

# Chapter 4

## Rules and Resources for Flood Risk Governance

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### 4.1 Flood Risk Governance Rules

#### *4.1.1 The Implementation of New Rules and Regulations at the National and Regional Level*

Diversification of FRM strategies goes along with a diversification of rules and regulations related to flood risk governance. On the one hand, diversification makes various existing rules and regulations related to flood-relevant policy domains other than water management relevant for flood risk governance. This holds, for instance, for spatial planning acts and regulations, or regulations related to contingency agencies in the researched countries. On the other hand, efforts at diversification have resulted in the implementation of new, specific rules and regulations and related policy programmes. Examples include the multi-layered safety approach as laid down in the Dutch Delta Programme; various spatial planning regulations such as the Water Assessments in Belgium and the Netherlands; specific plans for comprehensive flood protection measures (Hoogwaterbeschermingsprogramme in the Netherlands; Sigma Plan in Belgium); and flood risk prevention plans (PPRIs) in France (Kaufmann et al. 2016; Mees et al. 2016; Larrue et al. 2016).

When it comes to the implementation of new rules and regulations at the national and regional level, the following recurring points for improvement were identified, some valid for only some countries, others for several countries:

- There is often a lack of enforceability of rules that stimulate risk prevention through pro-active spatial planning, or it is difficult to apply the correct rules.

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- In all countries there is a need to build in flexibility in existing rules and procedures, so that competent authorities can adapt to changing circumstances.
- A financing system for FRM measures should be developed in line with the normative principles for who is responsible. For instance, for the Netherlands the OECD suggested that spatial developers in flood prone areas (or the authorities that agreed with these developments), should pay for flood risk management (OECD 2014a).
- Setting up transparent decision-making processes for flow improvement and (upstream) water retention, involving affected stakeholders both in earlier and later planning stages.
- Finding areas suitable for retention is not only a technocratic exercise but requires also participatory decision-making processes.
- In several countries there is the need to adjust building codes to overcome the legal impossibility for municipalities to enforce most of the structural measures as many of them go beyond national building codes. This could be done by attribution of relevant powers to the local level, or by delegation based on existing acts.
- Responsibilities should be clarified and formalised (e.g. in a national disaster law): who is responsible for prevention, defence, mitigation, preparedness, emergency response and recovery?

#### ***4.1.2 The EU Floods Directive (Directive 2007/60/EC)***

The Floods Directive (FD) provides procedural rules which EU Member States have to comply with, including the designation of areas of potential significant flood risk (first completed in 2011), the production of flood hazard and flood risk maps (first completed in 2013) and the production of flood risk management plans (FRMPs, first completed in 2015). It is difficult in many countries to determine what changes have been caused by the Floods Directive and what changes would have occurred anyway. Nevertheless, we have indications that the Floods Directive is providing several positive contributions towards improving flood risk governance, amongst other things through its emphasis on the fact that floods cannot be avoided, although perhaps with the downside that the FD does not oblige or encourage Member States to avoid floods where this could be possible. Especially in new EU Member States such as Poland but also in Sweden, the Floods Directive was found to have had an important agenda setting function in terms of discussing measures belonging to several Flood Risk Management Strategies and stimulating a shift to preventive strategies rather than only reactive strategies such as recovery and defence. The FD has also been shown to legitimise flood management actions by flood managers and the designation of resources for it (Hegger et al. 2014; Wiering et al. 2017). Flood maps and flood risk management plans in several countries have been shown to encourage so-called spatial water governance in which spatial planning is organised in a more water-conscious way (Hartmann and Driessen 2013) at the sub-basin scale. Besides that, the process of implementing the FD has fuelled knowledge

exchange between countries, e.g. in the framework of the Working Group on Floods of the Common Implementation Strategy of the Water Framework Directive. For example, a workshop of this group co-organised by STAR-FLOOD has facilitated discussion on the types of objectives and measures and their prioritisation, enabling countries to learn from those MSs that have progressed furthest (Hegger et al. 2014). Possibly, the fact that the FD is a Directive, thus binding for the Member States, and not merely a strategy has enhanced its impact since now it has the status of a legal instrument instead of a communication or guideline.

On the other hand, we found that France and especially the Netherlands have chosen to implement the FD in what in the Netherlands was literally termed “a sober and expedient way” (Hegger et al. 2014) in order to avoid administrative burdens. This may be explained by the fact that for these two countries the FD was a formalisation of an approach that was already emerging or implemented. It should also be noted that these two countries were the initiators of the FD, already had the policies they would like to see encouraged in place and – lying downstream of several major European rivers – mainly pushed for the FD to further encourage trans-boundary cooperation and action taking by upstream countries. There is also some anecdotal evidence (Hegger et al. 2014) that Member States may be reluctant to put overly ambitious objectives in their FRMPs in order not to be held accountable for them. This increasingly procedural approach may hamper the access to justice of citizens, as they might not be able to easily challenge the contents of the Plans before the relevant courts in the absence of substantive, binding measures included therein. Strikingly, while the FD explicitly addresses the issue of environmental damage and pollution caused by floods, this was rarely an issue in the countries researched in STAR-FLOOD.

Based on STAR-FLOOD’s findings, we conclude that in general the FD’s focus on procedural requirements is appropriate in the sense of what seems to be feasible given the large diversity between countries in terms of their physical circumstances, historical pathways in dealing with flood risks and normative principles held. Nevertheless, it must be stated that this focus weakens the legal strength of the FD, since a procedural approach limits the possibilities to hold authorities accountable for ambitious goals in terms of reducing flood risks and does not enable EU citizens to realise flood risk management measures. Furthermore, in specific situations, there is a need for more substantive requirements also to act in accordance with the subsidiarity principle.

Although STAR-FLOOD’s findings can be interpreted as an endorsement of the overall logic and scope of the FD, the research has identified several possibilities for improvement, to be possibly taken up in the next implementation round (until 2021). First, procedural requirements should be refined and some substantive requirements could be added, so that they force Member States to adopt principles of good flood risk governance. Such principles include issues such as the ones laid down in OECD’s water governance principles: a clear allocation of roles and responsibilities; achieving governance at different appropriate scales; effective cross sectoral coordination; securing hard and soft capacities; ensuring that policy relevant data and information are available; considering the governance financing nexus; having sound regulatory frameworks in place; stimulating the potential to innovate; improv-

ing integrity and transparency for greater accountability; engaging all stakeholders and allow for balanced distribution of resource among them; managing trade-offs between users, places and generations; and assessing governance processes and outcomes in order to learn, adjust and improve (OECD 2014a, b). For instance, a substantive requirement regarding the content of Flood Risk Management Plans could be added to explicitly address the issue of responsibilities of actors. Also bridging mechanisms could to some extent be included in the FD, for instance the duty of property sellers to inform potential buyers of flood risks as is currently present in England and the Flemish Region as well as in France. Second, it would be worthwhile to critically re-evaluate the content of the FD for enforceability by citizens and to make clear what they can ask for in the courts. The FD's role could be strengthened if citizens could go to court or otherwise enforce decisions by authorities to assign an area as facing potentially significant flood risk (this has now been decided mostly in a top-down fashion) or to enforce the inclusion of specific objectives and measures in Flood Risk Management Plans. Third, it was found (Larrue et al. 2016) that time pressures arising from the need to swiftly finalise flood risk management plans restricted the room for manoeuvre of local initiatives, suggesting that a too stringent enforcement of formal obligations of MSs may be counter-productive. In International River Basin Districts, the FD could go further in setting forth cooperation requirements between states sharing these Districts and to provide clarity on important concepts in the Directive (Priest et al. 2016; Suykens 2015). This could also be done by way of preliminary questions to the court of justice. In shared river basins, the fully fledged procedural approach whereby Member States have full discretionary powers and no substantive cooperation requirements to implement FRM strategies and measures would not be justified, since measures promulgated in one country could have visible effects in other countries in the same river basin. The directive could require an overarching FRMP in transboundary situations be undertaken which would include joint key definitions of the key elements (e.g. a significant increase in risk) and ensuring that they are agreed within these transboundary situations). Cooperation requirements should at least include obligations to: exchange knowledge regarding important data such as projected discharge levels of river basins; and inform downstream countries of planned FRM measures and assessing the potential for negative impacts downstream. Other, more far-reaching requirements would be to include the obligation to consider FRM measures at the level of a whole river catchment or to set-up a joint knowledge infrastructure.

### ***4.1.3 Subsidiarity, Responsibilities and Coordination***

According to the subsidiarity principle, devolution of decision making to the lowest appropriate scale, with collaboration and coordination at the highest level necessary should be strived for. This principle is widely endorsed, not only at the level of the EU but also at the national level in many European countries. The principle is essentially a political choice based on knowledge that multi-level governance works

better to create legitimacy and resilience. But this goes with fragmentation and the fragmentation should be addressed in a way that it doesn't hamper effective or legitimate flood risk management. The findings presented in the previous sections should be read in this light. For instance, while the FD is a useful instrument for triggering change, Member States have to decide themselves what to do and how to do this. The force of the directive can be used to enforce more basin cooperation (even though there are political trade-offs). Since countries differ in terms of the formal division of responsibilities and the protection levels offered, a discussion about who is responsible for what is recommended, at the national level as well as at the EU level (Fig. 4.1).



**Fig. 4.1** Water level measurement in Dordrecht, the Netherlands

## 4.2 Flood Risk Governance Resources

### 4.2.1 *The Financial Resource Base in the Six STAR-FLOOD Countries*

All STAR-FLOOD consortium countries show a wide diversity in terms of the sources of the finances available for different FRM strategies. In all countries, different funding schemes can be identified for different strategies. Flood defences are more often paid for through public schemes, while countries differ, amongst other things, in terms of the sources for their recovery schemes. With some risk of oversimplification, we can say that France and the Netherlands show a general tendency to finance FRM through public funding schemes. In England, even though there is the Partnership Funding approach which aims to encourage private investment, approximately 70% of schemes are still funded through public money. Thus, England has diversified its sources of money but it is still largely publicly funded. Belgium and Sweden can be ranked in between the positions of France/the Netherlands and England. Poland relies much on European funds and, de facto, also on the individual actions of citizens who have to recover from floods (Alexander et al. 2016; Ek et al. 2016; Kaufmann et al. 2016; Larrue et al. 2016; Matczak et al. 2016; Mees et al. 2016).

In the Netherlands, there is a strong publicly funded resource base for flood defence as well as long term funding for measures needed to adapt to climate change, available through the Delta fund. In France, there is a strong recovery system (the so-called CAT-NAT system which is both public and private). England has recent experience with partnership funding schemes, but these are not yet functioning optimally. Poland has a significant lack of resources, while in Sweden there are limited dedicated resources for FRM, which is – mostly – pursued instead through measures that have been established for other public goals (e.g. hydropower dams). In Belgium, resources are well-developed in most strategies) but lacking in the preparation strategy.

While the logic behind the FD has been to foster transboundary cooperation and knowledge exchange related to floods, other European policies' logic is to respond to major natural disasters and express European solidarity in disaster-stricken regions within Europe. This was, for instance, the reason for creating the European Solidarity Fund in 2002 (Regulation (EU) 661/2014).

We can conclude that, although various funding mechanisms are in place, in some cases there is still under-investment in particular strategies. At the same time, debate is needed on how scarce financial resources are mobilised. An important policy issue for the coming years will be to have political debate and make political choices in order to combine the (perceived and sometimes already legally settled) 'right to be protected' of citizens with the decreasing resource base many public authorities are facing and make decisions that societal actors find legitimate. Resources may also play a key role in bridging, for instance by ensuring that actors



involved have the necessary skills, and that private actors receive sufficient payment to increase their willingness to let their land function as flood storage.

#### ***4.2.2 Knowledge, Skills and Attitudes as Crucial Resources***

Knowledge and the ability to learn is to be seen as a crucial resource. Continuous improvement through R&D Programmes and knowledge infrastructure has been shown to be important. In terms of these knowledge infrastructures, the Netherlands has been shown to be a frontrunner, amongst other things through the sustained presence of strong water-related knowledge institutes, the setting up of the Delta Programme (a national policy programme focusing on long-term strategies for dealing with floods and fresh water supply) and the presence of dedicated temporary research programmes (e.g. Knowledge for Climate; Water & Climate; Topsector Water) (Kaufmann et al. 2016). Within such programmes, we see the development of new knowledge, exchange of existing knowledge and joint knowledge production in regional projects (Hegger and Dieperink 2015). England also has extensive knowledge infrastructure, e.g. Defra/EA research & Development programme. The R&D Programme provides the Flood and Coastal Risk Management (FCRM) evidence for policy and operational needs, across the Environment Agency, Defra, Welsh Government, Natural Resources Wales, Lead Local Flood Authorities, Internal Drainage Boards and other operating authorities. The programme develops and synthesises scientific best practice emerging from academia and operational practice both in the UK, Europe and Internationally. This is steered by four Theme Advisory Groups (TAGs), which help identify and prioritise research needs. TAGs comprise up to 20 advisors from across the FCRM stakeholder community, blending topic experts and sector representatives. e.g. Living with Environmental Change (LWEC) – established in 2007 as an innovative partnership of 22 public-sector organisations that fund, carry out and use environmental research, evidence and innovation. Its aim was to provide decision-makers in government, business and society with the knowledge, foresight and tools to mitigate, adapt to and benefit from environmental change (<http://fcerm.net/about>). In France, every 2 years a meeting grouping all French actors related to floods is organized by the Ministry of the Environment (Assises nationales des risques naturels). This allows for exchanges of experiences between these actors. Also at national level de CMI Mixt Committee devoted to floods also constitutes a space for exchange of experiences. EU research funding could further stimulate the development of knowledge infrastructures, which can be said to be in need of further development in several countries. Another resource which played a key role in England is the use of formal evaluations of flood policies by leading experts (Alexander et al. 2016). An important point of attention is that investments in knowledge development could easily lead to or reinforce path dependency by strengthening epistemic communities related to specific strategies (Wiering et al. 2017).

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