



Ministerie van Infrastructuur en Milieu

Financing adaptation measures

Example of the Netherlands

Niels Vlaanderen



7 april 2016



Water: Fit to Finance?

Some messages from this OECD/WWC report (2015):

- 1. Water security is an essential requisite for national economic growth**
- 2. Acknowledge the diversity of water infrastructures (typology)**
- 3. Governance matters**
- 4. Getting the enabling environment right**
- 5. Balancing financial risk and reward**



The Netherlands' exposure profile

- About 400 km of Rhine river
- International catchment
- 60% flood prone
- About 9 million inhabitants below flood level
- GDP 600 bln euro
- High protection level
- 3500 km of flood defences, hundreds of locks, sluices, pumping stations
- Every 6 years monitoring and restoring if necessary



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



Past: The 20th century

Large plans implemented as response to disaster:

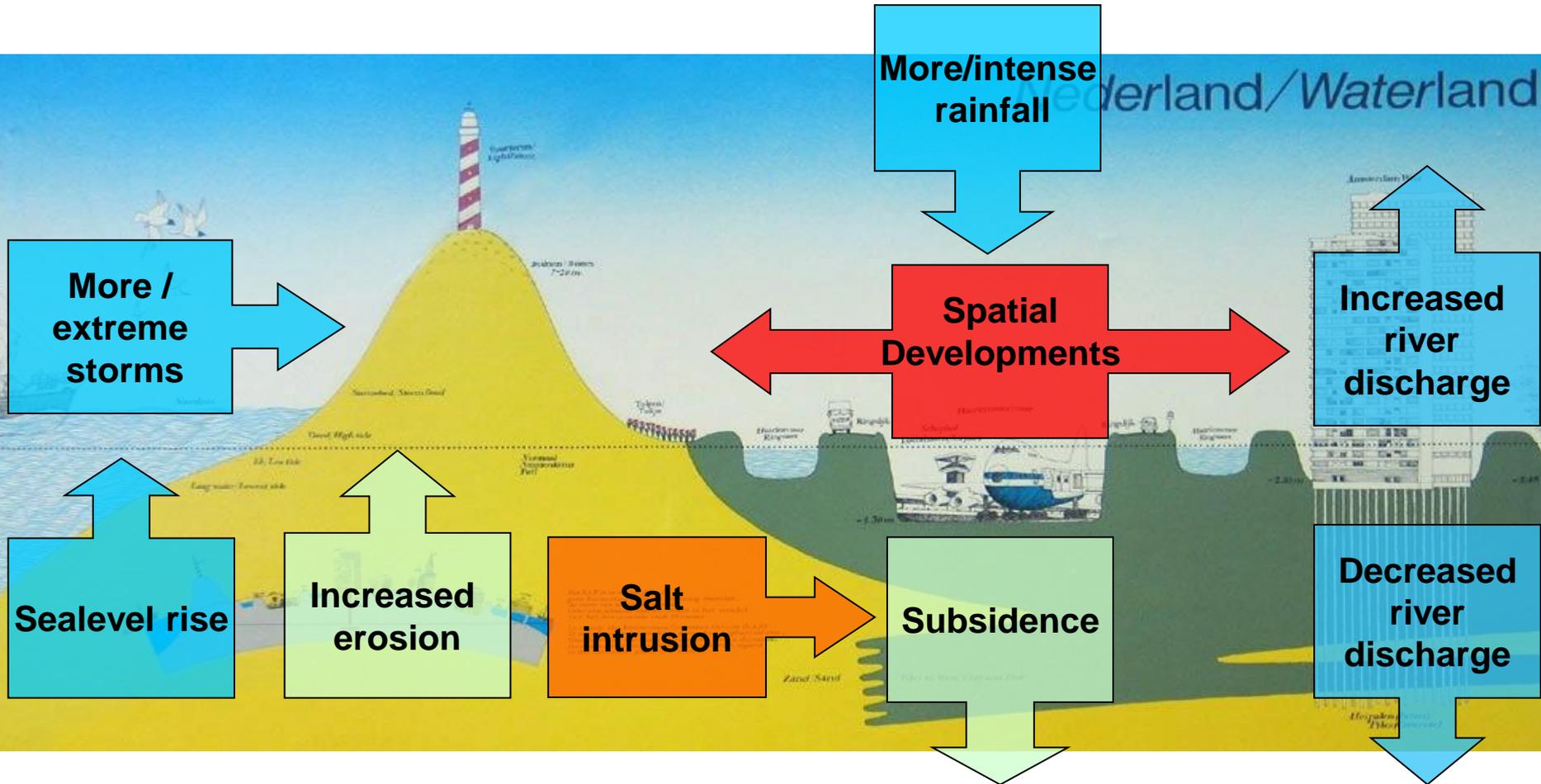
- 1916 floods (North)
 - Structural solutions with dams and barriers (Afsluitdijk dam to create IJsselmeer)
- 1953 flood disaster (South-West)
 - First Delta Committee
 - Structural solutions with dams and barriers (Delta Works)
- 1993/1995 high water levels (Rivers, large evacuations)
 - Also spatial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

History of flood protection in NL





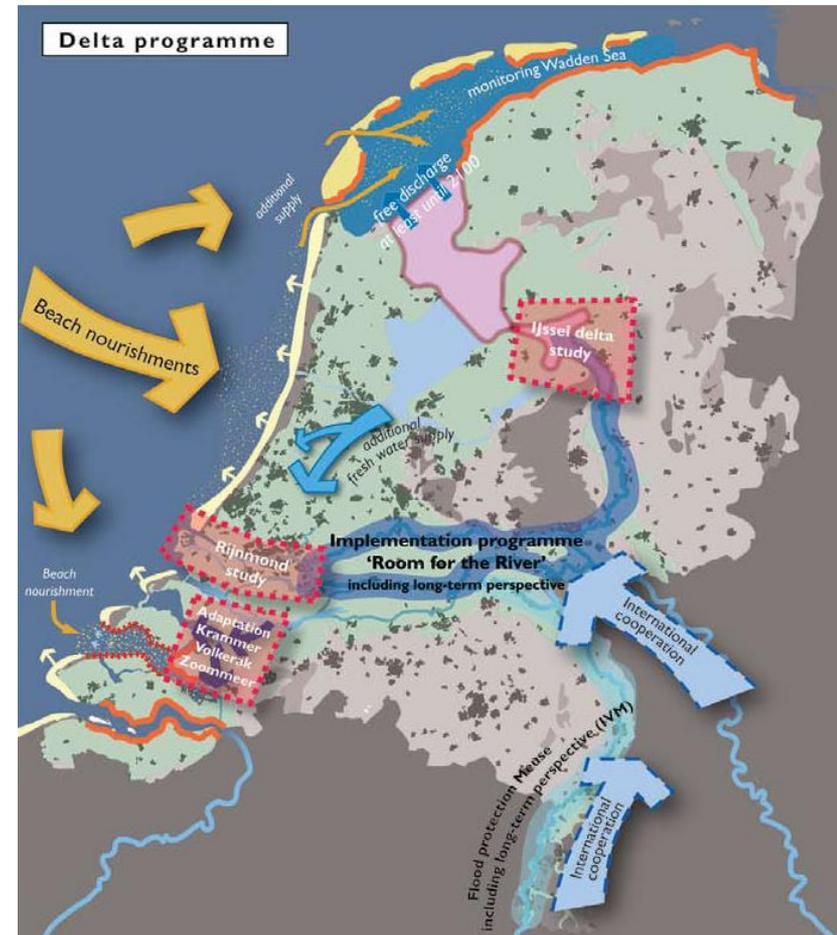
Present: Delta under pressure, challenges for the future





Advice: Delta Commission, 2008:

*The threat is not acute,
but measures to improve
flood risk management and
fresh water supply
should be prepared urgently!*





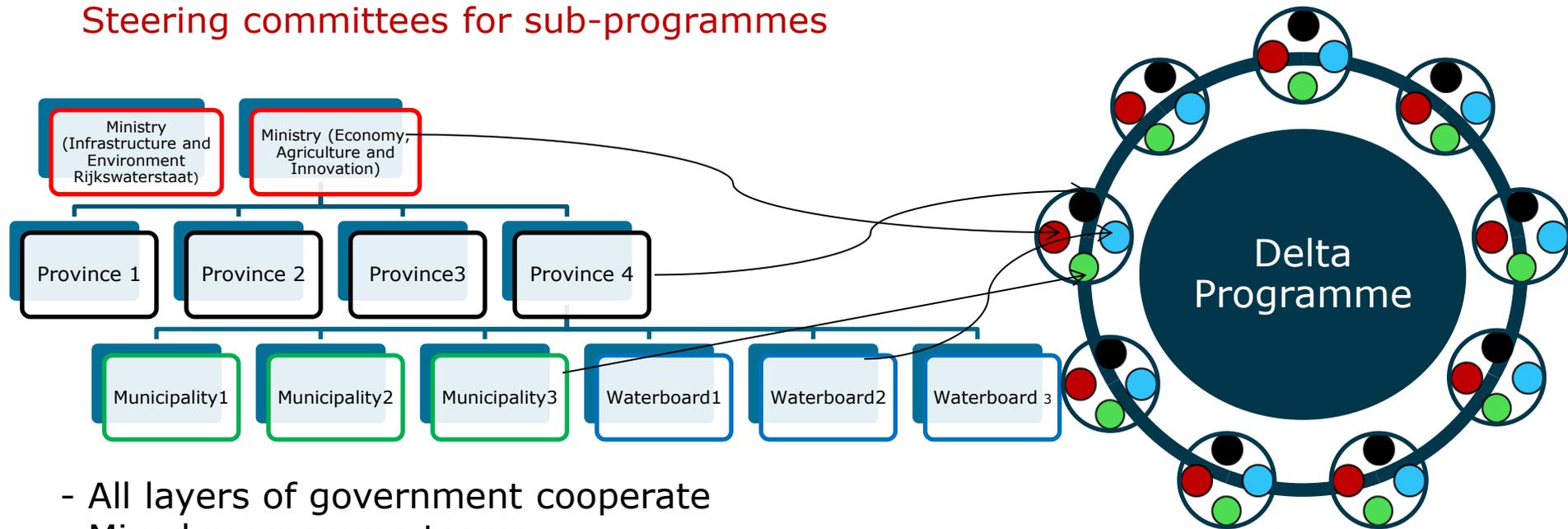
Prerequisites for future-proof implementation: A combination of governance and securing (public) finance from the start

- Delta Act, legal “anchoring” Delta-commissioner, program and fund
- Delta Program: measures, yearly update, presented to Parliament
- Delta Fund, 1.0 bln € / yr: makes long term planning possible
- Delta Commissioner,
supervising coherence and adequate (regional) multi-governmental implementation
- Delta Decisions (strategic, 2015)
- 2015-2020, first implementation period, extra research



2. Multi-level governance

Steering committees for sub-programmes



- All layers of government cooperate
- Mixed programme teams
- Regional steering committees
- Delta Commissioner links
 - Horizontally: ministries with ministries, provinces with provinces, etc.
 - Vertically: ministers, members of the Provincial Executive, councillors, water board council chairpersons



Adaptive strategies:



- Avoiding new disasters: prevention. Risk based approach
 - Connect short term decisions (in physical domain) with long term water challenges
 - Linked with other (short term) investment agenda's ("aging infrastructure")
 - Able to speed up or slow down, or flexible to change to another strategy
- Spatial reservations for future dike enforcements, water discharge or storage



Policy: Multy layer safety approach floods in the Netherlands

- Prevention
*Limit the risk of a flood disaster
(dikes, dunes and barriers)*
- Sustainable spatial planning
Limiting the effects of flooding
- Crisis management
Reducing the consequences of a flood

