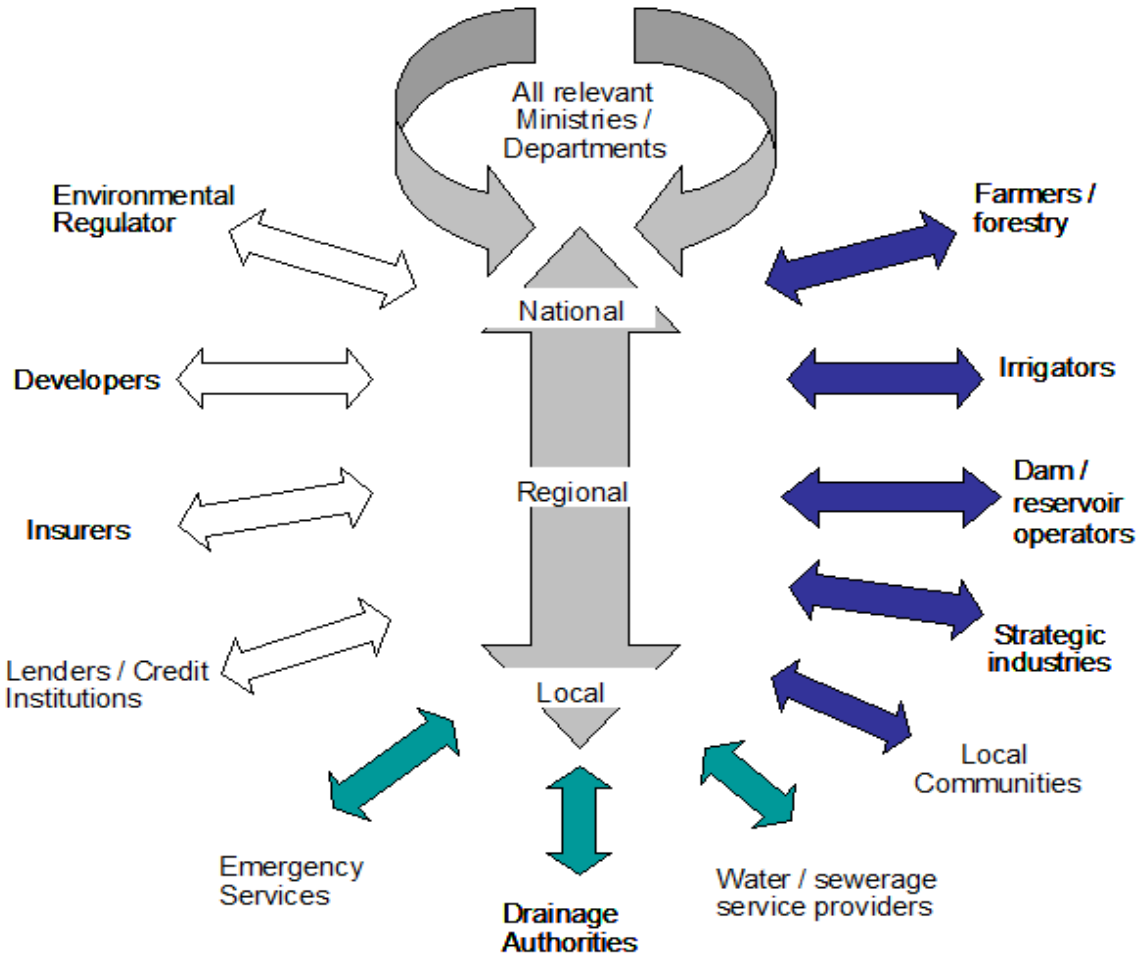


The “dimensions” of IFM

interdisciplinarity, flexibility, participation



4. Stakeholders participation

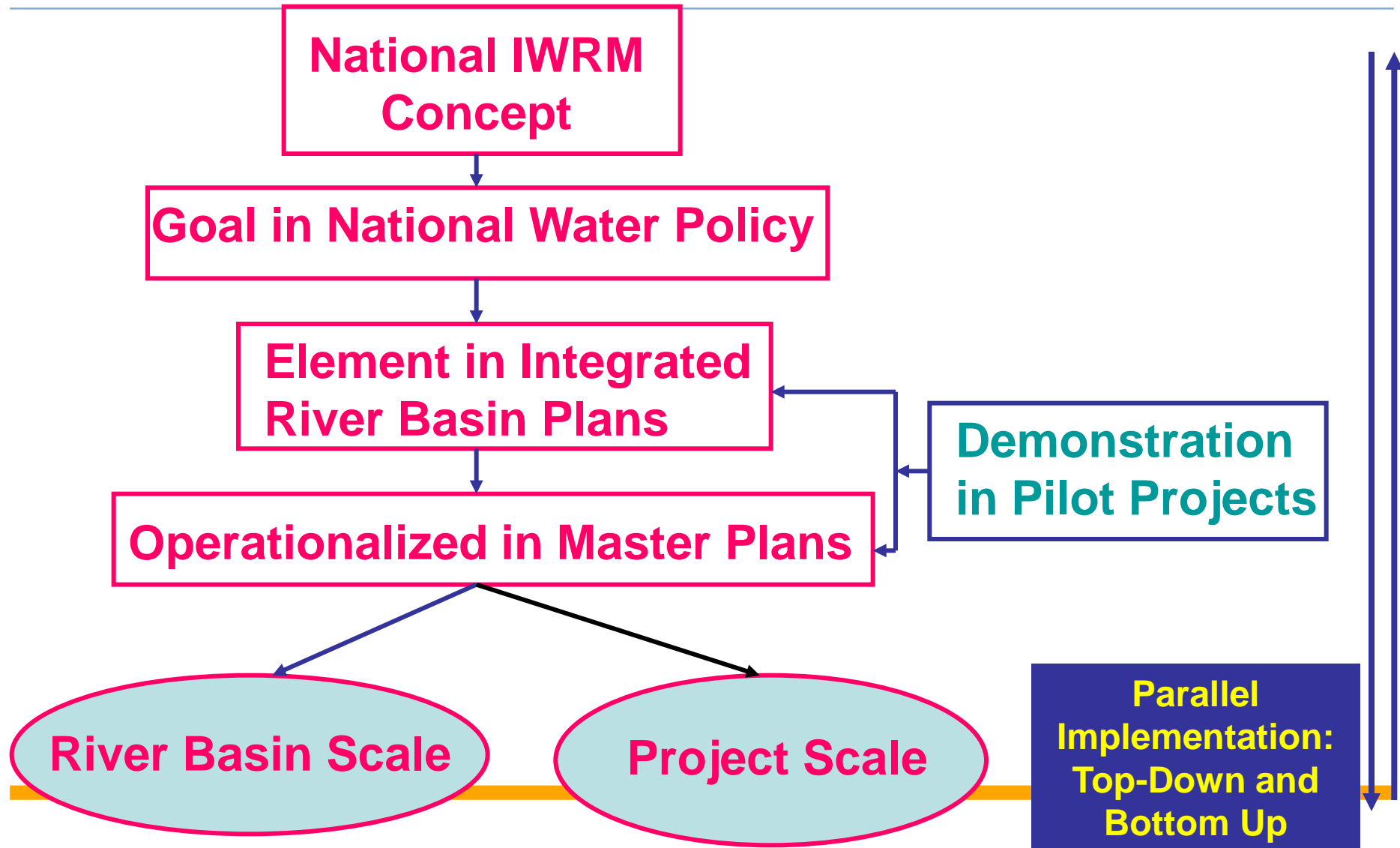


- Involvement of all stakeholders in the dialogue/ decision-making process
- Decentralization of decision-making with appropriate mechanisms
- Optimal mix of bottom-up and top-down approaches
- Effective conflict resolution mechanisms



INTEGRATED FLOOD MANAGEMENT (IFM)

Levels of integration on national, basin and project levels

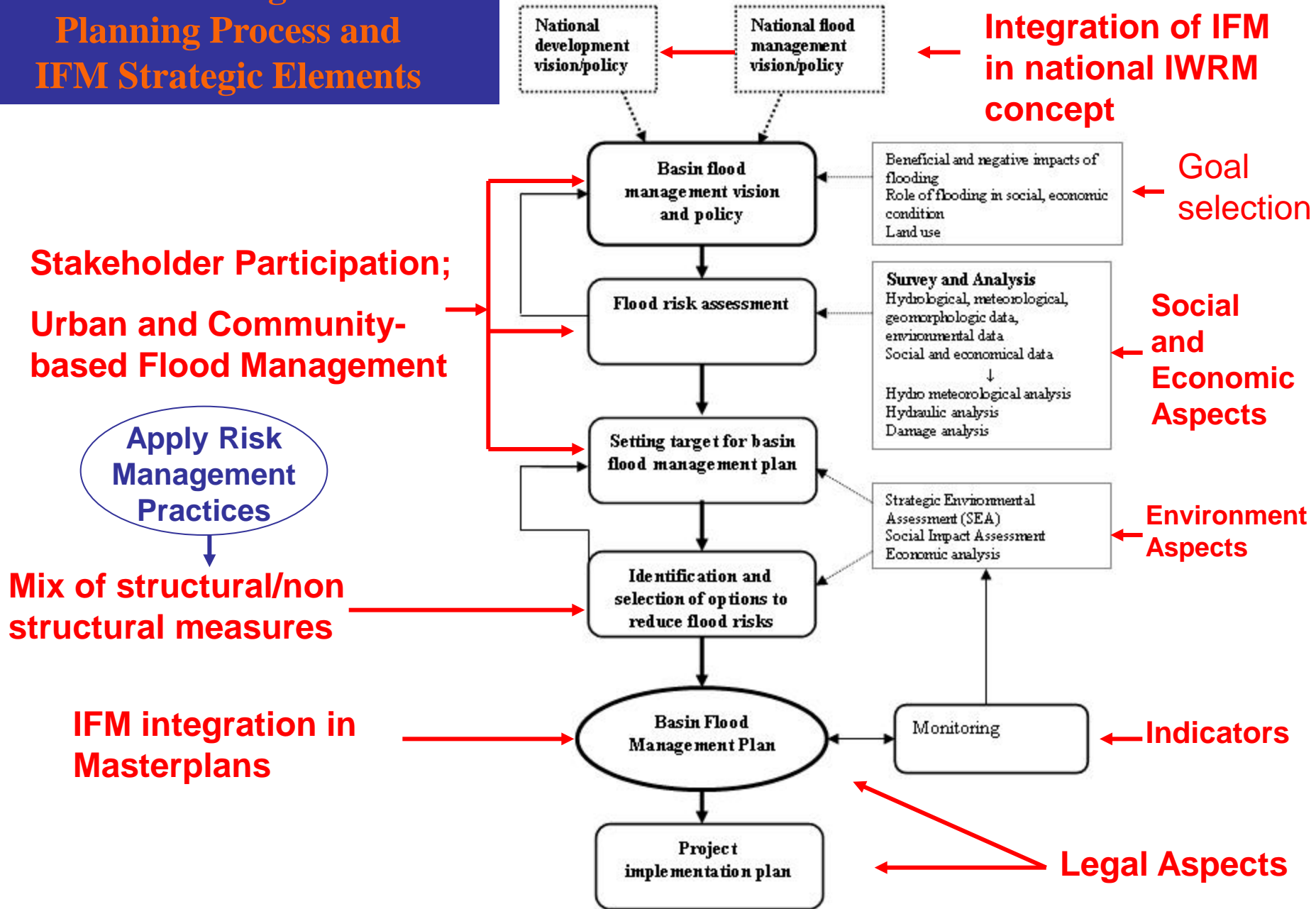




National Flood Management Policy

- What role do the flood plains play in the economy of the country/region?
 - What issues in National development vision/policy have relevance to the condition of floods or flooding and its management?
 - How flood management can contribute to the national development?
 - How flood risks can be appropriately factored in national development planning?
 - How national development vision/policy should be aligned to the existing and future flood risks?
 - How flood risks are shared between federal, state, and local governments on one hand and the individual on the other?
 - What role do the different institutions play in flood management?
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Flood Management Planning Process and IFM Strategic Elements





Activities of the APFM

- Compilation of guidance and advisory tools
 - Field Demonstration Projects
 - Strategic advice on flood management through a **HelpDesk**
 - Developing training and advocacy material
 - Capacity building
 - Building a network of institutions supporting multi-disciplinary approach
-



Flood Guidance Material

These include:

- Flood Management Policy Series (6 publications) – a set of advocacy publications to promote the general concept of IFM under 4 aspects :
 - legal & institutional aspects;
 - Social aspects;
 - Environmental aspects and
 - Economic aspects

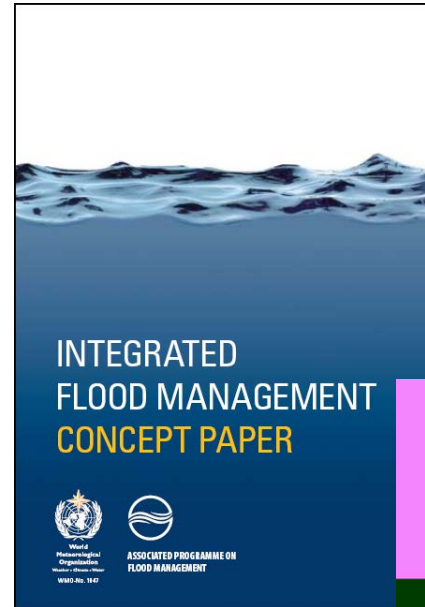
In addition a Concept Paper on IFM and a Case Study on Legal Aspects have been published.



Flood Management Policy Series

Key characteristics

- 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
- Made available in English, French and Spanish



Integrated Flood Management Tool Series

(12 publications)



Contains guidance materials for flood management practitioners to cope with specific flood issues, such as flood risk, urban floods, urban drainage and river flooding in cities.

Publications include:

- Risk Sharing in Flood Management
 - Urban Flood Risk Management
 - Flood Management in a Changing Climate
 - Training materials on Urban Flood Management (gives comprehensive view of urban floods management including flash floods, urban drainage and river flooding in cities)
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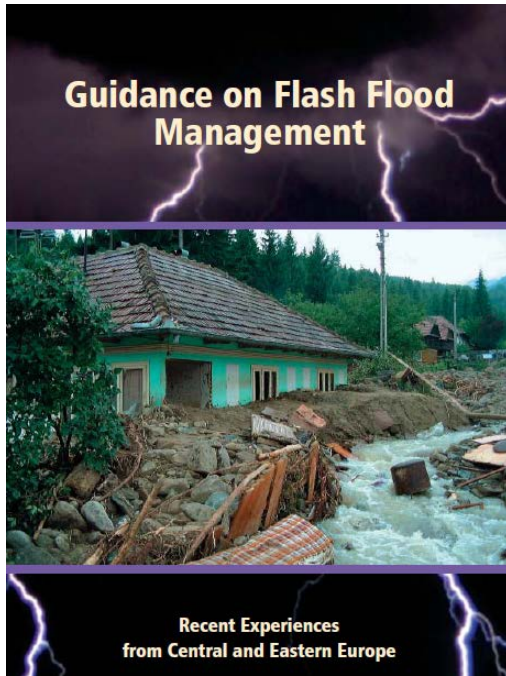
Flood Management Tools Series

- Bridging disciplinary gaps, provide the IFM context and rapid access to operational tools/methods
 - Based on existing knowledge in most cases
 - Living documents
 - Available both on APFM website and HelpDesk
 - Notified through APFM Newsletter
-



Regional pilot projects

- Pilot projects have been undertaken in
 - South Asia (Community approach)
 - Africa (Flood management strategies)
 - Central and Eastern Europe (F.Floods)



Aim of pilot projects: develop and implement IFM concept and its application through demonstration (third party funding).

Planned: Transboundary &
Coastal Flood Management



Capacity Building

- Proficiency training (short training courses and workshops for different target groups)
 - Integrated Flood Management
 - Urban Flood Management
 - Community approach to flood management
 - E-learning platform for flood managers
 - Outreach for teachers and students
 - Reference Centre Database
-



Flood Management Reference Centre

The Reference Center on Flood Management contains several interactive databases on:

- Institutions and Agencies involved in Flood Management;
- Flood Management Policy and Legislation;
- Literature on Flood Management
- Collected case studies on good FM practices

→ **Decentralized input through web interface**



Has been conceived as “a facility that will provide guidance on flood-related issues to countries that want to adopt the IFM concept”



HelpDesk

- Provide quick access to relevant flood management information;
- Provide guidance and momentum for reform activities towards IFM in the countries or river basins;
- Provide a continuous and sustainable capacity development mechanism in support of IFM implementation.
- Serve as a link between flood management practitioners or decision makers and required experts in various fields;
- Serve as link between various technical and financial partners.

**No Disaster Assistance or
Flood Emergency Response Functions !!!**



WMO OMM



A contribution to the International Flood Initiative



Associated Programme on Flood Management

English - Français - Español
About Integrated Flood Management | About the IFM HelpDesk | Contact us

Help Yourself

Flood Management Tools

Questions and Answers Bank

Reference Centre Databases

Virtual Discussion Group

Get Help

Assistance for Flood Management Policy, Law and Strategy

Capacity Building for Integrated Flood Management

Rapid Guidance on Technical Tools and Advisory Material

Support Base Partners

Find us on Facebook

Recommend

Engage in state-of-the art Flood Management Strategy Formulation, Policy Making and Legal Reform with full process coaching through the HelpDesk.

Utilize the HelpDesk in organizing advocacy workshops, awareness building campaigns and training at various levels to further integrated flood management.

Be guided to the right combination of information from various sources available under the HelpDesk.

Get Help

Assistance for Flood Management Policy, Law and Strategy

Capacity Building for Integrated Flood Management

Rapid Guidance on Technical Tools and Advisory Material

Flood Management Tools

Questions and Answers Bank

Reference Centre Databases

Virtual Discussion Group

Help Yourself

Explore Flood Management Tools with substantive guidance on specific methodologies, technologies and concepts for implementing Integrated Flood Management.

Browse through the Questions and Answers Bank to find answers on frequently asked questions related to IFM and the HelpDesk.

Use the Reference Centre to know more about the setup in different countries in terms of flood management policy, legislative documents and literature on issues related to floods.

Engage in one of our Virtual Discussion Groups to learn through debate, and share experiences, knowledge and good practices.



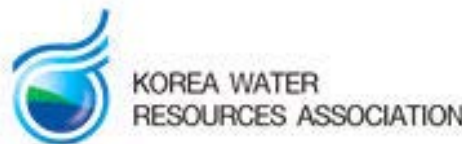
Target audience

- **Government officials** involved in decision making at various levels of Government, charged with a role in flood management
 - **River Basin Organizations**
 - **Bi- and Multilateral Organizations involved in Technical and Financial Cooperation**
 - **UN System organizations** with a role in flood management
 - **Reputed Non-Governmental Organizations** in particular those working with flood affected communities, Voluntary and Community-based Organizations
 - **Universities**
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Support Base Partners

Specialized institutes in various disciplines relevant for IFM



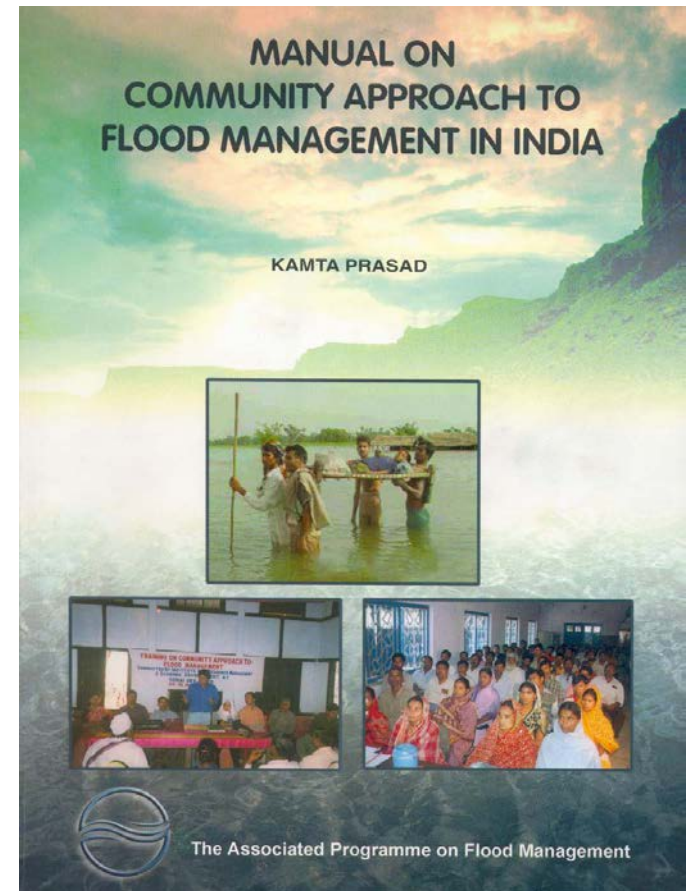
<http://www.floodmanagement.info>



Examples of APFM Achievement: Community Based Flood Management - CBFM

Implemented over three years in 4 steps:

1. Assess existing FM measures and communities perception of flood risk
2. Undertake appropriate activities to strengthen self-help capacity of communities for improved IFM practices and increased resilience.
3. Facilitate institutional strengthening and recognition of the approach
4. Prepare a community flood management manual



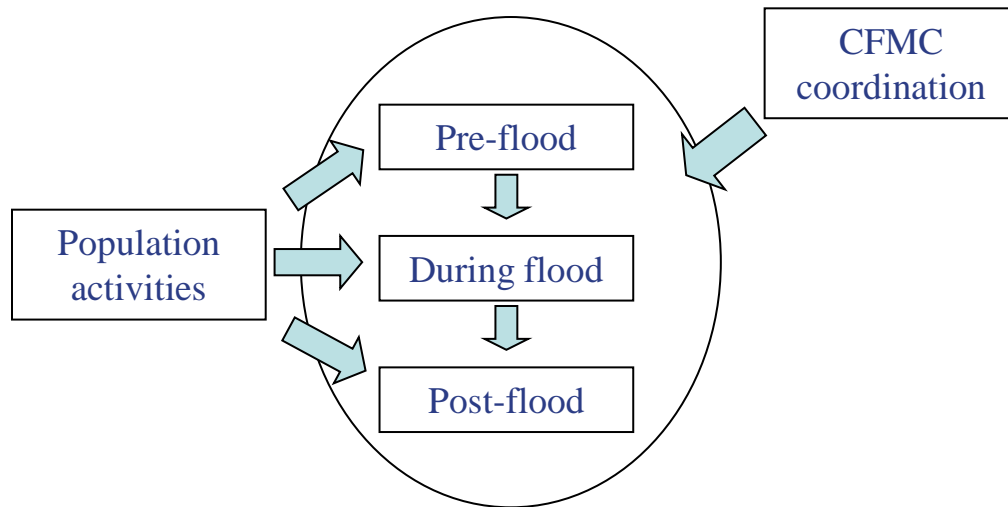


Community Flood Management Committees

Composed by local authorities, teachers, medical staff, local officials, socially and economically disadvantaged groups (tot: 10-20 people). Gender issue was taken into account.



A female participant raising a question during the training on Health Care & Sanitation on 27th February, 2004. (West Bengal)



Moderated
influence/activity area
(Union Parishad level)



Achievements of CBFM

Budget: 110K US\$

- 3 countries
- 2 regional meetings
- 14 PRAs (Participatory Rural Assessments)
- 5 missions from WMO
- 14 trainings of villagers
- 3 local NGOs involvement
- 12 man months for social workers (Bangladesh only)

Impact:

Improvement of livelihoods, preparedness and food security

Bangladesh:

Before - 300 casualties per flood

After – 2/3 casualties per flood

India:

- Adopted the approach
- Implemented in all districts
- Translated manual in local languages

Outcomes

Bangladesh:

- Translated manual
- Included CBFM in FM measures



Alternative approach: Top-down

Development of Strategies on Integrated Flood Management at the National level, including CBFM



Approach implemented in Kenya, Malaysia, Zambia, Pakistan, Thailand and Laos PDR
Needs good access to policy makers, but ensures durability to the approach



Questions & opinion...

- Questions?

Your opinion

- What are your current objectives in flood management ?
- On which level are those objectives formulated?
- Is the net-benefit objective politically acceptable?
(damage reduction not the overall objective anymore)
- Can we establish: **„what risk we are willing to mitigate at what cost, what residual risk are we prepared to take“?**
- What is IFM for you? Process? Mind-set? Dogma?



For more details:
www.apfm.info;
www.floodmanagement.info



Thank you for your attention