



***“Nature Based Solutions for Climate Resilience”***  
**Future of Indian Mangroves: National Consultative Workshop**  
National Institute of Disaster Management, New Delhi  
(Government of India, Ministry of Home Affairs)

**Date: 5<sup>th</sup> August, 2019, Venue: YMCA Auditorium**  
**Timings 10:30 am to 16:30 pm**

**BACKGROUND:**

NIDM (Centre for excellence on Climate Resilience) in collaboration with Institute for Global Environmental Strategies (IGES), Japan; Wildlife Institute of India (WII), Dehradun; CSIR National Environmental Engineering Research Institute, Nagpur and IUCN Commission on Ecosystems Management (CEM) organized one day workshop on “Nature Based Solutions for Climate Resilience” on 5<sup>th</sup> August 2019 at YMCA Auditorium, Delhi. The workshop aimed at understanding the opportunities and challenges of Nature Based Solutions for climate resilience and disaster risk reduction with a special focus on Indian mangroves. The event provided a platform for multi-stakeholder dialogues, bringing together researchers, professional and managers in the domain.

The halophytic mangrove plant communities are one of the best carbon sequesters besides their soil binding, water quality regulatory and shoreline stabilizing functions. They harbour wide variety of fishes, crustaceans, and molluscs. They, with their close association with the marine flora and fauna, form a unique coastal wetland ecosystem and fulfil a wide range of ecosystem services from providing the locals with food, fuel, honey, fishes, thatching materials, livelihood, to protecting the coastline from cyclones, storms, and erosion. Considering the huge support that mangrove forest provides to coastal ecosystem and communities particularly during extreme events, the workshop highlighted the current state of mangroves ecosystems in India and helped in delineating an institutional framework and a roadmap for strengthening Indian mangroves ecosystems through ground efforts of conservation and restoration for climate and disaster resilience in the country.

**OBJECTIVES:**

The Workshop aimed to:

1. Develop a network of stakeholders
2. A common platform to bring a diverse set of partners Govt authority, PRIs, Non Governmental Organizations, Community Based Organizations and other agencies together to diverse innovative solutions for conservation of Mangroves.
3. Understand the importance of Scenario development and multidisciplinary approach for future of mangroves.
4. Platform for sharing experiences and studies based on mangroves ecosystems from across the country and the region (Asia Pacific).

5. Actively work on the framework selection and creating communication for collaboration.
6. Gather feedback from stakeholders on the various issues and concerns related to mangrove reversion

## PARTICIPANTS:

Participants included senior scientists, professors and representatives from UNESCO C2C WII, IGES (University of Tokyo, Japan), ICUN, CSIR-NERI, Society of Integrated Coastal Management (SICOM- MoEF&CC), NDMA, WTI, WFF-India, TERI-SAS and IIT Bombay.



*Fig: ED, NIDM addressing the participants*



*Fig: Group Photograph of the participants*



*Fig: Participants sharing their experiences, discussing the gaps and opportunities for Nature Based Solutions.*

## Event Schedule

<b>Arrival, Registrations (10:00AM)</b>	
<b>Inaugural Session (10:30-11:30 AM)</b>	
Welcome Remarks	Major General Manoj Kumar Bindal Executive Director, NIDM
Overview about the event	Dr. Sonali Ghosh, IFS and Adjunct Faculty, UNESCO C2C WII, Dehradun
Remarks by APN Project Co-ordinator	Prof. Shizuka Hashimoto, University of Tokyo, Tokyo Japan
Address	Shri Satyendra Kumar, DS & APD- SICOM, MoEFCC
	Dr Vivek Saxena, Country Rep., IUCN India
Remarks by Project Collaborator CSIR- NEERI	Dr. Shalini Dhyani, Scientist, CSIR- NEERI, Nagpur Maharashtra/Chair S. Asia IUCN CEM
Vote of Thanks by Dr. Anil K. Gupta, NIDM	
Session Rapporteur: Dr. Sweta Baidya	
<b>Tea/Coffee Break and a quick Group Photograph (11:30-12:00 PM)</b>	
<b>Session I: Understanding NBS: Loss of Mangroves in and increasing vulnerabilities (12:00-13:00 PM)</b>	
Moderator Dr. Rajarshi Dasgupta and Shalini Dhyani (IGES and CSIR-NEERI)  Session Rapporteurs: Oindrila Basu and Pritha Acharya  15 Minutes Each Presentation followed by Discussion	Dr. Ritesh Kumar, Director Wetlands International, S. Asia. Degradation of Mangroves on Indian Coasts
	Dr. Anil K Gupta, Head ECDRM Division, NIDM Disaster Risks and EcoDRR – Opportunities and Scoping
	Dr. Archana Chatterjee (IUCN India) IUCN experiences from Mangroves for Future IUCN project
<b>Lunch Break (13:00-14:00 PM)</b>	
<b>Session II: Ranking of drivers and scenario planning for Mangroves (14:00-15:30 PM)</b>	
Prof. Shizuka Hashimoto IGES, Japan Session Rapporteurs: Oindrila Basu and Pritha Acharya Presentation followed by Discussion	
<b>Working Tea/Coffee Break Tea/Coffee (15:30-15:45 PM)</b>	
<b>Session III: Perspectives from different coastal states: Challenges and Experiences (15:45 PM- 17:00PM)</b>	

<p>Moderator Dr. Sonali Ghosh and Dr. Anil Gupta</p> <p>Session Rapporteurs: Oindrila Basu and Shweta Bhardwaj</p> <p>10 Minutes Each Presentations followed by Discussion</p>	Dr. Sajan John, WTI, New Delhi
	Prof J. K. Garg, TERI SAS, New Delhi
	Dr. Areendran WWF-India, New Delhi
	Dr. Lalatendu Keshari Das, IIT Bombay
	Dr. Sweta Baidya, RA, CAP-RES, NIDM
<b>Take Away Messages and Way Forward (17:00-17:30 PM)</b>	
Interactive Discussion with Audience and Participants to understand key areas to prioritize for future researches	
<i>Session Chairs: Dr. Sonali Ghosh, Prof. Shizuka Hashimoto and Dr. Anil K Gupta</i> Session Rapporteur: Oindrila Basu	

## LIST OF PARTICIPANTS

SI No.	Name	Designation	Organization
1	Sh. Sreeja S. Nair	DRR Specialist	UNDP
2	Dr. Subhakanta Mohapatra	Professor	IGNOU
3	Ms.Oindrila Basu	Commissioner	ICUN CEM South Asia
4	Ms. Ambika Dabral	Consultant	Finance Ministry, Economic Relation Division
5	Sh. Shakthi Srithan	Officer-in-charge-GIS cell	WTI
6	Dr. Areendran Gopala	Director-GIS&RS	WFF-India
7	Mr. Shizuka Hasgmoto	Associate Professor	University of Tokyo
8	Dr. Rajarshi Dasgupta	Senior Researcher (Natural Resources)	IGES, Japan
9	Sh. Pankaj Kumar	Senior Policy Researcher	IGES, Japan
10	Dr. Sajan John	Head- Marine Projects	WTI
11	Ms. Neha Gupta	Research Scholar	NIDM
12	Sh. Chitiz Joshi	Assistant Technical Officer	UNESCO-Category 2, WII
13	Sh. Anukul Nath	Assistant Technology	UNESCO-Category 2, WII
14	Sh. Dhruv Verma	Technical Officer	Wetlands International South Asia
15	Dr. Sonali Ghosh	IFS	Adjunct Faculty, UNESCO C2C WII, Dehradun
16	Sh. Rakesh Kadaverugu	Scientitst	CSIR-NEERI
17	Dr. Swati Sulagna	Senior Consultant- Climate Change	NDMA