



## Damage-reducing measures to manage flood risks in a changing climate

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Damage due to floods has increased during the last few decades, and further increases are expected in several regions due to climate change and a growing vulnerability. To address the projected increase in flood risk, a combination of structural and non-structural flood risk mitigation measures is considered as a promising adaptation strategy. Such a combination takes into account that flood defence systems may fail, and prepare for unexpected crisis situations via land-use planning, building construction, evacuation and disaster response. Non-structural flood risk mitigation measures like shielding with water shutters or sand bags, building fortification or safeguarding of hazardous substances are often voluntary: they demand self-dependent action by the population at risk (Bubeck et al. 2012; 2013). It is believed that these measures are especially effective in areas with frequent flood events and low flood water levels, but some types of measures showed a significant damage-reducing effect also during extreme flood events, such as the Elbe River flood in August 2002 in Germany (Kreibich et al. 2005; 2011).

Despite the growing importance of damage-reducing measures, information is still scarce about factors that motivate people to undertake such measures, the state of implementation of various non-structural measures in different countries and their damage reducing effects. Thus, we collected information and undertook an international review about this topic in the framework of the Dutch KfC project “Climate proof flood risk management”. The contribution will present an overview about the available information on damage-reducing measures and draw conclusions for practical flood risk management in a changing climate.

### References:

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