

Fifth Workshop on Adaptation to Climate Change in Trans-boundary Basins

14-15 October 2014, Palais des Nations, Geneva, Switzerland

“Harnessing the Water-Food-Energy-Nexus for Trans-boundary Basin Management Cooperation”

:

A Case Study of Meghalaya’s Climate Change Adaptation

PRESENTER

**Dr. Arvind Kumar
President**

India Water Foundation



Himalayan Region- Trans-boundary Basin Management

- Already scarce water resources –
- Major transboundary rivers:
- Improved Water Governance Needed –
- Domestic Pressures and Regional Geopolitical Compulsions
- Transboundary river basin management is of crucial concern
- The Avowed Objective



South Asia Region

South Asia: Critical Water Challenges

- **Recurring incidents of water and climate-induced disasters put further strain on already scarce water resources**
- **Water security in South Asia is under threat from many other factors:** population growth, urbanization, increasing water pollution, the over-abstraction of groundwater, water-related disasters, and climate change
- **Major challenge of trans-boundary river basins in the Himalayan region of South Asia** - the Ganga River Basin involves Nepal, India and Bangladesh; whereas Brahmaputra River basin involves China, India and Bangladesh
- **Structural features of political geography in the Ganga River Basin**
- **Changing demographic scene in the countries sharing Ganga and Brahmaputra basins**

Climate Change-- Key Challenges

The South Asia Himalayan region is vulnerable to risks of climate change, especially in the wake of rising temperatures and more variable precipitation, which wield adverse effects on glaciers, mountain ecosystems, monsoon behavior, and flood and drought intensity thereby impacting the livelihoods of millions of people. Most of the experts are in agreement over the following four factors that make the South Asia Himalayan region vulnerable to the impacts of climate change:

- ❖ Poverty and population increase;
- ❖ Threats to water supply and agriculture;
- ❖ Urbanization; and
- ❖ Vulnerability to natural disasters



The Stumbling Blocks

Key stumbling blocks to closer cooperation among countries in South Asia in settling cross-border water disputes/Conflicts

- Lack of will on the part of political leadership
- Absence of confidence-building measures in cross-border areas to improve livelihoods of the affected people
- Negation of the role of the civil society
- Absence of regional media's role
- Lack of mutual cooperation and coordination in tackling water related issues
- Constructing security community in South Asia through water paradigm in mixed conflict and cooperation

Initiative for Living Himalayas

The Royal Government of Bhutan convened the Climate Summit for a Living Himalayas in Bhutan November 2011, which brought together the governments of Bangladesh, Bhutan, India and Nepal, as well as civil societies and academia. The summit agreed upon a regional 'Framework of Cooperation' that included the following objectives:

- Regional Improvement, Sustenance, Knowledge Management & Capacity Building
- Enhance Practices, Water Efficiencies, Technology Intervention, Regional Knowledge Sharing, Regional Impact of Climate Change
- Sustainable use of biodiversity for poverty alleviation and income generation, Establish a regional mechanism for knowledge generation and sharing
- Affordable and Reliable 'Clean Energy Services, Improved Regional Connectivity, Mainstream climate resilience in energy systems

Impact of Living-Himalaya-Initiative

The Framework of Cooperation (FOC) adopted at 2011 Bhutan Summit has been instrumental in initiating a process towards nexus approach based on inter-linkages between water, food, biodiversity and energy security between India, Bangladesh, Bhutan and Nepal.

- Two alliances – Nepal, India and Bangladesh (NIB) and Bangladesh, India and Bhutan (BIB) – have been formed to take water management initiatives for the Ganga and Brahmaputra river basins.
- A working group formed by India to coordinate NIB joint projects for the exploitation of common water resources and to focus on hydropower generation and irrigation and the joint development and financing of projects in the Ganga Basin.
- A BIB working group, which held its first meeting on 18 April 2013, has envisaged the groundwork for hydropower development and water and power distribution.
- Both the NIB and BIB initiatives aim at strengthening the co-operation mechanism and to long-term sustainable development, economic growth and sub-regional co-operation.

Imperative of Nexus Approach

Effective implementation of 2011 Framework of Cooperation in South Asian Himalaya Region can possibly be faced with following barriers:

- Competing national interests;
- Security concerns; and
- Upstream-downstream trade-offs in trans-boundary basins,

These barriers can be overcome through the nexus approach, which recognizes:

- that water resources management, at national and river basin level, is not only for water or environment sectors, but for energy and food sectors as well;
- which need to be included on equal grounds and not as mere ‘water stakeholders’ to secure real engagement and create policy coherence across the nexus.

Water and Climate Situation in Meghalaya

Prior to Civil Society Interface

- Lack of inter-sectoral cooperation and coordination in dealing with climate and water-induced challenges.
- Absence of appropriate planning for water and forest development and management to avail of benefits in the form of hydropower, agriculture, inland water transport, biodiversity conservation, reduced flood damage and erosion, longer dam-reservoir life, forestry, and ecotourism.
- Cherrapunji, once known as the wettest place on Earth, was turning into a "wet desert" because of negligence;
- The water of rivers and streams passing through the Jaintia Hills was badly affected by contamination of Acid Mines Drainage (AMD), leaching of heavy metals, and organic enrichment etc;
- Absence of institutional mechanism to monitor water quality;
- Lack of inter-state cooperation and convergence between Ministry of Water Resources, Government of India and Government of Meghalaya in water sector;

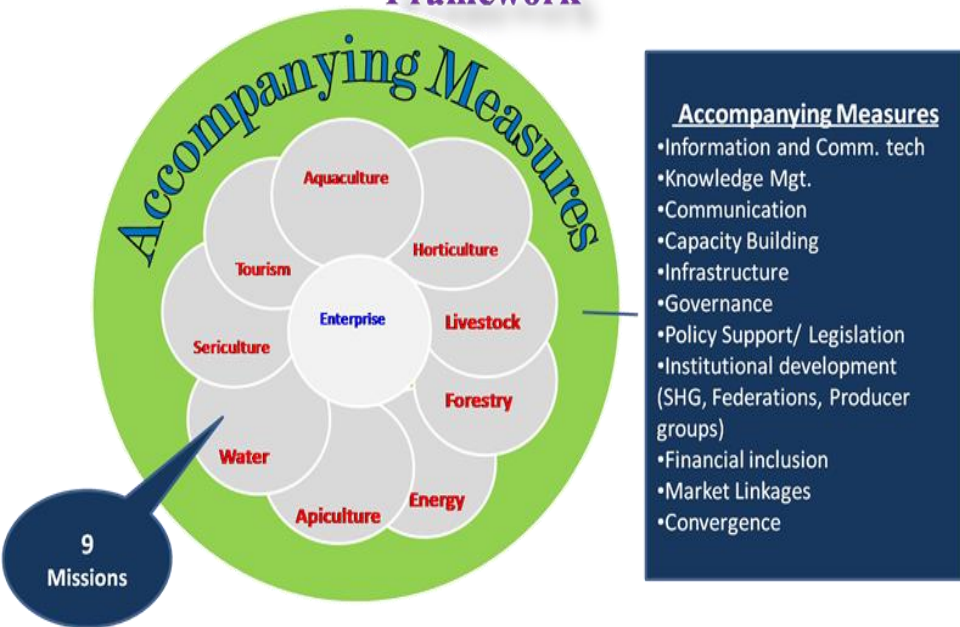
Impact of Civil Society Interface

- The IWF offered its assistance in capacity building of the people by sensitizing them about water and environment-related issues through education, corner meetings, and arranging video-shows etc.
- Provided water monitoring kits to the Government of Meghalaya in early November 2010, to help monitor the quality of water with the help of school children;
- Emphasized on encouraging participation of all stakeholders in the integrated water resources development and management;
- Stressed on need for State Government to adopt integrated approach while formulating the water resources management strategy;

Nexus-Plus-Environment Model for Meghalaya

Meghalaya is located in the North-East region of India, sharing geographic proximity to Bangladesh, Nepal and Bhutan. Spurred by the 2011 Bonn Nexus Conference and the 2011 Living Himalaya Summit, the Government of Meghalaya, with inputs from India Water Foundation, has adopted a holistic approach that incorporates IWRM coupled with water-energy-food nexus approach and resilience to climate change. It is termed as Nexus-Plus-Environment Model. This model forms the part of Meghalaya's Integrated Basin Development and Livelihoods Promotion Programme (IBDLP) launched in April 2012.

IBDLP - 20 Point Integrated Basin Development Framework



- The IBDLP programme, launched with inputs from IWF as knowledge partner, is designed around four pillars –
- It is being implemented in a mission mode through over one score missions.
- Every mission is designed to leverage the comparative advantage that Meghalaya has in that sector and to generate livelihood opportunities
- Meghalaya has precise geographic and strategic assets for playing a vital role in promoting South-South Cooperation in water and climate change
- The success of Nexus-Plus-Environment Model in Meghalaya entails vast potential of its being replicated in the neighbouring countries of Bangladesh, Bhutan and Nepal.

Climate Change Adaptation in Meghalaya

All the development projects of the Government of Meghalaya are designed to address the climate change in accordance with the broad guidelines as envisaged in North East Climate change adaptation programme (NECCAP), as approved by Government of India, the overall objective of which is to enhance livelihood resilience and adaptive capacity of rural people in NER to the impact of climate variability and change. The visible success attained in climate change adaptation can be illustrated from the following two examples:

- Mawlyngbna Village, Mawsynram Block, East Khasi Hills
- Ghasura Park, Ampati, South-West Garo Hills

Outcomes

- The government has established District Water Resources Councils at each district level to look at the integrated development of water resources in convergence with relevant schemes.
- Water Users Associations (WUAs) have been set up at the village level to usher in a regime of demand-based water management.
- Recently, the state government has enacted its Water Act and Water Policy;
- The government is preparing water harvesting strategies in the form small multipurpose reservoirs to impound water along the cascades and use it for various purposes drinking, sanitation, irrigation, aquaculture, micro-hydel, eco-tourism etc.
- Besides, JALKUNDS or ‘stand-alone structures’ are being installed for tapping rainfall for upland irrigation.

Way Forward

- Contemplated climate change resilience measures should avoid negative trans-boundary impacts
- Meghalaya has set a precedent, entails vast potential of its model being replicated in the neighbouring countries of Bangladesh, Bhutan and Nepal worth emulating by others, as a successful case of civil Society-government-UN agencies' resilient efforts for local, regional and global synergy for sustainable development.
- Need for establishment of a Regional Water Hub (RHB) in which all countries of South Asia should be represented. This Hub should have close synergy with water related national agencies of each member country of South Asia and to address Adaptation and development in holistic manner
- Civil Society Organizations (CSOs) can serve as important conduits for fostering dialogue with UN agencies and international organizations to elicit expertise and technical support.



“The world has enough for everyone's need, but not enough for everyone's greed.”

— [Mahatma Gandhi](#)

THANK YOU



www.indiawaterfoundation.org