

# INTERNATIONAL SYMPOSIUM ON

## Building Resilience of Communities in Sundarbans



Organised by

School of Environment and Disaster Management

Ramakrishna Mission Vivekananda Educational and Research Institute

12-14 February 2025

RKMVERI, Narendrapur Campus, Kolkata - 700103



In Collaboration with



School of Oceanographic Studies

Jadavpur University

Kolkata - 700032

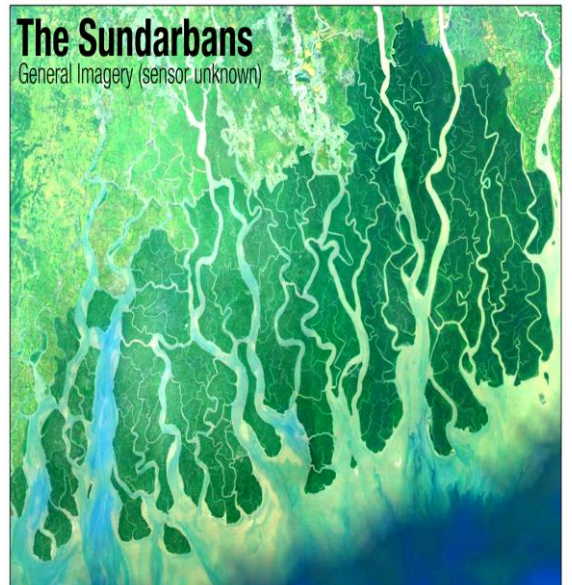
## Backdrop

The Sundarban region - an expansive delta formed on the confluence of the Ganga, Meghna, and Brahmaputra rivers with the Bay of Bengal spanning across India and Bangladesh - is facing a multifaceted existential crisis due to environmental degradation, rising sea levels, and extreme weather events exacerbated by climate change.

The region, home to the world's largest contiguous mangrove forest with rich biodiversity, has seen its landmass shrinking significantly over the last two centuries. The population, primarily living in isolated island blocks, is heavily dependent on subsistence farming, fishing, and minor forest products, with nearly half of the population living below the poverty line.

### The Sundarbans

General Imagery (sensor unknown)



Despite various government and non-government initiatives to address these challenges, the region remains one of the most critical hotspots in the world, with layers of vulnerabilities exposed to multiple hazards of nature, creating complex of risks of disasters, affecting lives and livelihoods of nearly 12 million people in the two South Asian countries, many of them pushed by circumstances to migrate as climate refugees.

In the recent years there have been a rise of research on Sundarbans across various disciplines and sectors, analysing the problems of the region and trying to find solutions, through innovative programmes with varying results, but most of such initiatives have taken place in silos, without any comprehensive multi-sectoral strategic approach for building resilience of the local communities.

## Objectives

In this backdrop the *International Symposium on Building Resilience in Sundarbans* intends to bring together scientists, researchers, policy makers and practitioners across various disciplines and sectors in a common platform to

- Discuss various physiographic, climatic, social, economic and environmental changes of Sundarbans that are driving the existential crisis of the deltaic islands;
- Deliberate on eco-system based, scientific, sustainable, cost effective, community driven, gender sensitive and inclusive measures that can be adopted for reducing the risks of disasters, adapting with the changing climate, enhancing livelihood opportunities, eradicating poverty and stopping distressed migration; and
- Develop a road map for building resilience in Sundarbans and recommend a set of programmes, projects and activities that can be adopted on short, medium and long terms for building resilience in Sundarban.

## Structure

The Symposium will be structured in 10 different sessions, on following themes and sub-themes

### ***Session-1: Inaugural Session: Setting the Contexts and Flagging the Issues***

### ***Session-2: Physiographic Changes in Sundarbans: Sedimentation, Erosion and Subsidence***

- Increasing sedimentation, decreasing depth and rising salinity in rivers
- Patterns, trends and projections of coastal and river erosions and accretions
- Land subsidence - contributing factors and remedial measures
- Changing expanse, depth and quality of mangroves of Sundarbans

### ***Session-3: Living with Risks: Natural Hazards and Human Vulnerabilities***

- Patterns and trends of cyclones, floods and other natural hazards
- Social and economic vulnerabilities of Sundarban islands
- Damage and loss of tangible and intangible assets in Sundarbans
- Indigenous coping mechanisms and traditional wisdom for survival

### ***Session-4: Living on the Edge: Impact of Climate Change on the Life and Economy of Sundarbans***

- Sea Level Rise: Trends, Projections and Impacts
- Salinization of soil, sub-soil and river in Sundarbans
- Impact of climate change on agriculture in Sundarbans
- Impact of climate on fisheries in Sundarbans

### ***Session-5: Existential Crisis in Sundarbans: Poverty, Livelihood and Migration***

- Multi-Dimensional Poverty in Sundarbans
- Livelihood in Sundarbans – Challenges and opportunities
- Climate refugees of Sundarbans
- Migration and feminisation of agriculture: Unequal burden of work of women

### ***Session-6: Reducing Risks of Disasters: Structural and Non-Structural Solutions***

- Protecting embankments from storm surges and sea level rise
- Disaster and climate safe houses and infrastructure
- Cyclone shelters of Sundarbans
- Community Based Disaster Risk Management

### ***Session-7: Adapting to Climate Change: Innovative Technology and Practices***

- Climate resilient agriculture in Sundarbans
- River, estuarine and marine fisheries Challenges and opportunities
- Untapped potentials of inland fisheries in Sundarbans
- Eco-tourism in Sundarbans – Problems and prospects

### ***Session-8: Nature Based Solutions***

- Reviving mangroves in Sundarbans
- Restoring ponds for rainwater harvesting
- Conserving bio-diversities for sustainable development
- Enhancing nature based livelihood opportunities

### ***Session-9: Strategic Approach for Building Resilience***

- Development plans in Indian Sundarbans: Achievements and shortcomings
- Planned adaptation or managed retreat
- Strategic Interventions for Building Resilience to Climate Change and Disasters
- Conservation and conflict - Hopes and despair for the future

### ***Session-10: Concluding Session: Sundarbans - Road Map to Resilience***

## Schedule

- a) **12 February 2025:** Inaugural Session (11 AM -1 PM), Session-2 (2 PM - 4 PM), Session-3 (4:30 PM - 6:30 PM)
- b) **13 February 2025:** Session-4 (9 AM -11 AM), Session-5 (11:30 AM -1:30 PM), Session-6 (2:30 PM - 4:30 PM), Session-7 (5 PM -7 PM)
- c) **14 February 2025:** Session-8 (9 AM -11 AM), Session-9 (11:30 AM -1:30 PM), Session-10 (2:30 PM - 4:30 PM).

## Highlights

- Each session shall have one Key Note and four Expert Speakers
- All the speakers will be invited experts who have contributed substantially on the subject
- All the sessions shall be held in plenary to facilitate interaction among experts across disciplines and sectors for developing a common approach
- The proceedings of the Conference and selected papers shall be published by reputed publishers

## Organisers

**Ramakrishna Mission Vivekananda Educational and Research Institute**, is a multi-campus university established in 2008 by the Ramakrishna Mission. The Narendrapur campus of the university is located in South 24 Paragana district of West Bengal, on the outskirts of Kolkata. This campus offers a range of postgraduate, and research programs on agriculture and rural development, agricultural bio-technology, agronomy, plant breeding etc. The School of Environment and Disaster Management was set up in 2018 to conduct education and research programmes on various aspects of environment science and disaster management. The School offers Masters and PhD programmes on environment and disaster management. The faculty members and students of the School have been engaged in research on Sundarbans.

**School of Oceanographic Studies at Jadavpur University**, is a leading institution for research and education in ocean sciences and technology. Established in 1988 by UGC, the School focuses on the study of oceanic processes and coastal phenomena, particularly those impacting the livelihoods of coastal communities. Its primary research thrust areas include climate change impacts, micro-level vulnerability assessments in coastal ecosystems, social-ecological systems, marine pollution, blue economy, and ecosystem services, with a special focus on low-lying deltas and coastal areas. The School is internationally recognized for its work in these areas, collaborating in multi-country research consortia such as ESPA-Delta, DECCMA, and the Living Deltas Hub, which address critical issues of climate adaptation, human migration, and natural hazard management in vulnerable coastal regions.

