Financing adaptation measures

Example of the Netherlands

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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
Present: Delta under pressure, challenges for the future

Sealevel rise
More / extreme storms
Increased erosion
Salt intrusion
Spatial Developments
More/intense rainfall
Subsidence

Increased river discharge
Decreased river discharge
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: Multilayer safety approach to 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*