Transfer Workshop on
Coastal Cities Resilience – Nexus Approach
DAAD-ABCD Centre
12-13 September 2025

Concept note on Coastal Cities Resilience – Nexus Approach

Main Theme: *Addressing Compound flooding and shoreline impact in Urban regions through Nature based solutions and Digital Twin technologies*

A nexus approach to building the resilience of coastal cities focuses on the interconnectedness of various systems—such as water, energy, food, and infrastructure—while addressing climate change, urbanization, and environmental degradation. In coastal cities, resilience refers to the ability to withstand and recover from shocks and stresses, such as rising sea levels, extreme weather events, flash floods and population pressures. The nexus approach integrates different sectors to address the multifaceted challenges that coastal cities face, promoting sustainability, equity, and efficiency.

A nexus approach promotes solutions like integrated water management to address energy and water needs simultaneously, renewable energy solutions (e.g., solar and wind) for water desalination, and sustainable agriculture techniques that reduce water use while boosting food security. The coastal cities that are facing the impacts of climate change, including stronger storms, sea level rise, high intensity rainfall, storm surge and more frequent heatwaves. These challenges directly affect key infrastructure, such as roads, ports, housing, and utilities. A nexus approach advocates for holistic infrastructure design that incorporates climate adaptation and resilience into planning and development through Grey Green Blue infrastructure, Climate-resilient energy grids, Sustainable urban design, smart and ecofriendly materials for infrastructures. The resilience of coastal cities isn't just about physical infrastructure; it also includes social systems, such as community engagement, public health, and governance. The Coastal cities can integrate ecosystem services (e.g., flood regulation, carbon sequestration, coastal protection) into urban resilience strategies. This could involve: Restoring coastal ecosystems and promoting sustainable fisheries and aquaculture. Most importantly coastal cities must find ways to finance resilience initiatives such as i) Creating policies that incentivize private investment in climate resilience projects, ii) Using insurance schemes and climate bonds to finance infrastructure development, iii) promoting economic diversification, so coastal cities are less reliant on vulnerable industries like tourism or fishing.

In conclusion, a nexus approach to resilience involves creating synergies between different sectors and considering the interdependencies of urban systems in coastal cities. By tackling climate change impacts through integrated strategies, cities can ensure long-term sustainability, equity, and adaptability to future challenges.

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Detailed Schedule

Day 0	**11th September (Thursday) 2025 – Arrival**
Day 1	**12th September (Friday) 2025**
08:00 onwards	**Registration**
09:00-10:00	Inauguration and Inaugural address
10:00-10:30	Group Photo & High Tea
10:30-12:00	**Panel Discussion: Bridging Technology, Policy and Governance for Coastal Cities resilience – A Nexus lens.** Moderator – Prof K Murali Panelists: 1. Panelist – NGO 2. Panelist – Government of India Official 3. Panelist – Funding Agency Germany 4. Panelist – Funding Agency India 5. Panelist – Implementing agencies 6. Panelist – Government Official Germany/India
12:00-12:30	**Transforming India's Coastal Frontier: Multifunctional Marine Structures in the Era of Coastal Change and Blue Economy** Prof Sundar
12:30-12:00	**Digital Twin for Flood Risk Management** Prof Stamm
13:00-14:00	Lunch
14:00-14:30	**Flooding vulnerability** Prof Schuttrumpf
14:30-15:00	**Engineering the Coastal Resilience Nexus: From Flood Risk Assessment to Adaptive Design** Prof Soumendra Nath Kuiry
15:00-15:30	**Assessing Climate Induced Future Flood Risk in Bangkok and Vicinity** Prof Babel
15:30-15:45	Break
15:45-16:15	**Assessing vulnerability of waste management infrastructure in coastal megacities to the impacts of climate change induced flooding** Prof Ligy
16:15-16:45	**Making Chennai Water Resilient: Role of Sustainable Urban Drainage Systems & Blue – Green Infrastructure** Prof Balaji Narasiman
16:15-17:15	**A Hydrodynamic driven approach for assessing Vulnerability of coastal cities to Extreme events under Climate challenges** Prof S.A. Sannasiraj
17:15- 17:30	Closing remarks – Day I

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Day 2	**13th September (Saturday) 2025**
09:30-10:00	**The marine and ecological perspectives for the sustainability of coastal region** Prof J K Patterson
10:00-10:30	**Marine Pollution and Mitigation Strategies for coastal cities** Dr Ramanamurthy
10:30-10:45	Break
10:45-11:15	**Climate Adaptation in Coastal Engineering** Prof Schuttrumpf
11:15-11:45	Talk 10 – Industry (Technology) - TBC
11:45-12:00	Change of Room (Hall 3 to Auditorium for joint session with IAHR section)
12:00 – 12:30	ABCD activities towards achieving resilience Prof S A Sannasiraj
12:30-13:00	IAHR towards achieving Water Security Prof Philippe Gourbesville, IAHR President
13:00-14:00	Lunch
14:00-15:30 (90 Mins)	**Panel Discussion:** Best practices for Coastal Cities Resilience (IAHR Combined event) Moderator: Germany – Prof Stamm/UNU Panelists: 1. Panelist – India (AIIMS) - Health 2. Panelist – Thailand - Environment 3. Panelist – Germany – Smart Cities/Infrastructure 4. Panelist – Industry - Technology 5. Panelist – An Official from the Implementing agencies – Policy and Governance 6. Panelist – A representative from users/ stakeholders
15:30 – 15:45	Closing remarks and recommendations
15:45 – 17:00	High Tea and Networking