Effective international knowledge exchange to rehabilitate rivers in urban delta's: case study Metropolitan Manilla

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Presentation
'Research Development Philippines' (RDP)

- Introduction
- Method
  - RDM approach
- Results
  - Practical applicable solutions
- Conclusions
- More info
- How to get involved

NWP: Water in a changing world
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Introduction: 'small RDM approach'
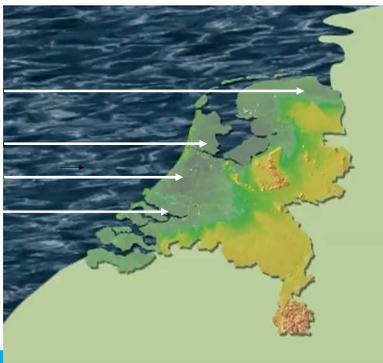
- Research
- Education
- Consultancy

inspiring change

Challenges urban climate (change): Netherlands
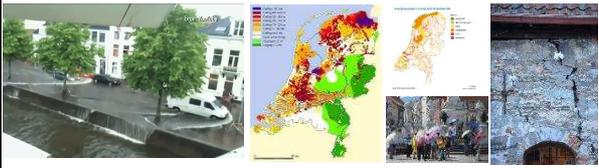
examples of problems in the urban areas: floodings, degradation of waterways, heatstress, drought leading to lower groundwater table and subsidence with results as damage of buildings
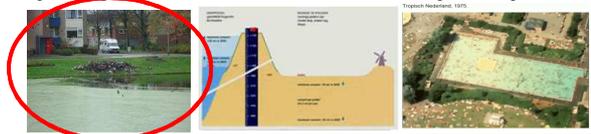
Boogaard F.C. Climate adaptation from Groningen to Mae Phaem. Inaugural speech on Spatial Transformations – Water, ISBN 9789081935692 Kenniscentrum NoorderRuimte Hanzehogeschool, Groningen, February 2016.

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Why 'Research Development Philippines' (RDP)?
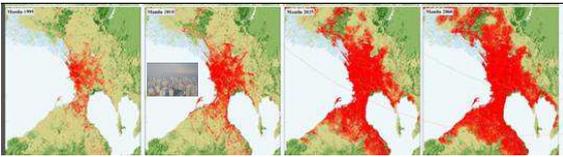
population growth Manila (1995, 2010 and prediction till 2035 and 2060)
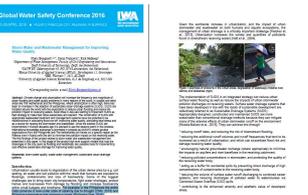
Current situation: waterquality and risks

CURRENT SITUATION

We share challenges

Amsterdam 1970

Amsterdam 2016

Dutch princess swims Amsterdam canals for charity
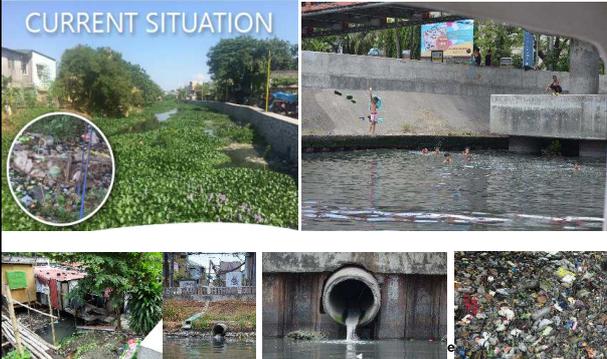
## Lessons learnt The Netherlands
how did we achieve this Waterquality?

- Determine situation & ambitions
- Regulations
- Education: public awareness
- Cleaning up emissions
  - Improving the sewer system
- Monitoring
- Waterquality improvement
- Evaluation& governance

- Lessons learnt: RDM approach

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The RDM-approach
'Research Development Philippines' (RDP)

Real life challenges & wicked problems

Communities of Practice

Domain

Community

Practit oners

Triple Helix:
- Private sector
- Public sector
- Knowledge Institutions

Educational approach
- Tangible facilities
- Intangible favourable environment
- International comparative cases
- International experts
- Imbedding in curricula
- Living lab approach

Applied research innovations that lead to practical and direct applicable solutions

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Action: concrete results RDF

- **Stakeholder analysis**
- **Assessment of the local situation**
- Identifications of ambitions
- **Cleaning up solid waste that floats in the river**
- Initiate behavioural changes to prevent river pollution
- Improving the drainage system
- **Education: public awareness (waste management, circular economy)**
- Implementing innovating nature based solutions
- **Monitoring of water quality by means of low-cost sensors in the river**
- Evaluation & governance

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Stakeholder analyses&engagement
Top down and Bottum up

Stakeholder analyses, engagement and commitment
Top down: MoUs, agreements, contracts


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2

**Design thinking Video impression:**

Waste management
'The Longanissa': design and implementation

Waste: (inter-)national comparative cases

Micro pollutants: Innovation in mapping waterquality
RDM-approach: Research, training engagement

Upscaling to Indonesia, India, China, ...
New skills and technologies

CONCLUSIONS

- RDManila was effectively established
- The 'Meet in the middle' strategy resulted in engagement of all stakeholders
- Concrete results:
  - New monitoringmethods are developed and waterquality is mapped
  - Tailor made solutions designed and implemented
    - Longanisa to catch waste
    - Next step is micropollutants trap (treatment trains)
- RDManila implementation resulted in interest around the world.
- Upscaling and implementation in the upcoming years
- interested? Email: FCB@tauw.nl
- Video impression: https://youtu.be/VjkIRLD0hCg

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More Info?

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