

Conflicts over water induced hazards and their management: Perspectives from Assam

**Training Workshop on
Understanding and Resolving
Water Conflicts in NE India)**

**Organised by Forum for Policy Dialogue
on Water Conflicts in India**

Venue: IIBM, Khanapara, Guwahati

Date: 23.01.2012

Partha J Das

Water Climate and Hazard Programme

AARANYAK

Guwahati-781 028

Cell: 94351-16558

Email: partha@aaranyak.org

Water Induced Hazards

- Floods
- Flash Floods
- River Bank Erosion
- Land degradation due to siltation/sand casting
- Dam induced flooding

Flood hazards in Assam

- Assam has the largest flood prone area in the country, 3.2 million ha, or 40% of the state's total geographical area
- 9.6% of the country's total flood prone area
- About 2000 villages inundated every year
- Average annual crop damage : Rs. 2500 million



Video Showing flood Devastation of River
Gai on 15th August, 2011

Erosion

Since 1954

Total area eroded = 4,25,900 Ha. (7%)

Rate of erosion = 8,500 Ha./Year

No. of villages eroded = 4521 no

population affected = 9,00,000

Affected Reaches

Moderate to Severe = 130

Most Severe = 25

Oil Installations/Tea Gardens/
Important Towns and Cities/
Heritage Sites = 18.



The menace of sand casting in Dhemaji district





13 01 2009 13 27

Sandscape of Samarajan, Dhemaji, Assam



22.11.2009 14:23

14th June, 2008 Ranganadi Flash Flood in Lakhimpur





Collapse of the coffer dam of the Lower Subansiri HEP on June 13, 2008(Courtesy : PMSBV)

Management of WIH

- No specific dedicated policy
- Only guidelines from GoI projects and commissions
- Conventional structural approach
- Overall failure of prevailing management regime
- Colossal loss and damage to lives, livelihoods, infrastructure
- Flawed Flood Governance

Conflict Type/cause	Nature of manifestation	Stakeholder	Location
Debate over structural approach to flood management	Academic, policy, strategy	Technical experts(WR engineers, flood researchers), affected community, civil society	Country, Assam (confined to academicians)
Debate over desirability of embankments	Academic, policy, strategy	Technical experts(WR engineers, flood researchers), affected community, civil society	Country, Assam (confined to academicians)
Design, location of structures	Policy implementation, protest, movement	Community, GoA(WRD), civil society, PRI, DDC, movements	Jiadhal, Dulpang, Brahmaputra
Loss of land and assets due to bank erosion	Protest, movement, litigation	Community, GoA(Revenue, law), CS, movements	All over Assam(especially Dhemaji, Lakhimpur, Morigaon)

Conflict Type	Nature of manifestation	Stakeholder	Location
Inadequate and inequitable R&R	Protest, movement, litigation	Community, GOA(Revenue Dept), CS, NGOs, INGOs, Aid agencies	All over Assam(especially Dhemaji, Lakhimpur, Morigaon)
Degradation of soil/land due to sand casting	Protest, movement, litigation	Community, GoA(Revenue, agriculture, law), CS, movements	Dhemaji, Lakhimpur, Barpeta, Nagaon, Morigaon, Dhubri, Chars
Acquisition of land for embankment/bridges	Complaints, protests, litigation	Community, GoA(revenue, law), CS, movement	All over Assam
Conflict over land ownership of deposited landmass	Forceful possession, Non-payment of revenue, litigation	Community, GOA(revenue, law)	All over Brahmaputra and Barak valleys

First Food Policy Statement

- September 3, 1954
- Mr. Gulzarilal Nanda : Union Minister for Planning and Irrigation of India
- Context: Unprecedented flood devastation in 1953 and 1954 in many parts of India, mainly in Bihar and Assam
- Three types of flood control means
- Immediate, Short-term and Long-term

Changing perception of flood management

- Mr. Gulzarilal Nanda's statement , July 27, 1956
- Absolute immunity from flood damage was not physically possible even in the distant future, because of the unpredictability of several natural forces which might cause unprecedented situation
- “We shall have to learn to live with floods to an extent”

National Flood Commission, 1976

- ‘to evolve a coordinated, integrated and scientific approach to the flood control problems in the country and to draw out a national plan fixing priorities for implementation in the future’
- 204 recommendations
- Not a single recommendation implemented

NCIWRD Report, 1999

- ‘there are no universal solutions which can provide complete protection against floods. It therefore recommends a shift in strategy from structural implements towards efficient management of flood plains, flood proofing, and disaster preparedness and response planning, flood forecasting and warning and other non structural measures such as disaster relief, flood fighting including public health measures and flood insurance

Task Force on Flood Management / Erosion Control, 2004

- ensure flow of adequate financial resources to the states to implement flood management measures with Centrally Sponsored Scheme in the ratio of 90% Central and 10% State
- flood cess' of 1% to 2% that could be levied on new infrastructure like roads, buildings, power plants etc. in the flood prone states to mobilize resources for a revolving fund to be used for flood protection in the states

Task Force on Flood Management / Erosion Control, 2004

Short-term measures :

- plugging of breaches urgently on embankments
- raising and strengthening of embankments
- bank protection, anti-erosion works
- construction of high rise platforms,
- providing sluices in embankments,
- providing weak sections of embankments with fuse plugs

Task Force on Flood Management / Erosion Control, 2004

Non-structural measures :

- revival and maintenance of wetlands
- watershed management
- flood plain zoning
- extension and modernization of flood forecasting and warning systems etc.
- community participation in maintenance of embankments.



12.05.2011 15:29

Structural Measures



10.05.2011 16:34

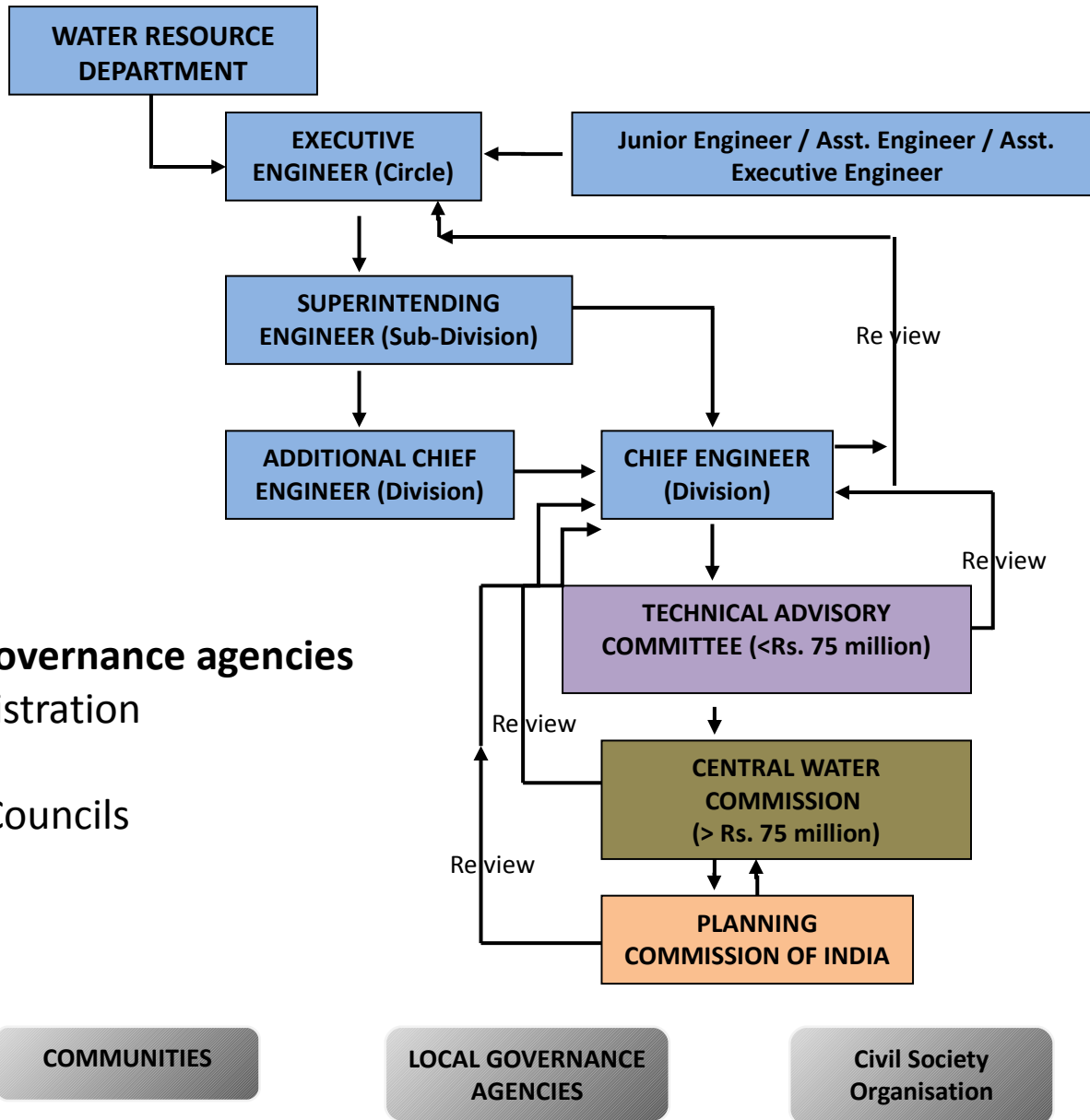


Lacunae in flood management

- Design of river structures not based on up-to-date study of river hydrology and geomorphology
- Over-emphasis on structural measures(e.g. mainly embankments) for flood protection
- Inadequate maintenance of structures
- Non-existence of non-structural measures
- Lack of short term and real time reliable flood prediction/forecasting and warning in the Brahmaputra river mainstream

Governance of food mitigation infrastructure

Institutional mechanism of decision making



Major Institutional Shortcomings

- Lack of efficiency(Low ration of resource input to flood protection ensured)
- Lack of transparency
- Lack of accountability
- Lack of coordination(inter-departmental)
- Lack of scope for public participation in decision making, planning and implementation
- Flawed budgetary cycle

Major Institutional Shortcomings

- Inadequately empowered PRI and DDC
- Financial irregularity in PRI and DDC
- Insufficient financial allocation
- No strong public activism against governance failure
- No attention to the problem of land degradation due to sand casting as well as land reclamation
- Flood and sand adapted agriculture is a neglected area

Policy Gaps

- Lack of an integrated flood and erosion management policy
- land acquisition policy for embankments(state and central) not pro-people
- No locally acceptable R&R policy
- No bilateral arrangement for exchange of information about river status and hydrological data for monitoring and forecasting and warning of flash floods



Acknowledgement
ICIMOD, Communities of study areas, Jiadhali Nadi Ban Pratirodh
Oikya Mancha