Multifunctional Robust Flood Defenses: Combining Climate Adaptation with other Functions in a Broad Flood Defense Zone

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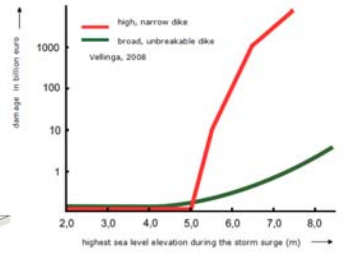
This research is part of the Dutch research program ***Knowledge for Climate***; theme Adaptation of flood risk management policy to climate change at national and regional levels: innovative measures and instruments

Problem

New challenges in flood protection due to:
- Climate change (and uncertainty in the effects of climate change)
- New insights (and consequently new legislation)
- Economic and demographic developments
- Intensive land use and highly developed infrastructure

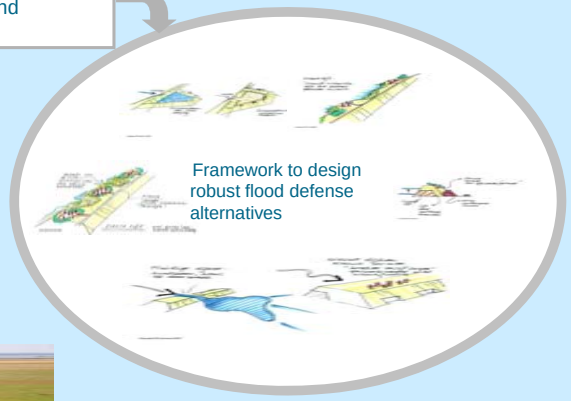
How can we redesign and adjust the flood defenses in such a way that these will be sufficiently robust to deal with the uncertainties of climate change and that society is willing to pay the costs for this robustness?

A broad flood defense zone offers a higher water safety and offers also space for other functions and values, such as housing, nature, recreation, agriculture, transport, landscape, etc.



Foreseen results

Insight in the opportunities and constraints for broad flood defenses, involving natural processes and combining several functions

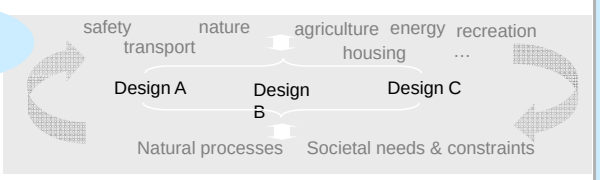


The objective

To develop knowledge for the location-specific design of robust and multifunctional flood defense zones which fit in their environment and use the opportunities (e.g. targeted functions and values, natural processes, challenges) that this environment offers for flood defense in order to enhance the decision process

Approach

- Case studies (e.g. salt marshes Waddenarea, flood plains river Rhine)
- Analyse and value the safety function of a broad zone and compare this function with other functions and values in the zone
- Comparison of functions and valuation between NL, U.K., and Germany
- Design of broad flood defense zone based on functions, opportunities and constraints:



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