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### From flood safety to risk management

*The rise and demise of engineers in the Netherlands and the United States?*

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# 1. Introduction

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## 1.1 Who pays for floods?

This thesis is the result of a personal quest into an issue that has bothered me since the start of my studies in Human Geography in 2002: Who pays for natural distress? Human geography analyzes the relationship between humans and their (social and natural) environment; my specialization, Environmental Geography, focuses on our relationship with nature specifically. This specialization looks at how we make use of our natural environment, how we create the conditions that allow us to access natural areas, utilize its resources, and maximize its benefits. It also looks at the implications of these human interferences with nature. By shaping nature to our needs, we have exposed ourselves to its harms. We have not only contributed to environmental problems such as earthquakes, biodiversity loss, droughts, and floods, but these problems now also present a threat to the environment we have become so dependent on (Goudie 2000). In the management of environmental problems, the short-term and often individual benefits gained by our use of nature have to be considered against the long-term and often collective risks created by this use. How to make such trade-offs is, in my view, one of the most pressing and relevant questions in environmental governance.

Over the years, we have become increasingly aware of our role in creating environmental hazards. The 1987 Brundtland *Our Common Future* report already drew attention to our “unsustainable uses” of nature, ideas that have recently been reemphasized under the header of “the Anthropocene”. This has changed the way we look at environmental risks. In traditional paradigms, environmental risks were considered an “act of God” or an “extreme” force of nature. They could at best be “reduced to a fair degree of certainty by statistical grouping”; by quantifying their probabilities, some form of control could be gained (Knight

1921: 215). Collective state-responses were the justified means through which these external risks could be governed. However, the increased recognition of anthropogenic causes underlying environmental risks has changed this standard policy discourse (Beck 1992, Giddens 1999). When environmental distress can be attributed to human action, collective state-responses lose their forthright appropriateness because governmental interventions obscure anthropogenic causes and indirectly only exacerbate the problem. A better understanding of the human influence on creating environmental problems thus sheds a new light on the trade-off between individual benefits and collective risks in standard risk governance practices.

Against this background, I grew interested in flood risk management. Flood-prone areas harbor fertile agricultural lands, are often strategically located for international shipping and commerce, and provide good conditions for economic production. Many cities emerged along the shores of river and coastal deltas, and the expectation is that more people will be drawn to these regions in the future. However, these people face serious risks. Delta regions are known for catastrophic flooding disasters, which are only expected to increase as global warming and the urbanization of delta regions continues (Bouwer 2010, Swiss Re 2012). Traditionally, societies have always responded to flood risks by building structural flood defenses such as levees and floodwalls. However, questions have emerged about the continued appropriateness of this traditional governance strategy. Can we continue to build our way out of these increased flood risks? If so, against what costs? And who will pay for these costs?

When I wrote my master thesis in 2007, I took up the task to analyze cost-sharing mechanisms for adapting to increased flood losses within and between delta countries. I familiarized myself with theories of environmental and distributive justice to try to come to a well-considered judgement of different allocations of costs and responsibilities in flood governance. As a researcher connected to the

Institute of Environmental Studies at the VU University in Amsterdam, I further explored this issue. Teamed up with economic, legal, and other social scientists in a project titled “Sharing the Burden of Adaptation Financing”, I analyzed different normative approaches to distributing costs and responsibilities for climate change adaptation at the international level. In the “Institutions for Adaptation” project, which united water governance specialists from different Dutch universities, I approached the issue from a more practical angle and looked at the distribution of costs and responsibilities for local water problems in the Netherlands. Through neither of these projects, however, did I arrive at a definite conclusion on which distributions of costs and responsibilities are “right” or “just” in flood governance. To my best judgment, there were multiple “just distributions”, depending on the belief system one holds. This drew my attention to the political sciences. If there can be multiple views on a just distribution, what is at stake is not so much a normative evaluation of these distributions but rather a consideration of the processes through which societies come to a decision on which system to follow.

## **1.2 Who decides? The expert-democracy challenge**

In 2011, I started a PhD project at the Department of Political Sciences of the University of Amsterdam, of which this thesis delivers the end result. The formal title of the project was “Meritocracy and Democracy: A political-theoretical exploration of changing ideas about the quality and recruitment of elites in democratic societies”. With its focus on the role of elites in democratic decision-making, I thought this project could help me form a judgment on the procedures through which distributive decisions are made: Who decides who pays for floods? However, I soon learned that just like there are multiple ways of thinking about a fair distribution, there are multiple ways of thinking about “just” decision-making procedures in public governance. Still, the project’s emphasis on elites helped me focus on a fundamental debate in political theory that centers on the appropriate

role of “experts” in democratic decision-making: To what extent can we trust and under what conditions do we allow experts to make decisions for us?

This debate dates back to early philosophers such as Confucius and Plato and was reinvigorated with the revival of the ideal of representative democracy in the 17<sup>th</sup> and 18<sup>th</sup> century by thinkers like Condorcet and John Stuart Mill, and it witnessed another resurgence in contemporary reevaluations of the representative model (Manin 1997, Ankersmit 1997, Estlund 2007, Bovens and Wille 2011). Influenced by the seminal writings of authors like Rittel and Webber (1973), Van Gunsteren (1976), and Habermas (1996) on the role of expert-knowledge in the modern “quest for control” in public governance, it became part of the (environmental) risk governance literature as well (Beck 1992, Ewald 1991, Hoppe and Peterse 1993, Reddy 1996, Giddens 1999, Kahan 2006, Rosanvallon 2008, Collier 2008, Vogel 2008, Boswell 2009, Culter 2010, Rayner 2012, De Marchi 2015). Within this debate, it is generally accepted that experts can help with the “technical” aspects of decision-making on risks; they can make risk prognoses, calculate the impacts of different risk control measures, and specify the costs and benefits involved with different governance approaches. But limits to their influence are usually set at these technical aspects; in democratic societies, experts should have no say over “political” issues involving conflicts of value and interests, because, as Habermas (1996: 429) famously argued, these problems “cannot be reduced to the inefficiency of administrative steering”. These issues, a central democratic premise, should be open to public contestation and discussion to ensure an equal consideration of different viewpoints and interests in the decision-making process (Fennema 1982: 25), a quality usually ascribed to democratic decision-making bodies (e.g., parliament). From a democratic perspective, it is thus important that distributive decisions are made by democratic decision-making bodies.

In the political sciences, the role of experts in democratic decision-making procedures has often been viewed with caution. Strategic elements in the

production and political uptake of expert-knowledge have been identified by many scholars, who demonstrated that claims to expertise can be “organized in” the public policymaking process to support certain views or interests, meaning that other claims (and other views and interests) can be “organized out” (Weiss 1979, Gusfield 1981, Maasen and Weingart 2005, Boswell 2009, De Bont and Vanpaemel 2012, Jennings and Hall 2012, Wesselink et al. 2012, Elgert 2013, Bock 2014, Dunlop 2014, Javeline and Shufelt 2014, Lundin and Öberg 2014, Rietig 2014, Rimkutė and Haverland 2015, Waylen and Young 2014). Expert-knowledge is now often constructed as a political resource, used by actors in their struggle for power (Sabatier and Jenkins-Smith 1988, Jasanoff 1990, Hajer 1995, Hisschemöller and Hoppe 2001, Nowotny et al. 2001, Turner 2001). From a democratic point of view, this political resource is problematic because it entails a hidden form of power that does not become visible through conflict or exclusion but works through generating consent (Lukes 2005). By making a claim to universal and objective truth, expert-knowledge may reduce the room for the formulation and inclusion of alternative views and interests in the public decision-making process and undermine its democratic quality (Van de Graaf et al. 1996: 21-22).

What struck me was that these studies paid little attention to the actual effects of uses of expert-knowledge on the democratic decision-making process (the same argument is made by Spruijt et al. 2014, but see Boswell 2009, Lundin and Öberg 2014, and Wengle 2012 for notable exceptions). For scholars working on the issue of expert-influence, the revelation *that* expert-influence trespassed its boundaries and invaded the political domain has often been reason to theorize about new forms of “participatory” (Barber 1984), “deliberative” (Warren 2006), “associative” (Hirst 2002), or “regulatory” (Majone 1999) democracy. But for my focus on distributive decision-making, these theoretical endeavors provided little guidance for understanding *how* experts influence the process of finding fair allocations of burdens and benefits in flood governance: how their knowledge

feeds into this process and how it actually impacts the formulation and evaluation of counter-positions in present-day policymaking processes, and how through this the distributive aspects of flood governance are shaped.

My exploration into the “who pays” question in flood governance was further shaped by this problem of expert-influence. Distributive questions are essentially “political” (in the Laswellian sense of who gets what, when, and how). They require a consideration of the allocation of burdens and benefits over different members of society, and value conflicts and conflicts of interest therefore lie at the heart of the matter (Rawls 1999, Miller 1999). A leading question became: To what extent do we allow experts to be involved in the distributive aspects of policymaking on floods?

### **1.3 Aim of this thesis**

The identification of this “gap” in our understanding of the effects of expert-influence on actual public policymaking processes (including those dealing with the division of costs and responsibilities) provided me with an aim for my research. I decided to gear my research toward exploring these effects. The research goal formulated for this thesis, therefore, is to **contribute to a better understanding of the effects of expert-influence on the distributive aspects of public policymaking on floods**. The next chapter provides conceptual clarifications and explains the basic research setup of this thesis.