

Best Management Practices river rehabilitation: international knowledge exchange

Butuanon River Scan 2018, Philippines

The Butuanon River: a brief history

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Introduction: the triple helix

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Tauw

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Challenges: climate change and urbanisation

Philippine temperature hits dangerous levels

Floodings **Waterquality** **Heatstress**

Philippines: province under state of calamity due to drought

These Strong Filtering Bikes Are Giving People in China Clean Air

Drought **Airquality** **Urbanisation**

First: We share challenges



Amsterdam 2018

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First: We share challenges

Amsterdam 1970

Amsterdam 2018

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First: We share challenges

Amsterdam 1970

Amsterdam 2018

Dutch princess swims Amsterdam canals for charity

world.

Lessons learnt The Netherlands how did we improve our waterquality?

Analysis

Analysing your area

- Determine situation
- Stakeholders analysis
- Legislation
- Monitoring and evaluation

Ambition

Formulating your ambition

- Evaluate situation & ambitions
- Cost benefit approach in time

Action

Policy and implementation

*Think global
Act local*

Action (top down, bottom up)

- Education: public awareness**
 - Participation, dissemination, etc
 - Minimise emissions
 - Industrial, domestic, ...
 - waterquality improvement (WFD)
 - Evaluation & governance
 - ...
- Apply to Philippines?
 - lesson learnt

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BMPs around the world www.climatecan.nl (>3000 global BMPs mapped)

www.climatecan.nl

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Analysis Indonesia

Analysis

- Analysing your area

Ambition

- Formulating your ambition

Action

- Policy and implementation

Analysis

Analysing your area

Monitoring from source/point

Ambition

Formulating your ambition

Downstream

Action

Policy and implementation

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Analysis Indonesia: Brantas (Java)

Emission Locations all over the Downstream area of Brantas River (purple)

- Industrial outlets
- Domestic outlets
- Waste dumping locations

Mapped with characteristics and short descriptions

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Analysis: Baseline study of water quality monitoring

Indonesia: Field work

- Monitoring with underwater drones - learn local challenges and potential for implementation
- Monitoring with apps (test strips and app) – e.g. phosphate, arsenic, iron, pH, nitrate, chloride)
- Larger scale monitoring using sensors on boats

Kapal Selam Potret Kondisi Kali Surabaya

Using innovation as communication and participation

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RESULTS: Baseline study of water quality monitoring needs in Indonesia

Saturation	>90%	80-95%	74-80%	65-70%	50-60%
Status	Excellent	Good	Fair	Marginal	Poor
Oxygen in mg/l	>6.5	6.5 - 5.5	5.5 - 4.5	4.5 - 2.2	2.2 - 1.0

Very poor <1.0

From Analysing to Ambition challenges and cost effective solutions

Type Area

Quality

Specific NBS Solutions locations

International BMPs in Europe, Asia and Africa And many more examples....

Asia: Indonesia, Philippines

Africa: Mali, S-Africa

Europe: Denmark ...

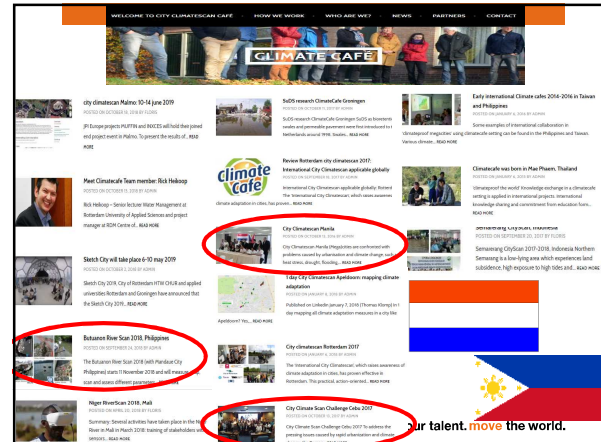
Lesson learnt from publications and Books ...? for international knowledge exchange?

Books ... for international knowledge exchange?

International knowledge exchange tools: experience: interactive, V+A (augmented) reality, serious gaming, ..

Learning by doing, lessons learnt: experience: not a linear process. Not 1 solution, depends on location

- Policy and implementation



Cebu climatecafe 2017

Action: floating islands

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The Butuanon river scan 2018

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The Butuanon river scan 2018: action

Share Care

International knowledge exchange 2018

2017-2022...

SHARE YOUR PROJECT

www.climatecan.nl

>3000 projects, >10.000 International users

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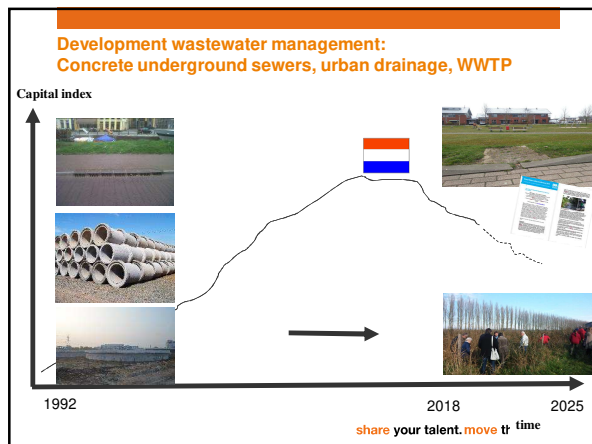
Final words: We share challenges

Learn from best management practices

Amsterdam 1970

Amsterdam 2016

Dutch princess swims Amsterdam canals for charity



Messages to take home

- We share challenges lets share solutions
- Climate adaptive strategy: Analyse, Ambition and Action
 - Not a linear proces
 - Example Climatecafe takes you
 - Interdisciplinair international capacity building, raising awareness, participation, dissemination, upscaling,
- Lessons learnt for a nature based cost effective short cut
- Use international knowledge exchange tools
 - www.climatescan.nl, upload your project
 - www.climatecafe.nl, join us with your event
 - www.reconnect.nl, join with your project
- Join. More info?

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THANK YOU...

see more?
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www.climatecafe.nl
www.GCA.org

ANY QUESTIONS?

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Sustainable water management
creation of new spatial forms
resilient, (de)urbanized, (re)built

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