



LIVING  
DELTAS  
RESEARCH HUB

Creating sustainable deltas

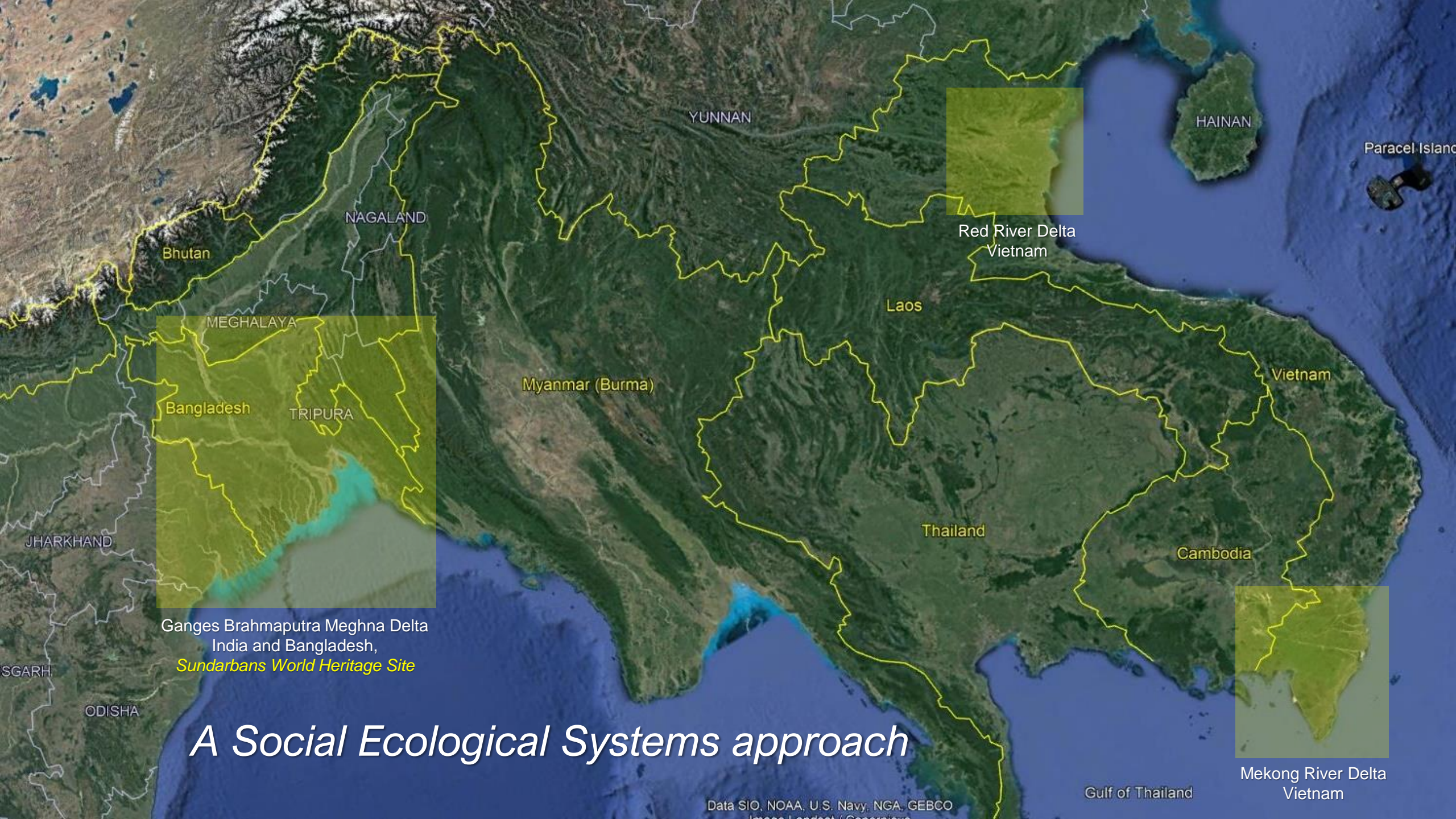
## **Global Challenges, Collaboration, Culture and Climate Change**

*Professor Maggie Roe, Professor of Landscape, Centre for Landscape, Newcastle University, UK*

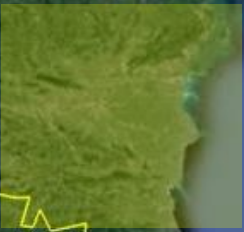
*Dr Niki Black, Senior Research Associate, Architecture, Planning & Landscape, Newcastle University, UK*

*Professor Souvanic Roy, Architecture, Town & Regional Planning, IEST, Shibpur*

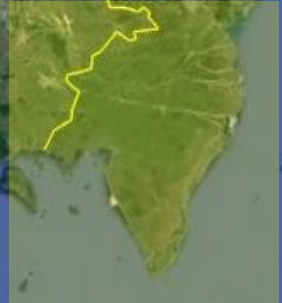
*Swastik Pal, Independent Photojournalist/Artist, Kolkata*



Ganges Brahmaputra Meghna Delta  
India and Bangladesh,  
*Sundarbans World Heritage Site*



Red River Delta  
Vietnam



Mekong River Delta  
Vietnam

# *A Social Ecological Systems approach*

Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
Imagery Landsat / Copernicus

Gulf of Thailand

# Living Deltas Hub Research Approach

- Raising the voices of delta dwellers & stakeholders
- Investigation of new ways of raising delta resilience and risk governance
- Learning from locally rooted knowledge that underpins Locally Led Adaptation
- Transboundary sharing of co-created knowledge is a key aim of the Hub
- Relationships between people and water
- Understanding that natural cultural heritage underpins people's identities and relationships with their landscapes

# Key questions & considerations

- *What are the long terms changes in delta landscapes?*
- *How are these changes accelerating in the Anthropocene?*
- Consideration of the drivers of change and their consequences
- Identifying and communicating delta stories

# Themes and Priorities that respond to Sustainable Development Goals

Voices of the Delta  
Behaviour and Risk  
Science of the Delta  
Coastal Systems  
Sustainable Goals  
Research for Change  
Natural and Cultural Heritage



# Vulnerability, hazard and risk

- The Sundarbans & its communities are the *receptors* of impacts related to considerations of NetZero
- Climate change compounds existing vulnerabilities, hazards and risks
- How can delta risk governance mitigate future risks from climate induced hazards?
- How can delta level resilience be optimised in the deltas and what is its influence/dependence on development pathways?

## Sundarbans Services - examples

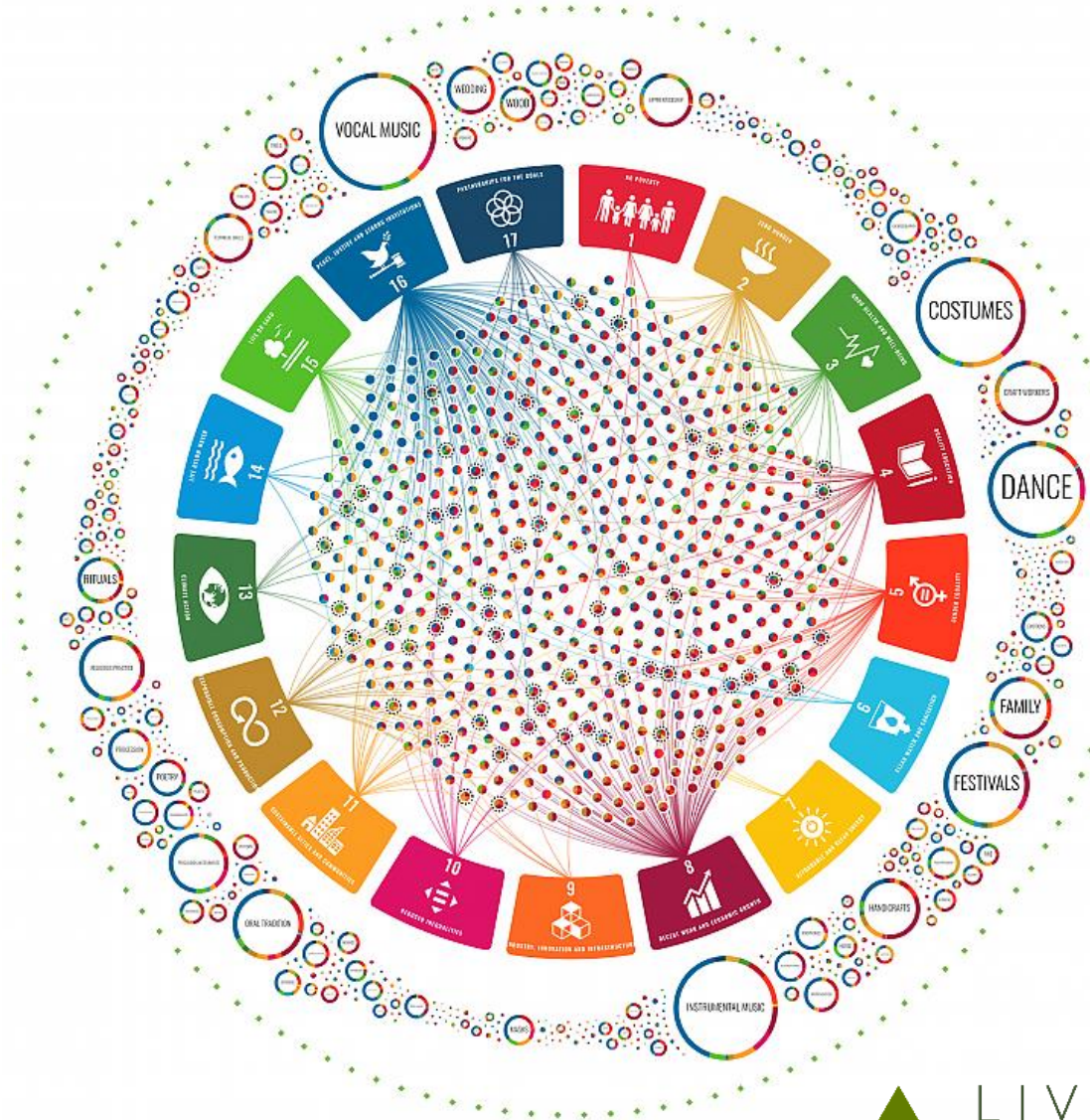
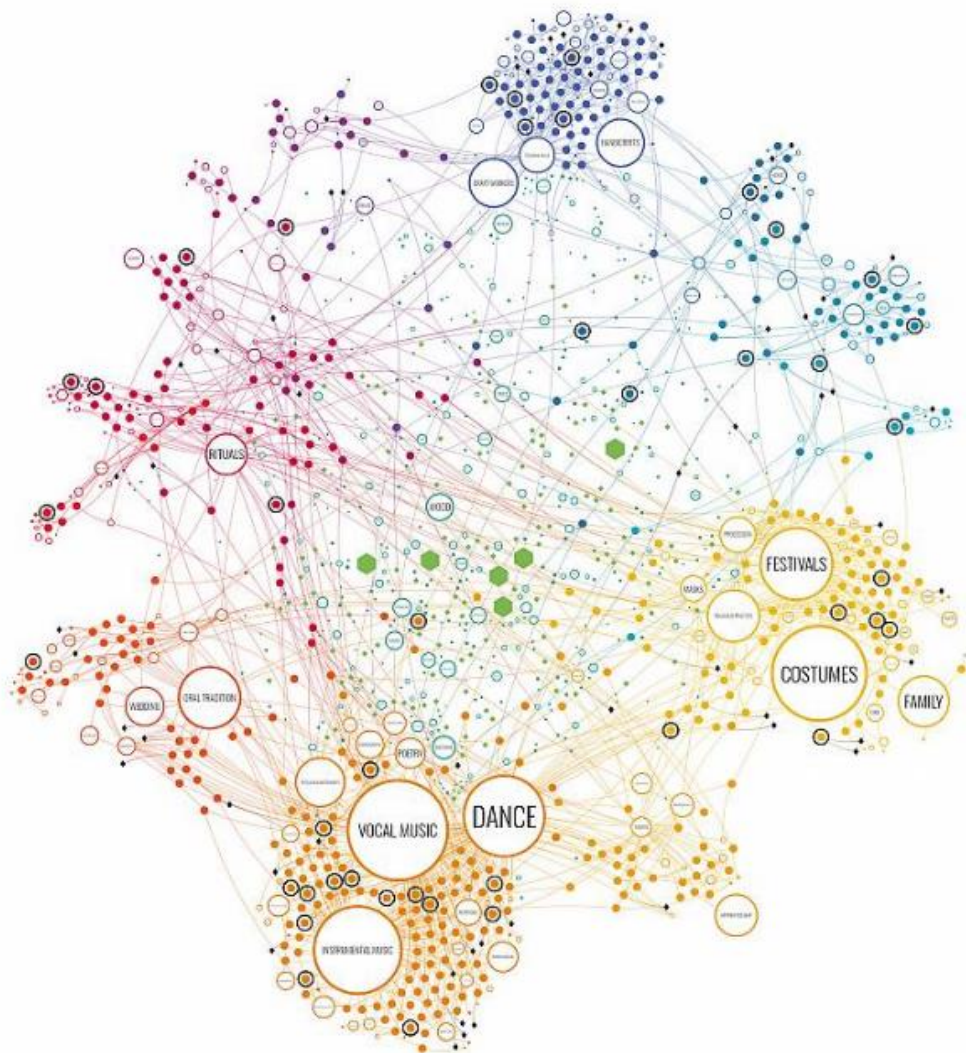
- Carbon storage
- Erosion prevention
- Nutrients
- Livelihoods – fish, honey, shrimp, medicines agriculture, fodder, fuel, bark
- Storm barrier
- Biodiversity
- Cultural richness

## Climate Change Impacts

- Rising sea levels
- Salinization
- Deforestation- mangrove loss
- Migration
- Increasing temperatures
- Pollution
- Diseases
- Poverty

# Water cultural pasts, presents and futures

Intangible Cultural Heritage <https://ich.unesco.org/en/>



Living Heritage and SDGs UNESCO <https://ich.unesco.org/en/>

*How can these remain living cultural forms in living deltas?*

# Creative Cultural Forms & Practices Group - Water Puppetry in the RRD, Vietnam

<https://vietnamtravel.com/vietnamese-water-puppets/>



Fishing Puppets performance – observational analysis  
Đánh bắt cá



<http://www.bongsenwaterpuppet.vn/page/water-puppetry-art.html>

Creative skills and knowledge - interviews



Fishermen, Red River Delta,  
Early 20<sup>th</sup> Century – Archival research



<https://www.vietvisiontravel.com/post/the-water-puppetry-theatre/>

Performance pond, Thay Pagoda –  
site visits and landscape survey



# Creative Cultural Forms & Practices Group – work in the Sundarbans

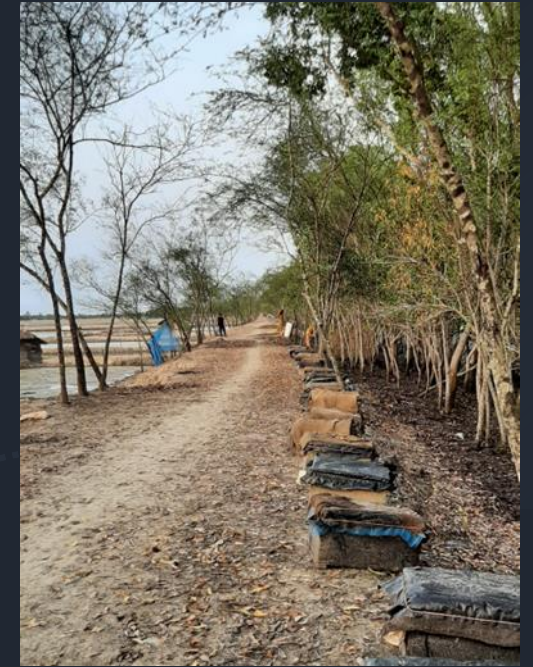


**What we do.** We explore delta lives and landscapes to better understand the relationships between humans, bees and the delta environment, the importance of the cultural and spiritual practices associated with honey gathering across political, national and religious boundaries and the role this plays in the future sustainability of these ecosystems and cultural landscapes in the face of our climate crisis.

We work with extended communities of honey-gatherers, schools and young people through artist/researcher methods to understand changes to their culture, causes of change and implications for future sustainability.

We work with artists – through film, painting, story telling, puppetry, performance.

We integrate our creative and research outputs within an inter-disciplinary approach, engaging the arts and sciences to tackle major global challenges.



## What we've found. Changes, challenges and opportunities; values, SDGs and sustainability.

- The cultural practices associated with honey-gathering can contribute to sustainability, addressing the UN SDGs relating to inequality, poverty and climate change (particularly SDG 6, 10, 12, 13 and 15).
- The multiple values and traditional, environmental knowledge (TEK) within the culture of honey-gathering in the Sundarbans is inadequately understood and recognised.
- That an interdisciplinary approach to climate change issues is imperative for positive action.
- Climate change and global pressures are impacting on these cultural practices.
- But there are immediate, local impacts which could be addressed to improve resilience and future sustainability.



## Towards Net Zero: through sustainable delta/forest/landscape management and addressing the UN SDGs relating to inequality, poverty and Climate Action.

Actions we can take include:

- Recognising local, traditional knowledge and values of bees and delta/forest environment for biodiversity, pollination and climate change mitigation and inclusion of this within sustainable management plans.
- Recognising the role these practices play in socio-cultural sustainability and attitude to risk.
- Addressing failures in communication between policy makers and practitioners in the deltas; narrow the experiential gap.
- Raising awareness, for example through our exhibition, to elevate the voices of those in the deltas who often go unheard.

# *Bitter-Sweet Tides*

## *Touring and Online Exhibition*

An exhibition of creative outputs and research findings from collaborative projects between researchers, artists and communities across the Indian and Bangladeshi Sundarbans.

Featuring stories, film, photographs and drawings embedded with the latest international research on climate change from the Living Deltas Research Hub, *Bitter-Sweet Tides* tells of the lives of delta honey-gathering communities, highlighting the relationship between humans, bees and landscape.

It provides a platform for raising delta community voices, documenting contemporary and heritage culture of the Sundarbans related to honey-gatherers and Bonbibi, and how these relationships and cultural practices contribute to the future sustainability of this environment.



# Thank you!

[maggie.roe@ncl.ac.uk](mailto:maggie.roe@ncl.ac.uk)

[niki.black@ncl.ac.uk](mailto:niki.black@ncl.ac.uk)

[souvanic.arch@faculty.iiests.ac.in](mailto:souvanic.arch@faculty.iiests.ac.in)

[pal.swastik@gmail.com](mailto:pal.swastik@gmail.com)



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