



Delta Programme Commissioner

## The Dutch Delta Approach

Introduction and background to the national programme for flood safety and freshwater supply

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# Holland and Italy: A shared history of waterworks

- Romans already very active
- Dutch polders especially from the 17th century
- In the late 17th cent. Cornelis Jansz. Meyer active in Italy: first instance of fruitful cooperation





# The Dutch Delta in NW Europe

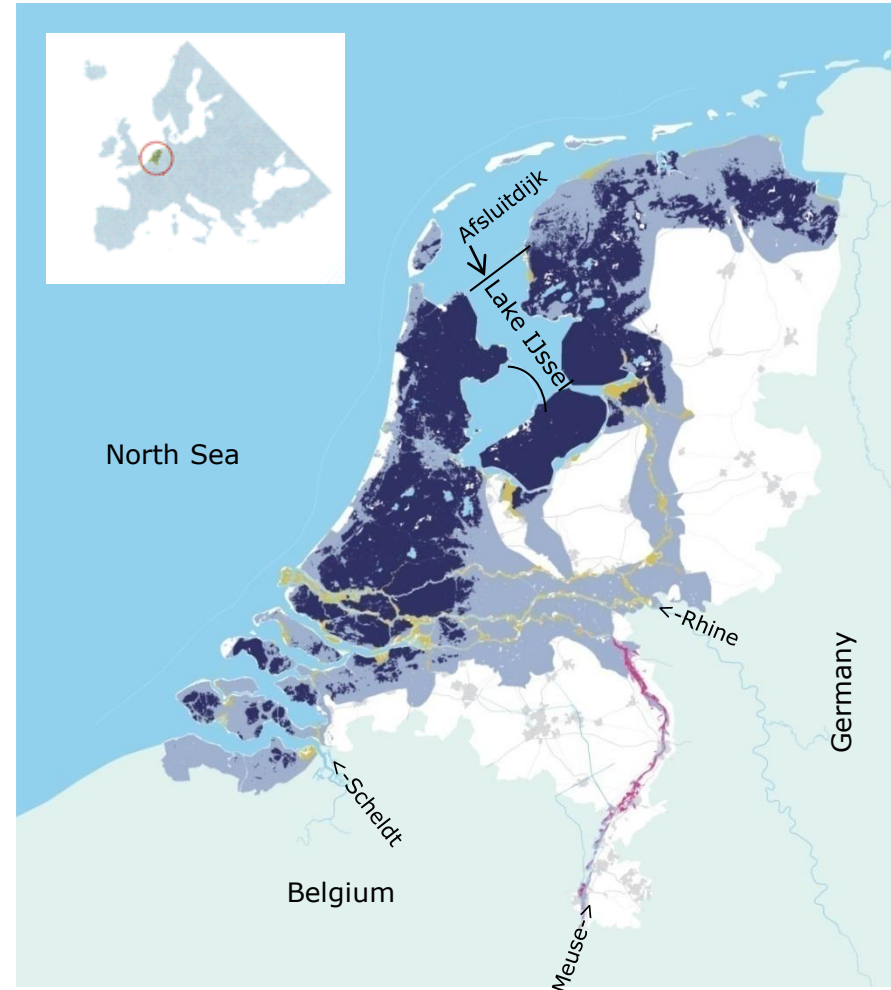
The Netherlands is the  
delta of Rhine, Meuse,  
Scheldt and Eems





# The Dutch Delta

- 59% liable to flooding
- Dedicated governance structure
  - Strong administrative bodies
  - Legal obligation to protect against floods (Water Act)
  - High standards





## The past...

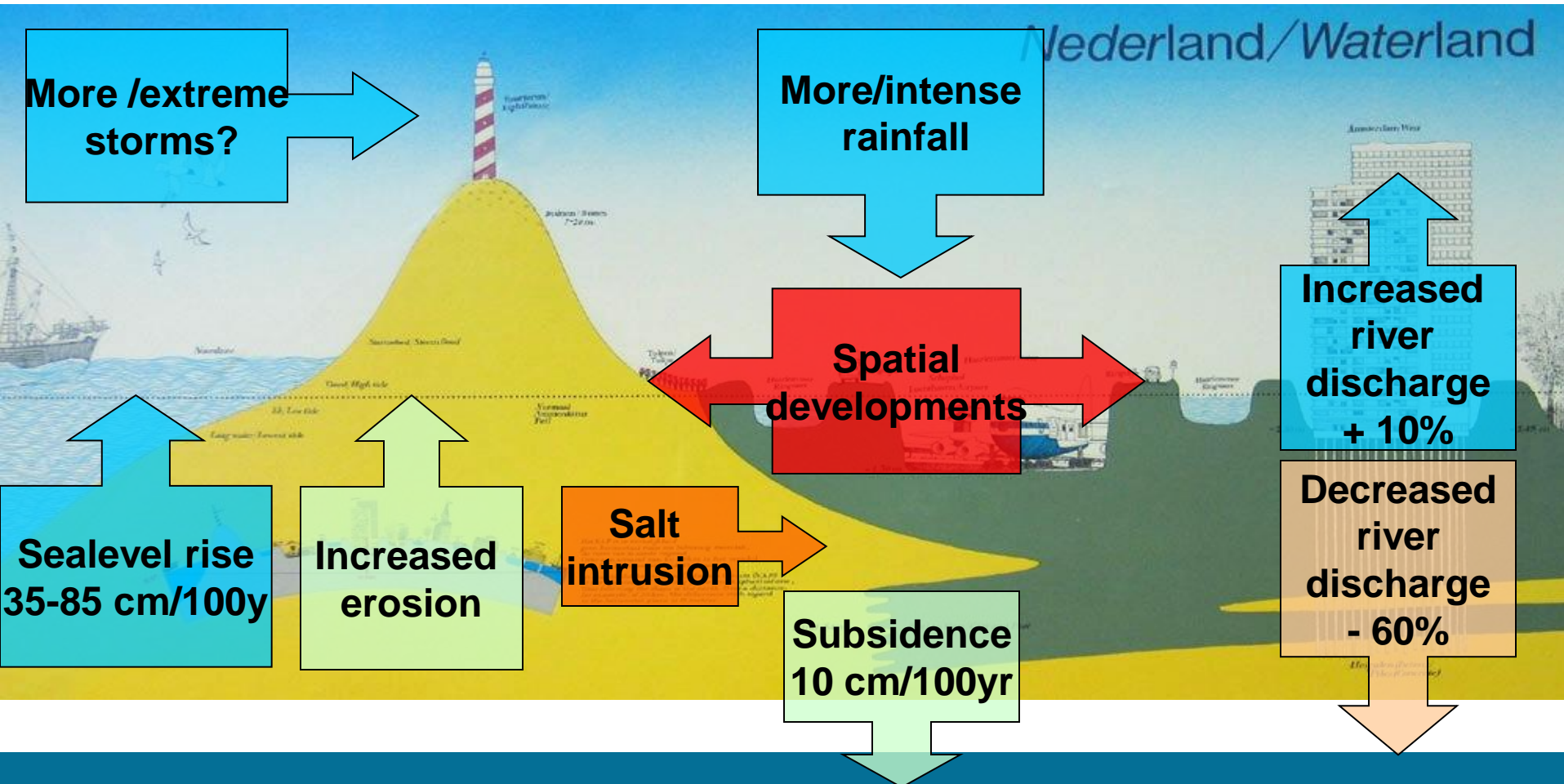
Large plans implemented as response to disaster:

- 1916 floods (North)
  - Structural solutions with dams and barriers (Afsluitdijk dam to create IJsselmeer)
- 1953 flood disaster (South-West)
  - First Delta Committee
  - Structural solutions with dams and barriers (Delta Works)
- 1993/1995 high water levels (Rivers, large evacuations)
  - Also spatial solutions: Room for the River/Meuse Projects





# The Delta Under Pressure: future challenges, measured





# An innovative approach: Delta Programme

2008: Advice of a state commission (after Katrina)

2010: DP aimed at keeping NL a good, safe and attractive place to live and work

- Two goals, three values
  - Safe now and in the future [2050-2100]
  - Fresh water supply guaranteed also in dry periods
  - Solidarity, flexibility, sustainability
- Not in answer to a disaster, but in advance, to be prepared and avoid it
- Annual update to parliament





## Ensuring continuity

Delta Act:

- Legal base for the Delta Programme
- Delta Fund to guarantee long term financial stability (€1 billion/year)
- Government Commissioner for the Delta Programme



## Present – 2015: ongoing implementation



Ongoing programs under the DP umbrella:

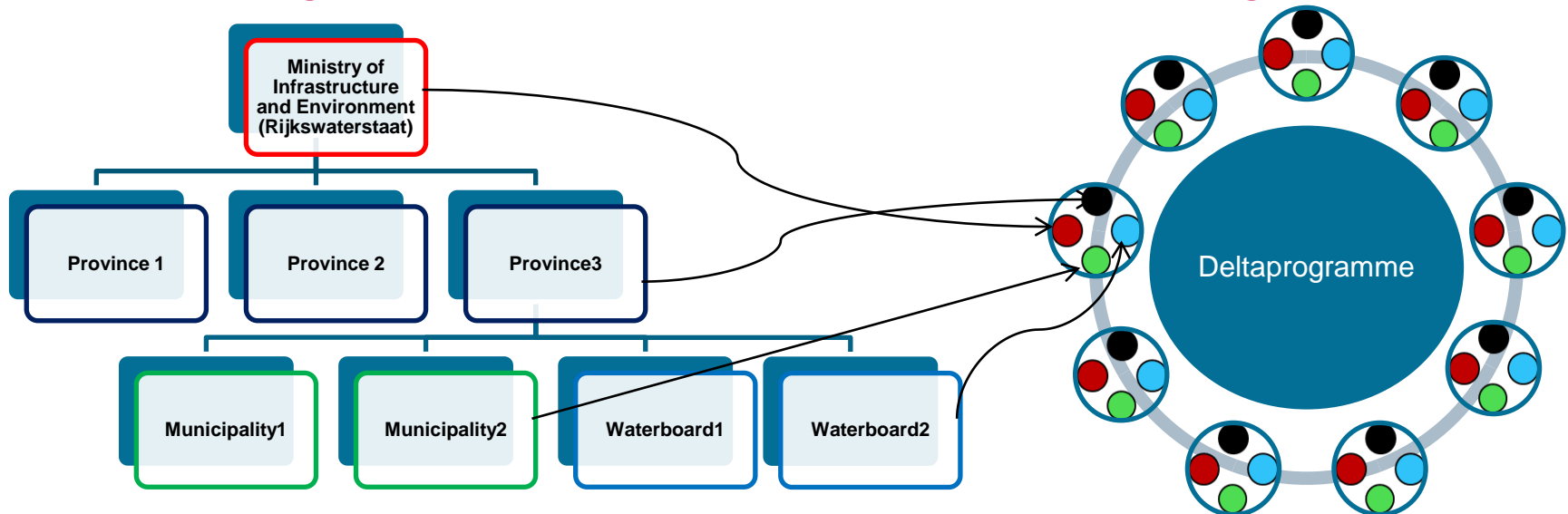
- Flood Protection Program / Weak Links in Coast
  - Organizing safety on the basis of dyke inspections
- Room for the River / Meuse Projects
  - 90 projects along the rivers

At the same time looking further ahead:

- Preparing Delta Decisions



## Dutch governmental institutions and DP governance



- **Ministry** – Policy guidelines, Rijkswaterstaat - national watersystem
- **Provinces** – spatial planning, controlling function municipalities and waterboards
- **Municipalities** – spatial planning, sewage system
- **Waterboards** – regional watersystem, waterquality, waterquantity



## Multigovernmental process

DP: 4 levels of government collaborating in 9 subprogram teams:

- Joint fact finding
- Collect creative and innovative ideas
- Combine with local developments
- Involve stakeholders / interest groups and built acceptance

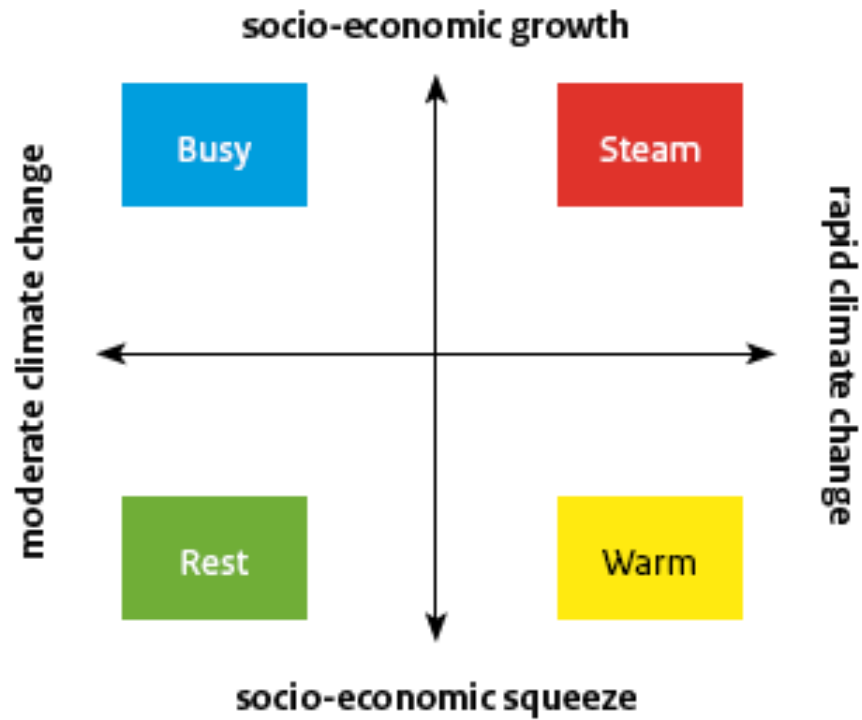
Supervised by Delta Programme Commissioner

progress, uniformity, coherence, transparency

present rolling on Delta Program / proposal to Government



## Uncertain future: scenarios





## From scenario's to strategies

- Scenario's show us 'tipping points':
  - Maeslant barrier
  - Afsluitdijk / lake IJssel
  - Fresh water inlets
- Adaptive delta management
- Preparation of larger works related to 'tipping points'





## 5 key decisions, 2014-15

- Safety standards and program
- Spatial adaptation
- Freshwater strategy
- Meuse-Rhine Estuary
- Lake IJssel

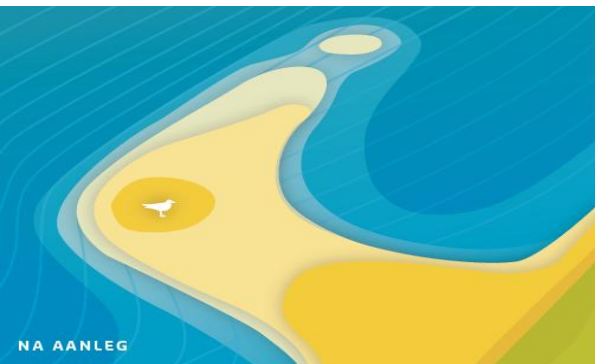




## Innovations

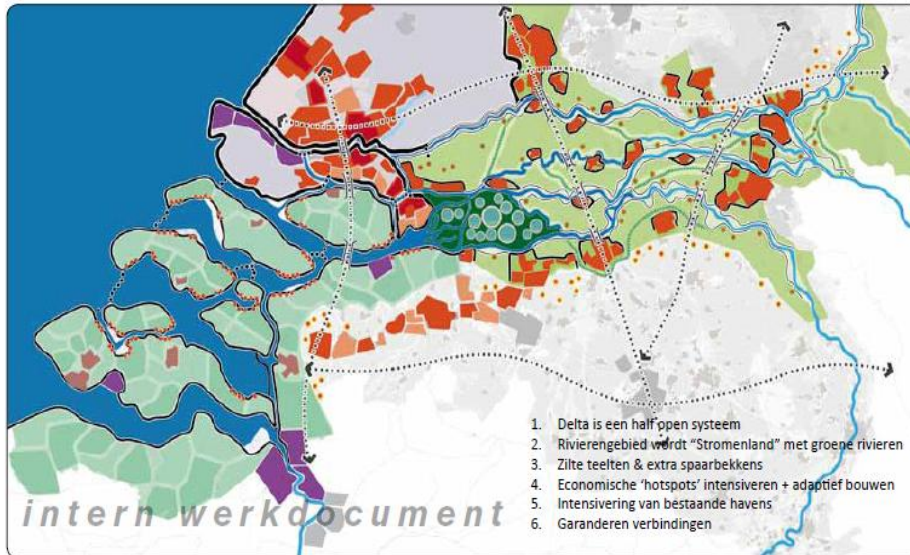
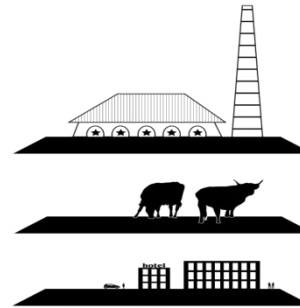
Possibilities for innovative solutions in our home-market

- Building safety using nature
- Technology/sensors integrated in dyke body
- Separating fresh and salt water ('bubble-screen')
- The sand engine





# Integrated approach: Delta-design studio





## To conclude: The five Dutch D's

- Delta Programme
- Delta Decisions
- Delta Commissioner
- Delta Fund
- Delta Act

For a safe and attractive country,  
also at the end of the century

