

## Societal aspects

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### 1. Relevance of the research programme for national and regional adaptation policies

The key national authorities, such as the Ministry of Transport, Public Works and Water Management (DG Water), the Ministry of VROM, and the Ministry of LNV, have many research programmes running. These comprise programmes such as Water Safety 21<sup>st</sup> Century (WV21), Strength of and Loading on Flood Defences (SBW), Building with Nature, the National Programme for Adaptation to Climate Change (ARK), and research following from the advice of the 2<sup>nd</sup> Delta Committee and National Waterplan 2009 (Deltaprogramme), to mention just a few. The focus of these programmes is on applied research with direct policy relevance. The key regional authorities, specifically the provinces and water boards, but also larger municipalities (Rotterdam) and harbour authorities (Port of Rotterdam), tend to focus on direct applicability of research as well; this causes a bias towards a case specific ‘standard’ approach which does not fully exploit the possibilities for extrapolation/ export to other areas. Additionally, however, their dedicated supportive organisations, such as STOWA, do run more generally applicable research, among which the Delta-proof research programme. This proposal has been discussed with STOWA and is already attuned to questions raised in Delta-proof and the needs of the water boards who have responsibility for flood defense.

The consortium partners are among the main home-suppliers for many of these authorities, which ensures that they are well aware of the running research programmes, including the Strategic Research which Deltares carries out for DG Water. It also ensures that the consortium can identify those research questions, which are not yet addressed in these programmes, and are therefore new. This concerns research which is not directly needed for fulfilling shortterm policy objectives – which would have made it part of the regular research programming – but rather requires indepth, innovative and exploratory research without the guarantee of immediately applicable outcomes. It is on this point that our proposal intends to make a difference. It might yield new insights which cannot be foreseen.

The adaptation measures we propose to investigate and assess are among the measures which are the most frequently proposed in practice. This makes it extremely relevant to investigate their advantages, disadvantages, effectiveness, applicability, etc., and in such a way that the outcomes can be compared. This goes for comprehensive flood risk management strategies at national and regional levels, and for individual measures at regional and local levels.

By putting a lot of effort in case-study investigations, we intend to yield results which are directly relevant for the cases themselves (usually KfC-hotspots), but the case studies within each WP are selected in such a way that they will always contribute to a more general understanding and transferability of findings to other areas. It makes the research of general relevance for both national and regional adaptation policy. Moreover, the comparison of Netherlands' FRM policy with foreign management policies (WP 5) is also designed in such a way as to yield practically applicable insights at the national level.

The consortium has designed the work packages in such a way that the generated knowledge meets many of the demands of the following KfC-hotspot areas (time and money allowing): Rijnmond Region, Major Rivers, South- Western Delta, and Wadden Sea. The immediate applicability is pursued by locating our case studies in these areas as far as possible. This allows joint fact finding and answering the questions of the involved hotspots during the research process without delay.

The research team has the intention to closely co-operate with the hotspot teams. Such co-operation will enhance the immediate uptake of the knowledge in adaptation strategies of the hotspot areas. Moreover, the feasibility of adaptation options can best be examined in a real-life setting. Despite the fact that our research focuses on the generation of in-depth knowledge, we link the research to the relevant, more practically-oriented projects from the first phase of the KvK-programme. Furthermore, the multidisciplinary character of the proposed research enhances its applicability, as it brings together the most suitable knowledge and skills for every specific area.

The objective of the Rijnmond Region is to climate-proof the area and to make it an attractive place in which to work and live. Especially the knowledge generated by work packages 1, 3, and 5 is immediately applicable here. Additionally, WP 4 generates relevant knowledge on reducing the area's vulnerability to climate change, and WP 6 intends to provide a relevant contribution to urban planning issues, with a project dedicated to the future spatial quality of Greater Rotterdam and Drechtsteden.

The work packages 1, 3, 4 and 6 are likely to generate the most applicable knowledge for the hotspot Major Rivers, which adjoins the Rijnmond area and strongly interacts on the point of flood water levels. The investigations can be directly linked to the projects on adaptation and flood risks in the rivers Rhine and Meuse. Also, there is a connection to EU projects on the river Meuse such as AMICE, and to the MARE project in which the municipality of Dordrecht is involved.

The objective of the hotspot South-Western Delta is to integrate the challenges of climate change into long-term policy goals and to formulate adaptation strategies for water management and spatial planning, which can be implemented quickly and efficiently in both ongoing and future planning processes. Specifically the knowledge generated by work packages 2, 3 and 6 is expected to be immediately applicable.

The objective of hotspot Wadden Sea is to generate knowledge regarding the sustainability of the Wadden ecosystem as a safety buffer in a changing climate. Work package 2 is largely dedicated to this issue, as it focuses on the dunes of the Wadden islands, but also WP 3 and 6 take the Wadden Sea coast as case study area.

## 2. Involvement of stakeholders

The consortium leader shall regularly contact the prime national stakeholders (DG Water , Rijkswaterstaat) and STOWA, to attune the research activities with the national programmes for applied research and advice (BOA and Delta-proof). Representatives from VROM and LNV will also be contacted.

As for regional and local stakeholders we have the advantage that all consortium partners from the Netherlands are also involved in research for specific hotspots. Through this involvement the transfer of questions from the hotspots to the consortium is ensured, but also *vice versa*. More specifically, we shall organise meetings and workshops, where the research team and the stakeholders can discuss the objectives, the approach, the specification of research questions, etc., as well as any preliminary results and their applicability.

Furthermore, each WP and or project which focuses on one or several hotspot areas or other case study areas will organise its own contacts with stakeholders, as the applicability of the research is among the key objectives of the work programme. To this end, representatives from the hotspot areas will be invited to participate in the Application and Implementation Board.

## 3. Knowledge transfer and valorisation

The project will disseminate the knowledge gained through various activities:

- ▽ Regular meetings between research teams and practitioners from hotspot areas;
- ▽ Workshops and meetings with policy makers and stakeholders (Ministries, UvW, Water Boards, NGO's, etc);
- ▽ Project workshops: specialist workshops will be organized to maintain contacts in the KvC hotspot areas and around case studies, such as KvC Rhine, KvC Meuse, KvC risk perception, KvC Buitendijks and KvC AOR. The meetings will be organized in co-operation with the KvC advisory board;
- ▽ Through the existing KvC website dedicated pages for Theme 1 will be filled. This site will at least contain all reports approved by the programme board of the KvC programme. Furthermore, maps and data (if not restricted) will be presented on the website for the general public.

**Publications:**

- ▽ results will be published in international peer-reviewed scientific journals (about 15-25), including a special issue wrapping up and synthesizing the results of the entire research programme;
- ▽ in order to reach a broader audience of practitioners, we will also publish papers in applied journals and magazines (about 5- 10);
- ▽ the results of the PhD researchers will be published as dissertations.

**Presentations:**

- ▽ results will be orally or poster presented at international scientific conferences on global change, flood risk management, adaptation, or else.