

THE EUROPEAN FLOOD RISK DIRECTIVE AND ETHICS

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■ The European Flood risk directive (2007/60/EC) requires EU Member States to review their system of flood risk management. In doing so, they will have to face ethical issues inherent in flood risk management. This paper discusses three such issues, using examples from the Netherlands. These issues are: (1) whether and, if so, under which conditions differentiation in flood protection levels is acceptable; (2) individual and local responsibility versus solidarity; and (3) the role of environmental considerations in flood risk management. By discussing these three issues in the light of the more philosophical literature on risks, we intend to contribute to an integrated approach to flood risk management.

■ Flood risk management is rife with ethical dilemmas. Take for example two flood-prone areas that are comparable in all respects, except that the population of one area is ten times larger than the population of the other area. Should in this case the area with the larger population get a higher level of flood protection than the other area because the potential damage is larger, or should the level of protection be the same because all citizens should be treated equally? Who should decide on protection levels and who should fund the measures: local communities, regional governments, or higher level governments? Should we emphasize individual or local responsibility or (national) solidarity? Moreover, floods and flood protection measures may have significant environmental effects. How much weight should be attached to these environmental effects when deciding on protection levels and measures?

The implementation of the European Flood risk directive (2007/60/EC) provides an excellent opportunity to reflect on these ethical dilemmas. The Flood risk directive does not contain concrete standards, nor does it prescribe specific measures, but it does require the Member States of the European Union to review their system of flood risk management. They have to assess the flood risks in

their river basins and prepare flood hazard and flood risk maps for all areas with a significant flood risk (art. 4-6 and 13). Moreover, they have to establish flood risk management plans for these areas, containing “appropriate objectives” for managing the risks and measures for achieving these objectives (art. 7). The plans have to be coordinated at the river basin level (art. 8) and may not include measures that increase flood risks in other countries, unless agreement on these measures has been reached (art. 7.4, cf. preamble 15 and 23). In addition, Member States have to encourage active involvement in the development of the plans (art. 10.2, art. 9.3).¹ In doing all this, Member States have to consider human health and the effects on the environment and cultural heritage (art. 2.2, 7.2 and 7.3).

This paper discusses three ethical dilemmas that are relevant for the implementation of the Flood risk directive and flood risk management more generally, using examples from the Netherlands. The dilemmas are the following:

- Whether and, if so, under which conditions differentiation in flood protection levels is acceptable
- Individual and local responsibility versus solidarity

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Illustration 1:
High water in the river
Waal near Wamel

(Source: Deltares)



■ The role of environmental considerations in flood risk management

The paper concludes with a short discussion why explicit attention to ethical issues is important in the first place and outlines two venues for further research.

Differentiation in flood protection

As discussed, the Flood risk directive requires that Member States establish “appropriate objectives” for the management of flood risks. A first issue in this context is whether an identical level of flood protection should be offered in all areas, or whether a more differentiated approach is allowed or even called for. In the philosophy of risk literature, this issue is part of the more general question of risk acceptability. Several factors have been listed that need to be considered when assessing the acceptability of risks. The first concerns the distribution of risks and benefits or “distributive justice.” In political and applied philosophy, different approaches have been developed for deciding on distributive questions. John Rawls, for example, introduced the difference principle, stating that social and economic issues should be arranged so that “they are to be of the greatest benefit to the least-advantaged members of society.”² This would imply that priority should be given to the most flood-prone areas, even if the population density is low. A second approach is to focus on threshold levels that guarantee

all people some minimum level of the good at stake. In the context of flood risk management, this would imply securing a basic safety level, while additional flood protection could be offered in more densely-populated areas or areas with more economic activity.³ A third approach that is often proposed in the context of technological risks is to offer compensation for certain risks, or to trade higher risks in one field against lower risks in another field. Solutions along these lines include generous state aid after a flood or support of regional economic development in return for lower safety levels.

A second consideration for deciding on the acceptability of risk and differentiation is the availability of alternatives. If an individual or group exposed to a particular risk has alternatives at his or her disposal, this would be an argument for offering a lower level of protection. In the context of flood risk management, alternatives could include relocation, taking flood insurance, and (financial) contributions to flood protection, thus “buying” a higher protection level. In practice, however, people are not always free to choose their place of residence, for financial or other reasons, and in some countries flood insurance does not exist. Moreover, some individuals and groups are more prosperous and can contribute more to flood protection than others, while also the costs of flood protection differ a lot in different areas.

In the Netherlands, a differentiated approach has been followed until now. Flood risk standards have

been set primarily by comparing the expected annual economic damage at different protection levels with the annual costs of the measures.⁴ This resulted in higher standards for the more economically developed western part of the country. Since 1992, research has been undertaken to update the standards for the main flood defences. A different approach is currently considered, consisting of a basic safety level that is comparable with risks standards in other fields but much higher than the current level in some areas, and higher protection levels in more densely-populated areas.

Responsibility versus solidarity

The issue of differentiation cannot be seen independently from the issue who should be responsible for flood risk management: individual citizens, local communities, the regional or the national level, or even the international level (river basin or EU). If flood risk management is very decentralized, differentiation is almost inevitable. The opposite is not necessarily true: centralized flood risk management can be uniform throughout the country, but it can also differentiate between different areas.

There are technical and economic limitations to decentralization. Individual flood protection such as dykes is usually prohibitively expensive and may increase the flood risks of others. However, decentralization often stays short of what is technically and economically possible. For instance, in the interest of national solidarity funding of regional flood protection may be taken over by national government. This is especially beneficial for regions with a small tax base, large flooding problems or both.

As in many other fields, the solidarity principle may conflict with the principle of individual or local responsibility. In ethical terms, responsibility implies that one has at least some autonomy in making one's own choices. This in turn implies that the relevant actors are well-informed and have reasonable alternatives to choose from (see the previous section). If they cannot take decisions completely on their own, they should at least be able to influence decision-making through the electoral process or through ad-hoc participatory processes.⁵ In addition, autonomy implies that the subsidiarity principle is respected. According to this principle, decisions should be taken

“as closely as possible to the citizen” (preamble Treaty on the European Union), that is, if not by the citizen or community groups themselves, then at least at the lowest administrative level possible.

The Flood risk directive mentions the subsidiarity principle twice and states explicitly that “considerable flexibility should be left to the local and regional levels, in particular as regards organisation and responsibility of authorities” (preamble 24, cf. preamble 10 and 23). The solidarity principle is mentioned twice as well, but mainly in the context of relations between states in the same basin (preamble 15, art. 7.4, cf. preamble 8). In addition, the Flood risk directive explicitly requires stakeholder participation. The directive does not mention individual responsibility or for instance individual flood insurance, but it does not preclude this either.

In the Netherlands, individual and local responsibility has been replaced gradually by centralization and national solidarity.⁶ Originally, each polder was responsible for its own dyke, but increasingly subsidies were given by the provinces and later national government, until in 2001 it was decided that dyke reinforcement would be funded completely by national government. In 2011, however, the cabinet decided that the regional water boards would become responsible for funding 50% of the costs and in the far future perhaps even for the full 100%; national government will remain responsible for setting the flood protection standards.⁷ This development is especially problematic for water boards with few inhabitants and a lot of dyke to maintain, such as Water board Scheldestromen. According to its executive board member Guiljam van der Schelde, “safety against flooding is a national interest and reinforcement of the (coastal) flood defences should be funded by all inhabitants of the Netherlands on the basis of 100% solidarity.”⁸

Environmental considerations

The third ethical issue that will be discussed in this paper is the role of the environment. Traditionally, flood risk management focused only on potential economic damage and safety, and in most parts of the world this is still the case. In Europe, however, the Flood risk directive requires explicit attention to environmental issues. Not only should the effects of



floods on the environment be considered, but also the effects of measures to manage flood risks (art. 7.2 and 7.3). In an official note on the Flood risk directive (DG ENV D.1 (2011) 236452), DG Environment explicitly links the selection of flood risk measures to nature conservation and the protection and restoration of ecosystems. Although these concerns are already part of the Water Framework Directive, the Birds directive and the Habitats directive, they had not been linked explicitly to flood risk management before. The literature on environmental ethics provides limited guidance on how environmental considerations should be weighed in flood risk management. Including environmental considerations in flood risk management requires an approach that is neither purely anthropocentric nor purely ecocentric: both human stakes and environmental values are relevant. In the Netherlands, negative environmental consequences of flood protection became a big issue in the early 1970s.⁹ The current flood risk standards and the planned revisions do not consider environmental aspects, and there are no plans to change this. In fact, the most recent implementation plan for the Flood risk directive of February 2010 does not mention the word environment (“milieu”) or nature (“natuur”) even once. This reflects the limited attention to environment and nature at the national level, as witnessed for instance by the recent budget cuts for nature development, but there is reason to doubt whether it constitutes a correct implementation of the directive.

Discussion

We hope to have shown that the implementation of the Flood risk directive and flood risk management more generally is not only a technical and economic issue, but has substantial ethical aspects as well. But, one may ask, why dwell on this? Is flood risk management not ultimately political? And would an open discussion of ethical issues not fuel conflict? Would it not be better to leave fundamental issues aside and focus instead on developing practical solutions on which agreement can be reached?

While we cannot give definitive answers to these questions, we do believe that there are good reasons to discuss the ethical aspects. First of all, if ethical aspects are not discussed explicitly, the ethics of the in-crowd – authorities and their consultants – will become the dominant paradigm, which is problematic from a democratic point of view. Secondly, flood risk management involves many different interests and any solution will have winners and losers. Hence, focusing only on solutions may not result in an agreement and may actually fuel conflict. In many situations, it may be better to first try and reach agreement on the principles on which any solution should be based. This requires an open discussion of the relevant ethical issues.

We propose two different lines of research on the ethical aspects of flood risk management. One idea is historical or international-comparative research on how ethical dilemmas are resolved in practice. An example

of such research would be to describe and analyze the discussions in the Netherlands on the safety standards for the main flood defenses between 1953, when the last major flood occurred, and 1996, when the first national Flood defenses act entered into force. The main focus would be to identify the dominant discourse and dissonant voices with respect to differentiation, responsibility and environmental considerations. The purpose of such research would be to challenge taken-for-granted assumptions in flood risk management and increase awareness of ethical issues.

The second line of research is directed more towards ethics and theory and involves an exploration of the ethical dilemmas posed by flood risk management. The discussion of these dilemmas is not always well-developed. The purpose of this line of research is to increase awareness of (flood) risk issues in ethics in order to support the further development of ethical theory. Indirectly, this can benefit flood risk management as well. ■

ABSTRACT

De Europese Richtlijn overstromingsrisicobeheer (2007/60/EC) verplicht de Lidstaten van de Europese Unie ertoe om hun systeem van overstromingsrisicobeheer te heroverwegen. Hierbij worden ze geconfronteerd met een aantal ethische kwesties. Aan de hand van enkele voorbeelden uit Nederland, gaan wij in dit paper dieper in op drie van deze kwesties: (1) de vraag of en, zo ja, onder welke voorwaarden differentiatie in beschermingsniveaus acceptabel is; (2) de spanning tussen individuele en lokale verantwoordelijkheid enerzijds en solidariteit anderzijds; en (3) de rol van milieuoverwegingen in het overstromingsrisicobeheer. Door deze kwesties te bespreken in het licht van de meer filosofische literatuur over risico's, hopen we bij te dragen aan een geïntegreerde benadering van het beheer van overstromingsrisico's.

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- 1 See also the EU *Guidance on Public Participation in Relation to the Water Framework Directive; Active Involvement, Consultation, and Public Access to Information. Prepared in the Framework of the Common Implementation Strategy of the European Commission and the EU Member States*, Luxemburg: Office for Official Publications of the European Communities 2002.
 - 2 J. Rawls, *Justice as Fairness: A Restatement*. Cambridge, MA: The Belknap Press of Harvard University Press 2001, p. 43-43.
 - 3 P.P.J. Driessen and H.F.M.W. van Rijswijk, 'Normative Aspects of Climate Adaptation Policies', *Climate Law* 2011, p. 559-581.
 - 4 Unie van Waterschappen, *Normering Regionale Wateroverlast*, Den Haag: Unie van Waterschappen 2003; D. Van Dantzig, 'Economic Decision Problems for Flood Prevention', *Econometrica: Journal of the Econometric Society* 1956, p. 276-287.
 - 5 O. Renn, 'White Paper on Risk Governance: Towards an Integrative Approach', Geneva: International Risk Governance Council 2005.
 - 6 E. Mostert, 'Water management on the Island of IJsselmonde 1000-1953; Polycentric governance, adaptation and petrification' *Ecology and Society* (accepted for publication).
 - 7 IPO, *Bestuursakkoord Water*, Ministerie van Infrastructuur en Milieu 2011.
 - 8 News message Waterschap Scheldestromen 12 February 2012.
 - 9 C. Disco, 'Remaking "Nature": The Ecological Turn in Dutch Water Management', *Science, Technology & Human Values* 2002, p. 206-235; A.A.S. van Heezik, *Strijd Om De Rivieren; 200 Jaar Rivierenbeleid in Nederland of De Opkomst En Ondergang Van Het Streven Naar De Normale Rivier*, Den Haag/Haarlem: HNT Historische producties 2007.