



NWO

Urbanising Deltas of the World

Prof. Huub Savenije - Delft University of Technology / Chair UDW
Rotterdam conference *Deltas in Times of Climate Change II*, 24 September 2014

Netherlands Organisation for Scientific Research



NWO

Aim of the programme

Contribute to **global water and food security** and **sustainable economic development** in river deltas worldwide by providing more effective and **efficient responses** to increasing pressure and rapid change.



Funding of the programme

Main funding

- Netherlands Organisation for Scientific Research (NWO – Dutch research council)
- Ministry of Foreign Affairs of the Netherlands

Policies

- 'Water Mondiaal' Directorate of International Cooperation, DGIS Water for Development policy;
- 'Topsector' Water



UDW-1: Objectives

- Knowledge and research: *Theory development, new knowledge and insights, high quality original research*
- Relevance for development: *New tools and technologies, perspectives for action, pro-poor sustainable development*
- Capacity to innovate: *Capabilities and skills to apply knowledge, individuals and organisations*

Ambitious but rewarding!



UDW-1: Seven Integrated Projects

Consortia of at least four partners:

- Academia & Private partners
- Must have a comparative nature
- The Netherlands and Developing Countries
Bangladesh (5), Vietnam (2), Indonesia (1), The Netherlands (2), Mozambique (1) and India (1)
- More than one country involved in each project



Project 1: Shifting Grounds



**Bangladesh and India:
Ganges delta**

Sustainable groundwater use

Peri-urban areas

Negotiation processes

Institutional transformation



Project 2: Rise and fall



Subsidence and salt intrusion

Vietnam: the Mekong delta

Groundwater dynamics & water governance

Mekong Delta plan (RHDHV)
CC and drinking water project (Vitens)




Project 3: Strategic Delta Planning



Participatory approaches

Bangladesh, Vietnam and The Netherlands

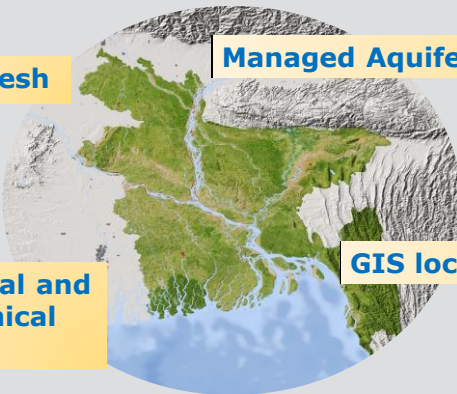
Delta planning

Stakeholder coalitions





Project 4: Sustainable water supply by aquifer recharge



Bangladesh

Managed Aquifer Recharge

Hydrogeological and hydrogeochemical prerequisites

GIS location mapping




Project 5: Adaptive Delta Management (ADM)



Indonesia, Bangladesh and The Netherlands

Intertwining models

Participatory plan development

Collaborative transdisciplinary networking



UNIVERSITEIT TWENTE





Project 6: Freshwater supply in Maputo

Turn plant into profitable 'mine'

Mozambique

Including water re-use in urban water systems

re-use domestic water for small-scale activities





Project 7: Hydro-Social Delta

Bangladesh and The Netherlands

Hydrological & social processes

Demographic transitions

Delta plan Disaster Risk Reduction





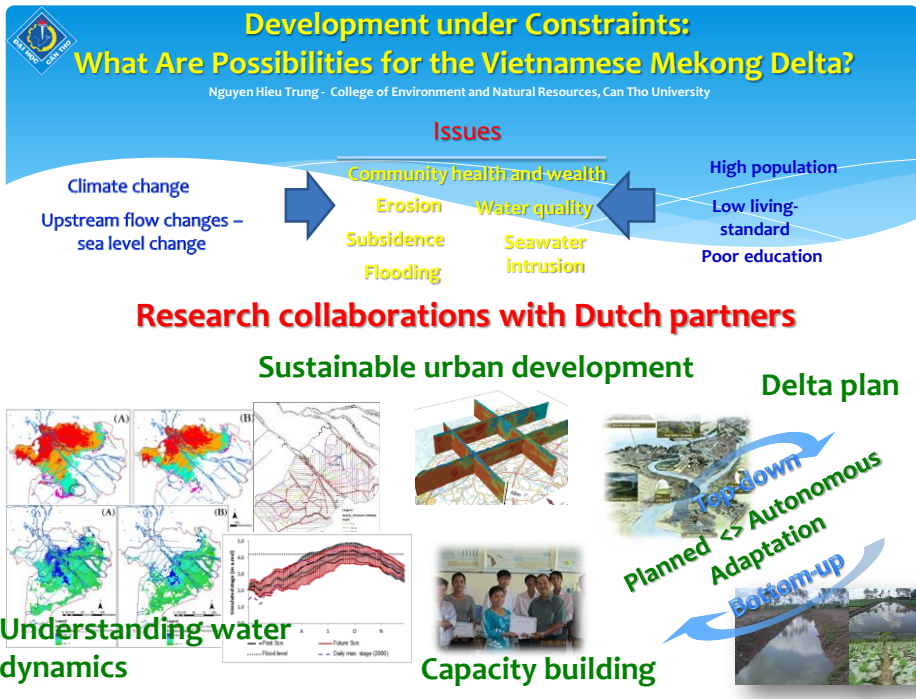

• Pitches

- Deltas***
 - Vietnam
 - Netherlands
 - Bangladesh
- Perspectives***
 - Policy
 - Research
 - Business
- Discussion***
 - Issues
 - Collaboration
 - Research



Mekong Delta - Case & Research Perspective

Hieu Trung Nguyen, Can Tho University, Vietnam



NWU

Mekong Delta - Policy Perspective

Dang Kim Son, Ministry of Agriculture and Rural Development, Vietnam



Mekong Delta - Business Perspective

Christiaan Elings, Royal Haskoning DHV, the Netherlands



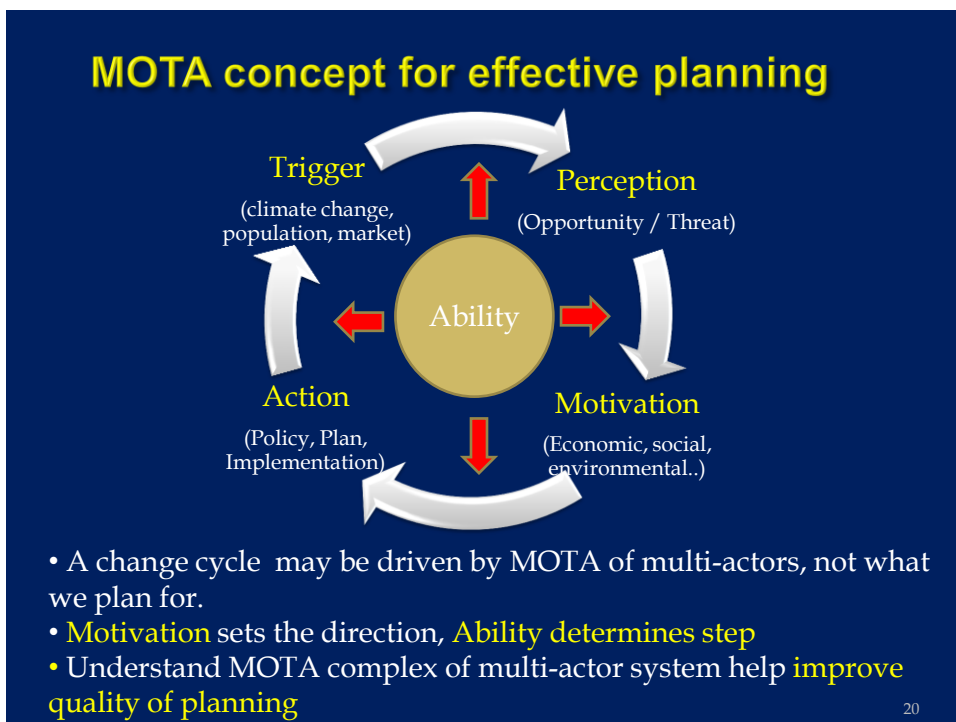
The Netherlands Delta - Case & Business Perspective

Ralph Schielen, Ministry of Infrastructure and Environment-Rijkswaterstaat, RiverCare research programme, The Netherlands



The Netherlands Delta - Research perspective

Ho Long Phi, Vietnam National University Ho Chi Minh City, Center for Water Management and Climate Change





The Netherlands Delta - Policy perspective

Willem Ligtoet, Planbureau voor de
Leefomgeving, The Netherlands

Willem Ligtoet



PBL Netherlands Environmental
Assessment Agency

Reducing vulnerability of the Dutch delta

Integrating impact reduction in flood risk strategy

- * How to reduce impacts on short term and long term?
- * What can be reached when and how for which costs?



Focus on:

- * Innovation in building levees ("stronger levees")
- * Spatial development - urban areas, vital infrastructure
- * Flexible evacuation strategy (OUT-OF and IN the area)
- * Awareness raising



Improving integrated/inclusive planning processes

- * Creating new perspectives short term & long term
- * Creating communities in a learning environment
- * Resulting in a basis for decision making





The Bangladesh Delta - Case & Business perspective

Jaap de Heer, Twynstra Gudde, The Netherlands

UDW – Bangladesh Delta Plan 2100 Prof. Dr. J.M. de Heer

- Research Perspective / Opportunities fit in on:
 - Search for holistic approach: understanding a delta as a whole as it happens, in its process of becoming (integrated analysis, dynamic inter dependencies)
- UDW-Research covers relevant themes, more specification required for BD BDP 2100 needs:
 - In depth studies on certain issues e.g.:
 - Groundwater behavior in relation to transboundary river problems
 - Geology – river morphology related with dynamics of sediment transport and possibilities of land reclamation
 - Water governance and institutional matters / reform: how to make it happen; institutional and management / organization requirements for a long term holistic delta plan

More attention needed for:

- Problems of implementation / realization
- Innovative Investment mechanisms; Joint planning IFI's
- Capacity building and attention for legacy, BDP2100 learning by doing
- Transboundary issues and Water Diplomacy



The Bangladesh Delta - Research perspective

M. Shah Alam Khan, Bangladesh University of Engineering, Technology, Institute of Water and Flood Management

Delta-Focused Research in Bangladesh - M. Shah Alam Khan

Goal: Knowledge generation, Capacity building, Sustainable development, Poverty alleviation, Policy change, Mutual learning

Approach: Interdisciplinary, Comparative (multi-setting), Participatory

Focus: Resilience of the natural, institutional and social systems + Delta planning and management + Governance
Specifically: livelihood, water and food security, ecosystems, natural disasters, vulnerability, adaptation

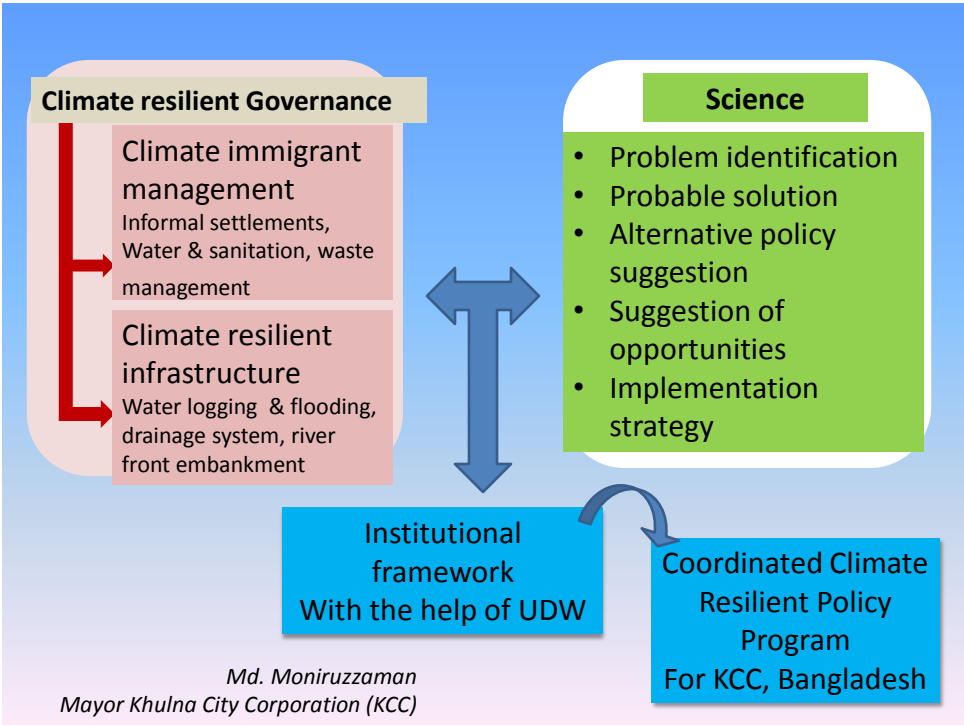
Research Priorities:

- How can urban development enhance capacity and resilience of the poor and marginalized?
- How can science-policy-development linkages be made practical and effective in the urbanizing delta settings?
- What should be the sustainable delta and urban development policies and governance frameworks?



The Bangladesh Delta - Policy perspective

Mayor Moniruzzaman Moni, Khulna City Corporation, Bangladesh





Panel discussion

Issues – Collaboration – Research implications

- Bui Tran Vuong, Division of Water Resources Planning and Investigation for the South of Vietnam (DWRPIS), Vietnam
- Nelson Matsinhe, Universidade Eduardo Mondlane, Mozambique
- Arjen Zegwaard, Wageningen University, NL
- Renske Peters, Delta Alliance international, NL
- Poulomi Banerjee, SaciWATERs, India