A challenging story: *local knowledge in Dutch water management*

Master thesis by Jannes Willems, s1780948

University of Groningen, October 2013

A challenging story: local knowledge in Dutch water management

Master thesis

Jannes Jurriaan Willems, s1780948

Supervisor: dr. Margo van den Brink

Research Master in Regional Studies
Faculty of Spatial Sciences
University of Groningen

October 2013

Facts are never what they seem to be
David Byrne

From *Crosseyed and Painless*
by Talking Heads (1980)

Preface

After nine months – with a two months break in Brazil – here it is: my thesis. More than two years of the Research Master have brought me a lot – more than I could imagine beforehand! I remember the questions I had when I started in September 2011: is this actually something for me, all that research and such? Yes, it was, I would say now. The Research Master enabled me to discover my own research interests, as it offered many opportunities and the program was very flexible. I enjoyed as well the international environment very much. Not only during my wonderful study abroad in the Amazon, but as well with the seminars, talks, lunches and nights out with my fellow students, of which many became my friends. Eventually, my main interest concentrated on the effects of planning on locals and their involvement in the planning process, after having taken courses from environmental planning and cultural geography. In particular, the water sector, famous for its technocratic approach in the past, triggered my attention: how is this sector dealing with locals? I tried to bring together all these elements in this thesis.

Thanks are due to many people. First, I am very grateful to all interviewees for sharing their stories and their hospitality. Without their stories, I would have not been able to write this thesis. Second, a special thanks to my supervisor Margo van den Brink for her comments, tips and giving me direction in the sometimes theoretical and methodological mess as it felt in my head. But also for the nice talks we have had; I have always enjoyed our meetings. Here I would like to thank as well Johan Woltjer, who supervised another research project earlier on in my master program, and my mentor Christian Zuidema, by whom I could always drop by to complain about all kinds of things. In the end, it always worked out. Finally, many thanks to my parents, for their support and who I can always ask for advices, to my great sister and brother Juul and Pelle, and to my friends in Groningen, in the rest of the Netherlands and abroad for all the fun times we had and probably will have.

So, what's next? It still has to sink in that my time as a student will be over. As I would like to continue conducting research, I might stay within university, so hopefully I can extend my student life a little…

Jannes Willems

Groningen, October 2013

Abstract

This master thesis explores the different types of local knowledge that local residents possess and the resonation of these in water projects related to adaptive water management, looking specifically at two case studies in the Netherlands. The Dutch water sector is shifting from traditional water management, well-known for its strong instrumental rationality, towards adaptive water management, in which contextual factors get more attention. Consequently, local knowledge will play a more important role in the future, as it could contribute to a better understanding of the area and to a more inclusive society. In this research, local knowledge focuses on both 'hard' knowledge people have of a place, as well as how people value their surroundings. Local knowledge is contrasted with expert knowledge, which dominates in water management, due to the different underlying rationalities. Local knowledge centres on values and experiences, therefore having a value-rationality, whereas expert knowledge is said to be objective and rational, thus encompassing an instrumental rationality.

The research reveals that local knowledge could indeed support water management policies, as it contributes to a comprehensive understanding of the area and results in a wider involvement of locals. However, the narrative approach taken in this research showed that there lies a challenge to include local knowledge in water management, because of two main reasons. First, the conservative nature of local knowledge might act as a barrier to resilient water policies, because it can clash with anticipatory adaptation. Dealing with uncertainties, of which adaptive water management is linked with, is hard to unite with more backward-looking local knowledge. Second, local knowledge, with its strong value-rationality, is hard to connect to the instrumental rationality of expert knowledge, in particular that of water authorities, which makes that local knowledge is not taken into account or dismissed as not relevant. Spatial planning authorities, meanwhile, have a more similar rationality as local knowledge, but play usually a smaller role, since water safety goals are often prioritised.

Water authorities are opening up to other voices, but a better alignment with other governmental parties and local stakeholders that recognises the different underlying rationalities is still recommended. Furthermore, it is suggested for governmental parties to communicate transparently the set boundaries in water management projects (e.g., national water safety norms) within local knowledge could be used, to prevent disappointed citizens who feel not heard. Local residents, at the same time, are advised to search for similar starting points with governmental parties, which enable them to connect local knowledge with water management plans more easily.

Key words: local knowledge; adaptive water management; narratives; resilience; expert knowledge; rationalities

Contents

List of figures and tables

Figures

Tables

1. Introduction

1.1. A little more and it will flow over the dyke

The Netherlands is a country vulnerable to climate change, in which many areas are heavily influenced and formed by the water. Although the water is currently more and more put away, safely behind the dykes, many – in particular elderly – Dutch citizens remember close-call experiences, like this man just living close to the sea behind such a dyke:

> *"If the wind was blowing hard and it was high water and you would go then to the dyke, I experienced that myself too, you would feel it shake and trill and quake. That is not that special itself, but rather a little frightening, and the water was just half a meter below your feet, so that blew of your ears and you would came home totally salty. Everybody knows that if it is just half a meter below you, that is dangerous, isn't it? It just has to continue a little more and it will flow over it [the dyke]. And, yeah, that really would have bad consequences."* (Chair of the village council of Petten)

A little more and it will flow over the dyke – which is more likely in the future, because climate change will have its direct effects on the water system in the Netherlands. It is expected that the Netherlands will face, among others, a rising sea level and higher river water discharges (KNMI, 2006) which could have socio-economic consequences on land use, just as the previous quote illustrates. As a result, adaptation to these new circumstances becomes necessary. The battle against the water therefore continues, but in a different way this time. There is an increasing concern that the traditional approach of water management falls short to tackle these issues, as it is unable to deal with uncertainties and a growing complexity due to climate change (Van der Brugge & Rotmans, 2007; Pahl-Wostl et al., 2007).

In turn, the last two decades gave rise to a new paradigm that focuses on adaptive water management, approaching uncertainties and complexities in a more flexible way (Pahl-Wost et al., 2007; Kabat et al., 2003; Van der Brugge et al., 2005; Wiering & Arts, 2006). Adaptive water management is also said to be more holistic and participatory. As a consequence, this approach is more concerned about the local context and asks for new forms of knowledge (Pahl-Wostl et al., 2007; Fischer, 2000). In the Netherlands, these relatively new thoughts come together in the Deltaprogram (*Deltaprogramma*), an intergovernmental program which guarantees water safety and a sufficient freshwater availability in the future.

Local knowledge could play an important role within adaptive water management, because it could contribute to fathom current and past climate (Folke et al., 2005; Adger et al., 2009). To illustrate, "as many social problems have their origins in a local context (…), knowledge of the local citizens' understandings of the problem is essential to effectively identifying and defining the problem" (Fischer, 2000, p.217). As climate change will have different regional effects, which asks for specific adaptation measures, local knowledge could be seen as an important new information source (Tibby et al., 2007). Related to this is a wider concern on involving local people in landscape management and environmental policies (Lemos & Agrawal, 2006; Stenseke, 2009).

However, the literature discusses a series of barriers to climate change adaptation (Adger et al., 2007; Adger et al., 2009; Biesbroek et al., 2011). To put the adaptive water management approach into Dutch practice is actually not that easy, it seems, as several researchers have shown (e.g., Biesbroek et al., 2011; Van den Brink, 2009; Wiering & Arts, 2006). The technocratic nature of the traditional approach clashes with new forms of knowledge and rationality in the adaptive management approach (Fischer, 2000; Adger et al., 2009). After all, expert knowledge still seems to prevail in favour of local knowledge (Taylor & De Loë, 2012).

1.2. Research design

Problem statement

The question pops up what kinds of local knowledge are there 'in the field' and which role local knowledge could play in the new approach in water management, as there seems to be a potential for the concept within adaptive water management. This research will specifically look at the Netherlands, a country with a rich history of water management. Some authors refer to a transition Dutch water management is in, shifting towards ideas based on adaptive water management (e.g., Van der Brugge et al., 2005), but is there indeed more attention to local knowledge, as suggested in the literature?

This leads to the following main research question:

> *What forms of local knowledge do local residents possess and how is this used in new adaptive water management policies in the Netherlands?*

The research, as a result, has two main parts. First, local knowledge is explored, primarily from a local resident's perspective. This is done by connecting ideas from cultural geography (e.g., place identity) with planning (e.g., resilience); local knowledge thus operates here as the bridging concept.

Local knowledge is operationalized into narratives, which enables to fully capture local knowledge as a social construction. The second part of this thesis is concerned with the actual use of local knowledge, its reflection in adaptive water policy plans and the attitudes and rationalities of governmental parties towards the concept.

The aim of this research is threefold. First of all, this research aims, by focussing on local knowledge, to reveal how governmental actors are dealing with adaptive water management in practice, as they are moving away from traditional, technical solutions. In particular the contrast between expert and local knowledge is of interest here, because they are rooted in different rationalities. Expert knowledge is associated with an instrumental or technical rationality (Van der Brugge & Rotmans, 2007; Wiering & Arts, 2006; Edelenbos et al., 2011), whereas local knowledge, in contrast, is based on a value-rationality that highlights more subjective and normative aspects (Flyvbjerg, 2004; Fischer, 2000). All in all, this research could provide a better understanding of the road towards adaptive water management and might result in some suggestions for future approaches.

Secondly, the focus on local knowledge in this research is chosen to put local residents' understandings 'in the spotlight', a perspective not often taken within water management research. Although there is much literature about public participation in water management (e.g., Breman et al., 2008; Huitema et al., 2009), the focus in this research is on local residents themselves, instead of on local stakeholders that represent them, which are often considered in research about participation issues. By having a narrative approach, this micro-level is studied in more detail. This thesis aims to deliberate on how water management potentially could contribute from such a perspective. Here lies a societal relevance, because it could eventually play a part to a more empowered, inclusive community. Additionally, the developed narrative approach could contribute to 'the methodological deficit' in planning research, to bridge the planning theory and practice gap (Yanow & Schwartz-Shea, 2006; Graham & Healey, 1999).

Third and finally, this research hopes to contribute to research on adaptive water management, conceptualising local knowledge slightly different than existing literature, with a stronger focus on meanings and values. This might be relevant for academia, as the concept of local knowledge draws greatly on ecologist thought in literature about resilience (e.g., Berkes et al., 1995; Huntington, 2000), but the translation of those terms to social settings is sometimes somewhat limited yet. By conceptualising local knowledge with a stronger social constructionist perspective, the research aims to further develop the local knowledge concept, making it better applicable for social settings.

A narrative approach

An interpretative approach in the form of narratives is chosen to study local knowledge, as it has a strong value-rational character. The 'interpretative turn' has "an overarching appreciation for the centrality of meaning in human life in all its aspects and a reflexivity on scientific practices related to meaning making and knowledge claims" (Yanow & Schwartz-Shea, 2006, p.xii). This makes an interpretative approach suitable for this purpose, because meanings and values are at the core of local knowledge. Local knowledge is further conceptualised by using ideas from cultural geography and planning, paying attention to both 'hard' facts and 'soft' meanings (Pahl-Wostl, 2002). The thesis therefore has a social constructionist angle, in which reality is constituted by (groups of) individuals and communicated through representations. Local knowledge, accordingly, is as well communicated through these representations. Representations are captured in narratives, since language has a central role in the communication about place meaning-making processes.

Attention is paid, subsequently, to how the present narratives of local knowledge resonate in water management projects that are related to adaptive water management. Especially the tensions between local and expert knowledge will be touched upon and the different rationalities of governmental authorities that will explain the attitudes towards local knowledge. Both struggles *between* local residents and governmental parties and *among* governmental parties will be dealt with.

Research strategy

A qualitative case study approach was taken to see different forms of local knowledge in practice and how different governmental actors are dealing with local knowledge. Two case studies in the Netherlands are explored to examine this in more detail: (1) the Hondsbossche and Pettemer Seawall, one of the oldest sea dykes at the Dutch coast that did not meet the water safety norms anymore in 2004. It was therefore appointed as one of the eight so called priority 'Weak Spots' by the national government to raise the safety norms and improve the spatial quality of the area at the same time (*Zwakke Schakel Hondsbossche en Pettemer Zeewering*); and (2) the 'Space for the River' project in the lower IJssel Delta, in which the province of Overijssel seized the opportunity to upgrade the area all at once. This started an intensive trajectory to develop the whole area, in which several authorities are working together (*Ruimte voor de Rivier IJsseldelta-Zuid*). In both cases, ideas are used that are based on adaptive water management.

Narratives of local knowledge were reconstructed in the two cases after an extensive data gathering process, which ultimately resulted in a 'thick description' (Geertz, 1983). In-depth interviews with

local residents were combined with elements from go-along interviews and photo elicitation interviews. In addition, a policy document analysis was conducted, together with participant observation during two public participation evenings, to get a comprehensive view of the case studies. The computer programme Atlas.ti was used as a support tool to analyse the collected data and to reconstruct the central narratives in the two cases.

1.3. Thesis outline

The thesis consists of six chapters, of which the last three chapters are the most interesting for those who would like to obtain practical findings more directly. Chapter 2 will present the theoretical framework underlying this research. It will introduce the idea of adaptive water management, which gained more attention the last couple of decades, as the traditional approach of water management has its limitations and is expected to result in a low resilience. The second and main section of this chapter will discuss the role of local knowledge within the adaptive water management regime in further detail and will conceptualise local knowledge by using notions from planning and cultural geography. The 'expert versus local knowledge' division will be elaborated on then, as well as motives why local knowledge is of importance in policy making. An overview of local knowledge in water policies and management until now will be provided too. The final section operationalizes local knowledge into narratives, centring on Fisher's (1992) idea of 'narrative rationality'.

In chapter 3, the methodology will be dealt with. First, the chosen method, a qualitative case study approach, is legitimised and the two case studies are briefly introduced. Second, the data gathering process and its participant recruitment are discussed, which pays attention to in-depth interviews and ideas from go-along and photo-elicitation interviews. The third part considers the data analysis. Here the narrative approach, introduced in chapter 2, is further operationalized and made concrete. It also introduces the computer programme Atlas.ti, which was used to support the interpretation process.

Chapter 4 and 5 are the main empirical chapters, each centring on one case study. Both chapters have a similar structure and consist of three main parts. The first part introduces the project and its development over time extensively, highlighting a few key events over the years. This is done to show how ideas of adaptive water management are put into practice, as well as to get a complete sense of what is going on in the area and of the several roles of both local and governmental actors. Second, three narratives of local knowledge in each case are presented that summarise the main values and beliefs in the area. These narratives are to a great extent based upon the findings from

the interviews, therefore using interviewees' quotes as much as possible to tell the stories in their words. In the final section, it is discussed how these narratives are reflected in the final plans and how local knowledge has or has not contributed to them. Attention is largely paid to the tensions that occurred between actors by discussing the existing differences of expert and local knowledge. This section will therefore look in particular at the present governmental attitudes and rationalities towards local knowledge in the case studies.

The sixth and final chapter brings the theoretical chapter 2 together with the empirical chapters 4 and 5. It will present the main findings of this thesis, as well as a reflection upon them. In addition, some recommendations are suggested for future water projects and the theoretical and methodological approach is reflected on.

2. A narrative approach to local knowledge

Planning is not an activity planners do solely; rather, it is a shared activity executed with a broad range of stakeholders, in which power relations are in play (Hague, 2005). However, planners do play a central role in this compared to other social groups. Hillier (2001) highlights the significance of individual place identities in planning: a threat to the physical environment could become a threat to the self for an individual. Nevertheless, planners still tend to take an external, objective position in the planning process, which denies the local situation and difference (Hillier, 2001). As Anderson (2008, p.285) states, "issues of participation, responsiveness and relevance are therefore fundamental to the health and vitality of planning systems". Hence local knowledge should play a more prominent role in the planning process, as argued by Fischer (2000) and Irwin (1995) among others.

The theoretical chapter will explore these ideas by first discussing the need for local knowledge, because traditional approaches in water management have proven to be inadequate. Secondly, the concept of local knowledge is extensively discussed. Local knowledge will be operationalized in a three pole model based on Raymond et al. (2010). Afterwards, the concept is discussed in further detail, paying attention to the 'expert versus local knowledge' dichotomy and the different rationalities that underpin the two types of knowledge. It will as well provide an overview of the use of local knowledge in water management and planning until now. Third and finally, the idea of translating local knowledge into narratives is examined in more detail.

2.1. Towards adaptive water management

In the international water management literature, a transition in water management is described from a 'predict-and-control' regime towards an integrated adaptive management regime (Pahl-Wostl et al., 2007; Van der Brugge & Rotmans, 2007). The traditional approach of water management is criticised for not being able to cope with future changes, such as climate change, because it does not take uncertainties into account. Uncertainties are likely to increase in the future, because of the unsure effects of climate change on the water system. To deal with these uncertainties and changes, it is crucial to be resilient: to be able to adapt to new circumstances and to absorb disturbances (IPCC, 2007). This is mainly derived from the capacity to self-organise as a society.

The current state of the Dutch water sector could be explained with Holling's (1994) adaptive cycle (figure 2.1), derived from socio-ecological system thought. He argues that a system goes, in essence, through four different phases over time, together forming the adaptive cycle. The different stages reflect stable or dynamic periods, in which rapid change does or does not occur. Consequently, resilience is a dynamic attribute that differs in each in stage (Pendall et al., 2010). Stable periods, in which elements of a system are highly interconnected, result in a rigid system with an according low resilience: it is unable to absorb change. Newly formed systems, in contrast, are more flexible and thus have a higher resilience. New circumstances can easily be accommodated and absorbed in the existing system. Linked concepts are path dependency and 'lock in' situations, which can for example occur in the shift from the exploitation phase to the conservation phase. Planning, in this perspective, is to accommodate and to stimulate resilience (Allmendinger, 2002).

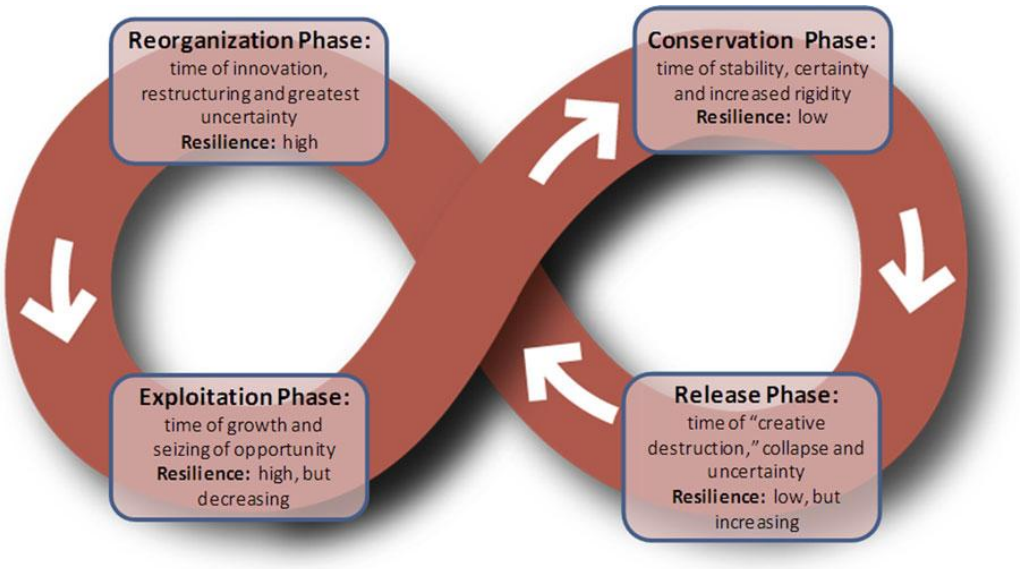


Figure 2.1: the adaptive cycle (Pendall et al., 2010, based on Holling, 1994).

Looking at the adaptive cycle, the current Dutch water sector could be placed in the conservation phase, thus having a low resilience. Wiering & Arts (2006) describe the political culture of water management as centralised and strongly sectoral, therefore operating in an isolated policy field. Perhaps not that surprising, as "water management is *technocratic* in nature" (Wiering & Arts, 2006, p.333, emphasis in original): the water sector has specific, functional governmental tasks and a culture that centres on 'hydraulic engineering'. This approach became very successful in the Netherlands, with Rijkswaterstaat as the dominant water authority and the Delta Works (*Deltawerken*) as prime example. As Lintsen (2002, p.550) states, "the battle against water is vital to the country's survival, and it is a battle that Rijkswaterstaat has fought successfully". It resulted, though, in a system that became path-dependent on technocratic approaches, which makes the water sector highly rigid and inflexible. This culture became more contested over the last couple of

decades, since its rigid approach seems not capable of dealing with more uncertainties, which are likely to increase because of climate change. As a consequence, the resilience of the Dutch water sector could be currently considered as quite low, as it is only limitedly able to deal with change, being 'locked in' in technical solutions (Pahl-Wostl et al., 2007).

Adaptive water management, on the other hand, approaches uncertainties and complexities in a more integral, flexible way. Contextual factors get more attention in this regime for managing these uncertainties. Therefore, this approach is more concerned about the local context and asks for new forms of knowledge (Pahl-Wostl et al., 2007; Fischer, 2000). Subsequently, it is argued that local knowledge is required in this regime, as it will provide a more holistic image, in which 'hard' facts and 'soft' perceptions should be combined (Pahl-Wostl, 2002).

A similar argument is made by Folke et al. (2005), who argue that there are four critical factors for building resilience and adaptive capacity in socio-ecological systems: (1) learning to live with change and uncertainty; (2) combining different types of knowledge for learning; (3) creating opportunities for self-organisation toward socio-ecological resilience; and (4) nurturing sources of resilience for renewal and reorganisation. For this research, the second factor is of key interest: combining different types of knowledge to gain a comprehensive understanding of the dynamics of the whole system, instead of obtaining detailed information of parts of the system (Folke et al., 2005). Pahl-Wostl (2002) argues that integrated approaches to problem solving and to include stakeholder participation have to be developed to meet these aims. Expert knowledge remains thus important, as water management is a technical execution, but should be better integrated with local knowledge.

Individuals are thus part of an environment that is in a continuous change. At the same time, they create, reproduce and constitute place identities of that particular place (Hague, 2005). The task of a planner is, as Hague (2005) argues, to recognise these place identities and translate or reflect them in specific policies and plans. Simultaneously, planners should, following Allmendinger (2002), understand and help to manage change to become resilient. That seems to be a contradiction: place identities are usually based on past experiences, while becoming resilient is more anticipatory, therefore oriented towards the future (Few et al., 2007). To summarise, local knowledge, on the one hand, might thus add new information and could eventually improve the decision-making process, including local voices more (Pahl-Wost, 2002). On the other hand, though, it might restrain anticipatory plans, holding back for example more long-term decisions (Few et al., 2007). But what contains the concept of local knowledge exactly? The following section will delve deeper into the concept.

2.2. Local knowledge further explored

Put simply, the concept of local knowledge is based on the relation an individual has with his or her environment (Gustafson, 2001). It is often distinguished into two main elements: it could be both formal knowledge about, as well as familiarity with a certain place (Gustafson, 2001). These two notions are also reflected in Fischer's (2000, p.194) definition of local knowledge: "knowledge pertaining to a local context or setting, including empirical knowledge of specific characteristics, circumstances, events and relationships, as well as the normative understandings of their meanings". The knowledge somebody possesses influences the way he or she may experience a certain place (Holloway & Hubbard, 2001). As a result, local knowledge is related to somebody's place identity. The normative understandings or place identity are not often considered when local knowledge is researched, as some scholars are more concerned on empirical knowledge of specific elements in the environment (e.g., Berkes et al., 1995; Murdoch & Clark, 1994). However, these meaning-giving elements are very important too, because it explains why people show certain behaviour towards a place. This theoretical framework, therefore, approaches local knowledge in a broader sense, with more social-constructivist-inspired concepts from cultural geography and planning.

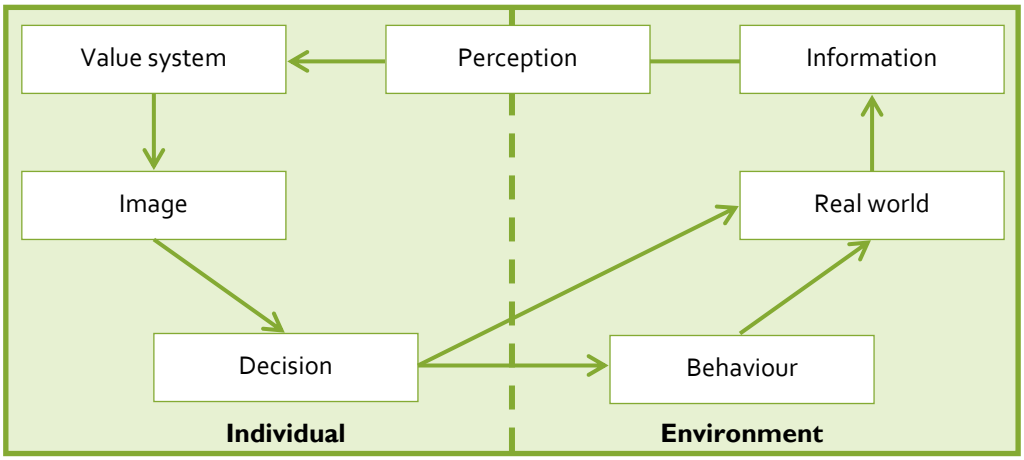


Figure 2.2: a model of environment and behaviour (Holloway & Hubbard, 2001).

Central in local knowledge is the individual's subjective understanding of their surroundings, which he or she communicates through *representations* of these surroundings (Holloway & Hubbard, 2001). Local knowledge is then derived through interactions with a place, influenced by both perception and cognition processes (as showed in figure 2.2). It could be acquired either first-hand (direct interaction with a place) or second-hand (indirect, represented via the media, relatives, maps etcetera). From this amount of information, an individual filters the most important components, according to him or her, which results in the end in a selective, therefore partial and thus distorted image of a place (Holloway & Hubbard, 2001). This ultimately results in a personal, subjective

representation that is used in everyday practice. In a group, such as a community or a nation-state, these individual representations are constituted and contested. This representation obviously does not have to be the 'real' reality. Dominant, powerful actors play a crucial role in constructing these images, since they can impose their views.

Local knowledge conceptualised

To grasp local knowledge in this thesis, it is operationalized into three interrelated components: (1) a personal part, (2) a social part and (3) an environmental part, based on Raymond's et al. (2010) three pole model of place attachment (figure 2.3). This distinction is commonly used in cultural geography, but with different terms (e.g., Raymond et al., 2010; Gustafson, 2001; Cresswell, 2004). As already noted before, in much research about local knowledge, attention is mainly paid to the environmental part (e.g., "traditional ecological knowledge", such as in Berkes et al., 1995), but in this research the scope is broader. Local knowledge is about 'hard' knowledge, such as ecological knowledge, but as well, and more importantly, 'softer' notions, i.e. what a place means to an individual (Pahl-Wostl, 2002). The 'hard knowledge' could be considered as an element of the environmental part, while 'soft' meanings are more related to the personal and social part. The three parts should not be treated separately, because a reduction will fail to capture the complete place experience or local knowledge (Bull, 2008; Folke et al., 2005). The three parts will be briefly introduced separately now.

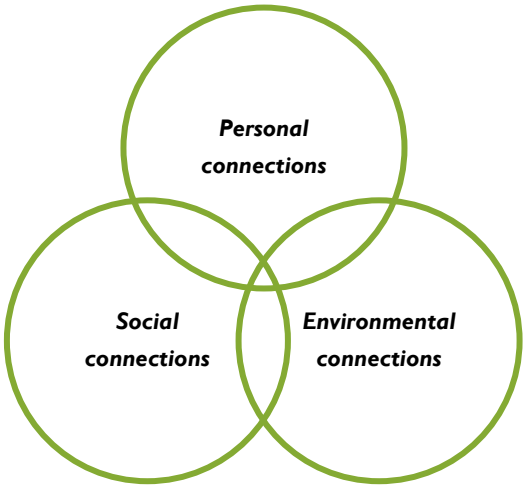


Figure 2.3: local knowledge distinguished into three components (adapted from Raymond et al., 2010).

First, the personal part consists of the personal, direct relation somebody has with a place. It is primarily based on an individual's value system and his or her experiences with the physical environment. By endowing meaning to it, a space becomes a place (Tuan, 1977). Gustafson (2001) describes these meanings as highly personal and associates them with roots and continuity.

Secondly, the social part is related to the more general term culture, which I consider as a 'way of life' (Williams, 1983). Society has shaped its own meanings and purposes, reflected in the culture of that society. This part is related to "a shared history, interests or concerns" (Raymond et al., 2010, p.423), which might influence somebody's local knowledge. Therefore, it refers to a larger extent to the second-hand experiences individuals have with their place as mentioned earlier, gained from images represented from mass media, talks with neighbours or relatives. For instance, much is written about how the concept of the rural idyll influences thinking about rural areas (Jones, 1995).

The third and final part, environmental connections, consists of two main components: interest in the environment and emotional affinity towards the environment (Kals et al., 1999). Interest in the environment relates to locals' understanding of ecological processes therein, which is often called Traditional Ecological Knowledge (TEK) (Berkes et al., 1995). It is usually obtained through detailed observation of an area (Huntington, 2000). The second component deals with the emotional affinity of nature, such as 'love of nature' (Kals et al., 1999).

Besides looking at the three parts individually, the relations between the parts might even have a greater importance, since the meaning of a place could be commonly found there (Gustafson, 2001). To illustrate, somebody's personal connections are influenced by what (s)he knows about her surroundings (environmental connections) as well by how the community perceives this (social connections). Together, they form a representation of how a person experiences a place, which will be elaborated on in the section 2.3. First, however, the expert versus local knowledge division is further elaborated on, because the experience-based local knowledge is usually completely different from the more rational expert knowledge, which plays a central role in water management.

Local knowledge contrasted with expert knowledge

In the literature, local knowledge is often contrasted with expert or scientific knowledge (Corburn, 2003; Failing et al., 2007). In general, it is argued that scientific knowledge attempts to be systematic, rational and complete, whereas local knowledge is more subjective and place-based and thus partial (Jones, 1995). Expert knowledge is held by scholars and governmental administrators and local knowledge is grounded in the experiences of local residents (Edelenbos et al., 2011).

Expert knowledge became under threat the last couple of decades, as the positivist approach of practicing science showed some limitations (Fischer, 2000). Scientific knowledge derived from experts is perceived as more legitimate in the positivist perspective. However, due to the recognition that universal laws or grand theories, derived from this modern, enlightened way of

doing research, could not be translated that easily into practice, there was a move towards more social constructivist approaches, which Fischer (2000) summarises as postpositivist thought. In this approach, cultural and contextual factors get more attention. Other, new forms of knowledge became interesting as well, such as local knowledge. Irwin (1995), therefore, argues that these two types of knowledge could add to each other; it is not to consider one as superior, but rather as more equal to each other. Fischer (2000) is in favour of this as well, arguing that policy makers should develop cooperative relationships with sources of local knowledge. "It is argued that participation enables interventions and technologies to be better adapted to local socio-cultural and environmental conditions" (Reed, 2008, p.2421). Finding a right balance between expert and local knowledge is of key interest, as the two can complement each other.

However, some researchers contest the local versus expert knowledge division (e.g., Murdoch & Clark, 1994; Agrawal, 1995). This separation is hard to make in practice, they argue, because actors possess a blend of knowledge, which consists of local *and* expert knowledge (Murdoch & Clark, 1994). As a consequence, individuals could hold both forms of knowledge and may find it hard to detangle these two (Taylor & De Loë, 2012). For example, a local resident who works as a water engineer holds both types of knowledge. In this research, individuals who live or work in particular place (e.g., local residents, farmers) are considered to have local knowledge, while expert knowledge is held by policy officials and members of (scientific) advisory groups.

Ultimately, using a hybrid mix of different forms of knowledge in water management and planning is strongly preferred, according to many researchers (e.g., Murdoch & Clark, 1994; Irwin, 1995; Fischer, 2000; Folke et al., 2005; Pahl-Wostl, 2002), but both types of knowledge have a different background that makes it complicated to connect them (Jones, 1995; Anderson, 2008). These backgrounds namely are rooted in different rationalities. Expert knowledge is dominant in the traditional water management regime and is associated with an instrumental or technical rationality, which has a strong functional orientation (Van der Brugge & Rotmans, 2007; Wiering & Arts, 2006; Edelenbos et al., 2011). Local knowledge, in contrast, is based on a value-rationality that highlights more subjective and normative aspects (Flyvbjerg, 2004; Fischer, 2000). Consequently, the latter is more interpretative based (Yanow, 2004).

Focussing on participation in water and environmental management, three main motives could be considered why and how local knowledge is used (summarised in table 2.1). The first motive aims to improve the quality of a plan by taking into account local knowledge, because it will acquire extra knowledge about the environment as well as to get a sense of people's meaning towards a place (Fischer, 2000; Folke et al., 2005). Secondly, there is a normative claim that a democratic society will

benefit from participation and using local knowledge (Reed, 2008). By involving local people in landscape management and environmental planning, it will make the planning system more responsive and relevant (Stenseke, 2009; Lemos & Agrawal, 2006; Anderson, 2008). Lemos & Agrawal (2006) state that there is a shift moving from centralised governments, as was common in the 1980s, towards more decentralised forms of governance. In these governance forms, to be effective is dependent on higher participation and greater involvement of citizens. The third and final claim relates to the *status of* the content and is therefore more pragmatically oriented. Stakeholders are involved to reduce opposition and resistance against proposed plans within this category (Edelenbos et al., 2010). It is thus more concerned with gaining support and to 'enhance the statecraft', rather than being fully interested in local stakeholders' motives and how to incorporate their beliefs (Anderson, 2008). The quality and democratic motive are associated with value-rationality, while the instrumental motive, logically, is related to instrumental rationality.

	Argument	Example
1. Qualitative motive	Improve the quality of decision making by using additional information from non-experts; to better understand the environment. → *Practically oriented, content related*	Use of 'traditional ecological knowledge'
2. Democratic motive	'Participation is a right', bridge the perceived growing gap between citizens and politicians, hearing other voices than planners → *Fundamentally oriented*	Workshops, active citizen involvement
3. Instrumental motive	'Enhance the statecraft', gaining more support, avoid NIMBY, more modernist related → *Pragmatic oriented, 'status of the product' related*	improvement of information provision and communication

Table 2.1: three main arguments for the relevance of local knowledge in water management and policy (Breman et al., 2008; Edelenbos et al., 2010).

Use of local knowledge in water management and planning so far

The previous section already briefly touched upon the limited use of local knowledge in water management and planning until now, although there is a growing interest in local knowledge in water management and planning. So far, mainly instrumental motives (argument 3 in table 2.1) are used, but the implementation of the integral and adaptive water management approach into practice results in attempts to incorporate ideas related to local knowledge and participation, especially from the late 1990s onwards. Three general phases could be described, showing the changing perceptions on local knowledge from the 1960s up till now. Generally speaking, there is a

shift from 'water will follow' towards water as a guiding principle for spatial planning (Van der Brugge & Rotmans, 2007), accompanied by a change of governance.

In the first phase (±1960s-1970s), related to social welfarism, water managers and planners were regarded as technical experts; they knew what the best for the 'public interest' was. As a result, "[w]ater-related problems were being solved using technological means" (Van der Brugge & Rotmans, 2007, p.256). Consequently, this sectoral approach resulted in tokenism, thus mainly informing and consulting the public. In turn, local knowledge was not taken into account to a great extent, because planners themselves knew already how to approach a certain problem.

At the same time, starting in the early 1970s, ecological concerns gained more attention in water management (Disco, 2002; Van der Brugge & Rotmans, 2007; Lintsen, 2002). Technical means had drastic consequences for specific areas, such as ecology and cultural heritage. For instance, ecologists joined Rijkswaterstaat (the executive arm of the Dutch Ministry of Infrastructure & Environment) to build the Oosterschelde storm barrier, since technical operations changed whole ecosystems (Disco, 2002). In the end, water management became more and more an integral approach, opening up to other fields and voices (Van Buuren et al., 2012).

During the following years, roughly the 1980s, a wave of decentralisation and liberalisation also had its consequences for Dutch water management (Van der Brugge et al., 2005). The role of the central government decreased, while regional parties became more in charge. Regional parties are the main authority regarding landscape management in the Netherlands. At the end of the 1980s, efforts could be already perceived that tried to link water management with spatial planning (Van der Brugge et al., 2005).

In the 1990s, the integration process eventually connected the worlds of water management and spatial planning in the Netherlands. In particular after the flood events in 1993 and 1995 in the Dutch river area, new solution paths were explored how to guarantee water safety. A committee, especially appointed for this exploration by the Dutch government (*Commissie Waterbeheer 21ste eeuw*, 2000), argued deliberately that there should be more space for water in the future, rather than trusting on technical solutions such as upgrading dykes. Water tasks are getting therefore a new dimension, because inhabitants will be confronted more often with new policies, combining spatial and water issues, in the future (Breman et al., 2008). Hence there is a need to involve citizens more in water management, as argued by both the committee (2000) and Breman et al. (2008). Policies, such as 'Space for the River' and 'Dynamic Coastal Zone Management', both having its origin in the early 2000s, are examples of this new direction in Dutch water management.

To summarise, water management became more and more an integral approach from the 1970s onwards, using a wider range of knowledge sources from fields like ecology and landscape management. There are thus attempts to include more integral and adaptive approaches in Dutch and European water management policy (Van Buuren et al., 2012; Pahl-Wostl et al., 2007). Furthermore, there is a move towards decentralisation, empowering regional and local authorities, in particular the provinces.

However, local knowledge and participation is still limitedly used and water safety is still prioritised over other river values and functions (Wiering & Arts, 2006). Stakeholder participation mainly focuses on information and consultation, due to the instrumental rationality of water planning and management (Wiering & Arts, 2006; Edelenbos et al., 2011). Until now, the instrumental motive is therefore mainly used in planning, since the planning system is still largely based on rationality in decision-making and has a strong positivist background (Anderson, 2008; see also Fischer, 2000; Irwin, 1995). Even new policy attempts, such as 'Space for the River', are criticised for not being successful to bridge the gap between experts and local stakeholders, as it seems hard to connect the experts' instrumental rationality with locals' value-rationality (Warner & Van Buuren, 2011; Van Buuren et al., 2012). At the same time, though, water will become more a guiding principle in spatial planning, which will have more effects on local inhabitants.

2.3. Narratives of local knowledge

Local knowledge is communicated through representations, as argued in section 2.1. These representations can be translated into narratives (Hague, 2005; Entrikin, 1991). Representations gained more attention since the cultural turn in the social sciences from 1980s onwards (Hall, 1997a; 1997b; Yanow & Schwartz-Shea, 2006). This social constructivist thought made the social sciences focus more on individuals' meaning and the differences in meaning between these (groups of) individuals. Language, which is broader than just 'the written and the spoken', is perceived as the medium, i.e. a representational system (Hall, 1997a). Through representations, individuals make sense of the world. A represented physical reality is thus different from the 'real' physical reality (Holloway & Hubbard, 2001). However, the represented one will be used in practice, such as in decision-making processes (see figure 2.2). Accordingly, power plays an important role to decide which representation dominates and what will be a 'shared reality'. Moreover, representations are dynamic: they are continuously produced, reproduced and contested.

How to bring these notions into spatial planning and system thinking then? Bull (2008) argues that planning practice remains to view place from its physical form, while it is more than that. For instance, research about local knowledge primarily focuses on ecological knowledge. Therefore, it is recommended "to expand the means for residents and planners to express place experience" in the planning process (Bull, 2008, p.127). Until now, though, as discussed in the previous section, this is only done to a limited extent. Healey (1999) argues that public policy should not aim to build consensus around one conception of place identity that captures the whole community, but rather should aim to express openness towards other place identities, resulting in a policy in which different (groups of) individuals can recognise themselves.

This can be done by using narratives, since language plays a crucial role in the communication about place meaning-making processes (Tuan, 1991; Sandercock, 2003; Hall, 1997a; 1997b, Fischer, 2009). The way we construct a story about a certain place constitutes a place's reality, influencing the choices we make and the way we then might act (Sandercock, 2003; see also figure 2.2). Language, thus, has a moral dimension; it is used for the (de)construction or maintenance of a place (Tuan, 1991). A narrative will provide the researcher with somebody's "sense both of being 'in a place' and 'at a location'" (Entrikin, 1991, p.134) (figure 2.4). Generally speaking, local knowledge could be located in the upper left corner ('place as meaning'), while expert knowledge could be put in the lower right corner ('place as location'). 'Place as meaning' relates thus to the subject-side, because individuals assign meaning to objects (Entrikin & Tepple, 2006; Tuan, 1977). Moreover, it highlights the plurality of society, i.e. the different stories that groups or individuals tell.

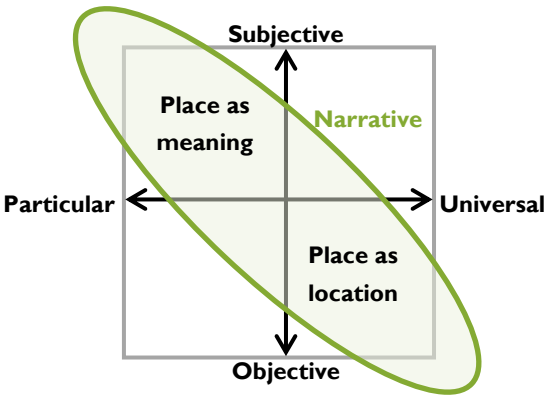


Figure 2.4: a narrative combines place as meaning and place as location (Entrikin, 1991): familiarity with and formal knowledge about a place (Gustafson, 2001).

The focus in water management tend to be on 'place as location' by experts; more subjective, particular notions seem to be included only to a limited extent, although several scholars argue that it is necessary to include that as well (e.g., Irwin, 1995; Fischer, 2000; Sandercock, 2003; Bull, 2008). The operationalization of local knowledge based on Raymond et al. (2010) (figure 2.3), in the

meantime, emphasises 'place as meaning'. The challenge is thus to connect both worlds, i.e. local and expert knowledge, as both could add to each other (Irwin, 1995; Fischer, 2000).

Narratives of local knowledge could be analysed by using the five classic questions: 'what', 'when', 'where', 'who' and 'how' (Fischer, 2009). In this context, Fisher (1992) introduces 'narrative rationality': a new approach in which these questions systematically come together. Narrative reasoning relies therefore to a great extent on communication practices and highlight questions of values (Fisher, 1992).

To test if the narrative consists of good reasons, two components of the narrative should be paid attention to: internal structure (coherence) and the validity of the narrative (fidelity) (Fisher, 1992). First, coherence relates to a story as a symbolic action that has sequence and meaning. There should be a logical coherence running through the elements of the story, both material (content) and structural (argumentation). Secondly, the material of the story is what Fisher (1992, p.314) calls "good reasons", i.e. elements that make a story convincing, which goes beyond if the presented facts are actually real facts. This is based on the assumption that human beings are in essence valuing and reasoning beings. The narrative must contain elements for accepting the story. Rhetorical communication could foster this. Taken together, this means that a story may sound convincing to a certain person, as it corresponds with his or her value and belief system, although others might totally disagree with it. A critical evaluation of the narrative is thus required to uncover the implicit value systems underlining the story.

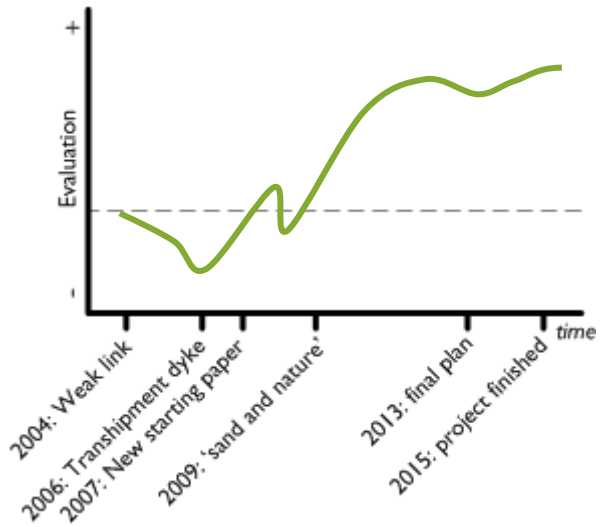


Figure 2.5: an example of a narrative graphically presented, based on Gergen & Gergen (1983). The example is derived from the first narrative of the Hondsbossche and Pettemer Seawall case study.

Gergen & Gergen (1983) offer an additional approach of analysing narratives, paying attention to the development of narratives over time. The temporal form of a narrative could generate directionality

among events and presents them in an orderly way toward a given end (Gergen & Gergen, 1983). This is in particular interesting to planning projects and how the narratives of local knowledge develop over time and respond to proposed plans. Gergen & Gergen (1983) present a narrative graphically, visualising the evaluative character of events over time (figure 2.5). This could be read from the slope in the narrative: a positive slope marks a positive attitude. The acceleration of the slope shows the rate of change in the slope; a steeper slope could mark a higher evaluation. The alteration of the slope shows as well a difference in evaluation: when a positive slope becomes negative, there was apparently a 'turn in events'. The acceleration and alteration are responsible for the 'dramatic engagement' in a story. To illustrate, a stable or a steadily progressive narrative are not really engaging, while more rapid deteriorations are usually perceived as more dramatic.

2.4. Conclusions and reflections

To conclude, the traditional approach of water management has shown limitations to deal with uncertainties and a growing complexity, due to climate change, resulting in a low resilience. Therefore, a move towards adaptive water management could be observed, which is said to be a more holistic and participatory approach. An increase in the use of local knowledge is needed, as contextual factors get more attention. Local knowledge, simply put, is considered as the relation an individual has with his or her environment, centring on 'hard' empirical facts and 'soft' meanings. Because of the value-based character of local knowledge, an interpretative approach is taken, by using narratives, to grasp somebody's local knowledge. Besides that it is argued that local knowledge will improve the quality of water management plans, it will also foster a more responsive planning system. Local knowledge, however, has a strong value-rational nature that collides with the instrumental, technocratic rationality of traditional water management of involved governmental authorities, which still seems to prevail in practice.

Based on the previous section, local knowledge will be explored in the empirical chapters 4 and 5. Both chapters will focus on the following three steps, showing the link between the theoretical and empirical part. The next chapter (chapter 3), introducing the methodology, will explain how these three steps are made concrete.

Step 1 - The project: a description of the case study trajectory

The first part will introduce the case studies and the proposed water safety plans, with a particular focus on attempts of putting adaptive water management ideas into practice.

Step 2 - Local knowledge presented in narratives

Local knowledge was studied in the case study areas and presented in narratives. In the end, each narrative is visualised in a graph to show the evaluation of the water management plans over time. Each narrative focuses on three aspects:

(1) The perception of the area and its current evaluation

(2) The (change in) perception regarding key events in the project

(3) The connection with governmental authorities and expert knowledge to get a complete picture

Step 3 - The tensions between the different actors within the case studies

The final part discusses the tensions that have occurred because of the confrontation of expert knowledge with local knowledge, therefore considering the underlying rationalities of governmental authorities and local residents.

3. Methodology

In this chapter, the methodology is elaborated on. To study how local residents make sense of their environment and how this is reflected in water management, a qualitative case study approach is chosen to explore this in more detail. As argued in the previous chapter, the local knowledge, which is underpinned with a value-rationality, could be best captured with such an interpretative approach (Yanow & Schwartz-Shea, 2006). Therefore, the first paragraph discusses the advantages of doing a case study and which cases I will select. The second part of this chapter introduces the data collection, namely in-depth interviews enriched with elements from go-along and photo elicitation interviews, and how participants were recruited. In the third part, the data analysis is explained, based on a narrative approach and supported with the computer programme Atlas.ti. Finally, the methodology is briefly reflected on.

3.1. Why a case study approach and which cases to select?

Case studies refer to studying a specific social phenomenon in its natural context (Swanborn, 2010). Flyvbjerg (2006, p.242) emphasises the importance of case studies: "a discipline without a large number of thoroughly executed case studies is a discipline without systematic production of exemplars". It is particularly relevant for research that is interested in experiences, values, attitudes and opinions; case study research makes it possible to explore the world as seen by participants (Swanborn, 2010). Consequently, in a case study approach, practical, experience-based knowledge is more important than theoretical knowledge (Flyvbjerg, 2006). The grasping of this context-dependent knowledge is at the very heart of case study research. A case study approach, as a result, seems to suit well for this research, which focuses on local knowledge, thus experiences and beliefs, and how that might be used in water policies. Moreover, to fully understand and grasp these aspects, an in-depth approach, such as a case study approach, is recommended.

Swanborn (2010) distinguishes several types of cases, of which the representative one is interesting for this research. A representative case does not stand on its own, but findings from it might eventually lead to generalizable theoretical propositions. However, Flyvbjerg (2006) argues that a case is powerful enough as just an example and that generalisation is not necessary per se. The researched cases were not selected randomly, but were selected on the basis of the expectations about their information content. There are two main branches in water management based on geography: river basin management and coastal zone management, both having their own

approaches. It was expected that these two approaches would generate different views on the relevance and use of local knowledge.

To clarify, river basin management takes place on the regional level with a range of regional governmental authorities, such as waterboards, provinces and municipalities. The national water authority Rijkswaterstaat is here usually one of the stakeholders. Coastal zone management, in contrast, is often carried out by Rijkswaterstaat itself. It is expected that these two approaches would generate different views on the relevance and use of local knowledge. This research will therefore select two cases in the Netherlands, one from each field: the 'Space for the River' project in the IJssel Delta South (*Ruimte voor de Rivier IJsseldelta-Zuid*), located in the lower IJssel river area near Kampen, and the 'Weak Spot' Hondsbossche and Pettemer Seawall (*Zwakke Schakel Hondsbossche en Pettemer zeewering*), located at the coast near Petten.

The 'Space for the River' project IJssel Delta South is considered as one of the prime examples of the national 'Space for the River' policy program. Therefore, it is expected that adaptive water management ideas are more reflected in the final plans. Rijkswaterstaat was originally here the main responsible for the plans, but the province of Overijssel developed simultaneously an ambitious master plan to upgrade the area all together, which combines elements from water safety with housing plans, infrastructure improvements and nature development. The 'Weak Spot' Hondsbossche and Pettemer Seawall was chosen, because it is one of the last remaining hard elements in the Dutch coastal zone, reflecting 'traditional' thought. A move away from traditional water management approaches would directly become visible in the landscape. Here, the local waterboard Hoogheemraadschap Hollands Noorderkwartier and the province of Noord-Holland were made responsible by the national government to present a plan to improve the water safety and the spatial quality. In first instance, the province took the lead in the project group here.

A few similarities could be considered between the cases. In both cases, plans are designed to improve the water safety of the area, to tackle the areal consequences of climate change (e.g., higher sea levels and higher water discharge amounts). Both cases highlight as well the need to improve the spatial quality of the area. The IJssel Delta South and Hondsbossche and Pettemer Seawall are regarded as examples of the new approach in Dutch water management, which is considered as a more integral approach that pays more attention to local voices. The commencement of the two cases goes back to the beginning of the 2000s, which will increase the chance that there will be enough information available (Swanborn, 2010). In the Netherlands, water safety is generally perceived as a public task and these cases are no different: national authorities, such as the Ministry of Infrastructure & Environment and its executive arm Rijkswaterstaat, are

working together with regional and local governments, such as provinces, waterboards and municipalities, all with their own interests.

3.2. Data collection and participant recruitment

Getting familiar with the case study area

The first step of the research was to explore the cases and how the plans took shape. To do so, a policy document analysis was carried out to get a first impression of the key events and key actors over time. An interview was planned with a member of the project group in the two cases as well. The interviewees provided an overview of the planning process so far and future developments. During both interviews, I was invited to go to a public participation evening: an evening of the advisory group (*klankbordgroep*) in the IJssel Delta South case, taking place at the town hall of Kampen on April 15 2013, and a public meeting (*informatieavond*) about the plans for the Hondsbossche and Pettemer Seawall in Callantsoog on April 24 2013.

The advisory group in the IJssel Delta South consisted of about 15-20 members, all representatives of different organisations (e.g., inhabitants, farmers, recreationists). In this meeting, the latest developments were presented by the chair of the project group and his members. The plans in this case are almost in the end phase of the planning process and, therefore, the meeting had a more one-way of communication. Although there were some remarks, it was mainly a sharing of information by the project group. The project group explained for instance when the plans would be available for objections (*ter inzage*). At the end, it was decided that the advisory group would be put 'on hold', because the participation round was over. Obviously, the implementation would be critically followed by the advisory group.

At the public hearing in Callantsoog, more than 200 interested people turned up to hear the plans about the Hondsbossche and Pettemer Seawall. The head of project group presented the final plans and explained how it was possible to make an objection (*ter inzage*). After the presentations, there was a small market where all the different facets of the plans were explained by members of the project group. The organisation tried to avoid discussions during the presentations by referring to the market afterwards, where people could ask more in-depth questions. The project organisation was present at full power with about 30 officials from, among others, the local waterboard, the province and Rijkswaterstaat. Both public participation evenings enabled me to get familiar with the projects and the existing feelings towards them.

Participants

Since I did not have any relations in the area, these evenings were crucial to establish connections with my target population. After attending both sessions, several contacts were set up, from which it was easy to arrange an interview. The snowballing technique was used subsequently to recruit more participants, by asking interviewees if they knew more interesting people to talk to. Hennink et al. (2010) warn that using the snowballing technique could result in relying on the same social network, in which the same opinions and beliefs are shared. Indeed, interviewees tended to refer to others who shared a similar belief, but by having different entrances in the community, different voices were heard. It should be noted too that the interviewed members of both project groups pointed me in the direction of proponents and opponents of the plans.

Most interviewees were in general part of advisory groups or directly affected by the proposed plans for their area. In the IJssel Delta South case, interviews were held with representatives of local interest groups *Streekbelangen Kamperveen*, *Werkgroep Zwartendijk* and four local residents living close by the proposed bypass. For the Hondsbossche and Pettemer Seawall, interviews were conducted with three members of the village council Petten (*dorpsraad Petten*), three members of the Friends of the Hondsbossche union (*Vrienden van de Hondsbossche*), a member of citizen's committee coastal defence DCCM (*Burgercomité Kustverdediging DCCM*), a former official of the municipality of Schagen, two inhabitants of Catrijp and one inhabitant of Julianadorp.

Data collection: interviews combined with go-along and photo elicitation methods

With the contacted persons, in-depth interviews were planned at their home, resulting in two rounds of interviews in both areas. Some of the interviews were conducted with two or three interviewees at the same time, such as with the village council Petten. The interviews took between 30 and 90 minutes and were all audio-recorded. The transcriptions of these recordings were summarised and sent to the interviewees for comments. In the first round of interviews, interviewees were asked to show their surroundings as well, based on ideas of go-along interviews (Evans & Jones, 2011) or walking through spaces (Hennink et al., 2010). In sum, six interviews were conducted for the Hondsbossche and Pettemer Seawall case (with ten interviewees in total) and seven interviews in the IJssel Delta South (eight interviewees)[i]. These interviewees made it possible to get a comprehensive overview of the different types of local knowledge in the case studies. During the second round of interviews, it became clear that the saturation point was reached: the moment when the collected information starts to repeat itself (Hennink et al., 2010).

[i] Appendix A shows the complete list of interviewees in more detail.

The main aim of the in-depth interviews was to grasp local inhabitants' local knowledge. The interviews were semi-structured and consisted of three main parts. First, interviewees were asked to characterise their surroundings, for example by mentioning important elements in the landscape and what kind of activities they undertook there. The interview moved then to the project plans. It was discussed how the interviewees perceived the plans, the necessity of it and, additionally, how the plans were valued. The third part focused on the participation during the project and how interviewees were involved in the planning process: what were their roles, what was done with their input? It was also asked if there were different views between locals in the area (e.g., between villages/communities or between parties as farmers and recreationists). In addition, the cooperation with the project group was discussed.

With some of the interviewees from the first round, the area itself was visited, partly by car and by foot. The places that were shown were determined by the participants. This provided me more context and background information, which was especially useful in the first part of the data gathering, because the area was unfamiliar to me. Interviewees could point to places they just talked about and clarify what they exactly meant. This is in line with Kusenbach (2003), who defines a go-along interview as a hybrid mix of interviewing and participant observation. It is argued that go-along interviews generate richer data when talking about a place, because participants *are* in the place and therefore could more easily relate to the surroundings (Trell & Van Hoven, 2010). "A major advantage of walking interviews is their capacity to access people's attitudes and knowledge about the surrounding environment" (Evans & Jones, 2011, p.850). While the interviews were recorded, the go-along part was not. However, this was not a problem, since the raised points enriched the already recorded interview. By making notes and taking pictures, a more complete picture of the area was made.

By using these methods, participants were more empowered than in more traditional interview styles, as they will be more in charge. This was highly valued by the interviewees, of which some of them kept sending e-mails afterwards with additional information, such as newspaper articles or policy documents.

3.3. An analysis using narrative techniques

As discussed in the end of the theoretical chapter, each narrative focuses on three aspects: (1) the perception of thearea and its current evaluation, (2) the (change in) perception regarding key events in the project and (3) the connection with other parties, which for example share or share not a

similar opinion, therefore looking at the different rationalities. To construct the narratives, the collected interviews were first analysed with the computer programme Atlas.ti (version 7.0). The interview transcripts of each case were put in one Hermeneutic Unit (HU), the basic structure of the programme. Basically, everything that is related to one topic is put in the same electronic file. The transcripts of the interviews were added as the 'primary documents', which subsequently were coded.

The coding process of each interview was executed in the qualitative tradition (Swanborn, 2010). "Outcomes from this process are not only supported by empirical evidence, but above all by interpretative argumentation by the researcher" (Swanborn, 2010, p.68). Before coding the interviews, a list of codes was designed that operated as a starting point for the coding process, based on the interview guide. This list was extended with new codes later on during the coding process. Therefore both coding *in vivo* (codes based on the text itself) and coding *in vitro* (codes based from the text by the researcher) was executed. This process took some time; going back and forth from more abstract to more detailed codes and vice versa. After all, the Code Manager Tool offered a way out: here, the codes were put into groups ('families') to cluster them. Examples of groups are, among others, 'the area', 'evaluation of the proposed plans', 'local interest groups' and 'governmental parties'.

The next step was to conceptualise and show the linkages between these groups of codes, which requires more interpretative analysis. These were made more visible with the network mode. A network consists of certain (groups of) codes and the linkages between them, such as 'associated with' or 'contradicts'. A simple example of a network between local interest groups in the coastal zone case can be found in figure 3.1. The network view helped me to see relations and patterns that would have been invisible to me otherwise.

There are, however, some drawbacks when working with Atlas.ti. First of all, creating the right codes is one of the hardest tasks. Atlas.ti is a very inviting programme to produce too many codes, losing sight of the main points. After coding a few interviews, the list of codes was already doubled since I started – I was looking too detailed at the interviews. By merging codes into bigger groups, this could be overcome. Creating memos helped as well to remember my thoughts during the coding process.

A second drawback relates to the network view, such as in figure 3.1. There is only a limited amount of linkages available, as it is not possible to create your own links. The network manager provided me therefore mainly with a first impression, but the network does not totally represent or fully capture reality. The linkages are as well not so 'hard' as presented in the network view. For example,

the local actors that are associated with each other in figure 3.1 strive for the same goal, but their argument is sometimes quite different and they do not necessarily always operate together.

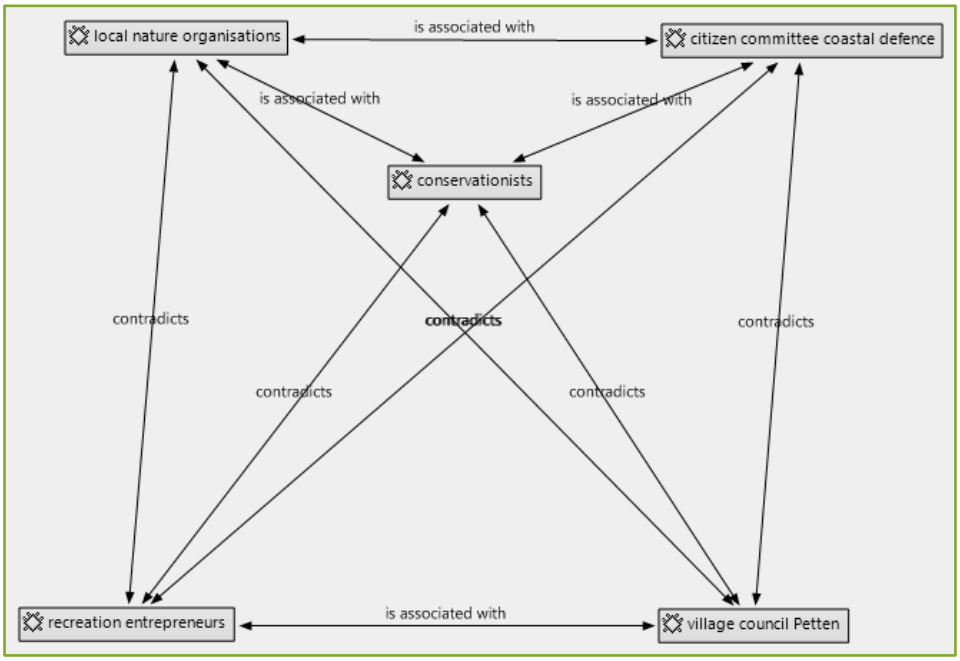


Figure 3.1: a simple network created by Atlas.ti, showing the relations between local actors in one case.

From codes towards narratives

Three main narratives, with different local knowledge, arose in both cases from the codes and the transcripts, linked with certain local interest groups and governmental parties. Each narrative uses its own terms and has a (slightly) different focus. To illustrate, the conservationists of figure 3.1 talked frequently about the history of the dyke; other local actors rarely did so. A confirmation round was held to verify arguments and facts, based on policy documents, press releases and newspaper articles. Together, this resulted in three data-rich narratives of local knowledge in each case.

Narratives were used because they are a good way of operationalizing the experiences from the interviews: "several observers have noted that narrative is an ancient method and perhaps our most fundamental form for making sense of experience" (Flyvbjerg, 2006, p.240). Moreover, narratives are a strong research method for the interpretation from the participant's perspective. Consequently, it is an inductive way of doing research that does not begin with theoretical hypotheses. The interviewees' stories are put together in several main narratives, with a strong core argument. Hennink et al. (2010) refer to this as the plot.

The narratives are reconstructed as follows. Following Labov & Waletzky (1997), the experiences of interviewees ('the complicating action') and its evaluation ('the meaning of this action') were touched upon first. The experiences are often presented as a coherent whole, for instance by adding causality between the experiences, explaining together why interviewees perceive a place as such. The evaluation then deals in more detail with this explanation and the meaning of these experiences. This is both an interpretation of the interviewee as well as an interpretation later on by the researcher. The social context in which the narrative is presented in relates to this latter aspect. The communication of the narrative, such as the specific audience, influences the told narrative.

Secondly, the narrative is decomposed and reviewed, touching upon two critical issues raised by Fisher (1992): coherence and fidelity. This was executed during the extensive coding process, the subsequent analysis in the network mode and by comparing the interviews. Coherence relates to three types of consistency in the narrative. First of all, the internal structure of the story should be logical, such as consistent reasoning. Secondly, the content of the story should be coherent as well. Finally, there is the characterological coherence, which deals with the reliability of characters. Fidelity is about the truth qualities of the story and requires two major considerations. The first consideration relates to weighing the reasons and if something is missing or misrepresenting (are presented facts actually real facts?). Secondly, and most importantly, weighing the values that underpin the narrative should be considered. As Fisher (1992) recalls, many values are presented as reasons, but do not necessarily have to be like that. It is thus in particular crucial to make implicit value systems explicit.

The narrative will then be connected to key events, showing how people's perceptions changed over the years. This will be presented graphically, inspired by the work of Gergen & Gergen (1983) (see figure 3.2 for an example). A 'baseline' (grey dotted line in figure 3.2) refers to the current valuation of the area, while the green line refers to the valuation of the proposed plans for the area. This is visualised in the slope of the line: a positive slope marks a positive evaluation.

Gergen & Gergen (1983) state that as well the acceleration and the alteration *in the slope* are important. First, the alteration of the narrative slope marks a 'turn in events' (example: the new starting paper in 2007 could be considered as a key event, figure 3.2). To illustrate, after the introduction of a new proposal, an inhabitant could all of a sudden become really negative about the plans. The slope of the line, consequently, changes from positive to negative. Secondly, the acceleration of the slope shows the rate of change: a steep decrease shows a very negative evaluation.

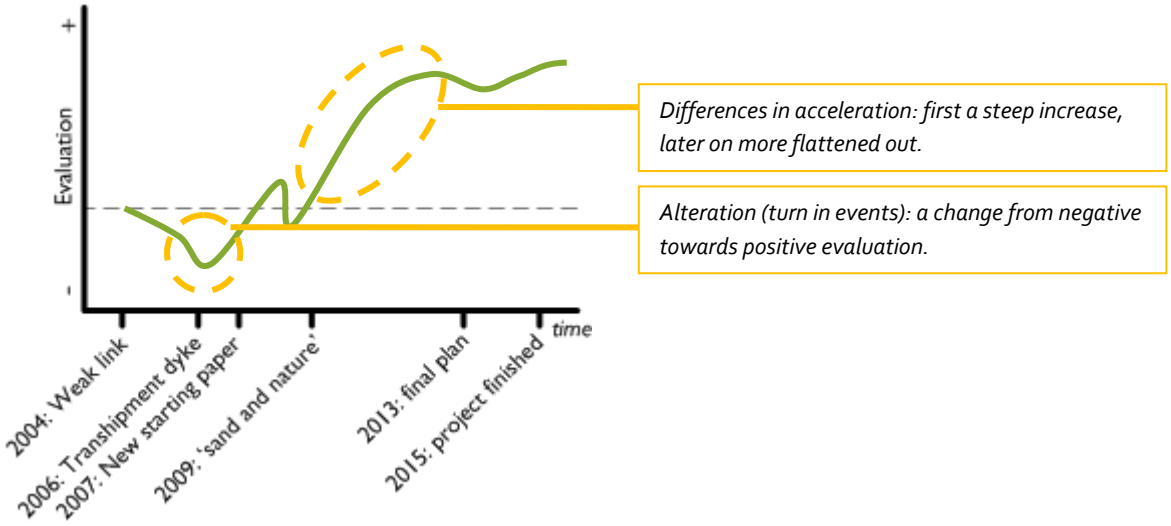


Figure 3.2: an example of a 'narrative graph', inspired by Gergen & Gergen (1983). The example is derived from the first narrative of the Hondsbossche and Pettemer Seawall case study.

The next two chapters will present each case study and the three narratives. Based on the previous discussion, each narrative generally consists of the following elements. First, how people experience and value their surroundings is touched upon. Interviewees' stories are put central, using quotes in the following chapters as much as possible to show the narrators' language. These stories were reviewed upon coherence and fidelity (Fisher, 1992). Secondly, based on this elaboration, it logically follows how narrators experience and value proposed plans for the area and show certain beliefs during key events, ultimately resulting in a graph showing this evaluation. Finally, the story is linked with the other narratives and existing actors, paying attention to the different rationalities.

3.4. Making a weighed interpretation: a reflection on the researcher's position

In the final section of the methodology, the researcher's position in the research itself is discussed. Being aware of your own positionality and being reflexive on your position is crucial, because this will create more rapport between the participant and the researcher, as you will be more aware of the relation between the two (Hennink et al., 2010).

The two case studies were completely new for me, knowing only a small bit about the area. I perceived this as an advantage, because I was looking for participants' experiences and views. Without any bias, I could 'step into the case study area' and put the interviewees' stories central, as was my intention. In general this went well easily: interviewees were keen to share their opinions and views about the area and the proposed plans. Sometimes it was clear that the interviewees had an own agenda by continuously referring to their viewpoints. As I first had conducted an interview in

each case with a project team member, I already was a bit more familiar with the area to be aware of this. To talk freely, the interviewees were guaranteed anonymity, although most interviewees knew each other quite well. Some issues remained sensitive in the IJssel Delta South case, since many interviewees were still angry or disappointed at the project organisation or other inhabitants, touching upon old sore.

The data were triangulated, therefore preventing that one perspective gains too much attention or is misunderstood. The three used data sources were: a document analysis, semi-structured interviews and participant observation. This enabled me to put together the narratives as I will present them in the following chapters. Interviews were connected with newspaper articles and policy documents to check consistency. By attending a participation session in each case, sentiments could be felt and the range of opinions about the plans became clear. As well some short phone calls were made to verify certain details or hear the other side of the story.

The following chapters rely highly on the interviews, using many quotes, enriched and confirmed with policy documents and newspaper articles. By doing so, I try to show the gathered 'thick description' (Geertz, 1983). A difficulty was the translation of these Dutch quotes into English. I decided to do so, to increase the readability. Some terms, however, are up to several interpretations and might lose their meaning in English. The original Dutch quotes can therefore be found as notes at the end of this thesis. Also policy terms and names of local action groups are often hard to translate into English, so the Dutch name is added between brackets.

The ultimate narratives are mainly based on the outcomes of the coding process with Atlas.ti. By executing the process in this computer programme, the interpretation phase becomes more transparent. Memos and notes written during the coding made it easier to recall chosen interpretations and earlier decisions. Furthermore, the narratives were strengthened with observational notes and newspaper articles. During the writing process, Fisher's (1992) narrative rationality, looking critically towards the written story, was applied to (re)interpret and made the final narratives more weighed and better argued. Altogether, these continuous rewriting resulted in the final narratives as they are presented in the following two chapters.

4. A weak spot again: how to strengthen the Hondsbossche and Pettemer Seawall?

The first in-depth case study is about the Hondsbossche and Pettemer Seawall (*Hondsbossche en Pettemerzeewering*), located north in the province of Noord-Holland (the Netherlands) (figure 4.1). In the inland, there are a few small villages located, with Petten (1.900 inhabitants) and Camperduin (only small recreation firms, no inhabitants) just located behind the dyke. Furthermore, the brackish Harger- and Pettemerpolder is located here, which is a Natura2000-area, largely owned by nature conservation organisation Natuurmonumenten. The best-known part of this polder is De Putten, an area with several ponds, originally being clay pits, that are used by many sea birds. Agriculture (mainly flower bulbs) and tourism are the two economic pillars of the region. This spot has always been a tricky one in the Dutch coastal zone and, consequently, the area has a long history of fighting against the water.

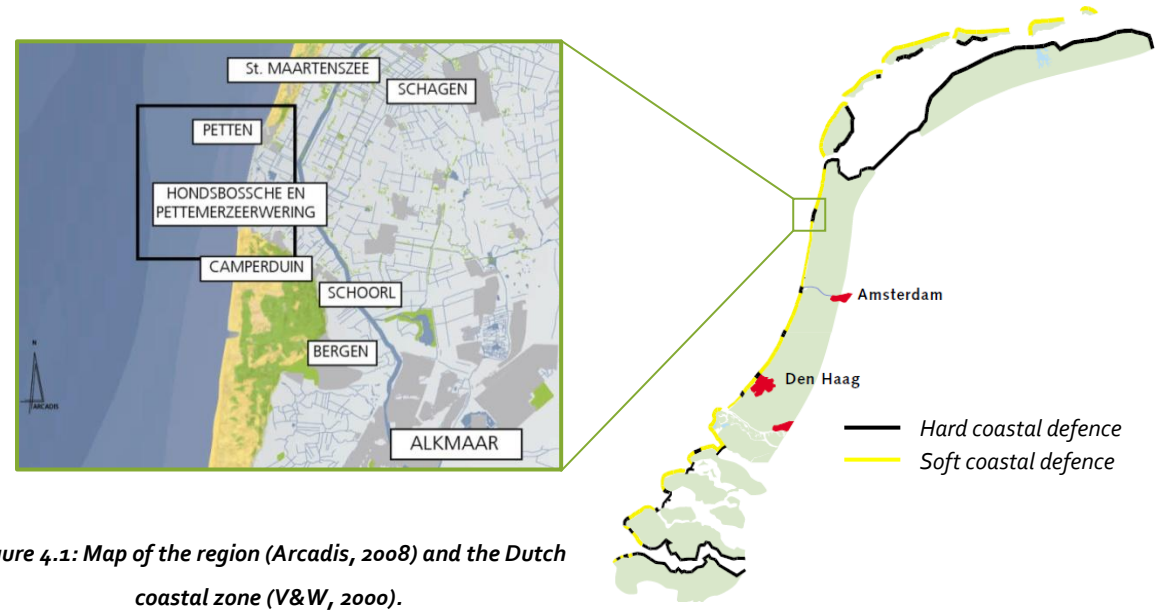


Figure 4.1: Map of the region (Arcadis, 2008) and the Dutch coastal zone (V&W, 2000).

The Seawall is a six-kilometres-long dyke and dates back from the late 19th Century. The area was defended before by dunes and smaller dykes, of which some can still be seen in the hinterland. In 1421, there was a heavy flood that damaged a big part of the dunes: the Saint Elisabeth floods. In the centuries after, extra sand was added to the small dunes on the landside, which was eroded by the sea every time and, as a consequence, resulted in a landward moving coast. From the 16th Century onwards, the dyke was defended more and more by 'hard solutions', such as rods and stones. This ultimately resulted in the first version of the Hondsbossche and Pettemer Seawall,

constructed with concrete in the 1870s. The area behind is still largely formed by the rising sea, which could for instance be seen in the plot pattern of the polder.

Since the seawall was constructed, the sea was kept out of the area and the region became more prosperous. In the area, many fields of flower bulbs could be found, since the bulbs could grow easily here. The tourism sector gained more importance after World War II. Although the sea was driven back, the maintenance of the seawall continued to be an important point of consideration. It has been improved and increased many times over the centuries, the last time in 1981. Currently, the seawall lies 11.5 metres above sea level.

In 2004, when this narrative starts, it became apparent that the Hondsbossche and Pettemer Seawall had to be improved again, as it would not meet the new national safety norms anymore. The project is at the moment of writing, autumn 2013, in its final phase and the execution is planned to start early 2014.

4.1. The project

This section will discuss the origins of the project and its development over time, zooming in on five key events (figure 4.2) and discussing the project roughly from 2004 until autumn 2013. This story is to a great extent told from a governmental perspective; in the next paragraph, the focus is on the inhabitants and their local knowledge.

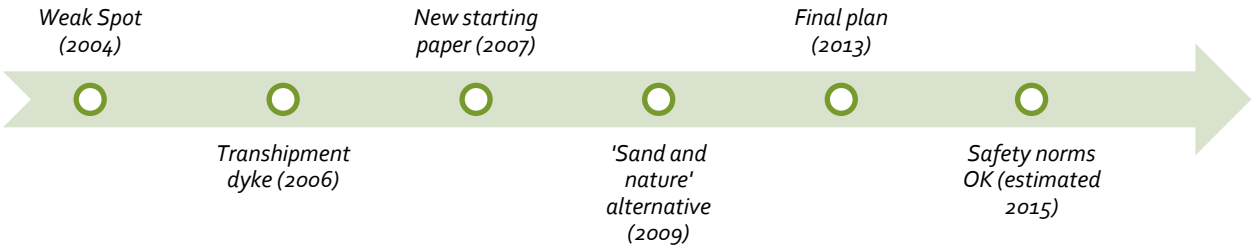


Figure 4.2: five key events in the Hondsbossche and Pettemer Seawall planning process.

In 2004, the Hondsbossche and Pettemer Seawall was appointed by the Dutch national government as one of the eight priority weak links in the Dutch coastal zone (*Zwakke Schakel*), due to an expected rising sea water level caused by climate change and new insights in the consequences of the wave load on the seawall (VROM, 2004). The spot had to be improved to meet the new water safety norms for the next 50 years, but, at the same time, the spatial quality had to be improved too. This is similar with the 'Space for the River' project objectives in the next case, in which water management is as well connected with spatial planning.

To realise this double objective, it was decided that the province of Noord-Holland, the regional authority, took the lead to come up with a plan in the first phase, while the Ministry of Infrastructure & Environment[ii] would provide funding. The deadline to meet the new safety norms was set at the end of 2015. The realisation of the plans would be conducted in close alignment with the local waterboard Hoogheemraadschap Hollands-Noorderkwartier (HHNK), the national authority Rijkswaterstaat and the local municipalities of Bergen (of which the villages Camperduin and Schoorl are part of) and Schagen[iii] (Petten). In the end, the Minister of Infrastructure & Environment had to approve the plans. The execution of the plans, the second phase, would be led by HHNK.

Figure 4.3: looking South on top of the Hondsbossche Seawall. On the left lies the Harger- and Pettemer polder, a Natura2000 area. On the right, the sea during high tide.

The governmental project group, led by the province, started with an investigation how to strengthen the Hondsbossche and Pettemer Seawall, focussing strongly on the spatial component of the plan. A widening towards the inland could damage the polder (a Natura2000-area), the villages and the flower bulb sector, so this was not preferred. A seaward expansion with sand was considered as too expensive. A higher dyke was not preferred as well, because the dyke had to be increased approximately seven metres then, which has significant consequences for the people living behind it. Taken together, it seemed that there was not a lot possible.

The province explored a preferred alternative almost solely, because it was feared that HHNK would focus too much on the water safety component; HHNK was kept on a distance, having a marginal role (V&W, 2009). HHNK, though, was worried that the plans would be delayed by discussions about the spatial components and was actively engaging to prevent this. Because of that, they preferred traditional solutions, such as a raise of the current seawall or widening it. This was, moreover, in line with the expertise of HHNK, which has a history in improving the seawall in such a manner. The

[ii] The former Ministry of Traffic & Water, the initial funder, has fused to the bigger Ministry of Infrastructure & Environment on October 14, 2010. For clarity reasons, the latter name will be used throughout the document.

[iii] Petten was previously part of the municipality of Zijpe. This municipality merged into the bigger municipality of Schagen on January 1, 2013. The current name will be used throughout the whole document for clarity reasons.

individually operating province, in contrast, did not favour an increase, because it would not contribute to the spatial component of the plan. In sum, there were tensions between the different governmental parties (V&W, 2009).

After all, the project group introduced the idea of a transhipment dyke (*overslagbestendige dijk*) in 2006, a unique concept that would be executed for the first time in the Netherlands. In the future, as it was projected, sea water could transhipover the dyke if needed, which could strengthen the brackish Natura2000-polder inland. At the landside of the seawall, a drain would have been necessary to discharge this water, so inhabitants in Petten who live closest to the seawall had to move. The province expected that HHNK would agree, since the safety norms would be met (V&W, 2009). After centuries of putting the water away, the water might come over the dyke all of a sudden; in general, this proposal came for many local residents as a surprise.

But was it that surprising? On the national level, a discussion occurred about climate buffers in 2006 and 2007. Climate buffers are water-rich nature areas that could be used to tackle the consequences of climate change and focus more on natural processes, such as the tides (Andriesse et al., 2007). This initiative of six nature organisations gained recognition by political parties in parliament, such as the socialists (SP) and liberal democrats (D'66), who proposed to subsidise this initiative. The proposal was supported by a majority in parliament. The Hondsbossche and Pettemer Seawall came to front as one of the project cases, because of the large Natura2000-polder located in the inland owned largely by nature conservation organisation Natuurmonumenten (Andriesse et al., 2007). The province could realise in this way their strongly preferred spatial component.

> *"It seems feasible to make this dyke resistant to seawater moving over and behind it during storm surges, when a limited amount of seawater may enter the polders. This would stimulate the development of inland brackish ecosystems without jeopardizing coastal protection."* (Natuurmonumenten and partners, 2006, p.14)

Moreover, HHNK, although not happy with the plan, presented the alternative to their employees in their own magazine *Waterwerk* as the most cost-efficient solution (Waterwerk, 2006). The magazine reports as follows:

> *"Adding sand on this location appears to be very costly, because it has to be regularly executed again. For the next 50 years (construction and maintenance), it will cost about €180 million. The construction of several breakwaters would even cost more than €400 million. (…) Increasing of the dyke and making it a transhipment one are both equally safe. (…) Also spatial claims on surrounding lands are almost equal, just as the effects on nature, environment, landscape,*

recreation and agriculture. The costs therefore are the decisive factor. Increasing the dyke requires about €80 million, while to make the dyke a transhipment one will cost €25 million. The province, as a result, chooses for this last option."

The proposal by the project group seemed thus logical from this perspective, but locally it was widely criticised. Inhabitants feared to have more nuisances and felt less safe. The province took especially the reactions from Petten seriously, as it was stated in a press statement (Provincie Noord-Holland, 2007). Most protests came from this village, headed by the local village council (*dorpsraad Petten*), where inhabitants sent letters to the deputy (*gedeputeerde*) of the province. Furthermore, new calculations from Rijkswaterstaat, based on new hydraulic preconditions, showed that a transhipment dyke would not be sufficient for the safety the next 50 years, so it would not improve the water safety (V&W, 2007). The sea waves were expected to be 10 to 50% higher than was thought of in 2004 and, as a result, this would generate a higher wave load. Hence the seawall had to be improved more strongly.

To conclude, the province decided to withdraw the proposal for a transhipment dyke and introduce a new starting paper to explore other possible solutions in early 2007. This 'Weak Link' project became therefore behind schedule, but it was still expected that the plans would be fully executed before the end of 2015. In an evaluation document of this period (V&W, 2009), it is stated that the province did not feel the local sentiments rightly and that they passed HHNK, which was not content with the solution too. In the new starting paper, different paths were discovered, of which hard improvements still were central, but a solution with sand got more attention as well.

Exploring new alternatives

The starting paper from 2007 was written by the project group under the new name of *Kust op Kracht* ('a strengthened coast'), in which HHNK, the province of Noord-Holland and the national authority Rijkswaterstaat operated more closely than in the previous years. HHNK became the leading actor, aligning their decisions with the province and tuning them with Rijkswaterstaat.

The starting paper mentioned four basic alternatives: (1) raising the current seawall, (2) seaward improvement with sand, (3) strengthening the landside of the seawall, combined with a higher transhipment and (4) limited seawall raise, combined with a seaward expansion towards the toe of the dyke (figure 4.4; HHNK, 2008). In addition, within each alternative, there were different possible solutions, finally resulting in 14 possibilities. These solutions tended to have a technical focus.

To illustrate, the first alternative (raising the current seawall) was added to the document solely by HHNK. This came as a total surprise by the other actors. The village council of Petten was furious and feared that, just as with a transhipment dyke, houses on the landside of the dyke should be removed. They wrote immediately a protest letter to the Minister of Infrastructure & Environment, as they felt not taken seriously. Also the province was not amused and stated that this alternative was not preferred at all. The municipality of Schagen, willing to upgrade to the village of Petten, financed an own research to show that a sandy improvement would not be more expensive than a traditional solution. From that moment, more attention was paid to other, local voices.

Late 2009, the project group reviewed the four alternatives in a report (Kust op Kracht, 2009). On average, the alternative 'sand and nature' (2b and 2d in figure 4.4) received the highest score in a multi-criteria analysis. In this alternative, a new coast will be created by a sand replenishment, rather than going for technical solutions. At the seaside, in front of the current seawall, a wide beach will occur with a new row of dunes. In the dunes, new nature will be developed. According to the project group, this solution scored the best on safety, environment and spatial development (Kust op Kracht, 2009). Whereas a sandy alternative was first shelved as too expensive, it was now presented as a very flexible, robust solution that could easily be upgraded to meet new safety norms. Furthermore, it had the highest local support in the multi-criteria analysis. The village council of Petten and recreational entrepreneurs saw chances to boost the local economy.

However, it was not the exclusive merit of local actors such as the village council. Rijkswaterstaat, the national governmental actor, favoured a sandy improvement too. The national policy of coastal zone defence was changing towards dynamic coastal zone management, with the motto 'soft if possible, hard if necessary', for example already reflected in the national coastal policy strategy (V&W, 2000). The national aim is to defend the total Dutch coastal zone with sand as much as possible. By getting rid of the hard elements in the coast, the sand stream from south to north could carry on (see figure 4.1 for all hard elements). The Hondsbossche and Pettemer Seawall can be considered as one of the last disruptions.

In the plans, the objective about the spatial component faded slowly faded into the background, as HHNK became the main actor and the focus became more on water safety. To improve the spatial quality, there are only small developments planned, such as the creation of a new cycle path through the new dunes and better beach crossings. Plans from the municipality of Schagen to upgrade the village of Petten were not connected to the plan, as these plans were considered to be still in the preliminary phase.

Tabel 4.1 - Versterkingsalternatieven en variant uitwerkingen

Alternatief		Technische oplossing
Alternatief 1 Kruinverhoging	1-a 1-b 1-c	Traditionele kruinverhoging met stabiliteitsberm Traditionele kruinverhoging met stabiliteitsberm, met damwand bij Petten Traditionele kruinverhoging met combiwand/damwand over gehele tracé
Alternatief 2 Zeewaarts zand	2-a 2-b 2-c 2-d	Zeewaartse zandberm in combinatie met bestaande dijk; met stabiliteitsberm binnentalud Zeewaartse zandberm in combinatie met bestaande dijk; met stabiliteitsberm binnentalud, met damwand bij Petten Zeewaartse versterking in combinatie met bestaande dijk: met combiwand/damwand over gehele tracé onderin het binnentalud Zeewaartse zandberm met duin zonder bestaande dijk
Alternatief 3 Kruinelement en grotere overslag	3-a 3-b 3-c 3-d	Overslagbestendige dijk met stabiliteitsberm, kruinmuur, verruwing gehele buitentalud (Petten), verruwing ondertalud (Hondsbossche) Overslagbestendige dijk met stabiliteitsberm, kruinmuur, verruwing onder-talud en herprofileren/uitbouw ondertalud (Petten), verruwing ondertalud (Hondsbossche) Overslagbestendige dijk met kruinmuur, stabiliteitsberm en bij Petten een damwand, verruwing gehele buitentalud (Petten), verruwing ondertalud (Hondsbossche) Overslagbestendige dijk met kruinmuur, combiwand/damwand over gehele tracé, verruwing gehele buitentalud (Petten), verruwing ondertalud (Honds-bossche)
Alternatief 4 Beperkte kruinverhoging	4-a 4-b 4-c	Kruinverhoging ca. 2 m met uitbouw ondertalud met stabiliteitsberm Kruinverhoging ca. 2 m met uitbouw ondertalud, met stabiliteitsberm en bij Petten een damwand Kruinverhoging ca. 2 m met uitbouw ondertalud, met combiwand/damwand over gehele tracé

Figure 4.4: improvement alternatives and possible constructions (HHNK, 2008).

Criticism now came from parties, which were initially positive during the first years (around 2006). Their argument mainly deals with the current nature values around the seawall. First, the current breakwaters at the seaside are an important food area for birds. A whole new ecosystem developed around the breakwaters, with specific mussels, oysters and more. This ecosystem will not only disappear by putting sand on top of this, but also birds cannot find food anymore. Internationally protected bird species such as *scholeksters*, *strandlopers* and *steenlopers* could be found here during big parts of the year. Next to foraging, the breakwaters are used as rest places. During high tide, these birds usually rest around at the landside in the several ponds (former clay pits used to build the seawall); it is expected that these birds will not stay there anymore, since there is no food to find. Secondly, they expect that the water system of the Harger- and Pettemerpolder on the landside, a brackish Natura2000-area, becomes fresher. At the moment, the polder gets salinized from the

dyke, but it is expected that this will become more fresh water if the sand is placed there. This is due to an expected freshwater bubble that will develop under the dunes. Besides concerns about nature, inhabitants worry as well about the effects of the sand on the hinterland. They expect that the sand of the new beach will dash off over the seawall, damaging nature areas and their houses.

The project group is very much aware of these two concerns. As a mitigation measure, an area north of the case study area will be designed to house a part of the internationally protected birds. The contractors have to take care of the sand dust and a big sum of money is reserved to guarantee that the inland is not affected by the consequences of dusting sand.

Towards execution: from preferred alternative to an integral plan

Although the criticism and concerns, the project group started to translate the alternative 'sand and nature' into an integral plan. The Ministry of Infrastructure & Environment agreed with the chosen option in August 2010 and provided €250 million for the execution and maintenance for the next two decennia. The press release mentioned that this option was in line with the national water policy, such as the Delta Program (V&W, 2010). The Minister only asked the province, the regional authority, to work out the plans in a more sober manner, due to budget cuts. A project member, working for HHNK, explains:

> *"At that time everything was again calculated and reviewed. It was already 2011, so before you have a project organisation, everyone behind you, the right people on the right place, that simply takes some time, and also before you have the province behind you, [and] Rijkswaterstaat, so that was quite an intensive trajectory."* (Member of the *Kust op Kracht* project team)[iv1]

HHNK calculated if it was possible to execute such a plan with a limited amount of money, prioritising water safety over the spatial quality. Besides this, other restrictions had to be met, such as environmental impact assessments and checks with, among others, the Nature Conservation Act and the Water Act. An updated version of the proposal, including the Minister's comments, was presented in June 2012. The Minister and the province agreed on the more efficient proposal in 2013, so the public tender is expected to start early 2014. Although the alternative was decided on in 2009, the execution is thus not started yet, while the other 'Weak Links' in the Dutch coastal zone are already improved; an eyesore for the advocates of the plan. Nevertheless, the project group still expects to meet the safety norms on time, before the end of 2015.

[iv] The original quotes in Dutch can be found at the end of this thesis under 'notes'.

4.2. Three narratives of local knowledge

After a first analysis of the interviews with inhabitants, three narratives of local knowledge came to front. Although they partly overlap, each narrative has its own distinctive focus. This section will elaborate the local knowledge of each group in more detail. In general, the Hondsbossche and Pettemer Seawall plays a central role in many interviewees' lives. Local residents seemed very much aware of the coast and of the precarious location they are living in. The coastal defence could therefore count on much attention. Residents almost all understood the need to improve the coastal defence, as they have had experiences with 'close call' moments, such as the quote in the introduction of chapter 1.

The following sections start first with the local knowledge of each group, in the form of a narrative of how the current area is valued. Afterwards, the key events – as discussed in the previous section – will be touched upon and the evaluation of these events by each group is discussed. This will show how their narrative has developed over time. In the end of each section, a table summarises the findings.

4.2.1. An unique element in the Dutch coastal zone: a conservationist story

The local knowledge in the first narrative centres on the uniqueness of the seawall and the surrounding area. It is mainly told by a group of lovers who have a strong emotional connection with the seawall, valuing the dyke highly. Most of them are a member of *Vrienden van de Hondsbossche* ('Friends of the Hondsbossche'), a union that publishes stories about the history of the seawall in their annual magazine. Most of the interviewees were raised in the area, knowing it from their childhood:

> *"I have known a lot of people who built that [the breakwaters of the seawall], they would turn in their grave, because they [the project group] are so, say, offensively dealing with their work. I find the dyke a monument."* (Local resident, Groet)[2]

In this narrative, the seawall is considered as a unique piece of Dutch heritage, reflecting the battle against the water and an important historical place. Interviewees easily sum up some key historical events that took place here, such as the Battle of Bergen (1799) and the departure of the so called *Engelandvaarders* during World War II. Consequently, in interviews with this group, the history was mentioned many times:

> *"So many people already intervened [with the dyke], ohhh, if I see that, an incredible piece of history. The lords of Egmond, let me see, a signature of Keizer Karel, Duke of Alba, Johan van Oldebarnenveldt, all these sort of things, they all intervened with the dyke."* (Local resident, Groet)[3]

Besides the dyke itself, they value as well the hinterland, formed by floods:

> *"The plot pattern, (…) that exists there already since 1890. (…) That plot pattern is derived from the creeks, because that is also from a way back, because there was a time that it [the hinterland] flooded."* (Local resident, Groet)[4]

The firm dyke represents therefore the on-going battle against water:

> *"Do you know what makes the dyke so beautiful? Because it is so completely different, you do not see it at anywhere else in the Netherlands. (…) If you see that, a very straight dyke, with that piers, and on your right those polders, that is such an unique thing, I mean, small dunes and sand, we have more than enough of that, all the way to Hoek van Holland."* (Local resident 1, Catrijp)[5]

As they are so engaged with the dyke and its environment, most interviewees have quite some ecological knowledge too, for instance referring to specific types of plants that are growing on the dyke. This is related to the third narrative, which deals in more detail with environmental and nature aspects.

All in all, the seawall represents in this narrative the continuous improvements of coastal zone defence. It reflects as well the good memories these people have of their childhood and the leisure activities they are undertaking here. Logically, these narrators would like to continue the past manner of coastal zone defence: with hard solutions, to keep the character of the dyke the same as much as possible.

> *"I understand that something has to happen, but how they are going to do that, in my opinion, that is a shame, because it is a unique area."* (Local resident 1, Catrijp)[6]

> *"I once proposed to build more obstacles there [on the dyke] (…) like blocks of 2.5 metres, like those cubes. But then, well, "that is ugly", they [HHNK] say. Oh, but what is ugly? In my view sand is even very ugly."* (Local resident, Groet)[7]

Other solution paths, such as the first proposal of a transhipment dyke in 2006, could count on resistance. Especially the idea of letting in water was for many interviewees a ridiculous idea.

> *"[At that time] they wanted to make a hole in the dyke to inundate that polder behind during low and high tide, that was of course totally of head. Nobody could take that seriously, right? That's what I think. Farms have to move there, there is a very historical polder, there is an incredible piece of history attached to it [the seawall], also with that battle of 1799, with the landing of the Russians and Englishmen, who all past by here, it is a piece of history, this dyke."* (Local resident, Groet)[8]

Later on, when an improvement of sand gained more attention, interviewees could not relate to these plans again. The project group presents the 'sand and nature' alternative in leaflets as a "safer and more beautiful" area (e.g., Kust op Kracht, 2013), but this is questioned in this narrative. Sand will not do justice to the seawall and its history. Additionally, the interviewees expect that dusting sand will harm the nature on the inland.

These narrators feel thus not very heard, as the governmental bodies preferred other way of improvements. Many other actors regard this narrative as rather romantic, backward-looking and not realistic. However, the narrative resonates to some extent in the plans. The function of the dyke will disappear, but in the plans the project group ensures that the seawall will not disappear and the inland will not be changed. For instance, the new to form dunes should not become higher than the dyke. From the inland, as a consequence, you will still only see the straight dyke, a distinct areal characteristic. The plot pattern and nature areas inland will be unchanged too. This is partly because HHNK has a somewhat similar feeling about the seawall, although they do not express it in such an emotional way. On their website, to illustrate, much information about the historical seawall can be found. HHNK tried several times to opt for technical solutions too, rather than exploring new solution paths. At the moment, though, they made a move in favour of an improvement with sand. The narrators and HHNK have thus more in common than they might think, although they are now standing in front of each other.

In conclusion, narrators of this story appreciate the current environment very much. The narrative shows the rich history of the dyke and the fight against the water over the years in the case study area. An important history, according to HHNK too, so the seawall will continue to exist, although having no function anymore. As the narrators were quite rigid and persistent in their views, governmental actors did not consider them fully and the interviewees felt left out. However, some of the narrators' concerns are taken care of.

	Main local actors	**Perception**	**Characteristic quote**
A conservationist	Vrienden van de	The seawall as a unique	'It should be considered

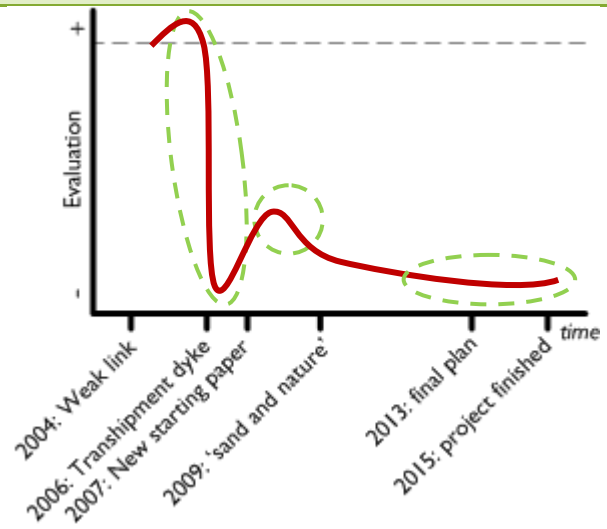
narrative	Hondsbossche	piece in the Dutch coastal zone, with a lot of history attached to it.	as heritage'
		1 – Surprised and worried about the possible damage to the dyke and the hinterland when the transhipment dyke is proposed. 2 – Hoping for a better solution that does more justice to the seawall, which seems to be the case in first instance, with HHNK as project leader 3 – Dejected, yet more accepting the outcome	

Table 4.1: the conservationist narrative summarised.

4.2.2. Giving Petten a boost: the powerful community of Petten

Petten is the main village located behind the dyke with around 1.900 inhabitants. Petten has a diminishing middle class and has slightly transformed into a sleepy village, while neighbouring villages as Egmond, Bergen and Callantsoog are welcoming more tourists every year. So to speak, Petten is the black swan in this part of the Dutch coastal zone: *"[It is] the stepchild compared to the other villages. At least, that is how I experienced it in the short time [I have lived here]"*[9], states for example the secretary of the village council of Petten. Although inhabitants of Petten praise the quietness of their village and state that it is not a busy tourist place to go, they stress too that a boost is necessary to keep the village interesting and lively. In this narrative, the socio-economic situation of the area, and in particular their village, is the key element, instead of cultural, historical or environmental aspects. Petten needs an economic boost as soon as possible, deliberately argued by the village council:

> Member of the village council: *"This area needs to, it just needs development."*
> Chair of the village council: *"Of course, there are no jobs currently, you can see it if you watch your own children. They move away. I have got three children, they have nothing to seek for here."*[10]

The municipality of Schagen, of which Petten is part of, underlines these concerns and argues that a further continuation of the rigid dyke does not help to boost the local economy, because it is not an

inviting environment for tourists, compared with the beaches and broad dune areas situated North and South of the seawall. The village council, representing 300 households, and the local entrepreneur association (*ondernemingsvereniging*) operated closely together to tell their narrative, backed by officials of the municipality of Schagen. They are powerful in the local debate by sending protest letters to the authorities or searching the local media.

For example, the first presented alternative, the transhipment dyke, was not welcomed with applause. It was an unpleasant surprise for many, even for the municipality, for which the proposal came as well out of the blue. A higher dyke was not preferred either, because the dyke had to be increased around seven metres, which has significant consequences for the people living behind it, brought to front by a member of the village council:

> *"Can you imagine that the dyke here, that it will be increased another seven, eight metres? That is a wall. (…) The whole village will become unliveable."* [11]

Consequently, the community of Petten started to protest actively against the transhipment dyke, as part of the community had to leave. The province took the concerns of the village council very serious and ultimately rejected the plan. Instead of upgrading or altering the current dyke, this front of local actors favours a seaward solution, preferably with sand that will attract more tourists to their village. It seemed that the project group, led by HHNK, tried to avoid this solution, since this solution path was new for them. As the chair of the village council puts it, *"that water board, they are dyke builders, huh? They know actually everything about dykes, but then you should not introduce new things."* [12] The former municipal official has a similar opinion:

> *"They [the water board] were very pregnant on that [going for a technical solution] from the early start, they obviously have a very big department with a lot of people who worked there on raising the dykes. (…) They do have a lot of knowledge about that, but they do not have knowledge about sand. That was of course stored under Rijkswaterstaat, so knowledge about sand was not that present at HHNK. And there was always a clear preference, "that's what we are used to, raising dykes, we can do that.""* [13]

The municipality had not been idle meanwhile and explored possibilities to upgrade the village of Petten, already in the early 2000s. The first plan, Marina Petten, was presented in 2003 and was developed by private parties, such as Grontmij and Boskalis, together with the municipality. The idea was to create a seaward coastal defence with a pier with a 600-berths marina. In addition, a new canal has to be built, to connect the sea with the North Sea canal (*Noordzeekanaal*) inland.

Earnings were expected to come from the 1.680 houses and 420 holiday homes that were planned to be constructed.

> Chair of the village council Petten: *"A sort of, say, IJmuiden."*
> Secretary of the village council Petten: *"IJmuiden, yes (laughs), it was pretty nice, it was a pretty nice plan in my opinion."*
> Chair: *"Yeah, but too, too much."*
> Secretary: *"Too modern for here."* [14]

The municipality argued that these plans could fit within the plans for the Hondsbossche and Pettemer seawall, as the spatial quality has to be improved. The former municipal official:

> *"We as the municipality of Schagen said, "we want to add a plan [to the water safety plans]", to expand there a marina with possibilities, which would both improve the spatial quality and give the economy a boost, because that is very much needed in Petten."* [15]

The province, however, was not very enthusiastic and did not fully support the plans. The plans were still in an early phase, which made the project group to decide not to wait for these plans. Marina Petten seemed to be too ambitious and, when the economic crisis came up, financially not feasible, which made it die a silent death. The municipality, though, did not give up and kept searching for opportunities to upgrade the village of Petten. In 2007, a new plan was presented: Petten at Sea (*Petten aan Zee*). Adriaan Geuze, a well-known Dutch landscape architect, designed a plan for Petten, in which a central role was kept for sand. A marina and housing development seaward was still part of this. Rather than being that village behind the dyke, Petten would become a village at sea. On October 17, 2007, Geuze presented his ideas for the first time to the community of Petten. The chair of the village council describes that evening:

> *"And he himself came to Petten on one evening, he is an incredibly good presenter, he can sell it very well (…) and Petten, we hung on his lips. And we all wanted sand and nothing else, only sand. The more, the better, because this would actually become the Walhalla of the Netherlands. Well, that has been the turn [of the community in Petten], uh, probably as well the turn of the waterboard."* [16]

Eventually, the project group worked out an alternative in which sand would play a central role in 2009. This was in line with national policies, but as well gained it the most local support, particularly from the community of Petten. As the chair of the village council of Petten puts it:

"The waterboard, looking back they were obviously not that retarded, because they came across, you have to try to gain support from the people who live here, otherwise, uh, it would be incalculable, as they all will protest." [17]

An additional explanation comes from the former municipal official:

"Petten has sent letters to the Ministry and the province at that time. They [HHNK] were not so frightened about that [sending letters to the province], but if it was going to the national government, that was like, they were not happy at all about that. (…) That is why the participation remained strong afterwards, but that is not because they [the locals] got their chances, but because they took their chances. And that is actually a flop for politics." (emphasis added)[18]

"We might have been the decisive factor, that sounds maybe a bit headstrong. (…) Do you know what the village council has done well I think? That they always did one thing, they did not wandered. They are, they did not even considered to, "let's say that basalt could maybe be really good too", that was not in order. There is constantly argued, "no, we want sand, for that and that reason"." (Chair of the village council)[19]

Although the alternative was decided on in 2009, the execution is still not started yet, while the other 'weak links' in the Dutch coastal zone are already improved. An eyesore for the advocates of the plan:

Former municipal official: *"It is not that hard, look, if you needed a whole increase of the dyke with everything included, then you have to look carefully to it, but this is as clear as possible. There are needed a certain million cubes [of sand] and you have to maintain it for twenty years, well, it is all researched thoroughly. We know exactly what is needed, why does it all take so long?"* [20]

Chair of the village council Petten: *"I just have one concern, that there will not be too many objections, [so] that it will delay again. Because then it will take long. (…) It takes already so incredibly long."* [21]

The community of Petten is in the end thus rather happy, since the project group opted for a seaward solution with sand. Their persistent socio-economic argument was picked up by the project group after many protests and narrators expect that the new beach will make Petten a more welcoming village for tourists. At the same time, though, the plans for Petten at Sea would not be executed, once more due to the recession. Currently, some ideas of the former two plans are

incorporated into the strategic planning document of Petten (*Structuurvisie Petten*), but these ideas are developed independently of the project group.

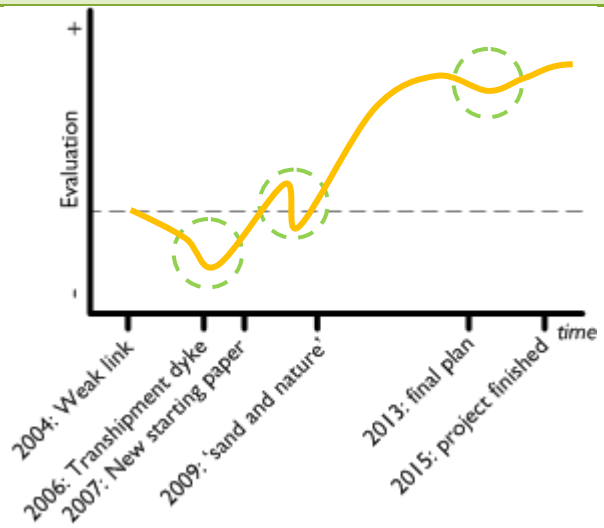
	Main local actors	Perception	Characteristic quote
A socio-economic narrative	Dorpsraad Petten, ondernemers-vereniging Petten	Petten as the black swan between the other villages, located behind the unwelcome seawall.	'Petten needs an upgrade as soon as possible, preferably with sand'
		1 – Worried about the consequences for the village; inhabitants had to move 2 – Happy that the transhipment dyke is rejected, but again worried when HHNK proposes an increase of the dyke. Later on, a solution with sand becomes more realistic 3 – In the end, very pleased with the proposals, but the implementation takes quite a while	

Table 4.2: the socio-economic narrative summarised.

4.2.3. Sand over nature: a nature conservationist story

Nature conservationists, organised in several local groups, appreciate the area highly for its nature values. Localorganisations include, for instance, *Natuurmonumenten*, the local bird association of Alkmaar (*Vogelwerkgroep Alkmaar*) and Fauna Protection (*Faunabescherming*). The citizen committee coastal defence (*Burgercomité Kustverdediging DCCM*) could be related to this narrative too, as they are actively engaging against an upgrade with sand. While these organisations were very happy with the plans during the early period when the transhipment dyke was proposed, the plans are now totally tilted the other side.

After the construction of the seawall and the breakwaters, a whole new ecosystem developed here, with specific mussels, oysters and more. This makes the seaside of the dyke an important food area for internationally protected birds, such as *scholeksters*, *strandlopers* and *steenlopers*. Next to foraging, the breakwaters are used as rest places. During high tide, when the breakwaters disappear in the sea, these birds usually rest around at the landside in the several ponds. These ponds are former clay pits used to build the seawall. The landside also captures the Harger- and

Pettemerpolder. This Natura2000-area is one of the remaining brackish polders in the Netherlands, which is quite unique, since water in other coastal areas became fresher, due to, among others, agricultural use. The groundwater is fed by salt seawater under the dyke.

The first plan of a transhipment dyke (2006) was therefore welcomed by the interviewees, because it would increase the nature values in the area. The province was the main driver behind these plans, sensitive for environmental arguments and having closer links with nature organisations. However, the later plans were a shift away from this initial idea. Although a new nature area would be developed in the new-to-form dunes, the expected loss of the current nature values has a higher weight. Interviewees are very critical about "putting the breakwaters under the sand", as they expect that birds will not stay there anymore, since there is no food to find:

> *"That [the birds around the breakwaters] is the beautifulness of this area, the uniqueness of this area, combined with the brackish polder behind. So if you will remove the set table on the seaside, you will not find resting birds on the landside anymore."* (Member of the citizen committee coastal defence, Petten)[22]

Furthermore, interviewees expect that the brackish inland polder will become fresher, because the new dunes on the seaside will store more freshwater. Subsequently, this will be move under the dyke towards the polder, affecting the current types of nature there. After all, this will gradually alter the area, losing specific types of, among others, brackish plants.

The project team is aware of this and partly underlines these concerns. As a mitigation measure, a new nature area for the birds will be developed twenty kilometres north of the seawall. They stress as well that there is plenty of space for these birds at the Wadden islands. In sum, this should be sufficient compensation. In addition, they highlight the new nature that will be developed in the new dunes. Nature conservationists remain sceptical and do not have high expectations of this, as rainwater will easily sink to the ground and the supplemented sand is without any life:

> *"And then it is stated, "we will get new nature", then I ask the project group, "give an example, what is that new nature exactly?" You will not get anything here to start with. (…) [They are planning to] plant marram grass and buckthorn, I am curious how that will keep itself, because I think that in first instance the rainwater will sink very easily down into the ground (…) so the upper ground layer will stay dry till forever, I suppose."* (Local resident, Groet)[23]

> *"With so much sand, that dead sand, all nature will die then, there is nothing [no life] in it. They suck it up from the sea, they press it in such silt, all these animals are breaking down [and]*

that is supplemented here. (…) I call it a massacre." (Member of the citizen committee coastal defence)[24]

The local nature organisations set up the action group 'Sand over Nature' (*Zand over Natuur*), a pun about the proposed alternative real name 'Sand and Nature'. Even though they receive some attention in local media and at public activities, they have a feeling that they are not taken seriously:

"One of the reasons that the Vogelwerkgroep, *one of its members, whom I have sometimes contact with, she says, "do you think I am going to those public hearings? You just get silenced by a camping owner, who just says, "stop that babble"."* (Member of the citizen committee coastal defence)[25]

Here you could sharply see the shift that has taken place. After the withdrawal of the transhipment dyke proposal, the project team took a turn, prioritising water safety and paying more attention to local concerns of the community of Petten. The national line of thought was followed, i.e. improvements with sand as much as possible, and the development-driven agenda of Petten was given a more prominent place. The current nature elements could be considered as the victim of this turn. As compensation, new nature will be developed in the new dunes and a nature area more up north will be redesigned to partially accommodate the seabirds. This made the province, concerned about the nature values, agree with the plans.

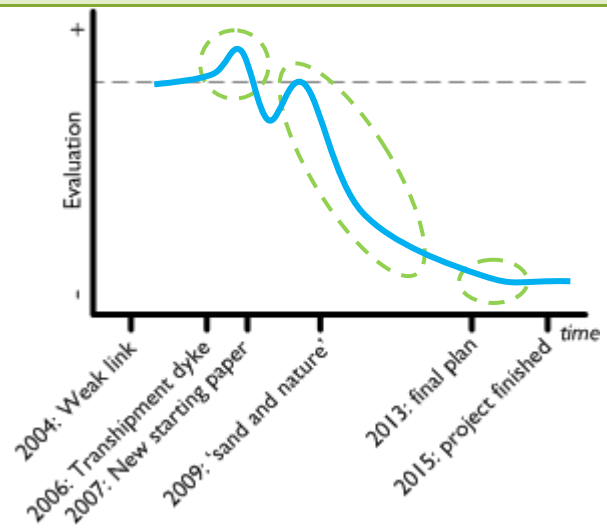
	Main local actors	Perception	Characteristic quote
A nature conservationist narrative	Vogelwerkgroep Alkmaar, Burgercomité Kustverdediging, Zand over Natuur	Around the seawall, an important ecosystem developed, attracting many types of seabirds.	'An important food area will disappear under the sand'
		1 – A transhipment dyke becomes more realistic, enlarging nature values. 2 – After the improvement with sand gains more attention, which will threaten the current nature values , the evaluation becomes very negative 3 – Actively engaging against the plans, with petitions and small-scale demonstrations	

Table 4.3: the nature conservationist narrative summarised.

To conclude, the outcome of the plans starts quite promising for the narrators in 2006, when a transhipment dyke came to front and the nature values of the area would be more emphasised on to upgrade the spatial quality of the area. This showed the close links the nature organisations tended to have with the province. However, the current alternative is totally different. The nature that will be developed in the new dunes cannot really charm the nature conservationists, as other, in their view more important, types of nature will disappear because of that. They are especially critical about disappearance of the breakwaters under the sand, although the project team will compensate this with some mitigation measures a little more up north. Hence, this nature conservationist story ends rather negative about the plan.

4.3. Tensions between the different actors: local versus expert knowledge

The interviewees' narratives of local knowledge start usually from a personal point of view. These values are mutually influenced by social connections (friends, mass media) and environmental connections. These personal connections are once more also the most important element to become engaged in the project, for instance in advisory groups or action groups. When one feels that their beliefs are not spread that much, he or she becomes more actively engaged. To illustrate, one interviewee mentioned that when she started living in Petten, she was surprised by the poor economic situation there. Neighbours confirmed her findings, making her join the local village council to do something about it. She is, not so surprisingly, related to the narrative about the Hondsbossche and Pettemer Seawall case that starts already negative. The positive narratives (see the grey baselines in the tables) both appreciate the current situation very much, whereas the narrative told by the community of Petten favours a slightly different area, in which Petten gains more important as a village. Consequently, this latter story is opener to developments to reach that goal, instead of the other two narratives, in which it is preferred that the area stays roughly the same.

Governmental parties all had their own focus in the project over the year, each linking more with a specific narrative. This resulted as well in some great turns over the years, when another governmental body became the key driver. In first instance, the province of Noord-Holland was the leader of the project, which had a big eye for spatial and environmental developments. This was in line with the expertise of the province, as it is the main governmental body for regional spatial and environmental planning. In their approach, water management was just one of the elements of the plan, together with other elements as nature, recreation and spatial development. The narrative about nature fitted well within this perspective. The ultimate plan, the transhipment dyke, was all in

all a logical outcome from this perspective, but it was not tuned very well with the local municipalities and its residents.

Later on, waterboard HHNK was appointed as the key driver of the plan and immediately putted water safety as top priority, showing that the use of local knowledge strongly depends on which authority is in charge. The rationality of HHNK is an instrumental one, which does not fully acknowledge local knowledge. The other elements of the plan diminished to the background, therefore missing the opportunity to integrate other local and regional plans to the project. HHNK has a strong history of increasing the dyke and was planning to do so once again. The conservationists' narrative links with these ideas, as the seawall is a unique element in the area and that it should keep its function as dyke. Opponents, mainly from the Petten area, however, state that it is not a natural element in the area, because there used to be sand in the past. References to the past are thus used differently. In the end, increasing the dyke was not an option after objections by the province and the municipality of Petten.

The tumult made the Ministry of Infrastructure & Environment become more actively engaged to ensure the water safety goals would be reached before 2015. 'Soft solutions', i.e. with sand, got more attention, because the national Delta Committee presented its first policy guidelines. The national government preferred, consequently, such a solution with sand at the Hondsbossche and Pettemer Seawall. The community of Petten was heavily in favour, backed by the municipality of Schagen and its strong development-driven agenda, which made HHNK state that there was wide support for it. The narrative of the community of Petten became more positive, as they felt that there was a breakthrough for their so-much-wanted upgrade of the village as they could connect their own agenda with the plans.

It seemed thus that HHNK has moved towards this solution because of national and local voices, not necessarily preferring this alternative itself. It now enthusiastically carries out the plan, but it is a total new experience for HHNK. They have more in common with the conservationist group *Vrienden van de Hondsbossche*, both perceiving the seawall as important. These conservationists, on the other hand, despise HHNK because of this turn. The province, at the same time, operated in the background and did not intervene, as they perceived that national policy guidelines were carried out and the community of Petten seemed to be happy with that. They also were ensured that new nature would be developed.

The current solution, improving the water safety with sand, seems to move away from traditional approaches and make the water system look more resilient, since it could easily be adapted in the future. The option, though, is a break after more than one century, for both local governmental

bodies as inhabitants. Local knowledge might not be directly reflected in the plan, but is certainly taken into account. The socio-economic narrative from the community of Petten could link its ideas easily with the plan and are therefore the most positive in the end. Socio-economic elements namely are easier to connect to the instrumental rationality of water authorities, because these elements are presented more as factual observations. Accordingly, this is taken more seriously by HHNK than the more subjective, particular stories of the conservationists and environmentalists. The municipal plans for Petten, however, are not linked with the project, due to too many financial uncertainties and a waterboard that prioritised water safety. Cultural-historical aspects are addressed in the sense that the hinterland will change as less as possible. The seawall will remain, still visible from far away inland, although it loses its function. Environmental concerns are overruled by water safety measures. Therefore, the project team is planning to redesign a nature area a bit more up north to mitigate the effects on the environment. Narrators of the latter two stories (conservationists and environmentalists) might be unhappy with this, since it is not what they have argued for.

To conclude, the narratives of local knowledge differ somewhat, resulting in different outcomes of satisfaction with the final plans. As each governmental body seemed to have another focus, each narrative was 'supported' by another authority. The province has a sharper eye for local knowledge of the environmentalists and conservationists, because their expert knowledge has a somewhat similar underlying value-rationality. The instrumental rationality of the water authorities is harder to connect with this, but easier to link with socio-economic concerns. The more conservationist voices are therefore less satisfied, as the approach for water safety in this area could be considered as a break with the past, opting for sand instead of concrete. At the same time, this sand option is regarded as an opportunity by the community of Petten. Local knowledge is in this case study mainly used to fill in the consequences of the 'sand and nature' alternative, to ensure as many inhabitants as possible will recognise themselves in the future area. Therefore, some local voices might feel disappointed and not heard, due to the lack of linking the value-rationality of the province, environmentalists and conservationists, with the instrumental rationality of HHNK.

5. An integral approach to upgrade the IJssel Delta South at once

The IJssel Delta South, the second case study, is located in the middle of the Netherlands, in the lower IJssel area near the town of Kampen in the province of Overijssel. Roughly speaking, the case study area is the area where the River IJssel goes over into Lake Ketel and Lake IJssel. The river originally flooded in the former Zuiderzee, which formed the area to a great extent. The result is a wide, open landscape, different from neighbouring areas as the Veluwezoom and the Flevopolder. Several dykes remember to the situation when the sea had to be kept outside, of which is the Zwartendijk is most-known, first built around 1300. Because of many dyke bursts, there are still a lot of small nature areas with water pools next to the dykes, like De Enk, and, as a result, the dykes have a twisting form. There are as well some small water courses still running through the area, such as the Reeve, originally a sea branch. The town of Kampen is built on the western bank of the IJssel, having a ribbon pattern that follows the river. It was mainly defended by the sea by the aforementioned Zwartendijk. During high water discharges from the IJssel, water could flood into areas next to the river and, when things got really worse, even to the lakes in the west. Besides many dairy farmers, most people work in surrounding towns and cities, like Zwolle. The area could get crowded in weekends, as it is a popular recreation area for short cycle trips and walks.

The lower River IJssel area became one of the 'Space for the River' projects (*Ruimte voor de Rivier*), centring on an approximately 22-kilometres-long riverbed. It is expected namely that the Dutch delta has to discharge higher amounts of water over the year, due to climate change. Therefore, the national policy program 'Space for the River' was launched to enable this late 2006 and consists of more than thirty projects scattered around the Dutch main rivers Rhine, Meuse, Waal and IJssel.

5.1. The project

This section discusses how the project has developed over time. The process is quite fuzzy and extensive, because several governmental levels worked on the same time on different plans. This section elaborates mainly on the period from 2004 until autumn 2013. Just as in the previous chapter, the story is told in a chronological order, focussing on five key events (figure 5.1).

In 1993 and 1995, the main river area of the Netherlands was nearly flooded. This came as a huge surprise for the Dutch; it was the first time after the floods of 1926. Late 1990s and early 2000s, new

policy was developed to cope with higher river water discharges. First, new water safety norms were implemented: the discharge at Lobith, where the Rhine enters the Netherlands, should be increased from 15.000 m^3/s to 16.000 m^3/s. For the longer term (2050-2100), the expected discharge is even higher: 18.000 m^3/s.

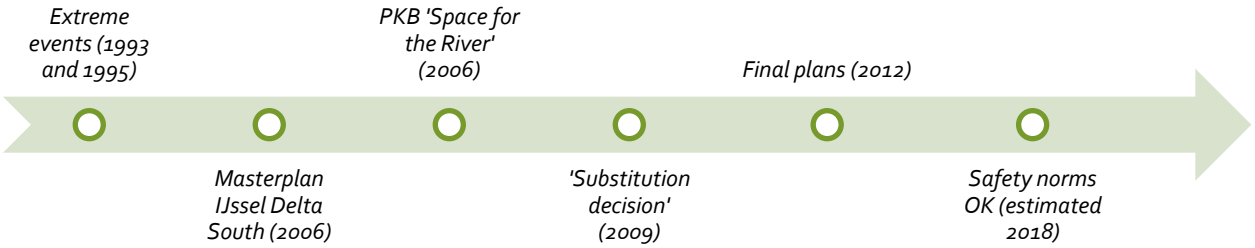


Figure 5.1: five key events in the IJssel Delta South planning process.

To meet these new norms, the national government started the *Planologische Kernbeslissing* (PKB; 'Spatial Planning Key Decision') 'Space for the River' in 2002. The aim of the PKB is to opt for spatial measures to satisfy the new safety norms, rather than using technical, sectoral solutions. Multi-stakeholder bargaining and the inclusion of environmental and social elements received more attention (Warner & Van Buuren, 2011). Lower-level authorities, in particular the province, were made responsible for concretising and implementing the policy. To illustrate, instead of dyke increases, possible alternatives are secondary river channels or a lowering of surrounding areas, which can be used as a floodplain during several months of the year. In addition, these measures should aim to increase the spatial quality of the area too, for instance by linking the project with housing plans or nature development. In total, the PKB consists of more than 30 projects in the Dutch river area (figure 5.2) and should guarantee water safety until 2025.

One of the projects is located in the lower IJssel area: the IJssel Delta South project. Here the small river bed and the surrounding built environment (town of Kampen) make this spot a bottleneck during peak discharges. The national government decided that a widening of the current river would be sufficient in the short-term (until 2025). This widening would be executed by lowering the summer bed. Simultaneously, the government explored the construction of a bypass from the River IJssel to the Vossemeer in the long term (figure 5.2), as it was expected that the peak discharge would increase even more due to climate change. After all, a spatial reservation was proposed to obviate other spatial developments. The national parliament agreed upon this in 2003.

However, the province of Overijssel and the municipality of Kampen saw this area as important for meeting the growing housing needs. A spatial reservation by the national government, consequently, would make this impossible. The lower-level authorities favoured an earlier

construction of the bypass. They mentioned as well that there were many developments already going on in the area, such as the new railway line between Lelystad and Zwolle (*Hanzelijn*). A future bypass had to cross this railway line, which would be an expensive operation. In sum, the province, with deputy (*gedeputeerde*) Theo Rietkerk as key driver, argued to upgrade the area all at once, bringing the bypass forward.

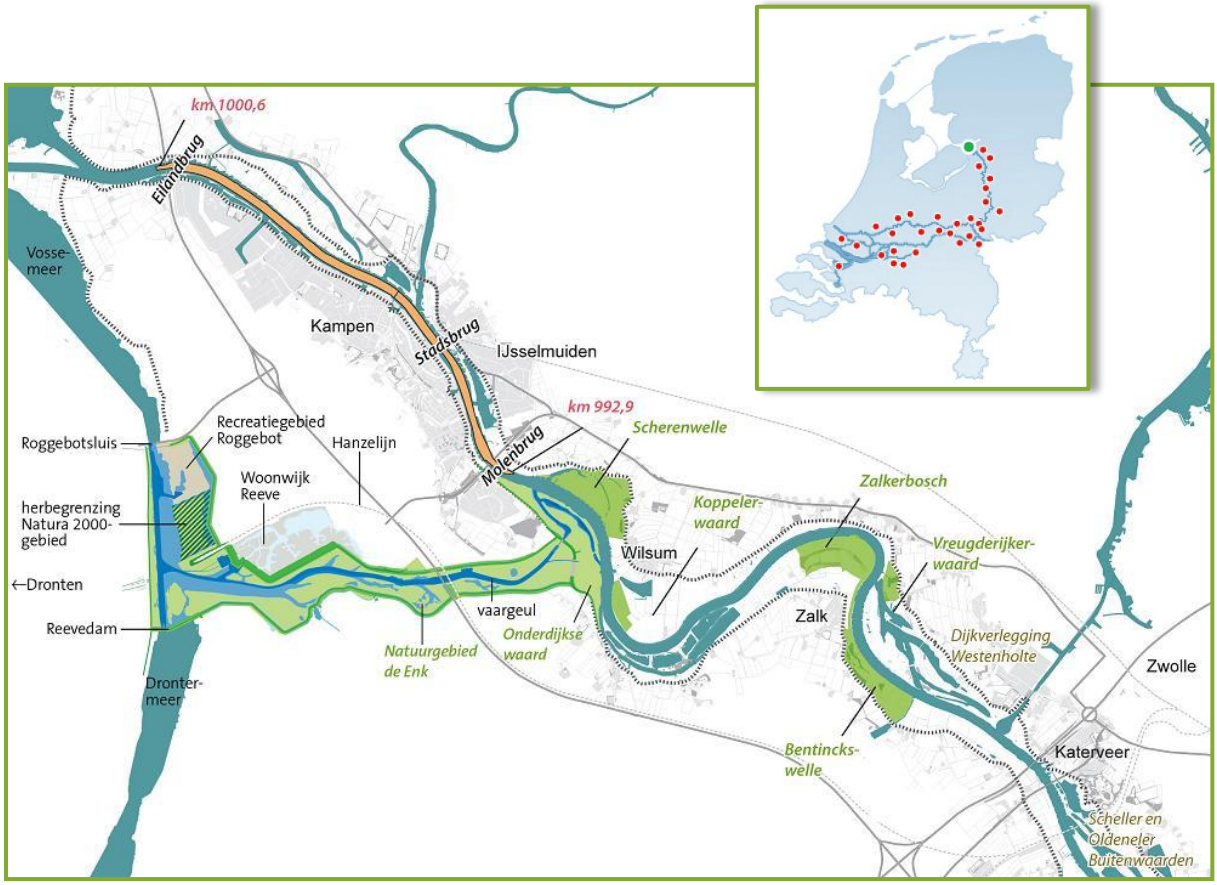


Figure 5.2: the 'Space for the River' IJssel Delta South project area, with the proposed bypass centre-left ('vaargeul'). Map (upper right): all 'Space for the River' projects in the Netherlands; the green spot shows the IJssel Delta South project (Ruimte voor de Rivier, 2010).

The former Ministry of Spatial Planning made the IJssel Delta South as one of the prime examples of *integrale gebiedsontwikkeling* ('integral area-oriented development') in 2005. This could be described as a new, integral approach of spatial planning that aims to connect several sectors (e.g., water management, economic development) as well as public and private partners. This would result in an integral regional development plan, including the bypass. The province saw this as an opportunity to show the national government the capacities of a middle-level government to execute such a project, since many spatial planning tasks are decentralised over the last decade (Province of Overijssel, 2006). The municipality of Kampen became more excited after the local elections in 2006. Alderman Bert Boerman became the key initiator of a big new housing plan north of the bypass.

Together, the regional and local authorities formed a tight coalition; the project was enthusiastically embraced (Landelijke Werkgroep Watertoets, 2011). A steering committee was formed, of which the different governmental bodies were all part of. An advisory board was set up as well to involve local stakeholders. Although the regional and local enthusiasm, the Ministry of Infrastructure & Environment did not want to contribute to the construction of the bypass yet, as they only expected it to be necessary from 2025 onwards. The province, therefore, had to find other funds to realise their ambitious master plan.

The master plan of the province centred on the construction of a bypass between Kampen and Vossemeer (figure 5.2). This bypass could become the area for a luxurious new neighbourhood as part of the housing development plans of the town of Kampen. It would encourage many recreation possibilities too. Other important elements from the plan are related to infrastructure, especially the construction of the currently finished *Hanzelijn* and an upgrade of the local motorway around Kampen (N50) to a national highway (A50). The province saw as well the possibility to establish a link ('an ecological connection zone') between the River IJssel and Flevoland, linked with Natura2000.

The design of the bypass

As the *Hanzelijn* was almost starting to be constructed, the design of the bypass had to be decided on quickly in 2005. An adjustment of the plans for the railway line would be really expensive and unrealistic. There were two main reasons to start immediately with finding a preferable route of the bypass:

> *"To gather support, but also to find enough financing, since we had to make sure that we came up with a plan that was feasible. That we got money for it. Because there was not enough money from 'Space for the River', we tried to find alternatives and we make a significant contribution as province. The municipality too, but also some other sources, partly from Rijkswaterstaat and the former ministry of Spatial Planning has also contributed."* (Member of the project group)[26]

As a consequence, the province came up with five possible scenarios of the bypass route and to discuss them with local residents in early 2005. In first instance, there was a lot of resistance from locals and the municipality of Kampen, since the bypass would mainly cross its territory. "The inhabitants and companies that are established in or around the bypass prefer no bypass at all" (Provincie Overijssel, 2011, p.30).

The province organised an extensive participation round in 2005 wherein citizens were asked to show their preference for the five different scenarios designed for the bypass (Province of Overijssel, 2005). Exciting times for the province, because support was very much needed:

> *"We made these alternatives sketched and with that we just went on the road, going into the area, into the library, into the community centres, with people to sit around the table to see, "what do people think about it?" and "do they have a preference for a [specific] route or design?"."* (Member of the project group)[27]

The 'bypass as a new river' alternative (scenario 4) became the favourite among the residents with more than 40% of the votes (figure 5.3 (right); Province of Overijssel, 2005). In this scenario, the bypass would become a so called 'blue bypass', with a sufficient water level during the whole year to make sailing and other recreation possible. A 'green bypass', which stores water only a small time during the year, was less preferred. However, there was a still a lot of criticism. To counter this, deputy (*gedeputeerde*) Rietkerk invited local residents to develop a scenario themselves (Warner & Van Buuren, 2011). As a result, a new scenario was presented by representatives of the community of Kamperveen (located southwest of Kampen) (figure 5.3 (left); Province of Overijssel, 2005). In their scenario, the eastern part of the bypass was more located to the north, closer to Kampen, so it did not cross Kamperveen anymore. Following from this participation, the province decided to combine the preferred scenario with the additional presented scenario (as shown in figure 5.2).

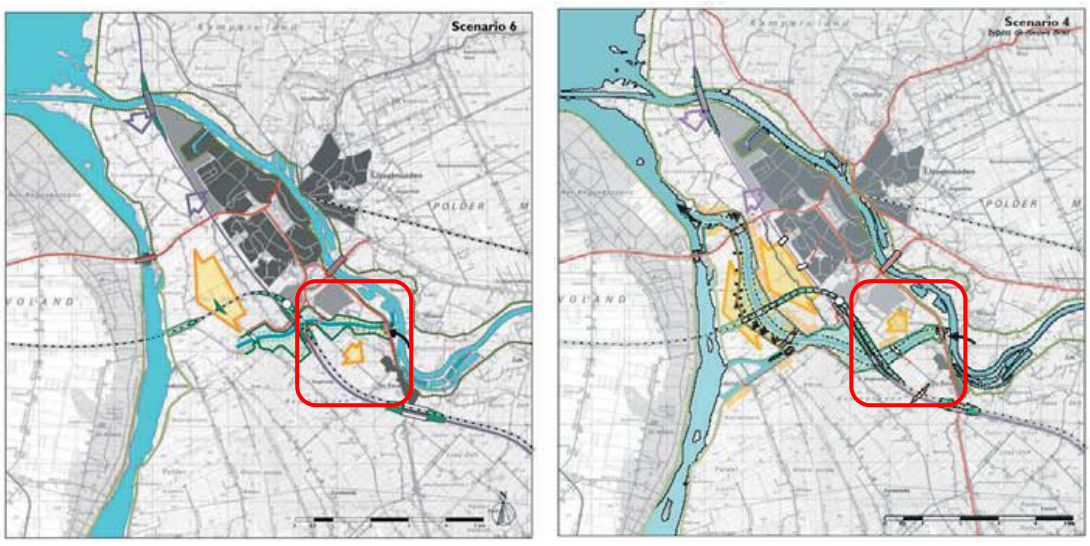


Figure 5.3: the proposed scenario (left), sketched by inhabitants from the Kamperveen community. The eastern part of the bypass is designed more to the north, closer to Kampen, compared with scenario 4 (right) (highlighted in red) (Province of Overijssel, 2005).

The housing plans became more tangible too. The municipality of Kampen introduced the plan *Reeve dorp* ('Reeve village') in 2006: a new neighbourhood, consisting of approximately 1.200

houses, should arise on the northern edge of the bypass. It was named after the Reeve, an old sea branch that is still visible in the landscape. The houses are aimed at higher-income households and should attract commuters from the Randstad to settle in the quieter, rural area, as the IJssel Delta South is presented. All these plans are reflected in the master plan for the area, in which water is mentioned as the binding force (Project IJsseldelta, 2006). It was assigned by the steering committee, consisting of Ministries, province, waterboards and municipalities, in August 2006.

The Ministry of Infrastructure & Environment, in the meantime, was working on its elaboration of the PKB 'Space for the River' policy program. In December 2006, this program was officially appointed in parliament. As it is stated in the PKB, the summer bed of the River IJssel in the IJssel Delta South would be lowered one meter at a 22-kilometres-long track. It was mentioned as well that a bypass might be necessary in the future, from 2030 onwards. A spatial reservation for this bypass was made, which corresponds with the bypass in the master plan designed by the regional project group (Landelijke Werkgroep Watertoets, 2011).

A merge of the master plan and 'Space for the River'

The bypass itself was, however, not part of the 'Space for the River' program. The 'Space for the River' project group executed an investigation in 2008 to see if the bypass could realise the needed decrease in the water level, making the widening of the River IJssel unnecessary. This seemed not the case in the short-term (2015) and this solution would exceed the available budget. In the long-term, though, the bypass could fulfil the needed decrease. The widening of the River IJssel remained thus needed.

Early 2009, the Ministry decided to carry out the bypass and the summer bed lowering together. This would enable a reduction in costs and would anticipate on climate change in the long-term. To illustrate, sand derived from the river lowering could be used to construct the dykes for the bypass. It was a boost for the province too, as it had now an extra legitimation for their area-oriented development: the bypass would become reality. The plans could be described in two phases from now on.

The first phase, until 2015, runs the realisation of the summer bed lowering. Meanwhile, the physical fundament of the area-oriented development will be executed. For example, the dykes for the bypass, facilities for recreation, nature development and the ecological connection will be constructed. In sum, the biggest part of the area-oriented development will be realised before 2015. In the second phase, the bypass becomes operational. From that time onwards, the bypass

functions as river widening measure. The second phase will also see the delivery of construction works as sluices. This is all agreed in a *bestuursovereenkomst* ('governmental agreement'; Project IJsseldelta, 2010), in which the responsible governmental bodies determine the budget for the *gebiedsontwikkeling*. The province of Overijssel would contribute €78.8 million, the municipality of Kampen a maximum €10 million and the former Ministry of Spatial Planning €22.4 million. The municipality is solely responsible for the housing plans. For the first phase of the water safety measures, the Ministry of Infrastructure & Environment reserved €96 million (€46.1 million for the summer bed lowering (PKB budget), €51 million for the bypass). In the second phase, the Ministry will reserve another €117 million, in particular for the big construction works.

However, there were some setbacks in 2011, especially for the implementation of the 'Space for the River' project. Rijkswaterstaat carried out a research about the effects of the summer bed lowering on nature and drink water supply. These outcomes were very negative, which resulted in adjustment of the lowering of the summer bed to only 7 kilometres, instead of the planned 22. As a result, this would not meet the required new water safety norms. Additional measures thus were required to guarantee the decrease of the water level. In a letter from the regional governmental bodies, the Minister is advised to construct the bypass earlier and to provide funding for this (Province of Overijssel, 2011). Parliament agreed upon this in September 2012, but the bypass would be executed a little more soberly (De Stentor, 2012a). In first instance, the bypass can only deal with 16.000 m^3/s.

The implementation plans, such as the local land use plan, were agreed upon by the local city council in May 2013, making the construction of the bypass possible (De Stentor, 2013). The plans for *Reeve dorp*, the housing developments, are postponed until 2016, due to the crisis on the Dutch housing market. The project group expects to start early 2014 with the implementation, to meet the safety norms and complete phase 1 around 2018/2019, a few years later than expected.

5.2. Three narratives of local knowledge

Within the IJssel Delta South case, three narratives could be distinguished. Each narrative starts with the narrators' perception of the area. Subsequently, the planning process is discussed and the attitudes towards the plan and the reactions. The story is as much as possible told by the interviewees, using their quotes. The three narratives, its main actors and its perceptions are summarised at the end of each narrative in a table.

5.2.1. Kamperveen: a strong community within a municipality

Kamperveen is located south in the rural area of the municipality of Kampen and consists of three cores: De Zande, Hogeweg and Zuideinde. In between, there are numerous dairy farmers. Together, it forms a strong community with its own primary school and church. The key storytellers are in this case representatives of the local interest group *Streekbelangen Kamperveen*. When they first heard about the plans for a bypass, they were not happy at all:

> *"You will pull apart an area that belongs together, it forms a neighbourhood, a community, which you will pull apart totally. Well, they [the project group] were surprised by that. I will show you a map. Here you have De Zande, here is the Hogeweg, with its church, a school and here you have Zuideinde. If you go through this [with a bypass], towards that side and even more further that way, then you will pull apart those three cores completely. Those three hamlets can be vital together for certain aspects, but if you go through it with such rigid works [the bypass], then the connections will diminish, in fact you are finished as an area, because the community will fall apart."* (Former representative of Streekbelangen Kamperveen and local resident)[28]

Local knowledge is thus very much defined by the social ties within the area, with the reformed church, a community centre and a primary school at the Hogeweg as an important meeting point. The narrators' viewpoint about the area is as well more economically related than the other narratives, highlighting the importance of the agricultural sector. Water, in this perspective, is rather a threat for the area than something you should expand. To illustrate:

> *"I am raised with agriculture, so you look with an agricultural view, that was common from my childhood. Water was beautiful, but it should not get too big. (…) We pulled out dredging from ditches and that was carried away and that was put on the edges of the wholes, here and there, to fill it, the land became gradually a little bigger again, that is how we perceived it."* (Former representative of Streekbelangen Kamperveen)[29]

A bypass, consequently, was not something which received a warm welcome:

> *"Good agricultural land is located here, of which we say, "What a shame that the area will lose that", because agriculture is the bearer here. That is an important economic element. There are as well other elements meanwhile, but that is all small-scale. Agriculture is one of the most important elements, so if you lose here 50 or 60 hectares of good agricultural land, well, you say, "that is a farm for the area in total".* (Former representative of Streekbelangen Kamperveen)[30]

Altogether, Streekbelangen was not so much in favour of a bypass. However, the water safety argument from the national government and its expertise altered their position considerably:

> *"Rijkswaterstaat thinks it is necessary. No, let me put this differently, a better discharge of the River IJssel is necessary. Kampen is the bottleneck, because the bridge here in Kampen, next to the station, if you arrive, you see that immediately. Everything has to go through that. And you can make it broader here [more upstream], but that does not matter obviously, as it must go through under the bridge. (…) What does that mean? It means that a decision is made from above to make this whole area part of the PKB."* (Former representative of Streekbelangen Kamperveen)[31]

> *"I have to, I think I have to see it in total, with all those projects, if they are all finished, what will it do? And look, the scholars will probably know a lot and studied about that. Yes, it will have its effects, but I am not convinced yet, let's put it that way. Seeing is believing (laughs)."* (Representative of Streekbelangen Kamperveen)[32]

As the interviewees recall, the province started organising information evenings in 2005 to discuss the plans with local residents. The inhabitants of Kampen were not so involved, as the plans were almost totally located in the rural area of the municipality; the province of Overijssel was the key initiator. The province presented five different scenarios for the bypass during one meeting in the community center of Kamperveen, which resulted in big surprise among the inhabitants. A few days later, there was again a meeting:

> *"I still remember that moment, April 21 2005, we were in the town hall of Kampen, we had a big meeting, also with people from the area. The evening before we had visited the community centre of Kamperveen, there was actually already very much resistance. (…) On the 21st, during that public hearing in Kampen, there was again very much resistance from the area, particularly from the farmers. And our deputy stated that time, "yes, we make our capacities and planners available, we make our knowledge available to you. If you want to come up with an own scenario or own idea, that is more than welcome"."* (Member of the project group)[33]

It became clear for the representatives of Kamperveen to resign themselves to the plans; they got the impression that it should be executed anyway. As a result, they took a pragmatic viewpoint. Cooperation was favoured over resisting the plans, which they repeated several times. "*You can better cooperate. Rijkswaterstaat will enter [the area] otherwise and simply build two dykes"*, as the former *Streekbelangen* chair simply summarises it in a governmental magazine. His colleague agrees:

"We can work against it, but if it is about our area, we want to cooperate and think with them. (…) If it is necessary for the safety, we shall not work against it, because we cannot oversee if there will be so much water or not [in the future]." (Former representative of Streekbelangen Kamperveen)[34]

"That was thus the momentum. Of course, these people, a lot will happen and they prefer rather that nothing will develop there, that it will remain as it is, but they made the decision [to participate]. Maybe because we had some contacts on the moments before and, therefore, gained a little trust, they said "we want [to work] with you, we choose to think with you, instead of keeping an attitude of resistance, putting the heels in the sand and say no". That is actually the most beautiful thing that can happen to you [the project group] at that moment. You have to see if it fits what they want, but we took that risk then. (…) That has indeed been a very important moment." (Member of the project group)[35]

Streekbelangen Kamperveen had ten days to come up with an own alternative, which the interviewees remember as a hectic period. They decided to design the bypass more to the north, so it will not pass their cores anymore. Furthermore, they wanted the bypass as small as possible to have the least impact on agriculture. In addition, they favoured a blue bypass rather than a green one for clarity reasons. A green bypass would result in an area where almost nothing is possible, while a blue bypass provides transparency: just two dykes with water. These ideas fitted well with ideas from the project group, but that was a risk:

"That is a piece you give away beforehand, because we were looking for support. The outcome can be something of which many other parties, governmental parties would say, "Yes, that might be the outcome of the participation, but we cannot live with that." That could have happened. So that fell nicely together actually. We steered upon that of course, but we had some luck with that too." (Member of the project group)[36]

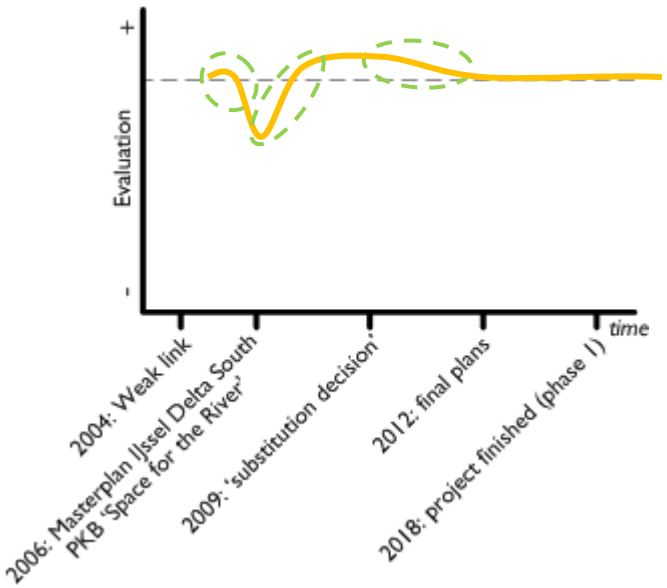
The proposed design of Streekbelangen created some bad blood among other inhabitants; all of a sudden the bypass would be located in their backyard. Streekbelangen became, so to speak, the scapegoat. Most of the interviews with people directly affected were therefore quite sensitive, as people felt betrayed by others. At the same time, the project group had its desired support: the proposed scenario was partly designed by local inhabitants themselves.

"In that sense it was a strong move of the provincial deputy to say "what would you like yourselves?", because then you are going, in a way, to play people off against each other inside the area. (…) I think that the politicians were happy that we presented something, which had

broad support. That suited them well. That is talking afterwards, I did not recognise that at that time." (Former representative of Streekbelangen Kamperveen)[37]

Over the next two years, until late 2006, there were several meetings in which representatives could have their say about the bypass, such as Streekbelangen, agricultural association LTO and nature organisations. Although Streekbelangen still participates in hearings and meetings, their role slightly diminished after the master plan in 2006. In the years after, nature got a more prominent place in the plan, which will make the bypass a bit broader. To regret of Streekbelangen and the farmers, who preferred a smaller bypass. Other elements of the plan, such as the housing development, came to front more, which Streekbelangen was not so involved in. Other locals, though, became involved. They will be discussed in the next sections.

	Main local actors	Perception	Characteristic quotes
A socio-economic narrative	Streekbelangen Kamperveen	Kamperveen as an own community, with close social ties, in the rural hinterland of Kampen. Agricultural focus	'The bypass will decrease the amount of valuable agricultural land', 'You could better cooperate'



1 – Surprised and worried about the plans that will cross their community

2 – Helping designing a new route of the bypass, north of Kamperveen, decreasing the effects on their community

3 – Satisfied with the result, although relations in the area are damaged

Table 5.1: the socio-economic narrative summarised.

To conclude, this socio-economical narrative centred on the community of Kamperveen, their strong social ties and agricultural background. As the bypass was first planned through their communities and they feared a loss of valuable, agricultural land, the representatives of Kamperveen took a pragmatic position: rather cooperating than resist the plans, eventually getting the plans imposed by national authorities. They got the opportunity to do so and seized it – which not everybody in the area was happy about. The province got as well the so much needed local support. After the narrators' main concerns were taken away, their role in the participation process

diminished. They are, after all, quite happy about the end result and are wondering how the area actually will transform.

5.2.2. Inhabitants of Kampen wake up: the start of conservationist voices

The second narrative has a conservationist perspective with a strong focus on cultural-historical elements as well as environmental aspects. An inhabitant of the town of Kampen summarises the IJssel Delta South as follows:

> *"[The IJssel Delta South] is a cultural-historical landscape, with many values for meadow birds, flora, fauna and a very beautiful wide landscape. You could easily look to the Veluwezoom, with bright weather you can see Elburg."* (Chair of the Werkgroep Zwartendijk)[38]

An inhabitant living in the rural area itself adds:

> *"[It's an] old, rural area, right? A very old rural area, there you have the Noordwendigedijk, the Reeve runs there, that is an old branch of the River IJssel, which runs between here, from De Roskam it runs to there, (…) the Binnen-Reeve and Buiten-Reeve."* (Member of the advisory group (*klankbordgroep*), directly affected by the bypass and local resident 1)[39]

Their local knowledge, as a consequence, recalls the past situation, before Lake IJssel was created. The area got flooded many times by the former Zuiderzee, so the area is formed to a greater extent by the Zuiderzee, rather than the IJssel. For instance, according to one interviewee, the ground layer of clay consists of more sea clay than fluvial clay. In the landscape, many old farms are built upon mounds (*terpen*) to protect themselves against the sea. The Reeve can be found here too, which is an old branch of the former Zuiderzee. Many former sea dykes remember of the past situation, of which the Zwartendijk is most famous.

> *"Zwartendijk, that is a natural boundary [of Kampen]. (…) On the western side of the Zwartendijk, you have a stunning wide landscape and you have to keep clear of that. (…) Zwartendijk is built in 1300, early 1300, a lot of monks have worked there to keep the Zuiderzee out of Kampen. There were often dyke bursts, there you have these pools, those 'wielen' [see figure 5.4]. For many inhabitants of Kampen the saying goes like "let's do a Zwartendijk", just a small trip by bike or foot, grandmothers and grandparents with their children, at the moment they can still see lapwings outside and cows in the land."* (Chair of the Werkgroep Zwartendijk)[40]

Figure 5.4: left: one of the ponds caused by a dyke burst. In the back the new constructed railway line between Zwolle and Lelystad. Right: the Zwartendijk and its twirling character.

And about Kampen he states:

> *"Kampen has always been a town with a sort of ribbon pattern across the River IJssel. That has always extended a little."* (Chair of the Werkgroep Zwartendijk)[41]

Overall, these narrators perceive the area as one with an own, distinct character, different from neighbouring areas as Flevoland (in the north and west), Veluwezoom (south) and Zwolle and further (east). Their thoughts are reflected in the action group Zwartendijk (*Stichting Werkgroep Zwartendijk*), a local group that tries to hold back the proposed plans named after the locally well-known dyke. Other narrators linked with this main narrative include several inhabitants living in the rural area, of which some of them are directly affected. These people often chose purposely to live here, in a quiet part of the country.

This action group started late 2006, when the municipality of Kampen developed its first plans for a big housing project on the northern edge of the bypass. The municipality of Kampen expected to grow till 60.000 inhabitants, for instance by accommodating new inhabitants from 'Zwolle Kampen Network City' (see e.g., ZKN, 2005; Gemeente Kampen, 2009). This new neighbourhood, called *Reeve dorp* and consisting of approximately 1.200 houses, could store the new households. The city council of Kampen agreed only with a small majority: 16 versus 13 votes. The housing plans became a central element in the master plan IJssel Delta South (2006). Part of the plan consisted of a so called *klimaatdijk* ('climate dyke'), a broad dyke which 300 houses could be built upon. The action group had difficulty with these proposed housing plans:

> *"We found out that it was totally superfluous to construct houses there, because it is possible to construct 3.500 houses in the town of Kampen and the small communities surrounding*

Kampen, so why then there a neighbourhood in such a beautiful, rustic, wide landscape?" (Chair of the Werkgroep Zwartendijk)[42]

Inhabitants of the rural area agree, illustrated by the following quote:

"Kampen should not get the allure of a world city. (…) People go here for rest, nature and a nice inner city, but not for a world city, because, if so, they will go visit Amsterdam or Zwolle" (Member of the advisory group, directly affected by the bypass and local resident 1)[43]

"This is of course water management (…) [to cope with the] peak discharges of the Rhine, you would like to construct bypasses, lower the summer bed. Space for the river, look at us, the Dutch! That is a great opportunity to realise a neighbourhood, that scores abroad. However, abroad does not appreciate that much what a beautiful cultural-historical landscape is located there." (Chair of the Werkgroep Zwartendijk)[44]

Other elements of the master plan IJssel Delta South were less questioned, such as the bypass. Here you could clearly see, once more, the expertise gap and the trust in the national government.

"Well, honestly, it is a very complex story, (…) a very complex story. What are they doing in Germany about the discharge of the Rhine? I cannot oversee that all, I dare to admit that." (Chair of the Werkgroep Zwartendijk)[45]

Because of the housing plans, inhabitants of the town of Kampen became more involved in the plans for the area-oriented development. The project team, however, worked already some years on the plans, a track most inhabitants missed:

"They [inhabitants] heard only about the bypass when we were busy with the scenarios and then you have to explain that whole previous track, "why is it necessary, what is the reason and why is there no other alternative?". Yes, those are just legitimate questions, so we did that." (Member of the project group)[46]

Storytellers of this narrative preferred a different kind of bypass than it was already decided on. A green bypass was strongly preferred, since it would have less influence on the surroundings:

*"And if there is a need for a bypass, then it should be constructed, the water safety is obviously extremely important in our country. But then you will have a stream, preferably a green bypass with two little dykes, well, so what? Then you could still watch easily to the Veluwezoom. It might enlarge nature. (…) But do not build there a 'climate dyke' (*klimaatdijk*), where 300*

houses will be built on. (…) The whole area will go to hell then." (Chair of the Werkgroep Zwartendijk)[47]

"Go have a look at the Hogeweg, look at the Zwartendijk, that are dykes. (…) Make it fit in the landscape, make it as less notable as possible. That people think, when they visit the area here in twenty years, that people think, "strange, two dykes so close to each other, but yeah, that will be from 1900 or so, or 1800."" (Member of the advisory group and directly affected by the bypass and local resident 1)[48]

The *Werkgroep* presented an alternative vision ('A dyke too far') in 2007, focussing on the important values of the Zwartendijk area and offering alternative housing locations (Werkgroep Zwartendijk, 2007). The plans for the bypass, though, were already in a further stadium. The housing plans, at the same time, did not develop as fast as expected, due to the housing market crisis and a smaller demand for houses than predicted. A confirmation for the Werkgroep Zwartendijk that they were right:

"Well, at that time [2007], the economic crisis hit, [affecting] the housing plans. Demographic numbers show already for years that Kampen will grow till 54.000, 55.000 inhabitants and then it stops. So the craziness of the plan, yes, I do not want to brag about ourselves, but we noticed that [the craziness] sharply. Look, politicians are only looking for growth, growth, growth." (Chair of the Werkgroep Zwartendijk)[49]

A fellow-thinker, who is directly affected, agrees, but mentions as well:

"I told them [the Werkgroep*] at that moment, "you had to stand next to us, five, six, seven years ago, in 2005 or 2006, then you would have come very far." Their program was quite good, that sounded right, but I said, "You are just too late. You will never manage to save it, not anymore"."* (Directly affected by the bypass and local resident 2)[50]

The Werkgroep Zwartendijk managed to generate a lot of attention, but most of the plans were already decided on. Only when the municipality started to become more directly involved with the housing plans, inhabitants in the town of Kampen became aware of which developments were planned in their rural area. Before 2006, many inhabitants were not even aware of the plans, since it was mainly the province which discussed with local rural inhabitants the design of the bypass, as discussed in the previous narrative.

The housing plans, in the meantime, seemed to become less and less necessary every year, which made more people question the actual need for a bypass again. The bypass and the housing

development were two key elements in the master plan and were designed to reinforce each other; in other words, the bypass and the Reeve village were involved in a mutual relation. But what if one of these elements becomes less needed, as it seemed for *Reeve dorp*? Many interviewees in this narrative mentioned terms as 'prestige project' and relate to the provincial deputies Rietkerk and Boerman, the two key drivers behind the plan.

> *"In my opinion, when it was just announced I told them, "listen, you just need that neighbourhood to be able to construct this [the bypass], and you need this [the bypass] to be able to construct this neighbourhood."* (Member of the advisory group, directly affected by the bypass and local resident 1)[51]

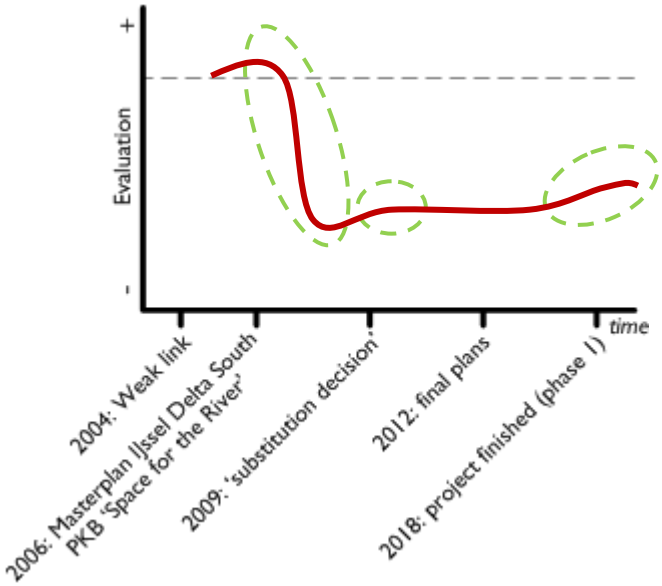
> *"In my view they all had dollar signs in their eyes, like "this will become great". And that [the bypass] is brought to front, brought to front for the area-oriented development [is] not per se for the water safety. And that irritates me a lot, I am thinking like, "yeah, what is this all about?"."* (Member of the advisory group, directly affected by the bypass and local resident 3)[52]

> *"I once told Rietkerk, "if you did not support this whole-heartedly, (…) then that bypass would never been constructed." Never. It [the bypass] is just as important as I tell you now, because it is so dependent on the person who is in charge."* (Directly affected by the bypass and local resident 2)[53]

At the moment, the housing plans remain to be a hot potato in local politics. The municipality invested already quite some money in land acquisition. Nevertheless, the city council of Kampen decided to postpone the execution of the plan Reeve village in spring 2013, due to the crisis in the housing market. The city council will decide early 2016 if the plans will be executed at all or not. Until then, the municipality would not see any benefits from the plan yet. While the other elements of the master plan are already constructed (e.g., *Hanzelijn*, upgrade of the N50) or starting to be executed (bypass), Reeve village is the only element so far that is postponed, yet always presented as a crucial element of the plan. The Werkgroep Zwartendijk did not manage to change political parties to change sides; coalition parties as CDA, ChristenUnie and PvdA remain supportive of the plans.

In sum, the local knowledge in this narrative focuses on the quietness and open landscape of the IJssel Delta South, heavily influenced by the former Zuiderzee. Within this viewpoint, a green bypass might be enlarge these qualities, but heavier disturbances, such as the proposed blue bypass and the housing plans, will disturb the area instead. The need for *Reeve village* seems to diminish, making narrators label the project as a 'prestige project', not honouring local concerns and values.

	Main local actors	Perception	Characteristic quotes
A conservationist narrative	Werkgroep Zwartendijk	The IJssel Delta South as a quiet, rustic open landscape, with high cultural-historical values as well as environmental values	'Housing plans are unnecessary', 'It is a prestige project'



1 – Hearing for the first time about the plans and realising the drastic consequences on the area

2 – The action group receives quite some (media) attention, which makes them hope the plans will be changed

3 – Still not happy, but housing plans are postponed

Table 5.2: the conservationist narrative summarised.

5.2.3. Bye bye bypass: a water safety related story

The third and final narrative about local knowledge of the IJssel Delta South is very much water-related. The narrative has a similar starting point as the previous one. Again, local knowledge centres on the heavy influence on the area by the former Zuiderzee and the IJssel, which almost all interviewees mentioned. Interviewees here, though, refer additionally more to the water safety and past critical situations, i.e. flooding, and how water management was carried out during that time. Currently, when a dyke bursts, there is a big hinterland. In the future, as they fear, the area of Kampen will become a 'bathtub', enclosed by the River IJssel, the lakes and the new bypass (figure 6). The water cannot flood away, they expect, if there is a dyke burst. The proposed bypass is a break with the past, which gained a lot of resistance in this narrative. Narrators fear that the bypass will not increase the water safety, but instead decrease it – a fine contradictio in terminis for a water safety project, as Warner & Van Buuren (2011) put it.

> *"In the past, the water could flood all the way to Wezep, Elburg, that happened in 1926, then you will get a water level of half a meter on a surface of about 30.000 hectares, maybe in Elburg*

a little more, but in the future, the water cannot go away." (Directly affected by the bypass and local resident 4)[54]

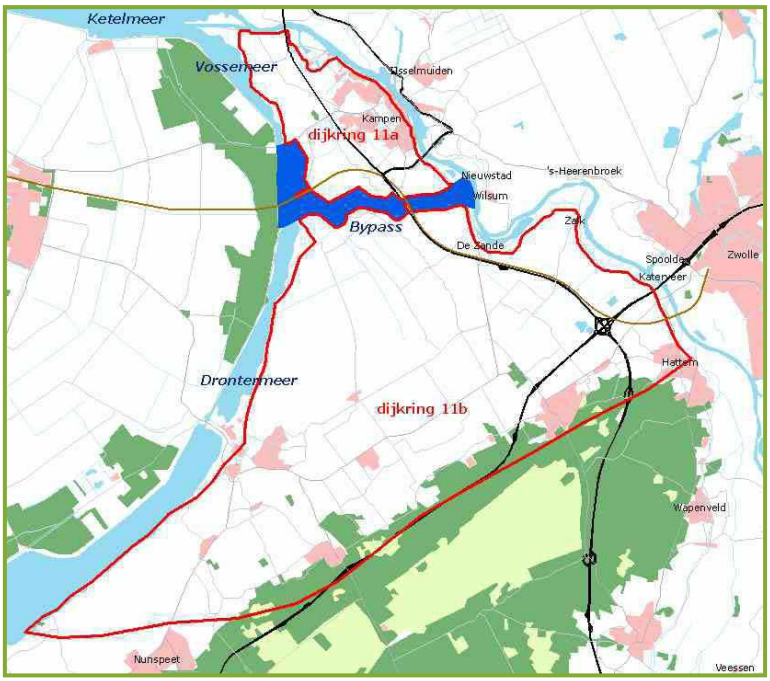


Figure 5.5: two new 'dyke rings' will emerge after the construction of the bypass. Kampen (located in 'dijkring 11a') will therefore become a 'bathtub', according to criticasters (Province of Overijssel, 2009).

Floods in this area usually occur as the result of an interplay of two effects. First, the River IJssel must discharge high amounts of water, resulting in a high water level, like it was the case in 1995. Second, there must be a north-western storm that will push water from Lake IJssel back into the Ketelmeer, Vossemeer and, subsequently, into the River IJssel. Some interviewees fear that the bypass will simplify this movement. With water coming from two sides, the northwest (Lake IJssel) and southeast (River IJssel), they expect that the bypass could not be used. More importantly, they argue that Kampen is located on an island then: the 'bathtub', as they mention it (figure 5.5).

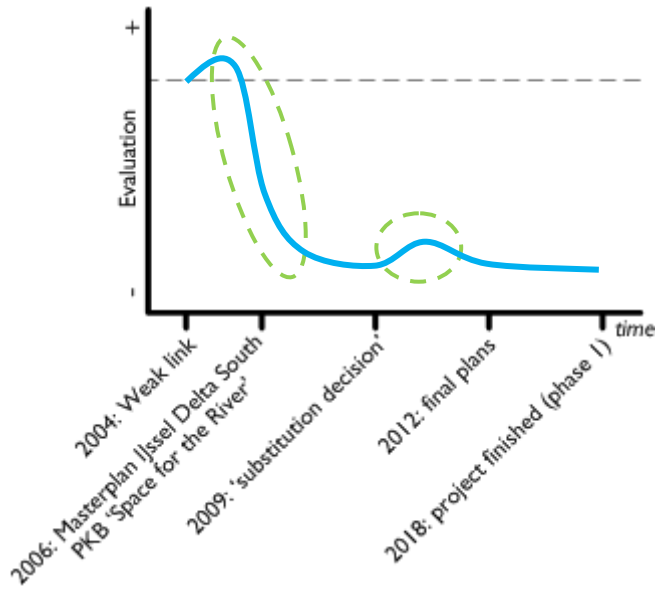
This fear is also emphasised by Albert van Ittersum, a former *dijkgraaf* of the local waterboard, and Hans Hartong, a water engineer and inhabitant of Kampen, who both appear regularly in the local media. Van Ittersum, to illustrate, states in a regional newspaper: *"The town will be surrounded by water. Especially with the ever increasing water level of Lake IJssel, that might result in very dangerous situations"* (De Stentor, 2011). An investigation of the local water board in 2006 underpins these concerns: the damage when a dyke bursts will increase with a factor 2 till 3 and the amount of victims 2 till 5, because of the construction of the bypass and the expected urban development (Waterschap Groot-Salland, 2006). The project team tried to remove these concerns with a new executed research, which is called an "update" of the waterboard report from 2006. The update concludes that the amounts of victims will stay the same; there is thus no decrease in water safety

(RWS, 2009). However, the aforementioned concerns return every time and are quite powerful in the local debate.

Most of these concerns are reflected in the statements of action group Bye Bye Bypass, an initiative of opposition groups in the city council of Kampen. For instance, this action group misses the input of "real water experts" in the project team (De Stentor, 2012b). In 2011, before the national parliament had to decide on the execution of the bypass, more than 5.000 inhabitants of Kampen signed a petition against the plan. Rather than the creation of a bypass, technical solutions are presented as the way to go. Dyke improvements are safer and cheaper, it is argued. Additionally, the water meadows (*uiterwaarden*) should be emptied, so water can flow more easily. Especially older interviewees refer to situations in their childhood when these meadows had to be cleared every year.

> Local resident 4: *"It is all reed plants, bramble bushes and willows."*
>
> Local resident 3: *"But it is beautiful."*
>
> Local resident 4: *"It is beautiful indeed, but it obstructs the water. (…) Those water meadows have just to be cleared. (…) The River IJssel is a very beautiful river, but that means that you have to maintain the surroundings."* [55]

	Main local actors	Perception	Characteristic quotes
A water safety narrative	Bye bye bypass	An area strongly influenced and affected by the water, during northwester storm and high peak discharge of the IJssel	'Kampen will become a bathtub', 'Increasing the dykes is adequate and cheaper'



1 – Hearing for the first time about the plans, which are appreciated and considered as a *decrease* in water safety

2 – The action group books a small success, by referring to a five-years-old policy document by the local waterboard about water safety, but the plans are not changed.

Table 5.3: the water safety narrative summarised.

In sum, these proposals extend the way water management was practiced in the last decades. Here you could clearly see the different paradigms in play: putting the water away versus embracing the water.

> *"With Space for the River, a little space is given back [to water], from our, uh, spatial planners and water managers a logical one, but for the people not at all. So that awareness is not there yet. On the other hand, people know here the storm situations, that happens regularly here, with the Lake IJssel storm, they see the water coming and going, so in that sense they are aware, but that has always stayed within the dykes, right?"* (Member of the project group)[56]

In conclusion, this narrative starts with the 'old land' and the strong influence of the Zuiderzee and River IJssel on the area. The plans for the bypass, meanwhile, try to encourage – in a different way – these dynamics again. Interestingly, however, this seems not to be logical for some. Instead, they argue that the area will become less safe, because of the bypass. Therefore, they argue for continuing past practices of water management. Their approach was quite powerful, as the discussion about water safety repeatedly pops up, while the decisions are taken by now.

5.3. Tensions between the different actors: local versus expert knowledge

Local knowledge in the three narratives is all operationalized differently, although there are obviously some similarities. A shared opinion among the interviewees is their current satisfaction about the IJssel Delta South, the area they are living in. The baselines in the tables in the previous sections underpin this. Most inhabitants have chosen decisively for this quiet, rural area to live in: they are not expecting big developments in their surroundings. As a result, most inhabitants look a bit wary at what is going on in their area. Even more positive-looking interviewees were still not convinced if a bypass is really needed. This need is, however, often accepted. Here the national government could still count on a lot of trust, as they are recognised as the authority with expertise.

The most important component of the local knowledge model seems to be the personal connections, because this mainly determines how people experience their surroundings, based on their belief systems. Social connections influence this, by for example finding like-minded people. Environmental connections were usually more based on an affinity with the surroundings than on specific environmental knowledge of the area. People often got involved in the plans after they feared that this personal connection could become altered or affected. The community of Kamperveen, as an example, took action when they noticed their community could become

threatened. After resolving this problem, their community was 'safe' again (i.e. not threatened) and, later, representatives did not operate so actively anymore in the advisory board.

How to disseminate this view to governmental authorities, especially when one felt it was threatened, was often harder. In particular people who are not directly affected did not know exactly which governmental party was responsible. The responsibilities of the plans were namely spread among many authorities. National, regional and municipal policy tracks are intertwined, making it hard for a local resident to detangle these. To illustrate, the municipality of Kampen is the main responsible for the housing plans and Rijkswaterstaat for the lowering of the summer bed. Interviewees who were directly affected or involved in advisory groups knew often better how to reach the right governmental body.

Furthermore, how this view was picked up by governmental bodies differed greatly. It seemed that the province and the municipality paid the most attention to local voices, although local residents felt hardly heard. Local knowledge from Kamperveen was used to gain support, other local concerns are only little heard. The project team argued that the bypass would reconfirm the image of an area formed by the Zuiderzee, since branches of the sea were common in the past. Opponents of the plan, though, state that a branch like the bypass has never existed: water flew from the sea almost towards the river and not vice versa. Here you could see, just as in the previous case, a different interpretation, or use, of the past.

'Space for the River' is often referred to as a pragmatic program, with each lower-level authority that could give it a twist (Warner & Van Buuren, 2011). The province of Overijssel and, later on, the municipality of Kampen seized this opportunity to show the capacities of regional and local bodies to execute such an integral plan. It is without a doubt a prestigious project to give the area another image, in which spatial planning is connected with water management. It seems that local and regional bodies were (are) more concerned about each other to execute these plans, than on involving the community. A lot of locals do not prefer another image of the area; they are happy with the current situation. At the same time, different views of the area exist among locals, making it hard to make the 'right decision'; you cannot keep everybody happy. The discussion about a blue or green bypass, for example, shows the tensions between farmers and conservationists.

Some governmental parties had clearly difficulty with the new approach of water management, specifically the water-related involved authorities: the Ministry of Infrastructure & Environment (Rijkswaterstaat) and local waterboards. Rijkswaterstaat took a more passive attitude in first instance (Van den Brink, 2009): they were not against the master plan per se, but it was initially not related to their 'Space for the River' targets. The waterboards, experienced with previous floods and

storms, feared, among others, a decrease in safety because of the bypass, thus preferring to continue past techniques to keep 'dry feet'. This makes a project group more fragile, as local action groups tried to gain from this. The Bye Bye Bypass action group, part of the water safety narrative, run off with findings from waterboard Groot-Salland to underpin its argument: 'look, we are right!' Nevertheless, the plans remained almost unchanged and are at the moment implemented, mainly the result of the persistent project leader and deputy of the province Theo Rietkerk.

The bypass seems to be a clear example of adaptive water management in practice. Looking at the water safety component, the plans are aimed for the long-term and can be easily adapted, so the plans look rather resilient. A greater involvement of local knowledge here might have hold back anticipatory adaptation, as the presented local knowledge in the area is rather conservative. The stories provide a rich experience and knowledge of the area. The conservative angle by locals, though, opts for backward-looking plans, instead of anticipatory plans, exploring new solution paths, of which resilience is more associated with. However, as some criticasters state, they are not *against everything per se*, but plans should be realistic. That made, for example, the Werkgroep Zwartendijk investigate the population expectations about Kampen, based on data from the Statistics Netherlands (CBS), to combat the "non-realistic" housing plans. The housing plans look indeed pretty weak after the housing market bubble busted and are currently postponed until 2016.

By conclusion, the project group, led by a strong-operating province, has big plans for the area, which contradicts with most inhabitants, who have another image of the area. The province might have moved too fast, not connecting their ambitions with local knowledge. At the same time, it is preparing the area for the long-term, making it a resilient plan. Only during the early phase of the plan, input from locals was encourages and actively searched for. However, after all, this had to a great extent an instrumental motive (gaining support), instead of a quality motive. Later on, local knowledge was mainly used to fit the proposed plans better with local stakeholders, which resulted in small alterations in the plans.

6. Conclusions: local knowledge in Dutch water management

This research aimed to explore different types of local knowledge, the use of it in Dutch water management practice and how governmental parties are dealing with it. The leading research question of this master thesis therefore was what forms of local knowledge local residents possess and how this is used in new adaptive water management policies in the Netherlands. It is argued that traditional approaches of water management fall short to tackle the consequences of climate change, in particular because of increasing uncertainties and a growing complexity. The traditional, technical way of operating was very successful in past, which made water management focus more and more on this approach, moving towards a so called 'lock in' situation. Accordingly, looking at the adaptive cycle (figure 2.1), the current approach of water management could be placed in the conservation phase, with a high rigidity and a low flexibility. The resilience of the water system could subsequently be considered as low. Adaptive water management, more concerned about uncertainties and flexibility, provides a way out, in which there lies a key role for local knowledge.

Local knowledge is approached from a social constructionist perspective, including not only 'hard' knowledge people have of a certain area, but as well including 'softer' notions such as someone's valuation of a place. Therefore, besides a quality aim to get a better understanding of the environment, a democratic aim could be made as well: in essence, local knowledge might contribute to a better involvement of local residents in public policies. After all, local and expert knowledge could contribute to each other, but the two types of knowledge seem to have a different rationality which makes it hard to connect them. Water management has traditionally an instrumental-rational character, heavily relying on technocratic solutions, which results in an instrumental motive to use local knowledge: mainly to gather support and enhance the planning process. Local knowledge tends to have a more value rationality that is more concerned with subjective, particular notions.

The social constructionist perspective towards local knowledge resulted in an interpretative approach. As a result, the concept of local knowledge was operationalized by using a narrative approach, since local knowledge is communicated through representations, which are consequently reflected in narratives. Two case studies in the Netherlands were carried out to explore this in practice: the 'Weak Spot' Hondsbossche and Pettemer Seawall (*Zwakke Schakel Hondsbossche en Pettemer Zeewering*) and the 'Space for the River' project IJssel Delta South (*Ruimte voor de Rivier IJsseldelta-Zuid*). In-depth interviews, combined with elements from go-along and photo-elicitation interviews, made me capture the main representations. Ultimately, this resulted in a 'thick

description' of local knowledge, presented in three narratives of each case. This local knowledge was confronted with expert knowledge from governmental authorities to study the existing tensions between the two types of knowledge and its underlying rationalities.

6.1. Main conclusions from the case studies

The case studies illustrated the rich understanding people have of their surroundings: most of the interviewees were actively engaged with their area. Both case study areas were highly shaped by the water in the past (such as floods), which residents were very much aware of. Local knowledge was in first instance built around somebody's personal connections with the area. These personal connections were, additionally, influenced by social ties in the area (friends, the wider community), which either confirmed or toned down somebody's story. Environmental connections differed heavily among interviewees, depending on how they used the area. Interviewees related to agriculture had a more functional view of the area, whereas others were more concerned about specific types of plants or valued the recreation possibilities.

Following from this, the distinguished narratives of local knowledge in the case studies showed as well the strong appreciation of the area at the moment (see the starting points of the narratives in figure 6.1). Only one of the six distinguished narratives in the two cases was negative about their area. Proposed plans could therefore generally count on scepticism: would it influence the values I appreciate in my surroundings? When people felt that their values would seriously be affected, they started to become more actively involved by participating in advisory groups or joining a local action group. It revealed as well that local knowledge is not a static concept, but that it could change over time, reflecting the evaluation of changes in the area.

Accommodating the consequences of climate change in the area is often accepted by the interviewees – only sometimes with a little aversion. It showed that water management is still very much expert-driven. The technocratic language by Rijkswaterstaat presents the grounds to raise the water safety norms, visible in how local residents most of the times easily accepted statements by water authorities. Local residents mentioned for example that they trusted the water authorities and that they could not oversee measures taken on a higher level. Local residents rely thus heavily on the authorities and their information provision. Put differently, water authorities have a strong responsibility towards their citizens.

Below, the main findings of the two case studies are summarised, based on the three main steps as presented in the end of chapter 2: (1) the trajectory of two case studies in water management,

thereby focusing on the transition towards adaptive water management in practice; (2) a study of the present local knowledge in both case studies; and (3) the tensions between the different actors, paying attention to 'local knowledge versus expert knowledge' distinction and the underlying rationalities.

The Hondsbossche and Pettemer Seawall case

The Hondsbossche and Pettemer Seawall case is one of the priority 'Weak Spot' projects in the Dutch coastal zone area since 2004. Regional authorities were appointed to design a plan to upgrade the area, both meeting the new safety norms and improving the spatial quality. There were immediately tensions between the local waterboard Hoogheemraadschap Hollands Noorderkwartier (HHNK), looking after the water safety, and the province of Noord-Holland, concerning about spatial development and the environment. At first, the province came up with a plan, closely aligned with nature conservationists, which could count on much criticism from both local residents and HHNK. HHNK, then, opted several times for technical solutions (e.g., increasing of the seawall), as they were used to do so. Again, this counted on criticism from local residents and the province. After the Ministry of Infrastructure & Environment intervened, the project group decided to design a plan that centred on an improvement with sand, which was in line with national policies such as the Deltaprogram (*Deltaprogramma*).

Three narratives of local knowledge were distinguished in this case, each resonating with a governmental authority. First, local residents in Petten had a strong socio-economical story (orange line in figure 6.1), as they have argued for almost more than a decade to upgrade their village. Petten is located just behind the seawall, which makes the village less pleasant for tourists compared to neighbouring beach towns. In the end, an improvement with sand will create new possibilities, the interviewees expect. The municipality of Schagen, of which Petten is part of, always has backed their residents. Second, conservationists are less positive about the final plans. This story (red line) appreciates the current seawall for its rich history. To them, the seawall is a monument and should be threatened as such. The improvement with sand will replace the function of the dyke, which does not do right to its history, they argue. The local waterboard HHNK has a similar perspective, but made eventually a move towards a sandy improvement, which did not suit the conservationists. Third and final, environmentalists value as well the current seawall, for the nature that developed around this rigid dyke. The breakwaters became an important food area for several internationally protected seabirds. The improvement with sand will make the breakwaters disappear and, as a consequence, the food area for the birds. The final plans therefore are not

warmly welcomed in the environmentalists' story (blue line). In first instance, however, their values were much more reflected in the plans, because the province was the leader of the project group and it developed a plan that would encourage nature development. When HHNK took over the province's leading role, attention shifted away from nature concerns to water safety elements.

The alignment between the governmental authorities was somewhat weak, which resulted in some total shifts over the years. Local residents, as a result, changed their opinion a few times, which is reflected in the changes in evaluation in figure 6.1. It clearly mattered for the development of the plans which authority was in charge. At last, the current plan (an improvement with sand) is embraced by all authorities, but it was not their first option. HHNK had to move away from their traditional, technical solutions they are used to, whereas the province still thinks that the spatial component of the plan is not fully explored. Also local residents, in particular the conservationists and the environmentalists, showed to have some worries with the new approach, because the seawall defended the area for centuries: why not continuing that? The seawall gives the area its distinct character, they argue, while the community of Petten deliberately argues to abolish the dyke, as it makes the area unwelcome. In conclusion, the response to the final plan is mixed and the different rationalities of expert and local knowledge seem not to be bridged.

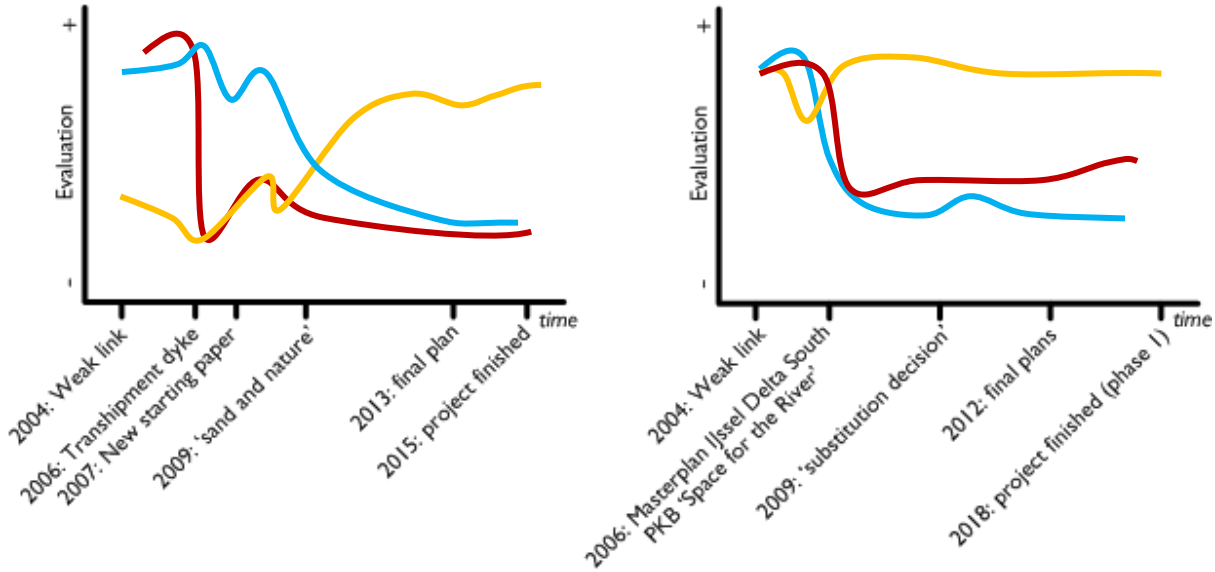


Figure 6.1: The development of the six narratives in the two case studies. Left: the Hondsbossche and Pettemer Seawall case, right: the IJssel Delta South case.

The IJssel Delta South case

In the lower IJssel delta in the Netherlands, the area around Kampen was appointed as one of the national 'Space for the River' projects in 2004. Initially, Rijkswaterstaat expected that the summer

bed of the river IJssel had to be lowered in the short term and a bypass might become necessary in the long term. The province of Overijssel seized this opportunity to execute the bypass earlier and to upgrade the area whole at once, which includes, among others, infrastructure improvements, nature development and housing plans for the municipality of Kampen. This resulted in some tensions between Rijkswaterstaat, which preferred to stick to the water safety elements and the ambitious province of Overijssel and the municipality of Kampen. Here you could see how the instrumental rationality of Rijkswaterstaat bumped into the value-rationality of the regional authorities.

The three narratives of local knowledge, meanwhile, were all very positive about the current state of the area (figure 6.1). First, the story of the community of Kamperveen (orange line) emphasises the social ties in their community and the importance of the agricultural sector. The proposed bypass should not affect this, which they managed to guarantee after designing an own track of the bypass in the early stage of the plans. Second, conservationists became more engaged with the plans when the municipality presented its housing plans. As these narrators (red line) highly value the rural area surrounding Kampen, they expected that the area will alter drastically. An active campaigning time and the presentation of an alternative vision did not result in a rejection of the plans, because most of the plans were already agreed on; they became involved too late. The third story (blue line) has a similar opinion as the second narrative, but concentrates more on the effects on the water safety of the area. They present themselves as "real water experts", backed by a former *dijkgraaf* and a local water engineer. They successfully searched the media and introduced catchphrases as "Kampen will become a bathtub", even underpinned by a document from a local waterboard. In this latter narrative, local knowledge is very close to expert knowledge.

After all, the more conservation-based beliefs did not correspond with the values in the ambitious plans of the regional bodies and resulted in the foundation of some local interest groups to obstruct the plans, such as Werkgroep Zwartendijk and Bye Bye Bypass. The province might therefore have moved too fast, not connecting their ambitions with local concerns. Only during the early phase of the plan, input from locals was encourages and actively searched for. This, though, had to a great extent an instrumental motive (gaining support), instead of a quality motive. Later on, local knowledge was mainly used to fit the proposed plans better with local stakeholders, which resulted in small alterations in the plans. However, the ambitious, anticipatory plans are aimed for the long-term, which the conservative forms of local knowledge might have held back.

6.2. Reflection: local knowledge in Dutch water management

Based on the empirical findings, summarised in the previous section, some general reflections on the concept of local knowledge and its role in Dutch water management are made here. In general, this research has showed the challenge of using local knowledge in water management for three main reasons. First, local knowledge tends to have a more conservative character that clashes with anticipatory adaptation. Second, the underlying value-rationality of local knowledge is hard to connect with the instrumental rationality of expert knowledge. The third and final argument builds further on this: during the coalition formation of a project group, it clearly matters which governmental authority is in charge, since these authorities have different rationalities. This section will elaborate further on these three arguments.

Local knowledge as a barrier to anticipatory adaptation

By focussing on local knowledge, I attempted to show the struggle towards adaptive water management, which is a move away from technical solutions. Looking at the adaptive cycle, traditional water management was put in the conservation phase, with an according low resilience. The case studies could be placed here too, because certain governmental parties, particularly water-related authorities, *and* some local residents seem still to rely on traditional approaches in water management, which Adger et al. (2007) would call a social or cultural barrier. A strong tendency towards technical solutions remains, based on successful past experiences and practices, possibly in the long-term creating 'lock-in' situations. As water management has a technocratic nature, this is maybe not that surprising. However, this might result in a low resilient water system, while there might be potentially a great capacity to adapt in the Netherlands. Adaptive water management, by conclusion, shows thus to be difficult to be put into practice, due to the reliance on past, traditional approaches.

It could be questioned after all if local knowledge could contribute to adaptive water management. Adaptive water management is mainly concerned with the long-term and deals with uncertainties, related to climate change predictions. As a consequence, a tension between local knowledge, which is basically more conservative, and anticipatory adaption is likely to arise (also discussed by Few et al., 2007). Local knowledge especially hardly touches upon dealing with uncertainties, which is of key importance in adaptation. In conclusion, experts continue to be important to keep sight of the long term. At the same time, this does not mean to abandon local knowledge and public participation. Local residents could still provide valuable information about the environment they

are part of. Authorities should still aim to connect decisions from higher-level governments, such as raised water safety goals, with local residents' knowledge.

Different rationalities: hard to connect local with expert knowledge

Adaptive water management gives way to a stronger spatial component compared to traditional approaches, such as 'Space for the River'. Local residents tended to have more problems with the effects of this, as it has usually bigger consequences on the area. In addition, new plans, related to spatial development, are added or connected to the original water safety plan, which will alter the area even more, which are not per se necessary for the water safety. There is a wider range of governmental parties involved, which do not all have an agenda based on water issues. The decentralisation of governmental responsibilities to lower-level bodies stimulates this development. Citizens, as a result, start to question these kinds of – often ambitious – projects more: what is it all about?

An underlying problem is the different types of rationality governmental actors have, of which two of them are distinguished in chapter 2: value-rationality, related to local knowledge, and instrumental rationality, related to expert knowledge. The case studies reveal these different rationalities and, following from that, the different perspectives governmental parties have on local knowledge. More specifically, the provinces, the Dutch main regional planning authority, have a sharp eye for spatial development and environmental concerns. Also municipalities have often an own agenda driven by spatial or economic development, knowing local voices well. It could be argued that the rationality of provinces and municipalities is more based on a value-rationality. The local waterboards and Rijkswaterstaat, on the other hand, have a strong focus on water safety norms and 'keeping dry feet', therefore having a strong instrumental rationality.

These angles and ambitions often clash with each other, as seen in both case studies. The establishment of a project group, consequently, often costs a good deal of trouble. Waterboard HHNK and the province of Noord-Holland were in first instance suspicious of each other in the Hondsbossche and Pettemer Seawall case, as they expected that the other party would not take care enough of respectively water safety and spatial development. In the IJssel Delta South case, there were tensions between the ambitious province and Rijkswaterstaat, which preferred to stick to the water safety issues.

The different rationalities also explain the different valuation of local knowledge by governmental bodies. Provinces, for example, showed more affinity with nature conservationists and their

narrative in the case studies. Municipalities often stand for their inhabitants, therefore more concerned with local opinions. Meanwhile, the water-related authorities, i.e. the waterboards and Rijkswaterstaat, have a more technocratic viewpoint, primarily concerned about water safety and perceiving other issues essentially as 'extras' to the original plan. Each governmental body, so to say, has its own language that does or does not (fully) recognise the language of other, different narratives. Especially the more technocratic languages, 'spoken' by waterboards and Rijkswaterstaat, are harder to connect to more subjective, particular language.

Local knowledge which took the form of a more subjective, particular narrative, seen especially among conservationists and environmentalists, could generally count on more recognition from regional authorities, whereas Rijkswaterstaat and waterboards had more difficulty with this. The instrumental rationality was often directive in the end for the two case studies, therefore neglecting the subjective and particular, which resulted in that some groups felt not heard. Surprisingly, local knowledge sometimes became almost expert knowledge, as it was presented in a narrative as objective and rational, best visible in the water safety narrative in the IJssel Delta South case. In this narrative, the technocratic language of water authorities was spoken too, even referring to documents from the local waterboard. These arguments were therefore countered by water authorities, whereas more subjective, particular local knowledge was dismissed as irrelevant.

Forming a project group: which authority and its according rationality are dominant?

In the coalition formation of a project group, it thus clearly matters which governmental authority takes the lead in first instance, as it greatly decides on which form of knowledge is perceived as appropriate. The coalition formation is the moment to include local knowledge, since the project group has still an explorative character. Within set boundaries (e.g., safety norms), local knowledge could be examined by the project group and incorporated consequently. However, as the case studies reveal, governmental parties often merely have an eye for advocates of their own perspective, neglecting others. This does not mean that local knowledge is not explored; the project group were in both cases very aware of existing perceptions in the area and organised many public participation meetings. What was actually done with these perceptions depended on the dominant rationality.

Hence governmental parties are fighting for their own spot within the project group, which makes the power balance in the coalition fragile in first instance and could make plans change easily in the first years, as for example the transhipment dyke in the first case study shows. To illustrate, the provinces and municipalities in the case studies often seized the opportunity to combine the water

plans with own interests (e.g., the master plan IJssel Delta South combined with the 'Space for the River' project, municipal plans like Marina Petten with the improvement with sand in front of the seawall), making Rijkswaterstaat worry if the plans would be carried out on time. In the end, a coalition was presented in both cases, in which water management and spatial planning had found each other, enthusiastically spread and defended by the formed project groups. Local knowledge was added in these coalitions too, for instance the story of the community of Petten (Hondsbossche and Pettemer Seawall case) and the own-developed scenario by the community of Kamperveen (IJssel Delta South case). Both stories have a socio-economic character, which resonates more easily with instrumental rational authorities, because the stories are more presented as factual observations.

After a coalition is created and established, the power balance stabilises more and a new tense situation occurs. This situation centres on the coalition partners on the one hand and local residents whose values do not reflect the ambitions of the project group on the other hand. As a consequence, these locals, often operating in local action groups, try to bring down the proposed plans by the coalition. Their narratives, however, have a more exclusive character, which could be called 'dialogues of the deaf', as Warner & Van Buuren (2011) put it. Rather than searching for common ground, local actors remain in the trenches only to tell their perspective on the area. Other local values are more included, greatly because these local residents have taken a more pragmatic viewpoint in the earlier phase. Hence their stories offer opportunities to connect them with other (governmental) proposals. Ultimately, the tense situation, nevertheless, is more stable and less threatened than the situation during the coalition formation.

The outcomes of the coalition in the two case studies show the difficulties of putting adaptive water management into practice, which attempts both to meet the new water safety norms and to improve the area in both cases. The approach to do so is thus a more integral one, as the worlds of water management and spatial planning are more bridged. However, this did result in only a small increase of the use of local knowledge, because many forms of local knowledge are somewhat conservative and could consequently prevent anticipatory policies. Residents who take a more pragmatic viewpoint could often easier connect their stories with governmental policies. On the other hand, the rationality of governmental authorities, in particular those of the field of water management, does not recognise other rationalities and its related types of knowledge. As a result, to form a stable coalition between governmental actors is a tough task, in which only local knowledge with the same rationality is acknowledged. Also after the main plans are decided on, the resistance grows, so the final plans could still count on a lot of local criticism.

To conclude, this seems to be one of the greatest challenges of public policy making: to prepare for and deal with a changing environment (e.g., because of climate change), while at the same time the plans should aspire to reflect the wide range of people's understandings of the place. This tuning process seems to be quite hard, even more because the case studies reveals the different perspectives and aims governmental parties have and the different existing interpretations of what is considered as knowledge.

6.3. Recommendations for future projects

As Dutch water management could be considered in a transition towards adaptive water management, local knowledge might play an increasing important role in future water policies. The two main potentials of local knowledge – improving the quality of plans and a wider involvement of the public – are thus not fully explored yet, as both governmental parties and local inhabitants are struggling with a new approach of water management. The water sector is opening up to other voices, it seems, but has to remain the authority at the same time; the combination of the two is a difficult balancing act. The dominant instrumental rationality does not fully recognise the local knowledge based on value-rationality. At the same time, this research showed that local knowledge could operate as a barrier of adaptation too, because these values make local knowledge often rather conservative, therefore not anticipating on the future. This section will make four main recommendations to better incorporate local knowledge in future water management.

First, the case studies have shown the above described struggle, which makes it important to gather the case studies' experiences and review other cases as well. This could, consequently, improve the learning capacities in future projects. At the moment, there seems to be little interaction *between* different project groups which are preparing for climate change. The 'Space for the River' case has a central organisation, but ideas are translated differently in the several areas. The coastal zone case has only limited interaction with other 'Weak Spot' projects. Also experiences of collaboration among actors *within* a project group should be collected and compared to other, similar projects.

Second, building further on the previous argument, a better alignment would be recommended, in particular between spatial planning-oriented agencies (provinces, municipalities) and water management-related agencies (Rijkswaterstaat, waterboards). There seem to arise some power struggles and tensions between authorities when they have to operate collectively, due to different rationalities, interests and ambitions. This might result in a too self-centred perspective, losing sight of the bigger picture. The different positions of the different governmental parties should be

evaluated more in-depth, already beforehand. In this way, expectations of each party become clearer. For instance, it might be that Rijkswaterstaat considers the municipality to reflect local voices, therefore not considering local knowledge itself. In extension, the formation of a coalition group could become more transparent to justify the chosen way ahead: how did the final plan emerge? This will especially provide local residents with a better understanding of the planning process.

Third, authorities should aim to connect decisions from higher-level governments, such as raised water safety goals, with local residents' knowledge. There are thus restricted boundaries – often set by the national government – within which local knowledge could play a role. Governments should be more explicit about these borders, as these are often legitimate choices, to avoid disappointment among locals, who develop a feeling that they are not heard. So far, though, local voices get more attention only after the foundation of the plan is decided on, as both cases illustrate. It is recommended to take up local knowledge already earlier in the plan. Additionally, as national, regional and local policy programs and aims become more intertwined, each track with its own time horizon and procedures, this sometimes lacks clarity for citizens. As a consequence, small-scale participation rounds, tailor-made to problem and context, are recommended, instead of bigger, more general participatory methods. Both project groups in the case study areas seem to be aware of this, such as regularly organised small talks around the kitchen table at people's homes (*keukentafelgesprekken*), with specific groups of people.

Fourth, local residents could search more for common ground with governmental authorities, by striking the right note to each party. The narratives from local residents should aim for searching for similar starting points with governmental views about the project. By doing so, local knowledge could be connected more easily with governmental plans. This asks, though, for some understanding of governmental attitudes and structures. Furthermore, it asks for a more pragmatic viewpoint taken by locals, since there are specific borders within participation can take place.

To conclude, clear boundaries should be made within participation could take place and thus when local knowledge could made visible. Bottom up processes are unlikely in water management, as higher-level governments have set specific guidelines. Within these borders, though, there remains a lot possible. So far, it seems that the edges are not fully explored yet, thus not fully benefitting from what local knowledge could offer. An instrumental rationality prevails, which does not always acknowledge the value-rationality of local knowledge. All in all, an increase in the use of local knowledge might result in more resilient water policies, tackling the changes caused by climate change and in which local residents recognise themselves.

6.4. Theoretical and methodological reflection

Approaching local knowledge from a social constructionist point of view enabled me to combine qualitative and democratic motives in one concept, relying on ideas from planning and cultural geography. In the domain of socio-ecological thought, wherein resilience and local knowledge are central concepts, local knowledge is primarily concerned with providing additional information that expert knowledge does not have, such as present species. By taking a social constructionist angle, local knowledge provides as well information how people perceive their area and the changes therein. In sum, it offers a framework to explore not only *what* people know about their area, but as well *how* people perceive their area. Often this *how*-question gained me more information, because it explains more why certain behaviour is shown towards the plans. A downside is that the concept of local knowledge then could become interchangeable with concepts from the field of cultural geography such as place identity. Nevertheless, this new approach may contribute to a further operationalization of the local knowledge concept within the planning and adaptive water management literature.

This master thesis focused thus strongly on local residents' values and perceptions. Operationalizing local knowledge with a narrative approach suited the research very well, as these values and perceptions are central elements in narratives. The data gathering to write these stories empowered people to tell about the area and what was going on there. The construction and interpretation of the narratives was made as transparent as possible by using the computer programme Atlas.ti, a welcoming tool to structure the findings. As well there are numerous references to other documents, such as newspaper articles and policy documents, which were used to verify stories. In total, the narratives of local knowledge resulted in a 'thick description' of the area.

By developing this approach, the research aimed to contribute to establish a link between planning theory and practice, as planning remains to linger in theoretical debates (Graham & Healey, 1999). The chosen methodology is largely based on methodological approaches from the field of cultural geography, which has a stronger methodological base. The final narratives were built around data gathered from in-depth interviews, combined with go-along and photo elicitation interviews. Planning could gain from this chosen methodology, as it makes findings stronger founded and it improves the connection between theory and practice. The selected narrative approach in this research connects the literature about adaptive water management with water management practice in the Netherlands. Essentially, the taken approach in this research could contribute to this 'methodological deficit' in planning.

Besides the focus on local residents, the governmental side was covered with an interview in each case, next to an extensive policy document review. In further research, more attention could be paid to this side. They might present themselves as one 'front' in the project group, closely operating together, but below that surface there is a whole lot more going on, as the case studies have shown. Examining these internal discussions further could provide a better insight in attitudes towards local knowledge and the different rationalities that are at play. Subsequently, this could explain more in-depth in which stage the transition towards adaptive water management is.

In addition to this latter argument, future research could examine the following three aspects as well. First, a wider range of case studies could make the findings stronger underpinned. Second, another interesting aspect could be to set up an international comparison, to study how water management in other countries is rooted in maybe different cultures than the Dutch one. There might be other views towards local knowledge and its use might accordingly be quite different. Finally, local knowledge could be examined in other domains too, such as urban planning, to see how other fields are approaching local knowledge. Water management, consequently, could learn from these domains. In sum, the study of local knowledge in water management deserves a deeper exploration, as adaptive water management gains in importance.

References

Adger, W.N. et al. (2007) *Assessment of adaptation practices, options, constraints and capacity*. Chapter 17 in: Parry, M.L. et al. (eds) *Climate Change 2007: Impacts, Adaptation and Vulnerability.* Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge

Adger, W.N. et al. (2009) *Are there social limits to adaptation to climate change?* Climatic change, 93(3-4), pp.335-354

Agrawal, A. (1995) *Dismantling the divide between indigenous and scientific knowledge.* Development & Change, 25(3), pp.413-439

Allmendinger, P. (2002) *Planning theory.* (2nd edition) Palgrave Macmillan, Hampshire

Anderson, J. (2008) *Talk to the hand? Community councils and planning consultation.* Planning Theory, 7(3), pp.284-300

Andriesse, L.A. et al. (2007) *Natuurlijke klimaatbuffers voor een klimaatbestendiger Nederland.* Definitiestudie. Royal Haskoning, Rotterdam

Berkes F., Folke C. & Gadgil, M. (1995) *Traditional ecological knowledge, biodiversity, resilience and sustainability*. In: Perrings, C., Maler, K.G., Folke, C., Holling, C.S. & Jansson, B.O. (eds.) *Biodiversity conservation*. Kluwer Academic Press, Dordrecht

Biesbroek, G.R., Klostermann, J., Termeer, C. & Kabat, P. (2011) *Barriers to climate change adaptation in the Netherlands.* Climate Law, 2(2), pp.181-199

Breman, B., Pleijte, M., Ouboter, S. & Buijs, A. (2008) *Participatie in waterbeheer: een vak apart.* Alterra, Wageningen

Bull, M. (2008) *Place-making: planning, modernity and humanistic geography.* ProQuest, UMI Dissertation Publishing, Ann Arbor, Michigan

Commissie Waterbeheer 21ste eeuw (2000) *Waterbeleid voor de 21ste eeuw: geef water de ruimte en aandacht die het verdient.* Advies aan de staatssecretaris van Verkeer & Waterstaat en aan de voorzitter van de Unie van Waterschappen. Rijkswaterstaat, Den Haag

Corburn, J. (2003) *Bringing local knowledge into environmental decision making: improving urban planning for communities at risk*. Journal of Planning Education & Research, 22(4), pp.420-433

Cresswell (2004) *Place: a short introduction.* Blackwell, Malden

De Stentor (2011) *Bypass, 'de grootste Kamper ui ooit'.* Newspaper article from De Stentor, August 26, 2011

De Stentor (2012a) *Kamer akkoord met bypass Kampen.* Newspaper article from De Stentor, July 5, 2012

De Stentor (2012b) *Bye Bye Bypass dringt bij Kamer aan op onderzoek gang van zaken.* Newspaper article from De Stentor, July 6, 2012

De Stentor (2013) *Groen licht bypass, besluit Reeve in 2016.* Newspaper article from De Stentor, May 16, 2013

Disco, C. (2002) *Remaking "nature": the ecological turn in Dutch water management.* Science, Technology & Human Values, 27(2), pp.206-235

Edelenbos, J., Van Buuren, M.W. & Van Schie, N. (2011) *Co-producing knowledge: joint knowledge production between experts, bureaucrats and stakeholders in Dutch water management projects*. Environmental Science & Policy, 14(6), pp.675-684

Elliott, J. (2005) *Using narrative in social research: qualitative and quantitative approaches.* Sage, London

Entrikin, J.N. & Tepple, J.H. (2006) *Humanism and democratic place-making*. In: Aitken, S. & Valentine, G. (eds.) *Approaches to Human Geography.* Sage, London

Entrikin, J.N. (1991) *The betweenness of place: towards a geography of modernity.* The John Hopkins University Press, Baltimore

Evans, J. & Jones, P. (2011) *The walking interview: methodology, mobility and place.* Applied Geography, 31(2), pp.849-858.

Failing, L., Gregory, R. & Harstone, M. (2007) *Integrating science and local knowledge in environmental risk management: A decision-focused approach.* Ecological Economics, 64(1), pp.47-60

Few, R., Brown, K. & Tompkins, E.L. (2007) *Public participation and climate change adaptation: avoiding the illusion of inclusion*. Climate Policy, 7(1), pp.46-59

Fischer, F. (2000) *Citizens, experts and the environment: the politics of local knowledge.* Duke University Press, Durham

Fischer, F. (2009) *Democracy and expertise: reorienting policy inquiry.* Oxford University Press, Oxford

Fisher, W.R. (1992) *Narration, reason and community.* In: Hinchman, L.P. & Hinchman, S.K. (eds.) (1997), *Memory, Identity, Community: The idea of narrative in the human sciences.* State University of New York Press, Albany

Flyvbjerg, B. (2004) *Phronetic planning research: theoretical and methodological reflections.* Planning Theory & Practice, 5(3), pp.283-306

Flyvbjerg, B. (2006) *Five misunderstandings about case-study research*. Qualitative Inquiry, 12(2), pp.219-245

Folke, C., Hahn, T., Olsson, P. & Norberg, J. (2005) *Adaptive governance of social-ecological systems.* Annual Review of Environment and Resources, 30, pp.441-473

Geertz, C. (1983) *Thick description: toward an interpretative theory of culture.* In: *The interpretation of cultures: selected essays.* Reprinted in: Oakes, T.S. & Price, P.L. (eds) (2008) *The cultural geography reader.* Routledge, London

Gemeente Kampen (2009) *Structuurvisie Kampen 2030*. Toekomstperspectief voor de IJsseldelta. Gemeente Kampen, Kampen

Gergen, K.J. & Gergen, M.M. (1983) *Narratives of the Self.* In: Hinchman, L.P. & Hinchman, S.K. (eds.) (1997), M*emory, Identity, Community: The idea of narrative in the human sciences.* State University of New York Press, Albany

Graham, S. & Healey, P. (1999) *Relational concepts of space and place: issues for planning theory and practice.* European Planning Studies, 7(5), pp.623-646

Gustafson, P. (2001) *Meanings of place: everyday experience and theoretical conceptualizations.* Journal of Environmental Psychology, 21, pp.5-16

Hague, C. (2005) *Planning and place identity*. In: Hague, C. & Jenkins, P. (2005) *Place identity, participation and planning.* Routledge, London

Hall, S. (1997a) *Introduction.* In: Hall, S. (eds.) *Representation: cultural representations and signifying practices.* Sage, London

Hall, S. (1997b) *Chapter 1: the work of representation.* In: Hall, S. (eds.) *Representation: cultural representations and signifying practices.* Sage, London

Healey, P. (1999) *Institutionalist analysis, communicative planning, and shaping places.* Journal of Planning Education and Research, 19(2), pp.111-121

Hennink, M., I. Hutter & A. Bailey (2010) *Qualitative research methods.* Sage, London

HHNK (2008) *Startnotitie dijkversterking Zwakke schakel Hondsbossche en Pettemer Zeewering.* Hoogheemraadschap Hollands Noorderkwartier, Heerhugowaard

Hillier, J. (2001) *Imagined value: the poetics and politics of place.* In: Madanipour, A., Hull, A. & Healey, P. (eds.) *The governance of place.* Ashgate, Hampshire

Holling, C.S. (1994) *Simplifying the complex: the paradigms of ecological function and structure.* Futures, 26(6), pp.598-609

Holloway, L. & Hubbard, P. (2001) *People and place: the extraordinary geographies of everyday life.* Prentice Hall, London.

Huitema, D., Mostert, E., Egas, W., Moellenkamp, S., Pahl-Wostl, C. & Yalcin, R. (2009) *Adaptive water governance: assessing the institutional prescriptions of adaptive (co-)management from a governance perspective and defining a research agenda.* Ecology & Society, 14(1), 26

Huntington, H.P. (2000) *Using traditional ecological knowledge in science: methods and applications.* Ecological Applications, 10(5), pp.1270-1274

IPCC (2007) *Glossary*. In: Parry, M.L. et al. (eds) (2007) *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge

Irwin, A. (1995) *Citizen Science: a study of people, expertise and sustainable development.* Routledge, London

Jones, O. (1995) *Lay discourses of the rural: developments and implications for rural studies.* Journal of Rural Studies, 11(1), pp.35-49

Kabat, P., Schulze, R.E., Hellmuth, M.E., Veraart, J.A. (eds) (2003) *Coping with impacts of climate variability and climate change in water management: a scoping paper.* DWC-Report, International Secretariat of the Dialogue on Water and Climate, Wageningen

Kals, E., Schumacher, D. & Montada, L. (1999) *Emotional affinity toward nature as a motivational basis to protect nature.* Environment & Behavior, 31(2), pp.178-202

KNMI (2006) *Klimaat in de 21e eeuw: vier scenario's voor Nederland*. Koninklijk Nederlands Meteorologisch Instituut, De Bilt

Kusenbach, M. (2003) *Street phenomenology: the go-along as ethnographic research tool.* Ethnography, 4(3), pp.455-485

Kust op Kracht (2009) *Projectrapport Hondsbossche en Pettemer Zeewering: Zand en natuur*. Hoogheemraadschap Hollands Noorderkwartier, Heerhugowaard

Kust op Kracht (2013) *Noord-Hollandse kust wordt veiliger én mooier.* Nieuwsbrief 7. Hoogheemraadschap Hollands Noorderkwartier, Heerhugowaard

Labov, W. & Waletzky, J. (1997) *Narrative analysis: oral versions of personal experience.* Journal of Narrative and Life History, 7(1-4), pp.3-38.

Landelijke Werkgroep Watertoets (2011) *Evaluatie watertoets 2011. Rapportage casus IJsseldelta-Zuid, Kampen.* Landelijke Werkgroep Watertoets, Den Haag

Lemos, M.L. & Agrawal, A. (2006) *Environmental governance*. Annual Review of Environment and Resources, 31, pp.297-325

Lintsen, H. (2002) *Two centuries of Central Water Management in the Netherlands.* Technology and Culture, 43(3), pp.549-568

Murdoch, J. & Clark, J. (1994) *Sustainable knowledge.* Geoforum, 25(2), pp.115-132

Natuurmonumenten and partners (2006) *More nature and dry feet. Six Dutch nature conservation organisations propose: natural climate buffers for a safer and more beautiful country.* Brochure Climate Buffers

Pahl-Wostl, C. (2002) *Participative and stakeholder-based policy design, evaluation and modelling processes.* Integrated Assessment, 3(1), pp.3-14

Pahl-Wostl, C., Sendzimir, J., Jeffrey, P., Aerts, J., Berkamp, G. & Cross, K. (2007) *Managing change toward adaptive water management through social learning.* Ecology & Society, 12(2), 30

Pendall, R., Foster, K.A. & Cowell, M. (2010) *Resilience and regions: building understanding of the metaphor.* Cambridge Journal of Regions, Economy and Society, 3(1), pp.71-84

Project IJsseldelta (2006) *Veilig wonen, werken en recreëren in IJsseldelta Zuid. Het masterplan in vogelvlucht.* Projectorganisatie IJsseldelta, Zwolle/Kampen

Project IJsseldelta (2010) *Bestuursovereenkomst planstudie IJsseldelta Zuid.* Projectorganisatie IJsseldelta, Zwolle/Kampen

Provincie Noord-Holland (2007) *Robuuste versterking Hondsbossche en Pettemer Zeewering*. News item from February 1, 2007. Accessible via: http://www.noord-holland.nl/web/Actueel/Nieuws/Artikel/Robuuste-versterking-Hondsbossche-en-Pettemer-Zeewering.htm (last accessed on June 17, 2013)

Provincie Overijssel (2005) *Uw mening over IJsseldelta-Zuid: participatieverslag.* Provincie Overijssel, Zwolle

Provincie Overijssel (2011) *Planstudie IJsseldelta-Zuid.* Provincie Overijssel, Zwolle

Provincie Overijssel (2011) *Regioadvies over de beneden IJssel aansluited op het PDR advies over zomerbedverlaging beneden IJssel.* Brief aan de staatssecretaris van Infrastructuur & Milieu. Provincie Overijssel, Zwolle

Reed, M.S. (2008) *Stakeholder participation for environmental management: a literature review.* Biological Conversation, 141(10), pp.2417-2431

RWS (2009) *Toekomstvastheid van de hoogwatergeul in de IJsseldelta*. *Quick scan naar de consequenties van het advies van de Deltacommissie voor de hoogwatergeul bij Kampen*. Rijkswaterstaat Waterdienst, Lelystad

Sandercock, L. (2003) *Out of the closet: the importance of stories and storytelling in planning practice*. Planning Theory & Practice, 4(1), pp.11-28

Stenseke, M. (2009) *Local participation in cultural landscape maintenance: Lessons from Sweden.* Land Use Policy, 26(1), pp.214-223

Swanborn, P.G. (2010) *Case study research: what, why and how?* Sage, London.

Taylor, B. & De Loë, R.C. (2012) *Conceptualizations of local knowledge in collaborative environmental governance.* Geoforum, 43(6), pp.1207-1217

Tibby, J., Lane, M.B. & Gell, P.A. (2007) *Local knowledge and environmental management: a cautionary tale from Lake Ainsworth, New South Wales, Australia.* Environmental Conservation, 34(4), pp.334-341

Trell, E.M. & Van Hoven, B. (2010) *Making sense of place: exploring creative and (inter)active research methods with young people.* Fenna, 188(1), pp.91-104

Tuan, Y.-F. (1977) *Space and place: the perspective of experience*. Edward Arnold, London

Tuan, Y.-F. (1991) *Language and the Making of Place: A Narrative-Descriptive Approach*. Annals of the Association of American Geographers, 81(4), pp.684-696

V&W (2000) *3e Kustnota.* Ministerie van Verkeer & Waterstaat, Den Haag

V&W (2007) *Hydraulische randvoorwaarden voor het toetsen van primaire waterkeringen*. Ministerie van Verkeer & Waterstaat, Den Haag

V&W (2009) *Procesevaluatie planstudies prioritaire Zwakke Schakels in de kust: het in samenhang verbeteren van de veiligheid en ruimtelijke kwaliteit*. Ministerie van Verkeer & Waterstaat, Den Haag

V&W (2010) *€250 miljoen voor versterking laatste zwakke kustschakels in Noord-Holland.* News item from August 20, 2010. Accessible via http://www.rijksoverheid.nl/nieuws/2010/08/20/250-miljoen-voor-versterking-laatste-zwakke-kustschakels-in-noord-holland.html (last accessed on June 20, 2013)

Van Buuren, M.W., Klijn, E.H. & Edelenbos, J. (2012) *Democratic legitimacy of new forms of water management in the Netherlands*. International Journal of Water Resources Development, 28(4), pp.629-645

Van den Brink, M.A. (2009) *Rijkswaterstaat on the horns of a dilemma*. Eburon, Delft

Van der Brugge, R. & Rotmans, J. (2007) *Towards transition management of European water resources*. Water Resources Management, 21(1), pp.249-262

Van der Brugge, R., Rotmans, J. & Loorbach, D. (2005) *The transition in Dutch water management.* Regional Environmental Change, 5(4), pp.164-176

VROM (2004) *Nota Ruimte.* Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu, Den Haag

Warner, J. & Van Buuren, M.W. (2011) *Implementing Room for the River: narratives of success and failure in Kampen, the Netherlands.* International Review of Administrative Sciences, 77(4), pp.779-801

Waterschap Groot-Salland (2006) *Bypass Kampen. Overstromingsberekeningen.* Waterschap Groot-Salland, Zwolle

Waterwerk (2006) *Dijken worden overslagbestendig: het water mag af en toe over de dijken komen.* Waterwerk Magazine, 7

Werkgroep Zwartendijk (2007) *Een dijk te ver. Een andere visie op de ontwikkeling van Kampen en IJsseldelta-Zuid*. Stichting Werkgroep Zwartendijk, Kampen

Wiering, M.A. & Arts, B.J.M. (2006) *Discursive shifts in Dutch river management: 'deep' institutional change or adaptation strategy?* Hydrobiologia, 565(1), pp.327-338

Williams, R. (1983) *Culture*. In: *Keywords: a vocabulary of culture and society.* Reprinted in: Oakes, T.S. & Price, P.L. (eds) (2008) *The cultural geography reader.* Routledge, London

Yanow, D. & Schwartz-Shea, P. (eds) (2006) *Interpretation and method: empirical research methods and the interpretative turn.* M.E. Sharpe, Armonk

Yanow, D. (2004) *Translating local knowledge at organizational peripheries.* British Journal of Management, 15(S1), S9-S25

ZKN (2005) *Concept Netwerkstadvisie 2030.* Programmabureau Zwolle Kampen Netwerkstad, Zwolle/Kampen

Appendix A: list of interviewees

Below, a list of the interviewees can be found. The interviews were conducted at interviewees' homes in April, May and June 2013. The two interviewed governmental administrators were visited at their office in April 2013.

'Weak spot' Hondsbossche and Pettemer Seawall

1. Assistant environmental manager 'Weak Spots Noord-Holland' for waterboard Hoogheemraadschap Hollands Noorderkwartier
2. Beachcomber and local resident (inhabitant of Groet)
3. Local resident 1(Catrijp)
4. Local resident 2(Catrijp)
5. Chair of the village council Petten (*dorpsraad*) and local resident (Petten)
6. Secretary of the village council Petten and local resident (Petten)
7. Member of the village council Petten and local resident (Petten)
8. Member of the citizen's committee of coastal defence (*burgercomité kustverdediging*), founder of the local action group 'Sand over Nature' (*Zand over Natuur*) and local resident (Petten)
9. Former municipal official and member of the advisory group (*klankbordgroep*) (Schagen)
10. Local resident, who works in the area as a real estate broker (Julianadorp)

'Space for the River' project IJssel Delta South

1. Environmental manager project IJssel Delta South for the province of Overijssel
2. Former representative of local interest group *Streekbelangen Kamperveen* and local resident (Kamperveen)
3. Representative of local interest group *Streekbelangen Kamperveen* and local resident (Kamperveen)
4. Chair of the local interest group *Stichting Werkgroep Zwartendijk* and local resident (Kampen)
5. Member of the advisory group (*klankbordgroep*), directly affected by the bypass and local resident 1 (Noordwendigedijk)
6. Directly affected by the bypass and local resident 2 (Hogeweg)
7. Member of the advisory group, directly affected by the bypass and local resident 3 (De Chalmotweg)
8. Directly affected by the bypass and local resident 4 (De Chalmotweg)

Notes

[1] "Toen is alles nog eens doorgerekend en bekeken. Het was toen inmiddels al 2011, dus voordat je een projectorganisatie hebt staan, iedereen mee hebt, de juiste mensen op de juiste post hebt zitten, daar gaat gewoon wat tijd overheen, en ook voordat je de provincie mee hebt, Rijkswaterstaat mee hebt, dus dat was best wel een intensief traject."

[2] "Van degenen die dat hebben gebouwd heb ik er nog heel veel van gekend, die zouden zich omdraaien in hun graf, omdat ze zo, als het ware beledigend met hun werk om te gaan. En op zich vind ik de dijk een monument"

[3] "Daar hebben al zoveel mensen zich mee bemoeid, met die dijk, ohhh, als ik dat zie, vreselijk stuk historie. De heren van Egmond, even kijken hoor, een handtekening van Keizer Karel, Hertog van Alva, Johan van Oldebarnenvelt, al dat soort dingen, die hebben zich allemaal met de dijk bemoeid."

[4] "Het kavelpatroon (...) ligt er al sinds 1890. (...) Dat kavelpatroon is afgeleid van de kreken, want dat is ook van een tijd geleden, want er is ook een tijd geweest dat het onder water liep."

[5] "Maar weet je wat zo mooi is bij die dijk, omdat het zo totaal anders is, je ziet het nergens in Nederland. (...) als je dat ziet, een hele strakke dijk, met die pieren, en rechts die polders, dat is zo iets unieks, dat wat je net, ik bedoel, duintjes en zand, daar komen we in om, tot aan Hoek van Holland aan toe."

[6] "Ik begrijp wel dat er iets moet gebeuren, maar de manier waarop vind ik, vind ik verschrikkelijk jammer, omdat het een uniek gebied is."

[7] "Ik heb wel eens voorgesteld, breng daar hindernissen aan, (...) blokken van 2,5 meter, uh, in elke kant, van die kubussen. En dan, maar ja, dat is lelijk zeggen ze dan. Maar ja, wat is lelijk, zand vind ik heel erg lelijk zelfs."

[8] "[Toen wilden] ze een gat in de dijk maken en die polder daarachter onder water laten lopen met eb en vloed, dat was natuurlijk helemaal waanzinnig. Dat kan toch niemand serieus nemen. Denk ik dan. Boerderijen moeten daar weg, er staat een zeer historische polder, er zit een vreselijk stuk geschiedenis aan vast, ook met die slag van 1799, met de landing van de Russen en de Engelsen, die hier allemaal langstrokken, het is een stuk historie, die dijk."

[9] "Het stiefkindje ten opzichte van de andere dorpen. Tenminste, zo heb ik het ervaren in de korte tijd."

[10] Member of the village council: "Dit gebied moet, moet gewoon in ontwikkeling komen." Chair of the village council: "Tuurlijk, er is nu geen werk, je ziet het aan je eigen kinderen. Die trekken weg. Ik heb drie kinderen, die hebben hier niets te zoeken."

[11] "Kan je je voorstellen dat hier de dijk, die nu acht meter hoog is, dat je daar nog een keer zo'n zeven, acht meter bovenop krijgt? Dat is een wand. (...) Het hele dorp wordt onleefbaar."

[12] "Dat hoogheemraadschap, dat zijn dijkenbouwers hè, die weten eigenlijk van dijken alles, maar daar moet je niet met nieuwe dingen gaan komen."

[13] "Ze waren vanaf het begin al erg pregnant daarin, ze hebben natuurlijk een hele grote afdeling daar met veel mensen, die werkten daar aan de dijkverhoging. (...) Ze hebben ook veel kennis daarvan, maar ze hebben geen kennis van zand. Dat was natuurlijk altijd bij Rijkswaterstaat ondergebracht, dus de kennis van zand was bij het hoogheemraadschap niet erg aanwezig. En daar ging altijd een hele duidelijke voorkeur van, "daar zijn we bekend mee, dijkverhoging, dat kunnen we."

[14] Chair of the village council: "Een soort IJmuiden zeg maar." Secretary of the village council: "IJmuiden, ja (lacht), het was een best mooi, best mooi plan vond ik." Chair: "Ja, maar, maar té." Secretary: "Te modern voor hier."

[15] "Wij als gemeente Zijpe zeiden, "we willen daar een plan bij invoegen", om daar een zeejachthaven met mogelijkheden uit te breiden, die en de ruimtelijke kwaliteit verbetert en de economie een impuls geeft, want dat is in Petten ook erg nodig."

[16] "En die is op een avond ook zelf naar Petten toegekomen, dat is een vreselijk mooie prater, hij kan het ontzettend goed verkopen, tuurlijk (...) en Petten, dat hing aan zijn lippen. En we wilden allemaal zand en niks anders, alleen maar zand. Hoe meer, hoe beter, want dit was eigenlijk het walhalla van Nederland. Nou, dat is de omslag geweest, uh, waarschijnlijk ook van dat hoogheemraadschap."

[17] "Het hoogheemraadschap, achteraf gezien waren die ook weer niet helemaal achterlijk, want die hadden in de gaten, je moet proberen draagkracht proberen te vinden bij de mensen die hier wonen, want anders, uh, het leed niet te overzien, want ze gaan allemaal protest aantekenen."

[18] "Toen hebben ze vanuit Petten met brieven naar de staatssecretaris allemaal doorgestuurd, en de provincie. Daar was men dan niet zo bang voor, maar als het naar het Rijk toeging, dan was het, dan waren ze daar helemaal niet blij mee. (...) Daardoor is die inspraak wel sterk gebleven, maar dat is niet omdat ze de kansen gekregen, maar dat is omdat ze de mogelijkheid genomen hebben. En eigenlijk is dat voor de politiek een afgang."

[19] "Wij hebben misschien wel de doorslag gegeven, dat klinkt misschien een beetje eigengereid. (...) En weet je wat die dorpsraad goed gedaan heeft, volgens mij? Dat ze aldoor één ding hebben gedaan, ze zijn niet afgedwaald. Ze zijn, ze hebben niet eens in overweging genomen om, "laten we eens zeggen dat basalt misschien ook heel goed zou kunnen zijn", dat is niet aan de orde gekomen. Er is aldoor gezegd, "nee, uh, wij willen zand, om die en die en die reden"."

[20] "Het is toch niet zo moeilijk, kijk, als je nou zo'n hele dijkverhoging moet hebben met alles erop en eraan, dan moet je er even goed naar kijken, mar dit is zo doorzichtig als wat. Er moet zoveel miljoen kuub voor en je moet het twintig jaar onderhouden, nou, het is al ter uit en ter na helemaal uitgezocht. We weten precies wat er moet, waarom duurt het allemaal zo lang?"

[21] "Ik heb maar een bezorgdheid, dat het niet al te veel, uh, bezwaren gemaakt gaan worden, dat het weer vertraagd. Want dan gaat het lang duren. (...) Het duurt al zo waanzinnig lang."

[22] "dat is die, uh, het mooie aan dit gebied, het unieke in dit gebied, in combinatie met de brakke polder erachter, dus als je de gedekte tafel aan de zeekant weghaalt, vindt je aan de binnenkant geen rustende vogels meer."

[23] "En dan staat er, "we krijgen nieuwe natuur", dan zeg ik tegen die leiding, "geef eens een voorbeeld, van wat is nou nieuwe natuur?". (...) aanplanten [ze] met helmgras en duindoorn, dan ben ik benieuwd hoe zich dat houdt, als dat aanslaat, want ik denk dat in eerste instantie het regenwater heel mooi naar beneden zakt, (...) dus die bovenlaag zal tot sint juttemis droog blijven, denk ik."

[24] "Met zoveel zand, dat jaarlijks vers dood zand, dan gaat de natuur naar de knoppen, daar zit niks in. Ze zuigen het op in zee, ze persen het in zo'n slib, al die beestjes zijn naar de knoppen, dat spuiten ze hier, (...) ik vind het een massagraf."

[25] "Een van de redenen dat de vogelwerkgroep, of een van die natuurvrouwen waar ik nog wel contact mee heb, ze zegt, "denk je nog dat ik nog naar die inspraakavonden ga? Je wordt gewoon de mond gesnoerd door zo'n campingbaas die gewoon zegt, "hou nou eens op met je geteut"".

[26] "Om er draagvlak te krijgen, maar ook om de financiering rond te krijgen, want we moeten dus zorgen dat we een plan hadden wat realiseerbaar was. [*Ja.*] Dat er ook geld voor kwam. En omdat er bij Ruimte voor de Rivier te weinig geld was, hebben we geprobeerd om alternatieven te zoeken en uh, we leveren een behoorlijke financiële bijdrage als provincie. [*Oké.*] Ook de gemeenten, maar ook wat andere potjes, deels Rijkswaterstaat, uh, een stukje oud-VROM, het ministerie van VROM heeft ook een bijdrage geleverd."

[27] "Die hebben we ook uit laten tekenen en daar zijn we eigenlijk gewoon mee de boer op gegaan, het gebied in, de bibliotheek in, de buurthuizen in, bij mensen om de tafel om te kijken, "wat vinden de mensen er van?" en "hebben ze zelf een voorkeur voor het tracé of een inrichting?".

[28] "Dan trek je wel een gebied dat bij elkaar hoort, wat een buurt, wat een gemeenschap vormt, die trek je helemaal uit elkaar. Nou, daar werd van opgekeken, ik zal er een kaartje bijpakken, hier heb je de Zande, hier heb je de Hogeweg, met de kerk, een school, hier en hier heb je Zuideinde. Als je hier tussendoor gaat, die kant op of nog verder aan die kant langs, dan trek je die drie kernen helemaal uit elkaar. Die drie buurtschappen die bij elkaar nog levensvatbaar zijn voor bepaalde zaken, maar ga je daar tussendoor met zoveel grof werk, dan worden de verbindingen minder, dan heb je in feite als gebied, uhhh, afgedaan, want dan valt de streek uit elkaar."

[29] "Ik ben opgegroeid in de landbouw, dus kijk je met landbouwogen, dat was van huis uit het gebeuren, water was wel mooi, maar het moet niet groter worden, (…) wij noemden het slootgrond, maar bagger uit de sloot haalden en werd weggebracht en dat werd aan de rand van de gaten gelegd, zo hier en daar, om dat weer op te vullen, geleidelijk aan werd dat land dan weer een beetje groter, zo keken we er tegenaan."

[30] "Er ligt hier goede landbouwgrond, waarvan wij aan de ene kant zeggen, wat jammer voor het gebied dat dat kwijtraakt, want de landbouw is de drager hier… Dat is een belangrijk economisch gebeuren. Er zitten ook wel andere dingen inmiddels, maar dat is allemaal kleinschalig. Landbouw is wel een van de belangrijkste punten, dus als je hier 50 of 60 hectare goede landbouwgrond, nou, 50 hectare goede landbouwgrond kwijtraakt… Dan zeg je, "dat is een boerderij voor het gebied, compleet gezien"."

[31] "Rijkswaterstaat vindt het noodzakelijk, nee, laat ik zeggen, er moet een betere afvoer van de IJssel komen. Kampen is de bottleneck, want de brug hier bij Kampen, uh, ja, dat station, als je uitstapt, dan zie je dat ook zo. Daar moet alles door. En je kan hem hier wel breed hebben, maar dat maakt natuurlijk niet uit, het moet daar onder dat ding door. (…) Uh, wat betekent dat? Dat betekent dat van bovenaf een keuze gemaakt is om hier, uh, op dit hele gebied, een, een PKB op te leggen."

[32] "Ik moet, ik moet het denk ik in z'n geheel zien, met al die projecten, als die allemaal klaar zijn, wat gaat het dan doen? En kijk, de geleerden zullen best een hoop weten en best wel over gestudeerd hebben. Ja, het zal zijn nut hebben, maar ik ben er nog niet van overtuigd, laat ik het zo zeggen. Eerst zien en dan geloven (lacht)."

[33] "Ik weet dat moment nog, 21 april 2005 stonden we in Kampen in het gemeentehuis, stadshuis, hadden we een grote bijeenkomst, ook met mensen uit het gebied en die avond daarvoor zaten we in het buurthuis van Kamperveen, daar was eigenlijk al heel veel weerstand. (…) Op 21, ja die 21ste, was ook bij die publieke bijeenkomst heel veel weerstand in Kampen vanuit het gebied, met name de boeren, en is eigenlijk door onze gedeputeerde ook gezegd van, "ja, wij stellen onze capaciteit en onze planologen, onze kennis ter beschikking van jullie, als jullie met een eigen variant of een eigen idee willen komen, dan is dat welkom."

[34] "We kunnen wel tegenwerken, maar als het toch over ons gebied gaat, dan willen we meewerken en ook meedenken. (…) Als het voor de veiligheid nodig is, dan zullen wij dat niet tegenwerken, want wij kunnen niet overzien of er zoveel water komt of niet."

[35] "Dus het was het momentum, er was, die mensen, natuurlijk, er gebeurt veel, die hebben natuurlijk liever dat er niks komt, dat het blijft zoals het is, maar die hebben wel de afweging gemaakt, misschien ook wel omdat we contact hadden, op de momenten daarvoor en dat we daardoor ook wel een beetje vertrouwen hadden gewonnen, dat ze zeiden, "we willen met jullie, we kiezen ervoor om mee te gaan denken, in plaats van alleen maar in de weerstand te gaan, de hakken in het zand te zetten en nee te zeggen." En dat is eigenlijk het mooiste wat je kan overkomen op dat moment, want uh, dan moet je nog maar kijken of wat zij willen past, maar dat risico hebben we toen genomen. (…) Dat is een heel belangrijk moment geweest, uh, ja."

[36] "Dat is ook een stukje dat je van tevoren prijsgeeft, want we zochten draagvlak. [*Uhu.*] Daar kan ook iets uitkomen waar heel veel andere partijen, de overheidspartijen van zeggen, van "ja, dat is wel de uitkomst van

de participatie, maar daar kunnen we niet mee leven." Dat had ook gekund. [*Ja.*] Dus dat viel allemaal mooi samen eigenlijk. [*Uhu.*] Daar hebben we ook wel op gestuurd, maar daar heb je ook wat geluk mee."

[37] "Het is in die zin een sterke zet geweest van de gedeputeerde om te zeggen, "wat zouden jullie zelf willen?", want dan ga je natuurlijk mensen, in zekere zin, tegen elkaar uitspelen. [*Ja, precies, ja.*] Binnen het gebied. (...) Ik denk dat de politiek op zich wel blij was dat wij met iets voor de dag kwamen, wat ook breed gedragen werd. Dat kwam goed uit. Dat is achteraf hoor, dat heb ik toen niet allemaal gezien."

[38] "Dat is een cultuurhistorisch landschap met veel waarde voor weidevogels, flora, fauna en heel mooi wijds landschap, je kijkt zo naar de Veluwezoom, bij helder weer kan je Elburg zien, zo de Veluwezoom."

[39] "Oud, landelijk gebied hè. Heel oud landelijk gebied, er is daar de Noordwendige dijk, de Reeve loopt daar, dat is een oude tak van de IJssel, die loopt hier tussendoor, vanachter de Roskam loopt ie zo daar naartoe en van de IJssel loopt ie naar de dinges toe, de Binnen-Reeve en de Buiten-Reeve."

[40] "Zwartendijk, dat vinden wij een natuurlijke grens. (...) Daar heb je dus ten westen van de Zwartendijk, heb je prachtige mooi wijds landschap en, en, en blijf daar af. (...) De Zwartendijk is in 1300, begin 1300 aangelegd, veel monniken hebben daar gewerkt om de Zuiderzee buiten Kampen te houden. Hij ging wel vaak lek, daar heb je die kolken, die wielen, voor veel Kampenaren is het een gezegde, "even een Zwartendijkje doen", even op de fiets of trimmend of wandelend, opa's en oma's met kinderen, die kunnen nu nog de kieviten buiten zien, de koetjes in de wei."

[41] "Kampen is altijd geweest een stad in een soort lintbebouwing langs de IJssel. Dat heeft zich steeds wat uitgestrekt."

[42] "We kwamen erachter dat het totaal overbodig was om daar woningen te gaan bouwen, omdat, uh, je in Kampen en de kleine kernen rondom Kampen nog wel 3500 duizend woningen kan bouwen, dus waarom daar dan, in zo'n mooi, rustiek, wijds landschap een woningwijk?"

[43] "Kampen moet niet de allure krijgen van een wereldstad. (...) Mensen komen voor rust, natuur, voor een leuke binnenstad, maar niet voor een wereldstad, want dan gaan ze wel naar Amsterdam of Zwolle."

[44] "Dit is natuurlijk watermanagement (...) het hoge rivierwater van de Rijn, dan wil je graag bypasses maken, zomerbed verdiepen, Ruimte voor de Rivier, kijk wij Nederlanders eens! Dat is een mooie gelegenheid om een woonwijk te realiseren, dat scoort in het buitenland. [*Uhu.*] Het buitenland hecht niet zo'n waarde aan wat voor 'n mooi cultuurhistorisch landschap daar lag."

[45] "Maar goed, ik zeg eerlijk, ik zeg eerlijk, het is een heel complex verhaal, (...) het is een enorm complex verhaal. Wat doen ze in Duitsland aan de afvoer van de Rijn, uhhm, dat kan ik niet allemaal overzien, zo eerlijk ben ik dan ook wel."

[46] "Ze hoorden pas van de bypass toen wij hier met de scenario's bezig waren en dan moet je ook op dat moment dat hele voortraject uitleggen, "waarom is het nodig, wat is de aanleiding en waarom is er geen alternatief?" Ja, en terechte vragen zijn dat gewoon en dat hebben we beide gedaan."

[47] "En moet er een bypass komen, dan moet ie er maar komen, de waterveiligheid is natuurlijk enorm belangrijk in ons land, maar dan heb je een geul, het liefst een groene bypass met twee dijkjes, nou, so what? Dan kijk je nog steeds mooi naar de Veluwezoom. Het kan natuurversterkend zijn, (...) maar ga daar niet een klimaatdijk maken waar straks misschien 300 huizen opgebouwd worden, verder ligt ie daar maar, in het hele gebied gaat naar de bliksem dan."

[48] "Ga nou eens kijken naar de Hogeweg, kijk naar de Zwartendijk, dan zijn het dijken. (...) Laat het in het landschap passen, maak het zo onopvallend mogelijk. Dat de mensen denken, als ze hier over twintig jaar komen, dat mensen denken, "wat raar, twee dijken bij elkaar, maar ja, dat zal wel van 1900 zijn of zo, of 1800"."

[49] "Uhm, nou, toen sloeg de economische crisis toe, de woningbouw, demografische cijfers wijzen al jaren uit dat Kampen groeit tot 54.000, 55.000 inwoners en dan stopt het. Dus de zotheid van het plan, ja, ik wil ons niet op de borst slaan, maar, en bij de natuur ook, we hebben goed in de gaten gehad, kijk, uh, bestuurders hebben alleen maar de blik op groei, groei, groei."

[50] "Toen heb ik ze ook gezegd, jullie hadden vijf jaar geleden, zes, zeven jaar geleden naast ons moeten staan, in 2005, 2006, ik zeg, dan had je heel ver gekomen. Het programma was best wel goed van hun, dat klopte wel, maar ik zeg, jullie zijn gewoon te laat. Dat red je nooit meer, nu niet meer."

[51] "Dat denk ik, toen het net bekend werd, zaten we in de, luister eens, jullie hebben gewoon die wijk nodig, om dit aan te kunnen leggen en jullie hebben dit nodig, om die wijk aan te kunnen leggen."

[52] "Volgens mij zagen ze allemaal dollartekens in hun ogen, van "dit wordt geweldig", en dat is naar voren geschoven, naar voren geschoven voor de gebiedsontwikkeling. Nog niet eens vanwege de waterveiligheid. En dat irriteert mij behoorlijk, dat ik denk van, "ja, waar gaat het over?""

[53] "Ik heb ooit aan Rietkerk ook gezegd, van "als jij je er niet zo sterk voor had gemaakt, dan was die bypass er nooit een keer gekomen." Nooit, een keer. Zo belangrijk is het ook precies zoals ik het nu zeg. Omdat het zo afhankelijk is van degene die het doet."

[54] "Als de dijk er niet was, kon het water helemaal naar Wezep, Elburg, zeg maar, dat is toen in 1926 gebeurd, dan krijg je over een oppervlakte van 30.000 ha zo'n beetje een keertje een halve meter water te staan, in Elburg misschien wat meer, maar straks kan het water niet meer weg."

[55] Local resident 4: "Het is allemaal riet en bramenstruiken en wilgen." Local resident 3: "Maar dat is wel mooi." Local resident 4: "Het is wel mooi, maar het houdt allemaal het water tegen. (...) die uiterwaarden moeten gewoon schoongemaakt zijn. (...) De IJssel is een hele erg mooie rivier, maar dat betekent wel, daaromheen, daar moet je de zaak wel onderhouden."

[56] "Met Ruimte voor de Rivier wordt eigenlijk weer een stukje ruimte teruggegeven, vanuit uhh, vanuit ons, ruimtelijke ordeners en waterbeheerders een logische, maar voor de mensen helemaal niet. Dus dat bewustzijn is er niet, aan de andere kant is het wel zo, mensen kennen hier wel de stormsituaties, dat komt ook regelmatig voor hier, met IJsselmeerstorm, ze zien het water komen en gaan, in die zin zijn ze zich er wel van bewust, maar dat wordt eigenlijk altijd tussen de dijken hè."