

Flood protection in Germany – the perspective of the German Association of Cities

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Structure

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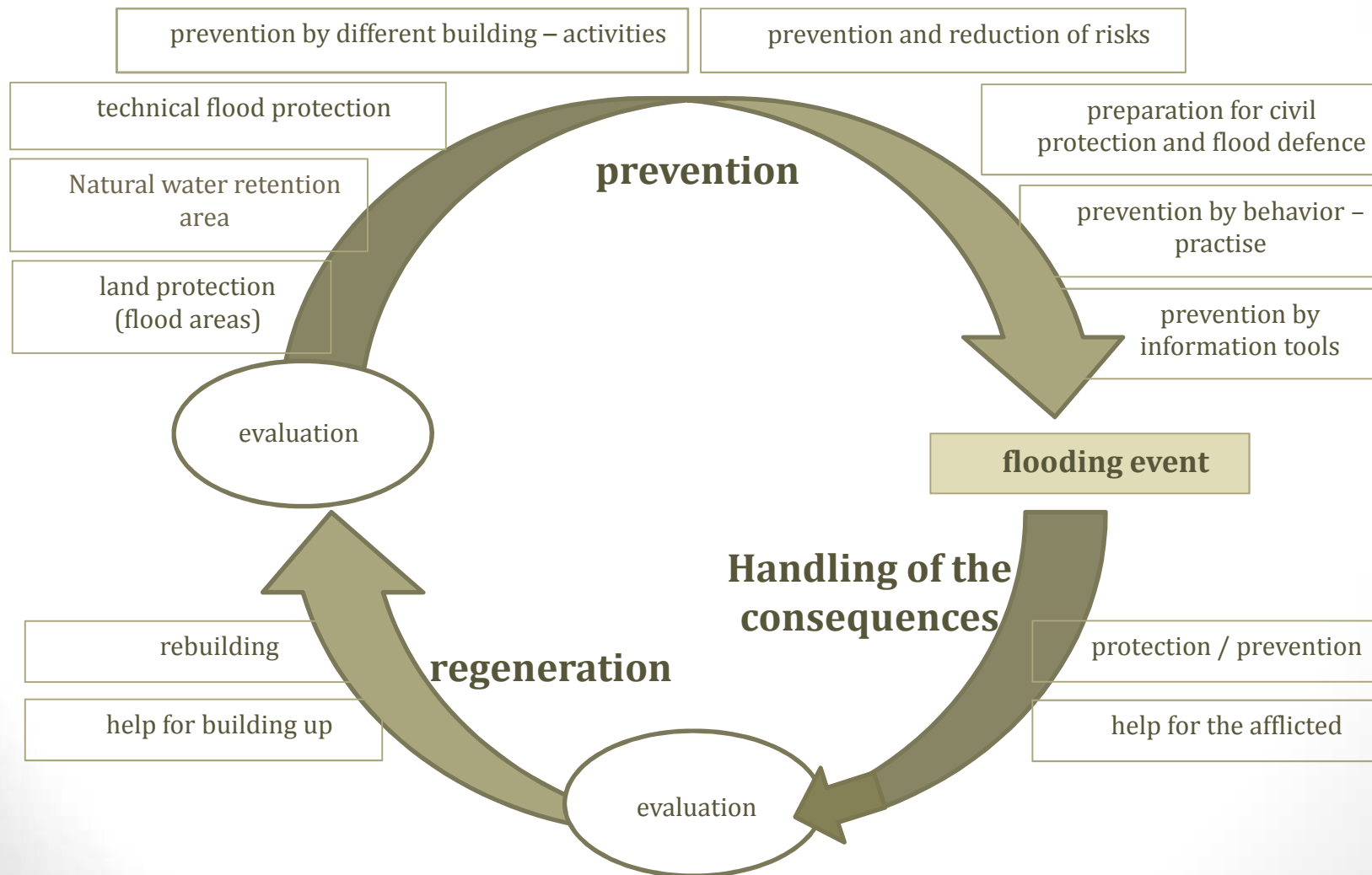
1. rise of flooding problems in Germany

- extreme high water levels in the last twenty years:

Rhine:	1993, 1995
Oder:	1997, 2010
Elbe:	2002, 2006, 2013
Danube:	1999, 2005, 2009, 2013
- reasons:
 - over a couple of centuries about 90 % of the flood plains around water bodies in Germany have been lost
 - rivers and streams lost a great deal of space and are restricted by dikes with consequences for the flood situation of downstream riparians

- experience:
 - technically engineered retentions, dikes and mobile flood protection walls do not help alone to absorb the mass of water
 - flood events have reached more and more extrem levels due to climate change
- need for:
 - integrated water management strategies
 - sustainable and effective river basin prevention
 - effective an efficient cooperation between the national state, the federal states (the Länder) and the municipalities
- political conclusion:
 - flood protection is a joint task of the national, regional and local governments, and therefore requires close cooperation between all levels of administration and policy making

2. the flooding-risk-management-cycle (developed by the Länder water authorities 2010)



3. the increase of flood-events – a challenges for cities

- need to develop flood prevention and defence into a comprehensive system for flood risk management
- flood risk management in dense urban zones should address the following questions :
 - What hazards does the city or district face as a result of the various kinds of flood risk?
 - How do urban development measures need to be designed in order to prevent unmanageable risks for populated areas in flood plains and flood-prone zones? How can the growth of further potential for damage be contained? What space should be given to water bodies, and what space should be given to populated areas?
 - What public measures for the structural protection of flood-prone built-up areas are necessary and financially viable?

- In case of flooding, what can the municipal water brigade and civil protection services do, and where are the limits of civil protection?
- What can citizens and businesses do on their own responsibility? What information and support do they require from the state that will enable them to take effective measures of their own?
- What will the city do to protect its own property and interests?
- What effects will continuing climate change have, and what adaptation strategies are necessary?
- political implication for municipalities:
 - important part of services of general interest
 - primarily a task for urban developers, complemented by the technical aspects of flood protection performed by hydraulic engineers
 - effective flood risk management must take an integrated approach to all the dangers of life and limb, as well as financial assets

4. flood-risk-management in cities – opportunities and limits

- the scope of a town for taking their own preventive measures is limited
- basis for action is the responsibility for the water body or the smaller or brider part of a river, laying in the city
- specific local circumstances in the drainage basin/river bed play an important role
- planners should examine whether local retention measures are possible, this might include the restoration of near-natural streams and flood plains and would include the cooperation of landowners and farmers

- local authorities should create and maintain a sufficient awareness of flood risks among these potentially affected. Municipalities support citizens, business and institutions managing properties by analysing and providing information on specific locations and specific risk, both during and after flooding
- the limited scope for municipal flood protection can be improved partially through inter-municipal cooperation in the field of planning, technical measures, spatial measures and financial measures
- need for cooperation with the institutions of public infrastructure (transport, energy, water, sanitation, solid waste, telecommunications etc.), they should be closely involved in local planning activities for flood risk management

5. flood prevention requires a “workable” framework for the municipalities

- Responsibility for providing effective flood prevention includes a helpfull legal framework for municipalities, although they cannot deliver a perfect flood prevention. Technical, financial and planning constraints prevent them from doing so.
- National and regional authorities have to create the needed enabling framework.

- these include:

- optimal integration of flood prevention into regional planning,
- the designation and creation of further controlled flood polders,
- clear and sufficient rules governing compensation for farmers in case of flooding of agricultural land, to protect against extreme flooding,
- implementation of the exiting flood hazard and flood risk maps based on binding standards of prevention, and the funding of appropriate measures such as dike relocation, dike reinforcement, construction of retention installations etc.,
- the development of diversified protection standards for different facilities (industrial plants, hospitals etc.),
- improvement of groundwater monitoring (online-based),
- allocation of appropriate human resources (qualified personnel with technical expertise) to regional planning and water authorities,
- financial support for municipalities hit by flood events as part of the financial equalisation scheme for local authorities.