

Social Aspects and Stakeholder Involvement in Integrated Flood Management

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Key words

- *Stakeholder*
- *Displacement*
- *Ownership*
- *Vulnerability*
- *Resilience*
- *Conflict*

Scenario



Introduction

- *Flood management **measures** in the past have **contributed to mitigate** the adverse impacts of floods, but have **at times created inequalities and conflicts** (where inadequate attentions are paid to social issues).*
- *To ensure **equity** in development there **is need to deal with social concerns and involve** stakeholders in the **decision making process***

Integrated Flood Management

The need for paradigm shift

“From flood control to flood management”

Integrated Flood Management

- *Combination of structural and non-structural measures*
 - *Address both **the negative and positive** characteristics of floods*
- *Cover on the physical, **social, environmental and economic aspects** of floods*

Beneficial aspects of floods

- *Recharging water sources* (recharge groundwater, restock man-made reservoirs)
- *Agriculture* (provide nutrients and sediments)
 - *Fishery* (provide an ecological trigger for spawning and migration)
- *Rejuvenation of the river ecosystem*
(provide seasonal variability and variable sediment, wash down pollutants and contaminants, flush out organic substances)



Provide livelihood opportunities

Negative socio-economic impacts

- *Loss of lives and property*
 - *Loss of livelihoods*
 - *Mass migration*
 - *Psychosocial effects*
- *Decreased purchasing and production power*
 - *Hindering economic growth and development*
 - *Political implications*

INTEGRATED FLOODPLAIN MANAGEMENT

*The Integrated Floodplain
Management System will Focus
on:-*

- *Public Safety*
- *Reduction of Flood Losses*
- *Containing the Problem.*



COMMUNITY INVOLVEMENT IN FLOOD AND FLOODPLAIN MANAGEMENT

- *Integrated floodplain management **involves** a range of **technical, policy and implementation** components.*
- *It requires an **effective partnership** between all levels of government, the private sector and the floodplain **community***



ROLE OF GOVERNMENT

*The **three tiers** of Government involved in floodplain management :-*

- *Local Government **has prime** responsibility for **floodplain management**;*
- *State Government has the **principal** responsibility for **land and water** resources management;*
- *Federal Government assumes **a supervisory** role and grants financial assistance.*



PROBLEMS ASSOCIATED WITH INTEGRATION OF FLOODPLAIN MANAGEMENT MEASURES

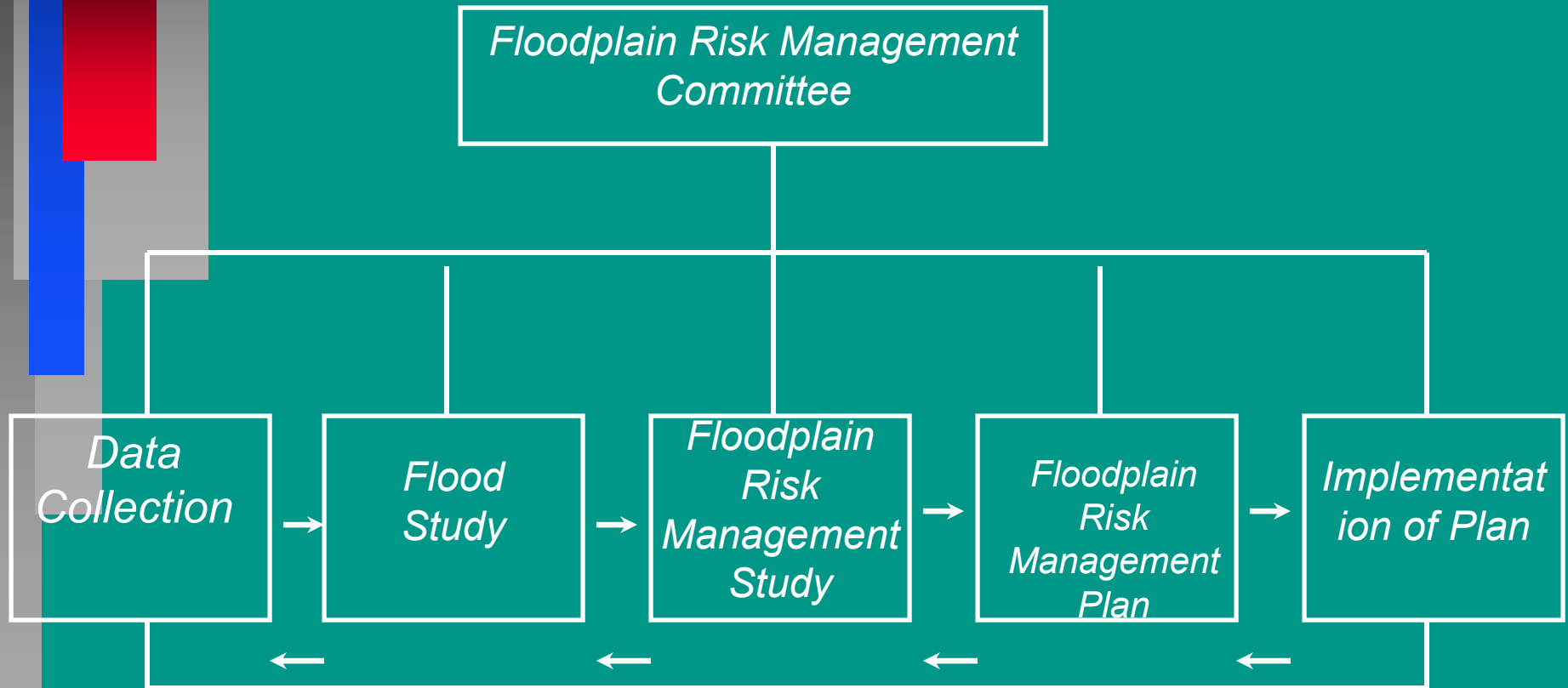
*INTEGRATED FLOODPLAIN MANAGEMENT
RECOGNISES **THREE DISTINCT PROBLEMS**
(societal) ASSOCIATED WITH DEVELOPMENT
ON FLOOD-PRONE LANDS:*

- ***Existing problem** which relates to current development;*
- ***Future problem** which relates to development yet to occur;*
- ***Residual problem** which relates to the occurrence of floods which exceed existing management measures.*

REQUIREMENTS OF IFM

- *INDIVIDUAL FLOODPLAIN MANAGEMENT MEASURES.*
- *ROLES AND RESPONSIBILITIES OF THE STAKEHOLDERS.*
- *FLOODPLAIN MANAGEMENT AND FLOOD EMERGENCY PLANS.*
- *RESOURCE MANAGEMENT CONSIDERATIONS AND PROGRAMS.*
- *STORMWATER AND MAINSTREAM FLOODING EFFECTS.*
- *ADOPTION OF AN INTEGRATED CATCHMENT MANAGEMENT APPROACH TO FLOODING.*

EXAMPLE OF A FLOODPLAIN MANAGEMENT SYSTEM



CHARACTERISTICS OF A FLOODPLAIN MANAGEMENT SYSTEM

- *Community participation **is encouraged** under this system;*
- ***Representatives** of the public, particularly owners of flood liable land, **are actively involved** in the preparation and review of floodplain management plans;*
- *Management plans are **exhibited** and public **comment is considered** before plan is finalised and adopted.*



PUBLIC PARTICIPATION

*Aspects of floodplain management which **require direct involvement and cooperation** of the floodplain **community** are:-*

- *identification of the flood problem;*
- *information gathering;*
- *formulation and analyses of potential flood mitigation strategies*
- *implementation of long-term management strategies;*
- *flood awareness and response.*



EFFECTIVE COMMUNITY CONSULTATION

requires consideration of the following aspects:-

- *informing the community of **the need** to undertake a floodplain **management study and its purpose**;*
- *assessing the community's **level of concern, knowledge and understanding** in relation to flood **issues** and flood **readiness**;*
- *obtaining information community members may have relating to **historic flood levels, behaviour**, etc.*
- *assessing **community aspirations** in relation to floods;*
- *providing the community with information **on alternative** floodplain management measures;*
- *providing a mechanism for the community **to have an input into the selection** of appropriate measures.*

COMMUNITY SURVEYS

- *Public participation in the collection and collation of flood data can provide useful data as input to a flood study;*
- *Information collected includes flood heights, areas of rural lands inundated and the urban areas and facilities affected by floodwaters;*
- *Information collected is useful for calibrating and verifying flood models and describing flood behaviour.*



FLOOD AWARENESS AND RESPONSE

A typical flood emergency plan includes the following items:-

- *the nature of the flood threat;*
- *areas affected by flooding;*
- *sources of flood intelligence;*
- *roles and responsibilities of involved agencies;*
- *control agencies;*
- *trigger conditions for plan activation;*
- *liaison and communications arrangements.*

COMMUNITY EDUCATION AND INVOLVEMENT

- *Floodplain management plans include regular education programmes which create community readiness to cope with flooding.*
- *The tools employed include:-*
 - *publications;*
 - *community events;*
 - *schools programmes;*
 - *radio and television;*
 - *brochures and action guides;*
 - *flood action cards;*
 - *commemoration of well remembered floods.*

CONCLUSIONS

- *Effective integrated floodplain management requires the **full support of** the catchment community.*
- *Support **can only be achieved** by the involvement and participation of the floodplain community from the **initial planning phase to the implementation** phase.*
- *Community education, community involvement and **acceptance**, community **ownership** and **responsibility** for flooding problems are prerequisites for the satisfactory solution of such problems.*



*THE PROCESS OF STAKEHOLDER
INVOLVEMENT*

Why Stakeholder involvement

- *Ensure implementation of basin flood management plans with full public support*
- *Ensure sustainability of plans and associated decisions*
- *Build consensus and public support on the flood management options*
 - *Build stakeholders **commitment***
 - *Build **resilience** of flood-prone **communities***
- *Provide all stakeholders, including the public, with full opportunities to share their views and influence the outcome*

Perception of flood risks

Unless the population is aware of the risks it faces, local energies cannot be mobilized to build resilience - snake.

- *Understanding of risks should be the first step*
- *Risk perception among people differs considerably*
 - *Man-made factors can increase flood risks*
- *Large scale structural flood control measures may generate a false sense of security → recognize the limitations and level of the protection*
- *Be aware of residual risk → Contingency plans*

Vulnerability to flooding

- Community's *proneness to be impacted* adversely by flooding
 - *Represented by the inability or incapacity of a community or a group to anticipate, cope with, resist and/or recover from its impacts*

Three major areas of vulnerability

- *Physical or material*
- *Constitutional or organizational*
- *Motivational or attitudinal*

Social factors contribute to vulnerability

Flood emergency management

Avoid the exposure of critical activities from flooding and temporarily shift people and such activities

- *Preparedness:*
 - *to ensure effective response*
- *Response:*
 - *to reduce adverse impacts during the flooding*
- *Recovery:*
 - *to assist the affected community to rebuild itself*

Preparedness

- *Raising public awareness*
 - Education and *regular* training
 - Flood hazard mapping
- *Emergency preparedness plans*
 - Preparedness begins at the community level
 - A *common platform* should be established for local communities
- *Coordination mechanisms*
 - Establish disaster response committees to *exchange* information and *review* experiences

Response

- *Early warning*

- *Availability and reliability and certain lead time*
- *Unambiguous, easily understandable manner and in local language*
- *Through a legally designated single authority*
- *Through a medium that is accessible to poorer communities*
- *Message should be reached to all individuals*
- *Protection of critical infrastructure*
- *Mobilizing men and machinery from unaffected contiguous areas*
- *Emergency flood-proofing measures*

Response

Rapid needs assessment

- *A rapid assessment of the latest situation should be made*
- *Information should be shared with local, state and national authorities and volunteer organizations for timely and efficient coordination*

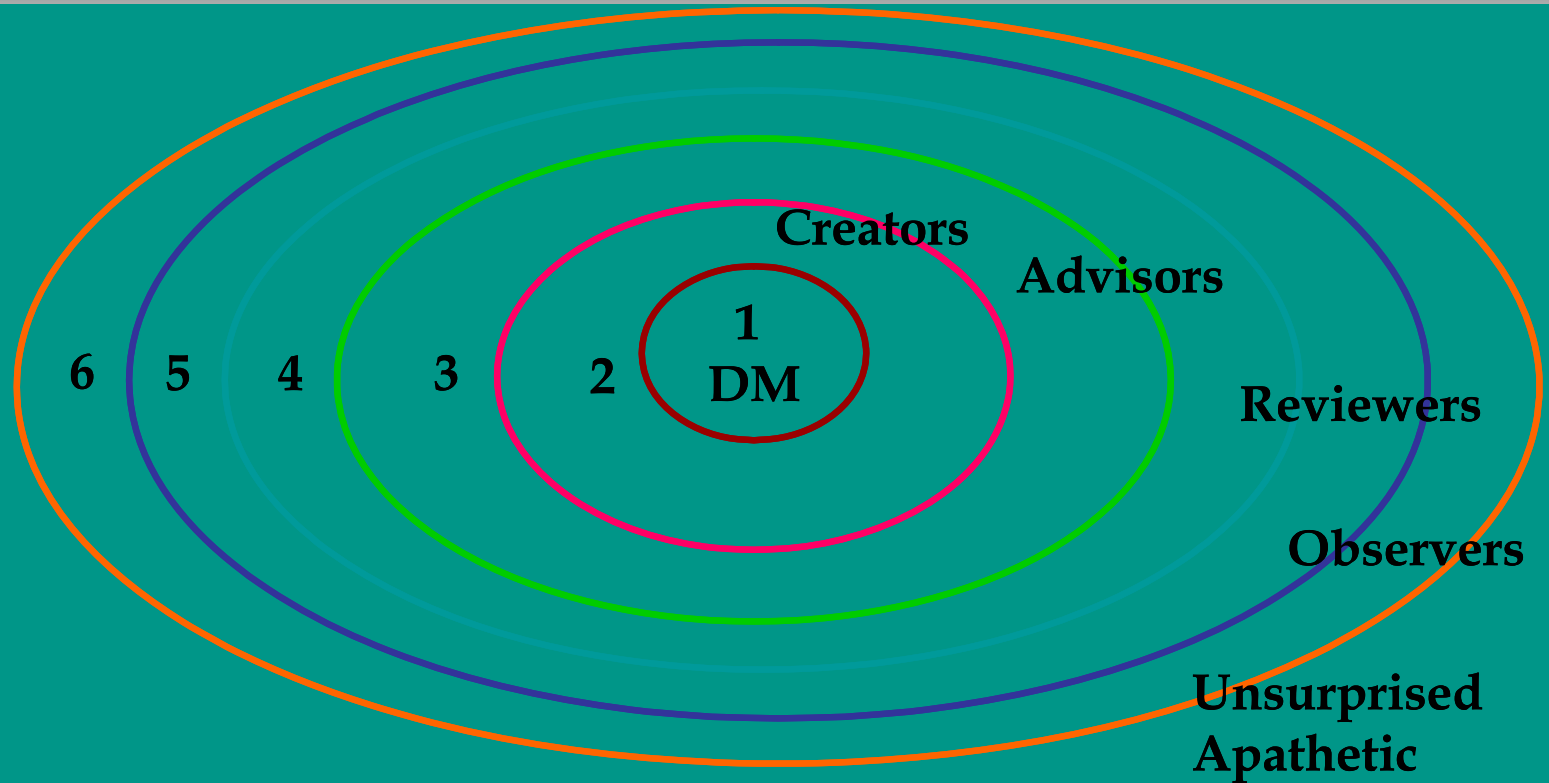
Safe shelters

- *Three basic questions of relief distribution (**who** is responsible, **how** to get the relief items to the affected areas, and **who is entitled** to relief provided)*
- *Secure the **safety of women** from sexual harassment through local community organization*

Post-flood recovery and rebuilding

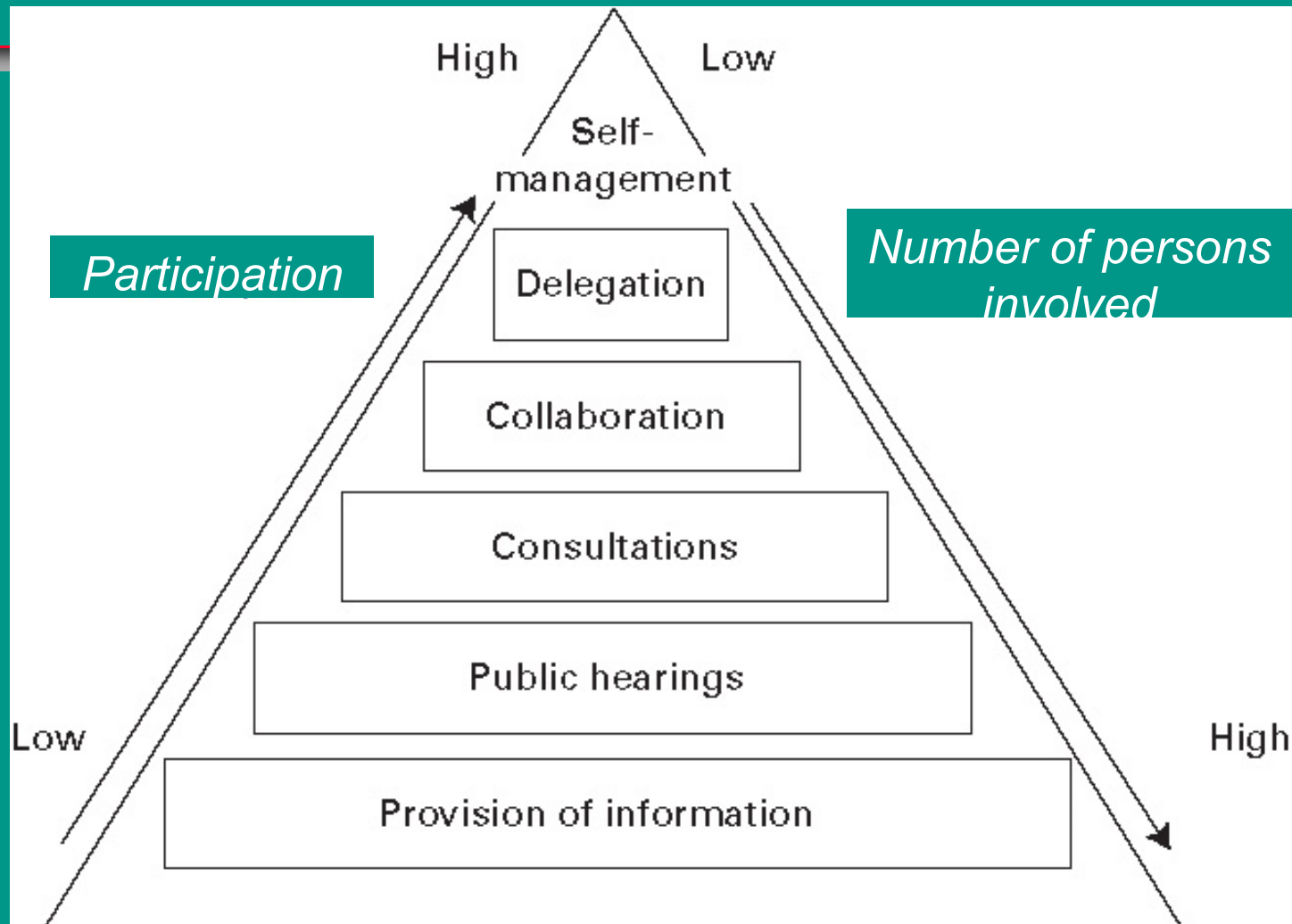
- Vital lifeline *facilities have to be repaired* as soon as possible
- Reconstruction should *not repeat* previous errors
 - Use *local labour and locally* available materials
 - *Documentation of lessons learned*
 - To update hazard map
 - To be used in the reconstruction phase
 - To optimize future emergency response

Stakeholder analysis



Orbits of stakeholder influence (L. Aggens)

Participatory mechanism

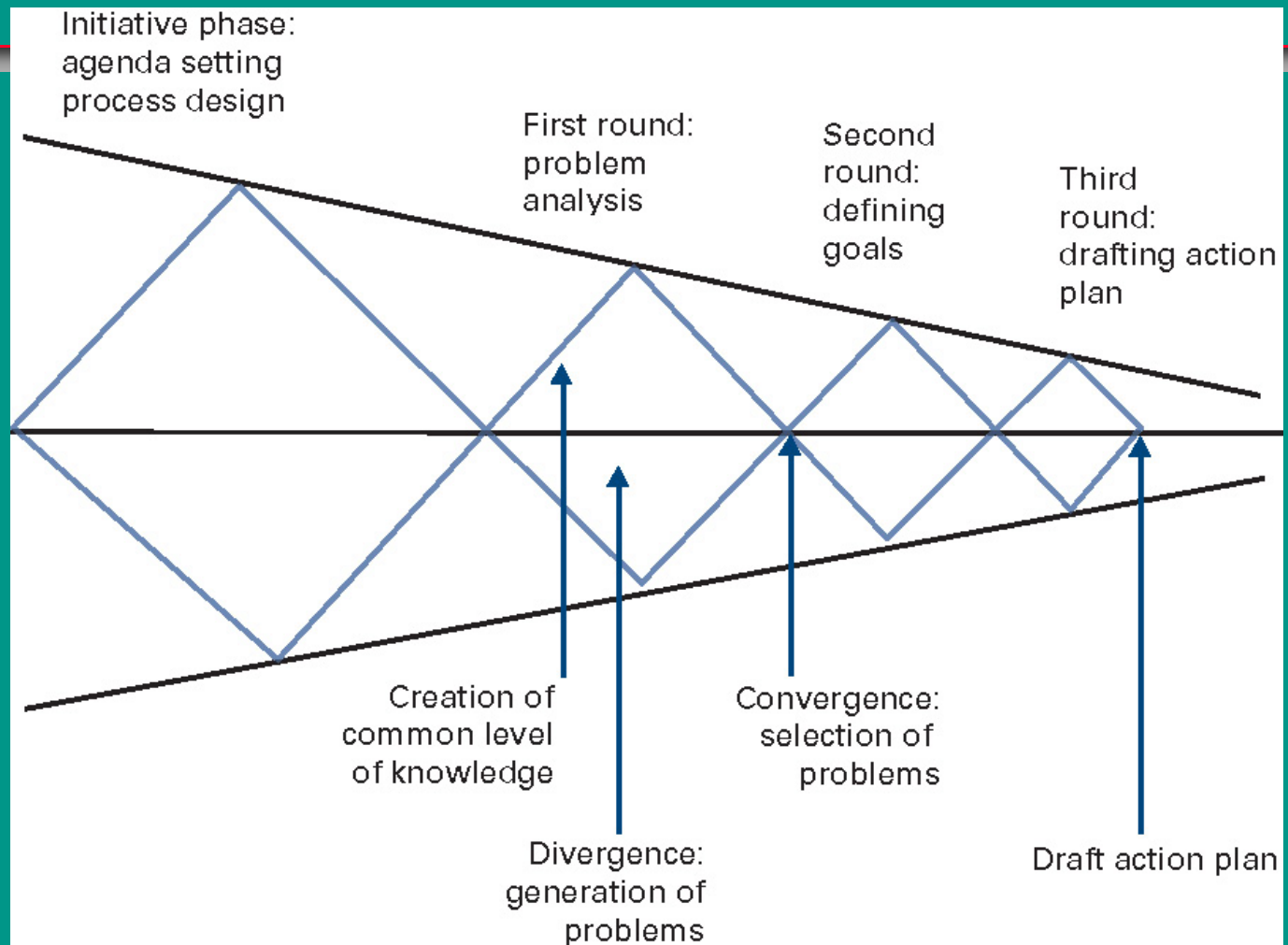


Levels of stakeholder participation

Potential pitfalls

- *High expectations leading disappointment*
- *Complexities of involving all stakeholders*
 - *Insufficient involvement*
 - *Time consuming process*
 - *High costs*
- *Options tend to be discussed with No concern for economic viability*

Participatory process



Divergence and convergence in a participatory process

Participatory planning

National flood management policy

- *Overall assessment of flood hazard*
- *Required degree of risk mitigation*
 - *Equity principle*
- *Prioritization of pre- and post- event measures*
- *Types of incentives and disincentives*
 - *Strategy for residual risks*

Participatory planning (2)

Basin flood management plan

- *Setting goals guided by regional development goals*
- *Designing the process for stakeholder participation*
 - *Involve stakeholders' ethical consideration*
 - *Decide the degree of risk*
 - *Institutional arrangement*
- *Comprehensive multi-hazard risk assessment*

Challenges (in maintaining the participatory process)

- *Harmonization of water management, spatial planning and environmental activities*
 - *Trans-boundary issues in international river basin*
- *Level of competency of local authorities, RBOs and water users*
 - *Regional versus specific local needs*
 - *Time constraints*

Enabling mechanism

Facilitating dialogue through

- *River basin organizations (RBOs)*
- *Disaster management committees (DMCs)*
(national, state and district levels)
- *Community-based organizations (CBOs)*
Community flood management committees (CFMCs)
- *Non-governmental organizations (NGOs)*

Enabling mechanism

Stakeholder capacity-building

Capacity-building needs at different levels

- *Institutional capacity-building*
- *Community capacity-building*
- *Individual capacity-building*

Enhancing stakeholder involvement

Prerequisites

- *Building trust through information sharing and repeated interaction*

Challenges

(in launching the participatory process)

- *Political will*
- *Need for financial commitment and budget allocations*
 - *Attitude toward flood management*
 - *Risk perception*

Capacity building areas

- *Facilitating cooperation with other agencies as lead organization*
- *Participating as a stakeholder in the process led by someone else*
 - *Undertaking planning*
 - *Carrying out implementation*

Capacity building mechanisms

- *Training sessions and workshops*
 - *Information technology*
- *Networking for information sharing*
 - *Internships*
 - *Public awareness rising*
 - *Learning by doing*
 - *Role playing*

Legal and institutional framework

Key legal mechanism for public participation

- *Right to information*
- *Right to participate*
 - *Accountability*
 - *Transparency*

For extensive coordination between stakeholders

- *Information sharing and networking*
- *Enabling institutional framework*

Conflict management

- *Understanding the underlying issues, perceptions and the values associated with the issues*
- *Unbiased third-party involvement*
 - *Incentives and trade-offs*

Thank you !

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<http://www.apfm.info>

