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Writing our PhD and this book was also supported by financial aid of the program 'Vervangingssubsidie Geesteswetenschappen' of the Dutch Organisation for Scientific Research (Nederlandse Organisatie voor Wetenschappelijk Onderzoek NWO).

First digital edition, september 2012

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Photo's on spreads bl/w Marisa Post

Small pictures and visuals WATERWORKS, Amsterdam

Grafic design & production WATERWORKS, Amsterdam

Published by Bee's Books, Amsterdam

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1

Does The Netherlands live with water?

Newspaper clipping of the public communication campaign 'The Netherlands Lives with Water' (Nederland Leeft met Water), April 2004.



The campaign 'The Netherlands lives with water' was the incentive to start our research by the end of 2004. In our dissertation we answer the question how the Dutch at the beginning of the 21st century give meaning to flood safety and how they cope with the threat of flooding. From the year 2000 a new water policy pointed at a changing approach towards water. Government expected public communication about flood safety and public participation in flood safety projects to lead to enhanced water awareness and more risk aware behaviour in society. Authorities expected from these strategies no undesired side effects. Our research shows that these expectations were incorrect. In our dissertation we explain why this is the case, analyzing the research field from a socio-cultural perspective.



2

A new approach to water

The construction of the Delta Works convinced the Dutch that - with the help of inventive technology - they had won the fight against water and that authorities guaranteed dry feet. Problems with the rivers in the early nineties (including massive evacuations) made clear to policy makers that flooding was a realistic scenario and that government shouldn't want to take all responsibility for keeping citizens safe.

With the new policy slogan 'A new approach to water' government aimed in the direction of a different relation with flood safety and the threat of flooding. Space for water became the new adage. In this new vision citizens also need to contribute to the reduction of risk, in addition to the efforts authorities make. Studying the debate on flood safety at the beginning of the 21st century made clear that most citizens showed little interest in getting informed about flood safety nor in changing their behaviour.



The official new water policy 'A new approach to water' (Kabinetsbesluit 'Anders omgaan met water') announced in 2000.

Research and research categories

Our research also proves that authorities and experts gave ambiguous meaning to topics belonging to the research categories 'environment', 'controllability' and 'responsibility' when debating about flood safety at the beginning of the 21st century.

In relation to the research category 'environment', water played different roles. Sometimes it was an enemy, sometimes a friend and at other times it was an ally. Emergent risk thinking made it possible that water also was increasingly seen as a serious safety risk, despite the emphasis on the friendly relations with water. Influenced by the increasing focus on climate change, the threat of water strongly gained importance.

When it comes to topics belonging to the research category 'controllability', involved actors were questioning the guarantee of flood safety. Further research made clear that control as such was not at stake, but the topic of discussion was the way control was executed. The recognition of the risk of flooding implicated a different control ideology.

When speaking about topics belonging to the research category 'responsibility', different visions alternated. Often flood safety is seen as a collective problem that government is responsible for. Inspired by the idea of the participation state however, more and more emphasis was put on citizens and businesses taking their own responsibility when it comes to flood safety. This changing interpretation of responsibility distribution caused insecurity. For involved actors it wasn't clear which responsibilities were theirs exactly.



3

Overview discourses since 1953

When giving meaning, language plays an important role. By using language people describe their reality. At the same time underlying assumptions belonging to certain meanings create a reality of their own. An image of these different realities can be found by looking for coherent patterns in giving meaning to specific concepts. We term such a pattern a discourse and the search for underlying meanings and patterns a discourse analysis. When involved actors share a discourse during a particular period, reproduce it and act upon it, this discourse becomes more dominant in society¹. Different meanings given to topics belonging to the research categories find their origin in three different discourses (the discourses of 'fight', 'victory' and 'threat'). These discourses dominated the debate about flood safety since the flood disaster of 1953 (see figure 1).

¹ M. Hajer (1995). *The politics of environmental discourse. Ecological modernization and the policy process.* Oxford: Oxford University Press.

The Dutch flood safety debate		1953 - end of the 60's		Begin 70's - begin 90's		Mid 90's - 2008	
Dominant discourse		Discourse of fight		Discourse of victory		Discourse of threat	
Research categories		Discourse of fight		Discourse of victory		Discourse of threat	
Environment		Fighting nature	Protecting nature	Protecting nature	Building with nature	Building with nature	Building with nature
Controllability		Rational ideal of control	Romantic ideal of control	Romantic ideal of control	Flexibel ideal of control	Flexibel ideal of control	Flexibel ideal of control
Responsibility		Supremacy	Government	Government	Shared	Shared	Shared

Figure 1. Meaning given to our research categories in the discourses of fight, victory and threat in the Dutch flood safety debate.

The analysis of reports on water policy of important advice committees, from the First to the Second Delta Committee, makes clear where different meanings of the research categories find their origin and to which social constructions in dealing with flood safety this has led. A number of distinctive movements

can be observed in the past half century:

- From keeping out nature (water), via protecting and developing nature to building with nature.
- From strategies to turn the water (The Delta Works) via resilience (emergency flooding area's) to resilient turning (Space for water) and turning resilience (The Sand Engine).
- From supremacy of nature and divine interventions via safety guarantees by the government to a more shared responsibility for flood safety.
- From an emphasis on the vulnerability of people via the vulnerability of nature to governmental vulnerability.

Discourse of fight

The discourse of fight dominated the debate about flood safety in the period from 1953 until the end of the sixties. In this period flood risks were experienced and acknowledged by society as a whole. When Dutch reputation and identity were damaged by the traumatic flood disaster of 1953, authorities and experts began a counterattack of unknown extent. In the discourse of threat the relation with the environment is determined by the idea that vulnerable man had to be protected against a devastating nature. The united battle against the hostile water, the so called water wolf, was the central notion. Bad influence of the sea needed to be suppressed to protect society against the intruding and damaging water. In this vision nature and society are completely different entities. Future disasters had to be prevented by barring and turning the water. The Delta law ensured safety: 'This never again'². Preventive safety measures based on extremely strict safety norms and executed as massive dike embankments had to guarantee safety and control all future flood risks. The Delta Plan, including the ingenious Delta Works, became the national symbol of guaranteed dry feet in the Netherlands. After the disaster of 1953 authorities didn't feel responsible for the flood. Central government called upon supremacy (divine intervention and primal forces in nature), yet took command in the fight against the water. Involved actors advocated a more central responsibility for flood safety by the government, a vision that fitted with the rise of the welfare state.



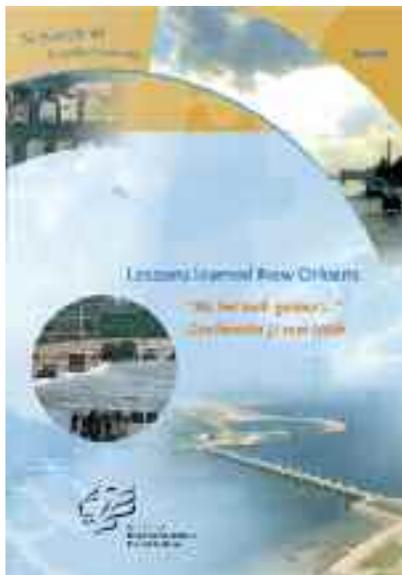
Van Veen's book illustrates the national reputation and identity of Dutch hydraulic engineers as heroic fighters (1948).

² Rijkswaterstaat & KNMI (1961). *Verslag over de stormvloed van 1953. [Report on the storm surge of 1953.]* The Hague: Staatsdrukkerij.



Queen Beatrix opens the Eastern Scheldt storm surge barrier, a part of the Delta Works. The flags state: 'Zeeland is safe' (1986).

Newsletter from the Ministry of Internal Affairs (May 2006).



Discourse of victory

In the seventies and eighties traditional dike strengtheners became the opponents of protectors of landscape, nature and cultural history values. Questions about how flood safety had to be designed and managed invoked fierce discussion. The discourse of fight began to lose its dominance, while a new discourse developed: the discourse of victory. Values and norms with respect to flood safety policies varied per involved actor. Now the battle against the water turned into a social conflict as well. This resulted from the idea that humans, in their ambition for progression, were a threat for vulnerable nature. Thinking about a life threatening flood disaster didn't fit the new vision in which the friendly character of water became more and more the central notion. The protection of landscape, nature and cultural history played an important role in flood safety projects in the main river areas. In the discourse of victory safety can be guaranteed based on 'soft' environmental and nature principles instead of 'hard' embankments and barriers. This can be realised by so called 'sophisticated' designs. Besides hydraulic engineering knowledge and experience also scientific insights from ecology and environmental sciences became essential to realize these designs. Authorities took all responsibility for flood safety. The belief that government guaranteed dry feet became a collective basic assumption. The reduction of safety norms in the river area indicated decreasing risk awareness in society.

Discourse of threat

The discourse of threat became dominant in the debate about flood safety from the mid nineties till the first decennium of the new millennium. Problems with the rivers in 1993 and 1995 revealed governmental vulnerability. The presumed victory over water became a point of discussion. Authorities became more risk aware again. To solve problems with flood safety new variable coalitions were formed, based on temporary consensus. Implementation of dike strengthening projects accelerated. At the time public support for 'Space for water' increased. Boosted by increased attention for potential effects of climate change, the discourse of threat had a dominant image of water as a dangerous ally. In relation to the environment the concepts 'Space for water' and 'Building with nature' were central. Space for water created resilient turning and building

3 A.o. Rijksinstituut voor Volksgezondheid en Milieu (2004). *Risico's in bedijkte termen. Een evaluatie van het beleid inzake de veiligheid tegen overstromen.* [Risks in embanked terms. Evaluation of policy concerning the safety for flooding.] Bilthoven: RIVM. Rapport nr. 500799002, mei 2004;
 J. de Boer, H. Goosen & D. Huitema (2003). *Bewust werken aan waterbewustzijn.* [Consciously working on water awareness.] Amsterdam: Instituut voor Milieuvraagstukken, Vrije Universiteit.
 4 V&W (2000a). *Anders omgaan met water. Waterbeleid voor de 21e eeuw. Kabinetsstandpunt.* [A different approach to water. Water policy for the 21st century. Official governmental point of view.] The Hague: Ministry of Transportation & Water Management, December 2000.
 5 Ministries of V&W and BZK (2007). *Waterbewustzijn en waterbewust gedrag in relatie tot waterveiligheid. Kennen, voelen, willen en doen.* [Water awareness and water aware behaviour as related to flood safety. Knowing, feeling, desiring and acting.] The Hague: DG Water & ERC; Ministries of V&W and BZK (2008). *Versterken waterbewustzijn en waterbewust gedrag in relatie tot waterveiligheid. Verkenning van mogelijke doelen en strategieën.* [Strengthening water awareness and water aware behaviour as related to flood safety. Exploration of possible goals and strategies.] The Hague: DG Water & ERC

with nature (like with sand) created turning resilience. Flood safety as well as nature development and spatial planning claimed space, which is already limited in the Netherlands. Different interests needed to be weighed against each other and against other social interests. But it is complicated to compare these values, because they are hard to define in commensurable measures. The starting point is still the control of flood risks, but besides preventive measures more attention was given to the control of a disaster. Authorities steered in the direction of a shared responsibility of flood safety. From this perspective the whole society needs to contribute their share to achieve policy goals now as well as in the near and in distant future. These different time horizons made responsibility for flood safety a slippery subject.

From overview to insight

The overview of the three discourses and associated meaning of the research categories provides insight in the changing relation between authorities and society at the beginning of the 21st century. In the public debate there is substantive discussion on risks concerning climate change and on the necessity of shared responsibility for flood safety. At the same time there is hardly any feeling of serious threat in Dutch society. On the contrary, most citizens blindly trust the problem solving capacities of authorities and experts³.

When it comes to flood safety we identify a perception gap. Most authorities give meaning to flood safety from assumptions belonging to the discourse of threat. On the other hand, most citizens do so from assumptions belonging to the discourse of victory. But acknowledgement of a possible flooding disaster as a realistic scenario implies a different approach towards flood safety in society. Not only authorities, but also citizens need to be aware of risks that come with living in a vulnerable delta. Authorities expect to create more risk aware behaviour in society if water awareness is increased⁴. They state that the intended different approach of water can be achieved with the help of two instruments: public risk communication on flood safety and public participation with flood safety projects. These are named 'no regret' strategies: authorities expect no or hardly any negative side effects⁵. Our research however, shows that these instruments are not innocent.



4

Public communication on flood safety



Logo of public communication campaign 'The Netherlands Lives with water'..



DENK VOORUIT

Logo of public communication campaign 'Think Ahead'.

⁶The Ministry of Transportation & Water Management and Ministry of the Interior.

⁷ A.o. TNS-NIPO (2006). *Risicoperceptie bij overstromingen in relatie tot evacuatiebereidheid.* [Risk perception concerning flood disasters as related to evacuation preparedness.] Amsterdam: TNS-NIPO; H. van der Most, S. de Wit, B. Broekhans & W. Roos (eds.) (2010). *Kijk op Waterveiligheid. Perceptie en Risicocommunicatie bij het Omgaan met Overstromingsrisico's.* [Perspective on Flood Safety. Perception and risk communication concerning coping with flood risks.] Delft: Eburon.

In the ambition for a more shared responsibility for flood safety, the two ministries involved⁶ mentioned public communication as an important instrument to frame the flood safety message in a different way. They consider communication an outstanding instrument to directly influence water awareness. The target of enhanced water awareness is increased risk aware behaviour. This is supposed to contribute to a permanent safe and inhabitable country. However, with the two public campaigns 'The Netherlands Lives with Water' and 'Think Ahead' this goal has not been reached. Research shows that citizens hardly display the desired risk aware behaviour⁷. Analysis of the campaigns shows that the central message was entangled. On the one hand authorities emphasise that they keep the Netherlands safe and dry (The Netherlands Lives with Water). But at the same time is communicated that people should prepare for a severe flooding disaster that might even happen tomorrow so to speak (Think Ahead).

In both campaigns the discourses of fight, victory and threat were used mixed and at the same time. Despite the focus on the threat of sea level rising and other negative effects of climate change, water was still presented as a friend to play with or a desired ally. Safety guarantees were cautiously discussed, but in the mean time the idea of risk control continued. The campaigns didn't make clear who is responsible for what as it comes to flood safety. The entangled communication didn't contribute to bridge the perception gap. Citizens had and have all possibility to distil the information that suits their own assumptions concerning flood safety. For the time being this doesn't lead to negative side effects, just as authorities expected. Citizens remain passive and do not or hardly react to the campaigns. However, if citizens themselves experience problems with flood safety measures, the differences in perception between government and society will lead to undesired side effects. This becomes apparent from several cases of public participation with flood safety projects.



5

Public participation in flood safety projects

Public participation is the second 'no-regret' strategy that authorities used to achieve enhanced water awareness and to develop risk aware behaviour. We researched the cases of 'Petten', 'Noordwaard' and 'Waterproef'.



Pettemer Sea Wall with sheet piles as emergency-solution.

Petten

The case of Petten concerns a preventive measure to enlarge flood safety on the coast. The goal is the strengthening of the Hondsbossche and Pettemer sea wall as part of the project Weak Links. The first option chosen by authorities was an overtopping resistant dike. This solution didn't match the safety perception of citizens. They soon spoke very negatively about what they called 'the overtopping dike'. Such a dike was unacceptable because dry feet would no longer be guaranteed. The overtopping resistant dike as a preferred solution resulted in a lot of public indignation and a loss of public trust in authorities.

Noordwaard

The case of the Noordwaard also concerned a preventive measure to achieve more flood safety, here focussed on the main river area. This case is about the depoldering of the Noordwaard, a leading project of the program Room for the River. From the start active public participation played an important role in the process. Yet mutual expectations couldn't be lived up to. The way the depoldering was planned meant that a meter of water could flow into the houses at times of extreme high river levels. This didn't correspond with their perception of flood safety, which was based on the assumption that dry feet were guaranteed. The solution was unacceptable for local citizens and the participation process resulted in a lot of public indignation and a crisis of public trust.



Scale model of the depoldering of the Noordwaard polder.



Rescue demonstration during Waterproof, November 2008.

Waterproof

The last case, named Waterproof, concerned flood safety in case of failing preventive measures and was aimed at the whole country. Waterproof was a national flood disaster exercise organised by the Taskforce Management of Flooding Disasters as closure of its assignment. From the start involved authorities and experts were hesitant to active public participation because they expected that the acknowledgement of a severe flooding disaster as a realistic scenario could invoke negative reactions in society. Ultimately, citizens were not felt involved in the disaster exercise. In terms of the public communication campaigns: why should they prepare for a flood disaster when government is keeping the Netherlands safe and dry?

From insight to outlook

Our research proves that public participation does lead to more risk awareness concerning flood safety, but not to the desired risk aware behaviour. Citizens reacted emotionally towards bringing the guarantee of safety up for discussion, which negatively influenced the participation process. Insufficient acknowledgement of the perception gap concerning flood safety resulted in undesired side effects varying from apathy, indignation, loss of mutual trust and mistrust of responsible authorities. Authorities experienced difficulties with handling the citizen's emotional reactions and reacted with particularly juridical communication.

After our overview of the discourses dominating the flood safety debate and the gained insight in effects of the perception gap between government and society, our research also includes a first outlook. A different approach to flood safety in the public debate could lead to a more society wide care for flood safety.



6

The national safety myth of dry feet

Because citizens presume that responsible authorities guarantee their flood safety, resistance grows when they are confronted with measures that include the acceptance of risk. Although citizens rationally know and understand that a hundred percent safety doesn't exist, a nationally held safety myth of dry feet causes emotional reactions when authorities called safety guarantees into question. In short, the myth implicates that despite rationally acknowledged risks, the conviction exists that with the realisation of the Dutch Delta Works flooding will never take place any more and dry feet can and will be guaranteed by government. Important aspects of the safety myth are blind trust in the knowledge and experience of experts and the idea of full responsibility for flood safety taken by authorities. Besides that the myth is also characterised by the absence of water as a possible (life) threatening phenomenon. The safety myth strengthens and gets stronger by these aspects. In this light, speaking about future flooding disasters in public became a taboo for decades.

Critical trust and cognitive fear

When trying to anchor a different approach towards flood safety in Dutch society, it is necessary to deconstruct the myth of dry feet. This needs to be done in such a way that public trust in responsible authorities doesn't get lost and no panic arises when a flood disaster as a realistic scenario is publicly communicated. A successful deconstruction is possible when public emotions concerning flood safety, do change. To achieve this, we developed a socio-cultural typology of public trust and fear. We argue that with the help of critical trust in experts and responsible authorities and with a cognitive fear for water, based on the awareness that water can be (life) threatening, the myth of dry feet can be deconstructed successfully. After deconstruction of the myth it is possible to publicly communicate about flood safety by means of a different discourse and help to develop a society wide care for water.



Brochure of the water board elections in 2008. The board promises to take care of 'Dry feet, Safe levees, Clean water' (Droge voeten, Veilige dijken, Schoon water).



The discourse of care

In the discourse of care a society wide care for flood safety stands central. In this discourse a different meaning is given to topics belonging to the research categories 'environment', 'controllability' and 'responsibility'. When relating to the research category 'environment', emphasis is put on the whimsical interaction between nature and culture. From this perspective natural disasters as such don't exist, since in western cultures they are usually seen as system failure or organisational mistakes. A future flood disaster will be discussed in the light of height, strength and management of the embankments. The discourse of care however is based on the acceptance of vulnerability and develops an understanding of the whimsical interaction of nature and culture that can't be completely predicted nor fixed.

In the research category 'controllability' a more reflective idea of management becomes central. This reflective management is based on a cognitive as well as a more sensitive conception of rationality. When it comes to handling flood safety, reflective management makes it necessary to consider the desirability of technological solutions for risk control. Besides logos (cognitive rationality) also ethics and pathos (sensitive rationality) should play a role in decision making and dividing of responsibilities concerning flood safety.

In the research category 'responsibility' the starting point is divided responsibilities instead of shared responsibilities. Tasks and responsibilities need to be adjusted to specific competences of involved actors. Experts and authorities should take care of meeting legal demands and of development of expertise to make sure that these demands can be met. Based on critical trust, empowered and informed citizens call for accountability of experts and authorities. Apart from that, citizens themselves can also make a contribution to their own safety and the prevention of loss in a crisis situation. However, self rescue based on tangible proceedings is only an option after responsibilities are clearly divided with specific competences of involved actors in mind.

From risk control to acceptance of vulnerability

The discourses in the flood safety debate that are used until now (the discourses of fight, victory and threat), are all three based on risk control. The discourse of care however, is based on the acceptance of vulnerability. This implicates an essential break from the past in the public debate on flood safety. Discussions about risk norms - based on available expert knowledge of probabilities and effects - dominate in the current perspective of risk control. The emphasis is on intolerance of insecurities and on procedures and protocols. In a discourse based on the acceptance of vulnerability, the discussion about societal values is dominant. Based on critical trust in experts and authorities and a cognitive fear for water, the focus is on the development of an empowered and informed society. The discourse of care directs to prevention, tolerance towards insecurities and creative innovative power.



A different perspective on water and flood safety. Image taken from the annual report of Deltares 2010, page 14-15.

More information

Baukje Kothuis (1963) and Trudes Heems (1964) met in 2000 on the Free University in Amsterdam at the Faculty of Social Cultural Sciences. Before and while studying they both ran businesses in group & event management, communication and traveling. After obtaining their Masters title, they decided by the end of 2004 to start researching the way the Dutch cope with the threat of flooding. This evolved in a PhD research project, an enterprise they successfully completed as so called 'external' doctoral students.

Baukje and Trudes combined the PhD research with their work for WATERWORKS, the joint scientific research and consultancy business they have set up in 2008. Waterworks focusses on research and advice regarding public communication about flood safety and other public safety concerns and public participation in projects that try to find solutions for these safety concerns.

From April 2012, Baukje and Trudes also work as postdoc research duo for the STW-program 'Integral and sustainable design of multifunctional flood defences' at the faculty of Technology, Policy and Management (TPM) of the Delft University of Technology.

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