DELTAS IN PRACTICE SESSIONS: EXTENDED WORKSHOP DESCRIPTIONS

Theme 2: Adaptation Strategies

Deltas in Practice Theme 2. Adaptation strategies

DP 2.1 Migration as an adaptation to climate change: The best option for deltas?

Wednesday 24 September, 16.15-18.00 Antwerp Room

Deltas are formed by sediment-laden rivers reaching the sea and are highly sensitive to changes in the catchment, the marine environment and the delta itself. Large tracts of land at low elevation make deltas vulnerable to sea-level rise, but they also experience climate impacts such as droughts and fluvial flooding. Deltas have some of the highest population densities in the world with 500 million, often poor, residents. The adaptive strategies available to delta residents (e.g., disaster risk reduction by building shelters, or land use management) may exacerbate gender inequalities, and may not be adequate to cope with pervasive, systemic, or surprise changes associated with climate change. Hence, large movements of people are often projected from deltas under climate change. Migration is already an established household adaptation to cope with environmental and economic change. This can be both a successful form of adaptation, increasing the resilience of the migrant household, and unsuccessful, perpetuating vulnerability in a new location with differential impacts on men and women.

This panel discussion will contextualise the impacts of climate change and associated vulnerabilities across four contrasting deltas – drawing on preliminary investigations of the 'Deltas, vulnerability & Climate Change: Migration and Adaptation' (DECCMA) research project – in particular focussing on when migration is an appropriate adaptation, especially for the most vulnerable. The session will be run using a diverse variety of presentation methods including: i) powerpoint presentation; ii) interview; iii) panel session; iv) video session.

DECCMA will co-produce (with stakeholders) policy recommendations for adaptation under climate change in deltas, especially migration as an adaptation. The $CAD 13.5million DECCMA project has been a year in planning and commences early 2014, completing September 2018. This workshop will contribute to the co-production of knowledge, as it will provide a forum for international stakeholder to engage with our project. Stakeholder opinion will be gathered during the question and answer sessions, conclusions will be summarised and noted and this information will be utilised in the project.

The audience can ask any questions that they feel are pressing, but we would also request comments / previous experiences from the audience around the following themes:

i) Under what context is migration an effective adaptation (or otherwise) in deltas
ii) What methods work to understand migration as an adaptation in deltas?
iii) What is the relationship between sending and receiving areas (often urban) within deltas

Are there any differences in researching these questions in large and small deltas?

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DP 2.2 Regional adaptation strategies: tips and tricks from three inspiring delta regions

Thursday 25 September, 09.00-10.45 New York Room

Extended information on the Rotterdam presentation:

In November 2013, the City region of Rotterdam launched the "Building blocks for climate adaptation strategies in the Region of Rotterdam". These building blocks are to form the basis for specific adaptation strategies for individual communities within the Rotterdam City region. During the workshop, the building blocks will be presented, including an explanation of the actors involved, the choices that have been made during the process, the reasoning behind them and the ambitions for the future.

http://kennisvoorklimaat.klimaatonderzoeknederland.nl/HSRR3.4 (in Dutch)

Extended information on the London presentation:

In this presentation, leading adaptation practitioners from London will set out how the London Climate Change Partnership, the Climate Change Adaptation Strategy and the Thames Estuary 2100 Project were developed and how they individually and cumulatively work to enable adaptation in London. This presentation will set the scene for discussion on what makes a city resilient to climate risks and how to maintain or even increase this resilience in the face of climate change, population growth and demographic change. It will include a description of some of the challenges and the opportunities for the future.

www.climatelondon.org.uk

Extended information on the Mekong presentation:

The Mekong Delta Plan, written in close cooperation between Vietnam and the Netherlands and presented in December 2013, provides recommendations for a sustainable long-term development of the Vietnamese Mekong Delta with special attention to water management and climate change. The workshop will provide insight into the challenges the Vietnamese Mekong Delta faces (both the result of anthropogenic factors like upstream development and socio-economic pressures, and climate related) and how a strategy built on maintaining or increasing resilience towards these challenges can help provide a sustainable future. Implementing the key recommendations requires buy in from both Vietnamese and international partners and addressing institutional arrangements.

www.mekongdeltaplan.com

Knowledge for Climate:

www.knowledgeforclimate.org

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DP 2.3 Learning from the practical experiences in the science policy interface in Delta Cities

Wednesday 24 September, 16.15-18.00 New York Room

Delta cities are vulnerable to impacts of climate change, like sea level rise and change in river discharge, with levels of risks projected to increase under future climate and socio-economic conditions. The Connecting Delta City initiative (CDC) operating under the C-40 network, has launched a network to stimulate exchange of knowledge and ideas between researchers in the C-40 cities (K2K).

In this session we explore how research and practical policy making and implementation in C-40 cities can be better linked, for instance in developing climate adaptation strategies. The presenters from several coastal cities in Asia, Europe and the USA will focus their pitch on one statement. For example: a calamity is needed to come to effective cooperation; science takes long to produce results and focuses too much on uncertainties to be applicable in practice; cities are great live laboratories where we learn by doing, etc. They will share their experience, and challenge the audience on how adaptation strategies, and novel (green) adaptation measures could be successfully developed.

The pitch presentations are followed by an interactive discussion with all participants, including practitioners from Rotterdam and the CDC network, following the statements that have been made by the presenters, and questions that have been raised. Specific attention will be given to the interplay between knowledge institutes, civil servants, and decision makers. Which approaches have been successful, and which approaches were less successful? Were innovative ideas developed, and accepted? What can we learn from these examples, and can stakeholders from different Delta Cities learn from each other?

The objective is to explore if, and how a knowledge to knowledge (K2K) network might be organised between delta cities. A desired outcome is commitment of researchers and knowledge centres in coastal cities to share knowledge, and potentially join the K2K network of CDC, and to form building blocks for CDC K2K research agenda.
http://www.deltacities.com/newsletter/new-book-shows-frontrunners-strategies?news_id=54

Deltas in Practice Theme 2. Adaptation strategies
DP 2.4 Creating and managing subsurface water buffers as a solution for fresh water shortage in coastal areas

Thursday 25 September, 13.30-15.15 Antwerp Room

Deltas are dealing with decreasing freshwater availability, causing problems like seasonal water shortage, overexploitation of freshwater aquifers and seawater intrusion. Freshwater shortages are expected to increase due to climate change, which provokes a more frequent mismatch between freshwater demand and supply, both in time and place.

The application of subsurface water buffers has a significant potential in securing and improving quality and quantity of fresh water supplies in coastal and delta areas around the globe. These buffers may vary from small scale solutions for meeting local (potable) water demands, up to larger, regional solutions in order to prevent seawater intrusion and to recharge aquifers. Due to a broad range of different water buffering techniques, from (very) basic to sophisticated solutions to maximise freshwater recovery, water buffers can very well be applied in both developed and developing countries.

However, experiences show that widespread application of these promising techniques is still far from common. Many barriers have to be overcome in order to widely apply these techniques.

The session starts with an introduction on the potential of water buffering solutions and examples of technologies and experiences from different countries and continents. After that, three inspiring cases will be presented with their own specific characteristics (goals, scale, etc.) and challenges (governance/ownership, used techniques, costs-benefits, etc): ASR coastal, Spaarwater / Go Fresh (The Netherlands), Llobregat River Delta, Spain), Khulna / Satkhira District (Bangladesh). Participants will be invited to come up with ideas (in parallel working groups) for up scaling.

A panel with experienced researchers, consultants and governmental officials will reflect on the ideas and draw the outline of a roadmap for up scaling. During the session a new 3R book will be launched, showcasing a diversity of water buffering solutions in coastal areas around the world.

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DP 2.5 Resilient cities talk: Best practices and remaining challenges on creating resilient urban waterfronts

Thursday 25 September, 13.30-15.15 New York Room

Changing strategy involves governance challenges; this is the focus of the resilient city talks. The core of this workshop is a facilitated discussion between cities situated at a round table at the centre of an arena. Rotterdam, Gothenburg, London and Hamburg will shortly highlight a main challenge in making their cities more resilient to flood risk. These pitches will be input for a facilitated round table discussion in which the city representatives will reflect on their peers, and the public will be actively involved.

Four front-runner cities will present:

- Hamburg is one of the leading cities in flood resilient waterfront development.
- Rotterdam recently developed a strategy for flood prone urban areas, by integrating flood risk management with urban redevelopment processes.
- London has extensive experience in developing a long-term strategy on climate adaptation and flood risk.
- Gothenburg is in the process of developing strategies towards more flood resilient development.

Researchers from the EU seventh framework research project STAR-FLOOD will contribute to the discussion and share their observations. For more information on STAR-FLOOD see the website: www.starflood.eu

The relevant links for flood risk strategies of the presenting cities are:

London:
http://www.london.gov.uk/mayor-assembly/london-assembly/publications/flood-risks-in-london
https://www.london.gov.uk/sites/default/files/water-strategy-oct11.pdf

City of Hamburg:
http://lsbg.hamburg.de/np-gewaesser/nofl/3086224/planung-und-entwurf-hochwasser.html

City of Gothenburg:
Gotheburg.se search for “extremt väder”

City of Rotterdam:
www.rotterdamclimateinitiative.nl

City of Dordrecht
http://www.mare-project.eu/partners/3/laa-dordrecht

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DP 2.6 Towards an integrated estuarine management: Examples of innovative approaches

Thursday 25 September, 15.45-17.30 — Townhall Room

Estuaries are by nature very dynamic systems and most estuarine organisms are adapted to disturbances and highly fluctuating conditions. However the combination of major changes in the catchment affecting fluxes of water, suspended solids and chemicals to the estuaries, morphological changes within the estuaries due to dredging and infrastructural works and finally sea level rise forms a major challenge for both the estuarine functioning and management. The Schelde estuary (Belgium and SW Netherlands) is a typical example of these problems and over the last decades an integrated management was developed based on detailed understanding of the functioning of the system and dealing with both safety against inundations, naturalness and accessibility to the ports.

In this session a compilation of more than 20 years of scientific work, experience in planning, stakeholder involvement and management will be presented and put in an international context. This experience from the Schelde estuary will be compared in an international context with approaches from Germany, France, UK, China and Bangladesh where several estuaries face similar problems. Work of the EU Interreg project TIDE, as well as work from different other projects will be summarised. A comparison with two large-scale estuarine/deltaic ecosystems, the Yangtze estuary in China and the Ganges-Brahmaputra Delta in Bangladesh, will be used to evaluate the differences and similarities in ecosystem functioning, societal developments, human activities and management of these systems with the European examples. This broad scale comparison will bring new insights in challenges, opportunities and threats for an integrated holistic management of estuaries and deltas where the ecological functioning and human uses must be reconciled under the treat of climate change and land use change. The concept of ecosystem based adaptation as recently described by Temmerman et al. in Nature (2013) will be a central element in this session.

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DP 2.7 Weathering the storms

Friday 26 September, 09.00-12.00, incl. break — New York Room

09:00 Welcome and introduction - Chair

- Explain format for the day
- Highlight the aim of the session: is to be interactive and ensure everyone is able to take away something to replicate in their city.

PART I – SCENE SETTING

Part I 'sets the scene' for the more interactive Part II. Each city sets out at a summary level only what it is doing, why it is doing it and how it will be delivered. Part II then gets into the detail

09:05 Quickfire presentations (4 x 15mins)

- London – Sustainable drainage action plan
- Copenhagen – Cloudburst management plan
- Amsterdam - Amsterdam Rainproof programme
- Hamburg – Rain InfraStructure Adaptation

10:05 – Q&A – clarification points only

10:15 – 10:40 COFFEE BREAK

PART II – FROM PLANNING TO DELIVERY

10:40. Welcome back an introduction to Part II – Chair
Part II gets into the detail of the projects described in Part I. The aim is to understand how the cities have responded to the 3 common challenges through questions to a panel, rather than more powerpoint presentations (though panel members can use images to describe how they are responding to the challenges). The Chair's role is to manage the panel whilst engaging with the audience (encouraging them to ask questions, cite good practice from their city). The suggested challenges and questions to explore are listed below.

10:45 – 11:10 Challenge 1: How much is 'enough'?
- How do you know how much new sustainable drainage / flood risk management infrastructure is enough to keep your city 'safe'?
- How do you plan for 'exceedances' (when 'normal' drainage systems are overcome by very heavy rain) and uncertainties?

11:10-11:25 Challenge 2: How much will it cost and who pays for it?
- How do you finance the investment?
- How do you develop the cost benefit rationale for the work?

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DP 2.8 The December 2013 storm: Learning lessons across the North Sea

Wednesday 24 September, 14.00-15.45 Goudriaan Room II

The December 2013 tidal event had a similar intensity across the North Sea. This makes it an excellent case study to compare and contrast how different countries manage coastal flood risk and to identify opportunities to learn from each other and support adaptation to climate change. Coastal managers from each five countries that suffered from the storm (Denmark, Germany, The Netherlands, Belgium and England) will give a structured presentation, covering topics such as coastal flooding history; a short introduction into governance and policy of flood risk management; technical and policy experiences with the December 2013 event (understanding the risk – mitigation – preparedness – response); and lessons learned and impacts for the future.
This will be followed by facilitated discussion (with audience involvement), aiming to identify explicitly where countries face similar issues (and therefore there is scope for knowledge exchange) and where one country can learn lessons from another country.

Likely topics are
- Balance between protection and community resilience
- What is an adequate funding level?
- How best to manage politicians around a flood event?

The annual 'De Kring' meeting is held right after the Conference, involving most of the presenters. This will be one way of ensuring lessons learned are taken forward post-Conference.

Deltas in Practice Theme 2. Adaptation strategies
DP 2.9 Decision making in an uncertain world

Friday 26 September, 10.45-12.00 Diamond Room I

Today more than ever, decision makers need ways to design good policies and projects in the face of deep uncertainties, including climate change. Traditional decision-making, which focuses on predicting the future, can leave societies paralysed by uncertainty or dangerously vulnerable to natural and manmade hazards. Instead, in a fast-changing and complex world, good decisions are *robust*: they work well in many possible futures even if they are not optimised to any single prediction. Robust decision-making (RDM) is an approach that helps identify robust decisions by focusing attention on the strengths and limitations of plans, rather than on predictions of the future.

Robust decision making methods are not always intuitive or inexpensive: they involve a new way of thinking about decision making. To help make these concepts accessible and practical, the World Bank and the Red Cross/Red Crescent Climate Centre, with support from the German Federal Ministry for Economic Cooperation and Development (BMZ) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, have created "serious games" for managing uncertainty. Blended with technical conversations and group discussion, the interactive games will expose participants to the principles of robust decision-making and basic tools for policy design and implementation in the face of deep uncertainty.

Participants will take part in, and simultaneously help refine, an experimental approach to capacity building that in the future could be replicated around the world to the benefit of policymakers, technical experts, development practitioners, and more.
Deep uncertainty refers to a situation in which analysts do not know or cannot agree on (i) models that relate key forces that shape the future, (ii) probability distributions of key variables and parameters in these models, and/or (iii) the value of alternative outcomes. For more see Hallegatte and others, "Investment Decision Making Under Deep Uncertainty—Application to Climate Change," World Bank 2012:
http://documents.worldbank.org/curated/en/2011/11/15534481/growth-green-growth-framework.

Deltas in Practice Theme 2. Adaptation strategies
DP 2.10 Digital Delta: To a world of free flowing water and climate data

Friday 26 September, 09.00-10.15 Beurs Lounge

Many cities and countries in the world are facing similar increasing challenges resulting from Climate Changes, urbanisation and economic growth. In contemporary economically challenging conditions, there is a distinct need for an integrative approach to cope with climate change adaptation and mitigation. The water managing cost are high and are expected to increase dramatically by 2020. In order to determine what kind of measures and efforts are going to make a real difference, good and undisputed data is necessary. However, while large amounts of data are generated and collected worldwide on a massive scale, relevant data is often difficult to find and access, data quality is uncertain and spread cross many different organisations. These barriers hinder the implementation of effective initiatives, the reusability of existing water and climate projects and initiatives and are hindering cities and delta's to benefit from each other.

What will happen if the most important barriers for free flowing data are removed in the water and climate domain? And what happens if all relevant data becomes available through an easily available information technology environment that allows cities and deltas to learn from each other and reuse successfully implemented climate solutions in other parts of the world? Will this

lead to a 15% reduction of water managing costs? Will an open platform free up time and resources to focus on solving the water and climate challenges? And how is it possible to reuse projects, insights and knowledge to benefit from each other on a global scale?

In order to remove these barriers, stimulate global learning and cities and deltas to benefit from each other through free flowing knowledge exchange this workshop will be focussed on the question: *"How can the Digital Delta make you perform even better and how can we learn from similar initiatives to make this happen?"*