

# Emergence and application of adaptive delta management in the Netherlands

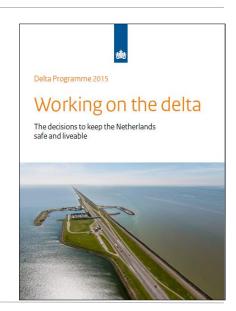
Dr Jeroen Rijke Deltas in times of climate change II Rotterdam, 26 September 2014



# Delta Programme (2010-2014)



- Strategy for flood risk management and water resources management until 2100
- Adaptive Delta Management (ADM)
   applied for strategy development in 1
   thematic and 6 regional sub-programmes
- Delta Programme is now entering a stage of implementation and monitoring



# The context in which ADM emerged



## **ARK Programme**



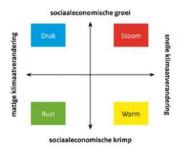
Rational planning Lack of momentum

### Delta commission 2008



Sense of urgency Major measures

### Delta scenarios 2011



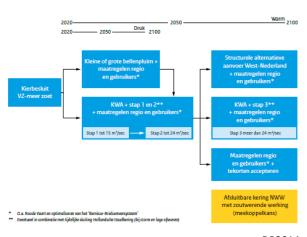
Problems not acute
Time for consideration

# ADM in four principles



# Delta Programme operationalised ADM through four key principles:

- 1. Incorporating long term change in short term decisions
- 2. Flexible measures and keeping multiple options open
- 3. Adaptation pathways instead of end-goals
- 4. Linking investment agendas



DP2014

# Methods



September 2013 – June 2014 (DP worked towards prefferential strategies)

- Desk study: Guidline ADM, yearly policy docs, (scientific) reviews, etc
- · Observations at 'Core team ADM' of staff Delta Programme
- Electronic questionaire amongst representatives of sub-programmes
- Interview

# Reflection upon selection process



# Planned selection process:

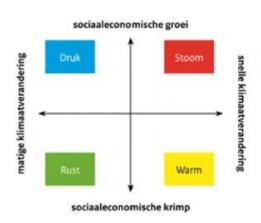
2010	2011	2012	2013	2014
Preparation	Problem analysis	Possible strategies	Promising strategies	Preferential strategies

# In reality:

- Selection through refining rather than sifting options
- Simultaneous consideration of technical, political and financial feasibility

# 1. Incorporating long term change in short term decisions



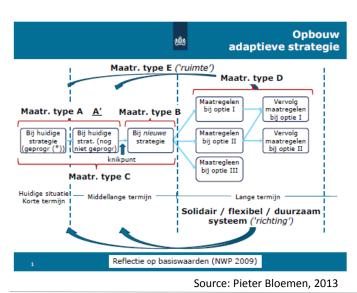


Most subprogrammes identified:

- Uncertainties: climate, socio-economic and sometimes more.
- Area specific water policy objectives and regional ambitions
- → Most valued aspect of ADM amongst sub-programmes was connect LT and ST (4,56 / 5) and increased awareness about uncertainties (4,22 / 5).
- → Deep uncertainties about future conditions, but also 'fixable' uncertainty about current state of the system.

# 2. Flexible measures and keeping multiple options open

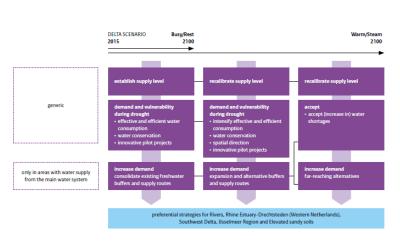




- Flexibility through expanding measures and keeping options open.
- Limited number of options kept open in DP2015.
- Keeping options open is logical, but is politically challenging

# 3. Adaptation pathways instead of end goals





- Identifying tipping points was found most difficult aspect of ADM
- Possible explanations:
  - Strategies are often inherently flexible
  - Variability of river discharge
  - Exceedance of norms is not always 'felt' as tipping points
  - Tipping points are often subjective

# 4. Linking investment agendas



### REPLACEMENT OF AGING INFRASTRUCTURE

# HVWN en HWS Kunstwerken (Stichtingsjaar) #HWS: Stuw HWS: Stormvloedkering HWS: Spul/ultwateringssluis HWS: Howsering HWS: Gemaal HWWN: Brug Vast HWWN: Brug Vast HWWN: Brug Vast

# REGIONAL DEVELOPMENT



# Reflection



- 1. ADM provides better explanations for short term investment decisions
  - 1. ADM helped to incorporate uncertainty in decision making
  - 2. ADM helped to take account of the future
  - 3. ADM helped to look beyond water policy domain
- 2. Thinking in options seems logical from a planning perspective, but is it also from a political perspective?
- 3. Adaptation tipping points work nicely in theory, but have brought less than expected.
- 4. Limited concrete opportunities for linking investment agendas.
  - → Is strategy the right venue for linking investment agendas?

# Contact details



# Thank you for your attention

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