



Ministerie van Verkeer en Waterstaat

Financing Water Challenges of the Future

Challenges and Opportunities of
an Integrated Approach

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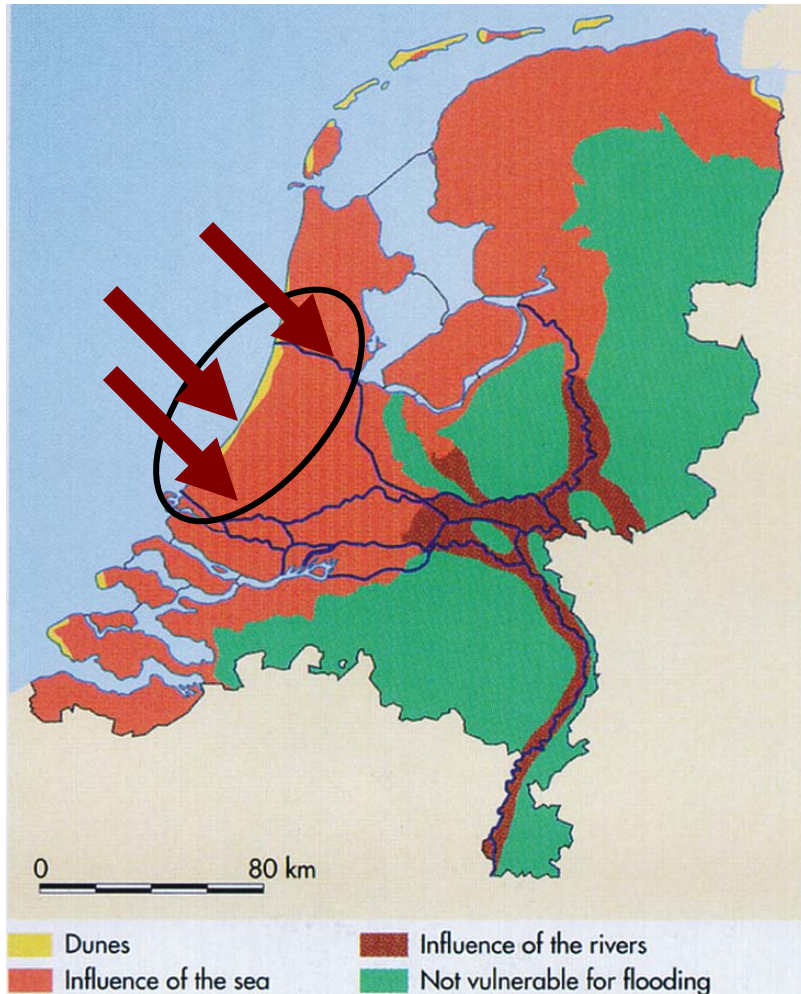


Content

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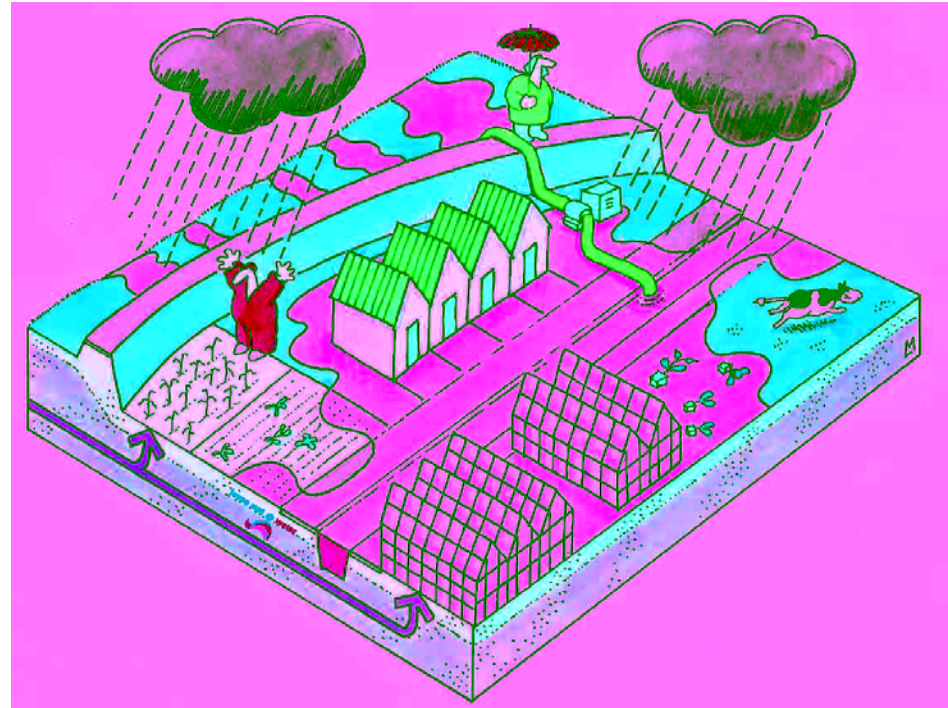
Spatial Characteristics



| | Total | Vulnerable to flooding (in red/brown) |
|--------------|-----------------------|------------------------------------------|
| Surface Area | 13,000 M ² | 55% |
| Inhabitants | 17 million | 60% |
| GNP | 700 billion \$ | 65% |

Future Challenges in Spatial Development

- Urbanisation
- Urban renewal
- Population dynamics
- Pressure on spatial planning
- Innovation by combining different functions: accessibility, nature, economic development, agriculture, recreation, energy production, etc.





Integrated National Approach: The Netherlands Delta Programme

- Two **national themes**:
 - safety against flooding
 - freshwater supply

- The **Delta Programme**: a coherent and comprehensive package of measures to ensure that The Netherlands can absorb the effects of climate change and will remain a safe and attractive country in the long term





The Delta Programme

- Time scale 2020 → 2050 → 2100
- Adapt now
- Integrated and area oriented approach
- **Political-administrative, legal and financial measures!**
- Basic principles:
Flexibility, Solidarity, Sustainability



Illustratie: Sandra Design Studio | © TU Delft - HKV Lijn in Water - Ties Rijkken



Example: Rotterdam City & Harbour Region





Financing Water Management in the Netherlands

Ministry of Transport, Public Works and Water Management

National water system (coast, rivers, big lakes)

2 bln euro/year, general tax income state

Waterboards (26)

Regional water system,

waste water treatment: 2.6 bln euro/year

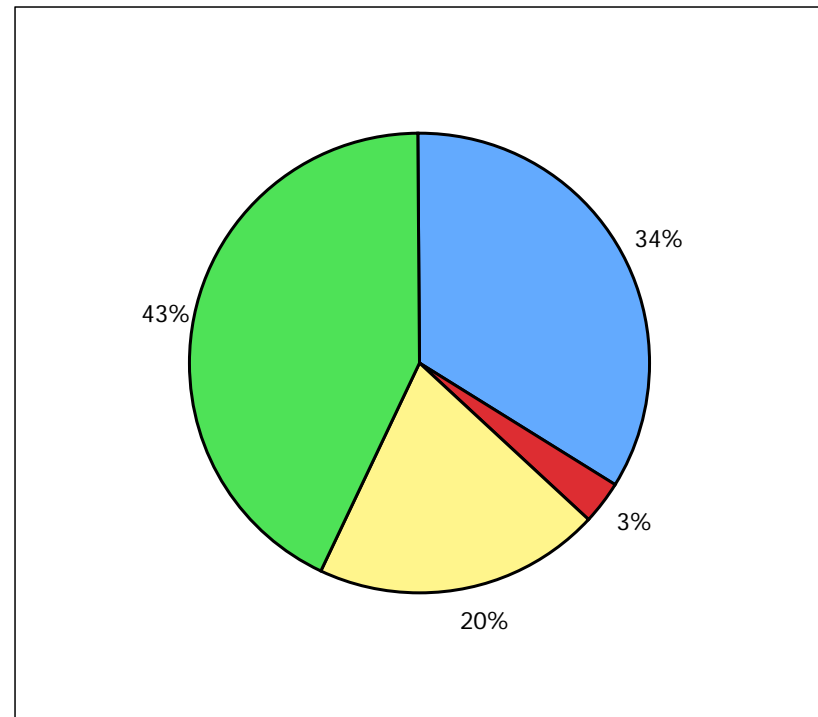
Municipalities (430)

Sewage system

1.2 bln euro/year

Provinces (12)

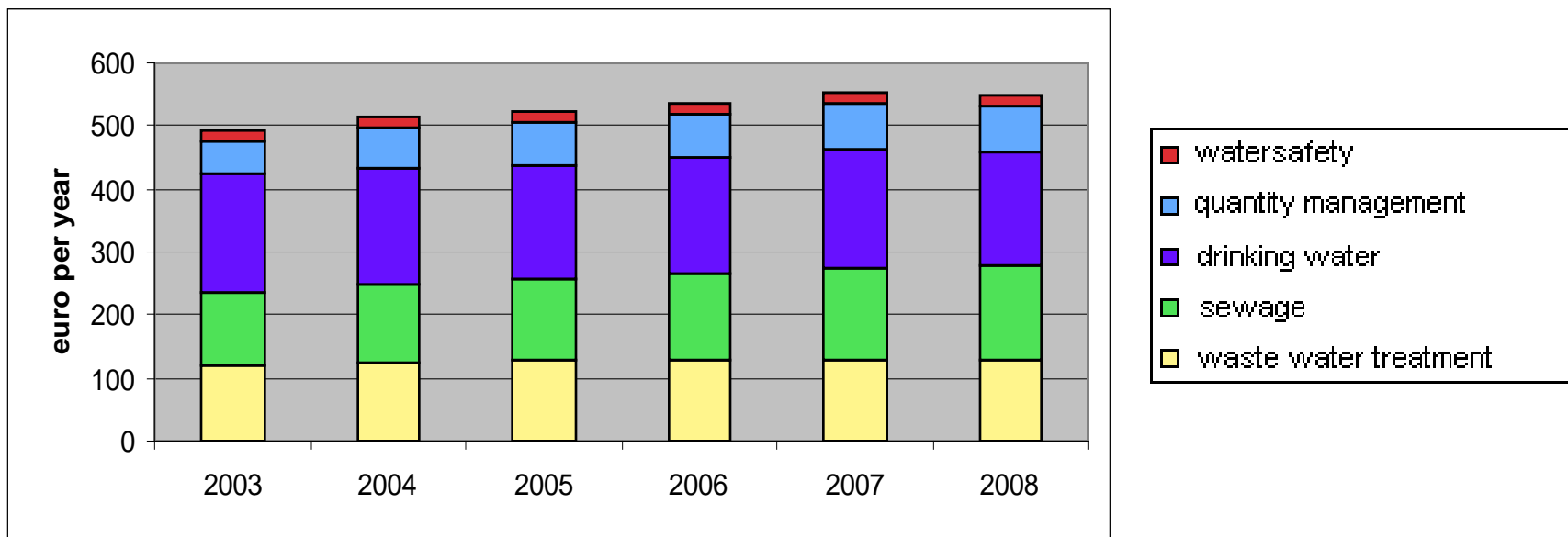
0.2 bln euro/year





Financing Water Management in the Netherlands

Average household: € 550 per year for water management and water use



Central government: state tax income

Waterboards and municipalities: own taxes (households, companies, farmers), **earmarked!**

Financing in the Future

Institutional changes:

- Earmarked budget
- Cooperation between Water Boards and municipalities
- Different division of costs between central and regional governments

Efficiency by adaptive & integrated measures:

- More efficient protection measures for less populated areas
- Take into account population developments
- Short-term investments for long-term goals
- Combining water goals with other spatial goals



Conclusions

A wide-angle photograph of a city skyline, likely New York City, viewed from across a body of water. The sky is filled with dramatic, grey clouds, with some light breaking through. In the foreground, a small, modern building with a red roof and white facade sits on a small island or pier in the water. The background is dominated by a dense cluster of skyscrapers of various heights and colors, including a prominent red tower. The water in the foreground is calm, reflecting the sky and buildings.

- **Water management and spatial development both face challenging futures with many uncertainties**
- **Water management should have a long-term perspective and needs long-term investments**
- **An integrated and adaptive approach is required to come to solutions that are based on the principles of solidarity, flexibility and sustainability**
- **This will help us to find innovative opportunities to serve mutual gains and no-regret options**
- **And it is cost-saving as well!**