



# DELTA IN TIMES OF CLIMATE CHANGE II

## INTERNATIONAL CONFERENCE

OPPORTUNITIES FOR PEOPLE, SCIENCE, CITIES AND BUSINESS  
 ROTTERDAM THE NETHERLANDS, 24-26 SEPTEMBER 2014

Deltas in Practice, policy-practice sessions	
Deltas in Practice Theme 2. Deltas in Practice	
DP2.4 Creating and managing subsurface water buffers as a solution for fresh water shortage in coastal areas	
Chair	Paul C. van Koppen
Organised by	Waterbuffer foundation, Aqua for All, Acacia Water, MetaMeta, Rain Foundation, KWR Water Cycle Research, Deltares
Presentations	<ul style="list-style-type: none"> <li>• PhD Arjen de Vries, Acacia Water, the Netherlands</li> <li>• MSc Pere Camprovin, CETaqua Water Technology Centre, Spain</li> <li>• Prof. dr. Kazi Matin Ahmed, Dhaka university, Bangladesh</li> </ul>
Session topic	<ul style="list-style-type: none"> <li>• Creating and managing subsurface water buffers</li> </ul>
Objective of the session	<ul style="list-style-type: none"> <li>• The small-scale benefits of water buffers are proven but we want to up-scale the benefits to the landscape and regional level to apply the concept of water buffers more widely</li> </ul>
Main conclusions and lessons learnt from the presentations	
<p>Presentation 1: innovative aquifer recharge in the Netherlands and worldwide examples of fresh water buffering</p> <ul style="list-style-type: none"> <li>- Numerous successful pilot projects exist with specific technologies for different kinds of users</li> <li>- We have to combine these forms on a landscape level and do pilots on that level with detailed business cases</li> <li>- We need an integrated approach within a common sense of urgency</li> </ul> <p>Presentation 2: aquifer recharge for securing water resources in the Llobregat river delta (Barcelona)</p> <ul style="list-style-type: none"> <li>- Complex system of 5 mountain reservoirs, 12 wells for pumping and recharging</li> <li>- Use of a treatment plant to turn river water into potable water for recharging</li> <li>- Numerous barriers for up-scaling this system</li> </ul> <p>Presentation 3: creating fresh water bubbles in brackish aquifer in Khulna Satkhira districts (Bangladesh)</p> <ul style="list-style-type: none"> <li>- Small scale infrastructure to provide water for approximately 50 households (i.e. 250 persons), mainly in the dry season</li> <li>- Site selection procedure for pilot projects and monitoring is based on both technical and social criteria</li> <li>- Cheaper system than conventional systems, but it can still improve</li> <li>- Challenges for up scaling</li> </ul>	
Main conclusions of the group session:	
<p>According to the audience a roadmap for upscaling these techniques should at least consist the following:</p> <p>Cost-benefit:</p> <ul style="list-style-type: none"> <li>- More attention to technological improvement in order to reduce costs</li> <li>- More pilot projects and showcases to proof ecological and social co-benefits</li> <li>- Capacity building to convince investors and policy makers</li> <li>- To attract investors quick wins should be connected to long term ambitions</li> </ul>	





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### Technological:

- Take the sub-surface into account
- Develop quick scans and location-specific criteria for quick-scan feasibility
- Bring it to the market with easy to sell ICT

### Governance and communication:

- Clear up roles and responsibilities
- Search for the right financial mix (private-public)
- Overall process management
- Strong promotion and marketing of Waterbuffering techniques

### What was the main result or conclusion of the session?

Upscaling small scale water buffers is possible if it is done in an integrated way, considering site-specificity and environmental and social criteria. Additionally, you have to search actively for collaboration and need good demonstration projects/showcases.

### Most exciting insights or outcomes

- The government can be an important facilitator
- Water benefits need to be translated into other sectors via ecosystem services
- We need successful pilot projects to motivate

