



Hydro-Social Deltas

Understanding flows of water and people

The Hydro-Social Deltas research project seeks to understand the dynamic interplay between hydrological processes (flooding, riverbank erosion, waterlogging) and social processes (demographic shifts, urbanization processes, governance) in the urbanizing delta of Bangladesh and the urbanized delta of the Netherlands. Obvious differences aside, both countries are involved in long-term climate change-induced system planning in dynamic deltas. The advanced understanding of hydro-social interactions will support policies and strategies for disaster risk reduction and sustainable development. Notably, we aim to help:

- shift existing simplifying policy discourse on climate induced displacement or migration ('climate refugees') and negative perceptions of urban migration as related to poverty and crime;
- improve the implementation and coordination between existing policies;
- reduce vulnerability for migrants and support sustainable pro-poor development approaches in Bangladesh;
- increase flood resilience in the Netherlands and Bangladesh.

The project is part of the research programme [Urbanising Deltas of the World](#) funded by the Netherlands Organisation for Scientific Research (NWO) and the Dutch Ministry of Foreign Affairs.



contact information

Hydro-Social Deltas project coordinator dr Anna Wesselink a.wesselink@unesco-ihe.org

Policy impact

The lack of knowledge about the interactions between social and hydrological processes influencing flood risk limits the ability of the government, citizens, and industry to plan appropriate disaster risk prevention and response measures and estimate future flood risk. Our approach includes a capacity-building strategy to enhance the uptake of research results into policy and practice at the local level. The project will involve policy makers in the research projects and on the advisory board, create an urban platform/coalition with existing urban poverty and climate change projects, develop policy-oriented outputs to communicate research results, and strengthen the science/policy interface in Bangladesh through alliances with strong local partners to have informal access to key policy makers.

A trans-disciplinary research approach will work at the interface between social science and hydrological science to question key assumptions regarding the one-way processes of environmental and climate migration now guiding urban disaster risk reduction and delta policies and dominating the media. The research will also work at the policy/research interface to inform policy discourse and raise awareness of policy makers and planners in regards to the linkages between demographic and hydrological flows, and the impacts of this relationship on existing plans and policies.



Shrimp farming in the new polders induced marginalisation of poorest groups

Project Partners

Flood Hazard Research Centre Bangladesh has extensive experience in research and development related to floodplain resource management, including impact assessment, charland inventories, adaptive land-water management, ecosystem services and migration. The partners from FHRC participate in the design, conduct and dissemination of Bangladesh research and PhD supervision (natural sciences).

FHRC partners:

Dr Parvin Sultana, researcher

Dr Paul Thompson, researcher

The **Bangladesh Centre for Advanced Studies (BCAS)** is an independent, non-profit, non-government, policy, research, and implementation institute working on sustainable development at local, national, regional and global levels. The partners from BCAS participate in the design, conduct and dissemination of Bangladesh research and PhD supervision (social sciences).

BCAS partner:

Dr Md Abu Syed, researcher

Deltares has much experience in Bangladesh through research and consultancy projects, for example the ADB project "Supporting Investments in Water Related Disaster Management". Deltares was also co-responsible for feasibility study Delta Plan Water Mondial. The partners from Deltares participate in the design and dissemination of Bangladesh and Dutch research.

Deltares partner:

Kymo Slager, researcher

UNESCO-IHE carries out research, education and capacity building in the fields of water, environment and infrastructure. The partners from UNESCO-IHE participate in the design, conduct and dissemination of Bangladesh and Dutch research and PhD supervision (natural sciences). UNESCO-IHE is also project coordinator.

UNESCO-IHE partners:

Dr Luigia Brandimarte, researcher and PhD supervisor (natural sciences)

Mr Ruknul Ferdous, PhD student (natural sciences)

Dr Michelle Kooy, project leader

Dr Anna Wesselink, project coordinator & researcher

The **Delta Academy of the University of Applied Sciences Zeeland** conducts research in The Netherlands on resilient deltas, in collaboration with societal partners such as Safety Region Zeeland and Province of Zeeland. The partners from Delta Academy participate in the Dutch element of the research, including BSc student assignments.

Delta Academy partners:

Jean-Marie Buijs, researcher and lecturer

Dick Fundter, researcher and lecturer

Wageningen University is an international research and education institute. The Sociology of Development and Change Group combines a critical approach to global development issues and processes with an interest in crisis, governance, livelihood and resources. The partners from WUR participate in the design, conduct and dissemination of Bangladesh and Dutch research and PhD supervision.

Wageningen UR partners:

Hasan Ashraf, researcher

Dr Jeroen Warner, researcher and PhD supervisor (social sciences)

The **Institute for Housing and Urban Development Studies (IHS)** is an international center of excellence of the School of Economics (ESE) and the Faculty of Social Sciences (FSS) of the Erasmus University Rotterdam, The Netherlands, operating on a global scale by offering post-graduate education, training, advisory services and applied research in the field of housing, urban management and development. The mission of IHS is to develop human and institutional capacities to reduce poverty and improve the quality of life in cities. The partners from IHS participate mainly in capacity building and policy uptake.

IHS partners:

Dr Maartje van Eerd, researcher