

COM 23 Water resilient building

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Consortium	Grontmij Witteveen+Bos Deltares TU Delft SBR	Sterk Consulting	In cooperation with the Ministry of Transport, Public Works and Water Management (V&W) and the Living with Water project (bridge project)
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Context / Social problem

The implications of climate change, such as more extreme rainfall and droughts, make an alternative way of building and managing our urban areas necessary. Streets will not be able to handle increasingly heavy rains. Societies should defend themselves against these future risks. The main question of the project 'Water resilient building' is: how can we manage, build, plan and design our urban and suburban areas in a way that make them more resilient for floods and droughts?

What do we know/not know?

First aim of the project is to produce an overview of relevant measures for waterresilient building, technical, process and institutional measures, and their connection with daily building practice. Measures not only focus on flooding problems and houses, but include droughts and other infrastructure. In the spring of 2008, the result of this research will be an overview of measures and practices from The Netherlands and the rest of the world to combat floods and droughts.

What is being studied?

The project team will integrate all these measures and practices in a framework which was made by the Technical University of Delft. This framework is based on the term 'vulnerability', which is linked to four 'capacities'. The more capacities an urban society can use, the more it is resistant to floods, droughts or their impact. The vulnerability of urban societies is linked to four types of capacities:

- *Threshold capacity*: to prevent floods, droughts
- *Coping capacity*: to minimise the impact of occurring floods and droughts

- *Recovery capacity*: the ability to recover quickly after a flood or drought
- *Adaptive capacity*: the ability to adapt to a changing environment by considering rare and probably never occurring disasters

Societies create their own capacities with lots of technical measures and practices. On the other hand, institutional, planning and other measures and concepts are also important.

What are the results, and who are they for?

Recent findings from the project:

- Almost all countries have a focus on technical measures and practices to raise their threshold capacity. Bigger and higher dikes, 'mega dunes', houses on poles, and floating cities are commonly named but not so often practiced solutions
- Institutional measures and practices offer different ways to oppress the impact of floods and droughts. For example, the UK, France and Germany are working on and practicing planning concepts in which they incorporate the flooding sensibility of areas
- Project investors and building companies often opt for the cheapest way of making parcels ready for building. Local authorities may try to set higher requirements on the way investors and builders deliver parcels and houses to consumers

After finishing part 1 of 'Water resilient building', the project team launches a research agenda for part 2, in which the investigated measures, practices and concepts will be practiced, tested, evaluated and refined.

