

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.*



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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***



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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.



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PROBLEMS ASSOCIATED WITH INTEGRATION OF FLOODPLAIN MANAGEMENT MEASURES

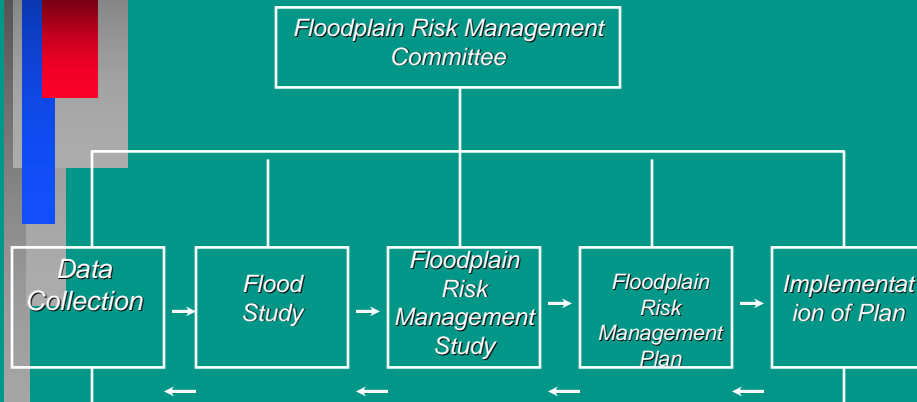
INTEGRATED FLOODPLAIN MANAGEMENT
RECOGNISES **THREE DISTINCT PROBLEMS**
(societal) ASSOCIATED WITH DEVELOPMENT
ON FLOOD-PRONE LANDS:

- **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.*



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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.*



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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

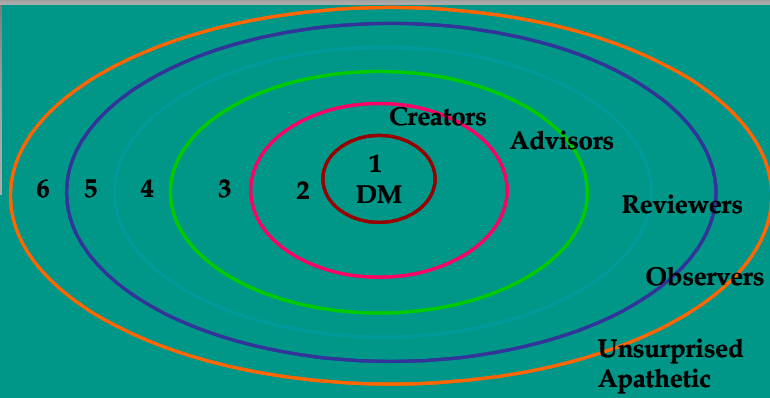
Response

- *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

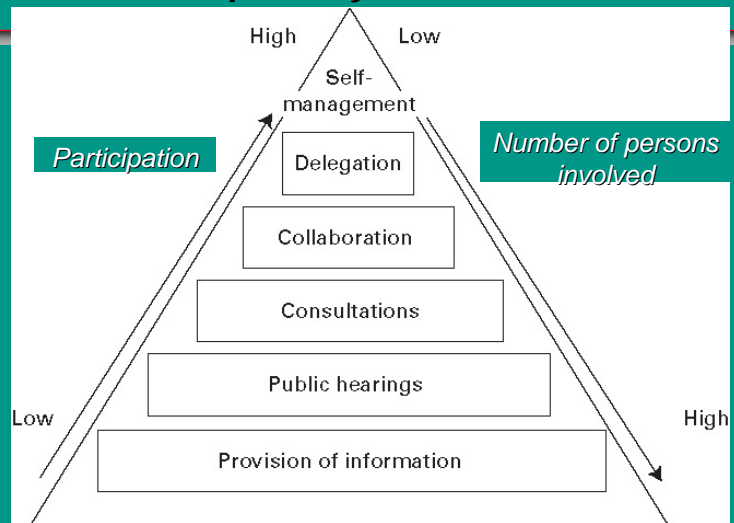
- Vital lifeline *facilities have to be repaired* as soon as possible
- Reconstruction should *not repeat* previous errors
- Use *local labour and locally available materials*
 - *Documentation of lessons learned*
 - To update hazard map
 - To be used in the reconstruction phase
 - To optimize future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

Stakeholder analysis



Orbits of stakeholder influence (L. Aggens)

Participatory mechanism

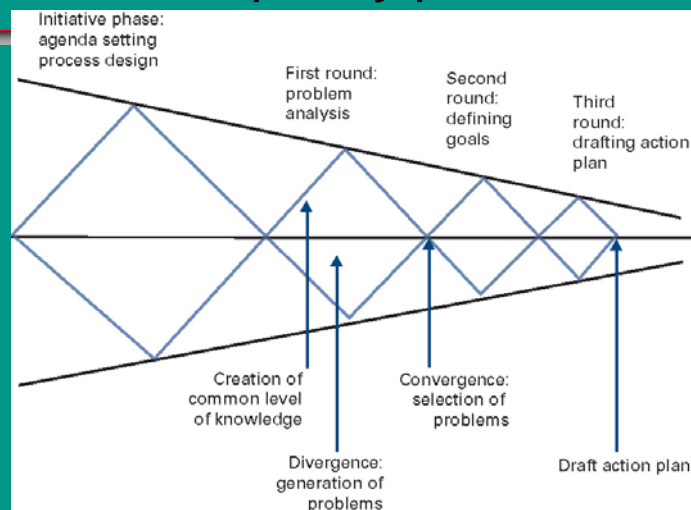


Levels of stakeholder participation

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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