

#### **4. Long term institutional continuity and change in Dutch coastal zone and river management**

**M. van den Brink<sup>1</sup> and S. Meijerink<sup>2</sup>**

<sup>1</sup> Faculty of Spatial Sciences, University of Groningen, P.O. Box 800, 9700 AV Groningen, The Netherlands, email: m.a.van.den.brink@rug.nl

<sup>2</sup> Nijmegen School of Management, Radboud University Nijmegen, PO Box 9108, 6500 HK Nijmegen, The Netherlands, email: s.meijerink@fm.ru.nl

##### **Abstract**

The central question of this research project was: how can we understand long term continuity and change in institutions and policies in Dutch coastal zone and river management, and which factors are relevant to understand the patterns of continuity and change observed? In our research, we focused in particular on the changing role of Rijkswaterstaat. We concluded that new ideas and discourses, which are disseminated by coalitions or epistemic communities, focusing events, focusing projects, and elections turn out to be relevant to understanding institutional dynamics. In adapting to the changing societal and political circumstances, Rijkswaterstaat found itself caught on the horns of a dilemma: between preserving its expert status on the one hand and developing into a more responsive and efficient public organisation on the other.

##### **i. Problem**

Dutch flood management institutions and policies display both continuity and interesting dynamics. On the one hand, Dutch water managers continue building and strengthening dikes and other flood defences to protect the Netherlands against sea and river floods. On the other hand, they recently have developed various new ‘soft-engineering’ alternatives, such as the creation of room for the river, for example by removing dikes, or by depoldering agricultural areas. To understand these developments, we focused particularly on the changing role and positioning of one of the most important organisations in the Dutch flood policy domain, namely the organisation of Rijkswaterstaat, the policy-implementing agency of the Ministry of Transport, Public Works and Water Management. Rijkswaterstaat is generally known for its powerful position in the development of transport and hydraulic infrastructure in the Netherlands, for its engineering expertise, and for bringing the Dutch worldwide fame by realising major public projects, such as the Delta Works.

##### **ii. Aim**

The central objective of this research project was to describe the long term continuity and change in institutions and policies in the policy domain of coastal zone and river management in the Netherlands, with a particular focus on Rijkswaterstaat. In this way, we aimed to learn more about what has changed and what has remained stable over time, and why.

### **iii. Results**

In the following, we present a historical and chronological overview of the main developments within the Dutch flood policy domain, and within the organisation of Rijkswaterstaat, from circa 1950 to the present. In this overview we touch upon various factors that are relevant to understanding the observed continuity and change in institutions and policies. These factors will be summarised in the conclusions.

#### **The technocratic paradigm**

The last dramatic sea flooding in the Netherlands took place on February the 1st, 1953, when more than 1800 people died. The Dutch Parliament reacted almost immediately in approving the so-called 'Delta Plan', which entailed the construction of a series of large dams to close the estuaries of the rivers Rhine, Scheldt and Meuse. The Delta Plan built on the plans that had already been developed by the 'storm water committee' before World War II (Meijerink, 2005). The basic idea of reducing flood probability by closing estuaries was not new either, since the Rijkswaterstaat engineers had constructed the Enclosure dam ('Afsluitdijk'), and by that closed the 'Zuyderzee', in 1932. The period of the 1950s and 1960s was the era of the hegemony of the technocratic discourse, the era of modernity. There was a strong belief in the possibilities for solving water management issues by taking technical engineering measures, such as the construction of dams and dikes. The policy image of dams was positive since they were deemed necessary for protecting the Netherlands against sea floods. This image was shaped by an epistemic community of Delft civil engineers, who were employed at Rijkswaterstaat, consultancies, construction firms, and research institutes, such as Delft Hydraulics. Moreover, some members of this community held important positions in Parliament. This community was able to sustain the technocratic policy monopoly for decades.

#### **Waves of change, focusing projects and signs of disruption**

In the 1970s and 1980s the tide turned. Several far-reaching social and political trends in the western world, and in particular Dutch society, put the position of Rijkswaterstaat and that of the epistemic community of civil engineers under pressure. The organisation entered a crisis and became nicknamed a 'state within the state' – a slogan that suggested that it had the power to take decisions autonomously.

First, in the early 1970s there was an explosive rise of the environmental movement (Tellegen, 1978; Cramer, 1989), induced, among other things, by the publication of *The Limits to Growth* by the Club of Rome (Meadows, 1972). As a result, the nationwide support that the Delta Plan had received in the 1950s and 1960s started to diminish. Environmental interest groups were established and many large water management projects became defined as 'environmental catastrophes' instead of 'major triumphs of civil engineering' (Disco, 2002). The rise of the environmental movement was accompanied by a democratisation and emancipation of Dutch society, which was prompted by the student revolts of the 1960s. This second 'wave of change' (Schwartz, 1993) is also known as the 'cultural revolution' (Lintsen, 2005). Citizens wanted to have more voice in decision-making processes and rose in revolt against the 'politics of expertise' (Fischer, 1990). The oil crisis of 1973 marked the beginning of the third far-reaching social

process that heavily influenced the position of Rijkswaterstaat. Unable to control the resulting economic crisis, from the 1980s the Dutch government started to reform its political-administrative system. In line with the rise of the neoliberal politico-economic ideology in many western countries, budgets were cut drastically. Rijkswaterstaat, as one of the largest government organisations, had to contend with a fundamental reassessment of its formal position and the way in which it carried out its core tasks.

For Rijkswaterstaat, the search for a new organisational identity was a road with many obstacles. While its responsibility for carrying out several important public tasks, such as the protection of the country against floods from the sea and the rivers, require technical knowledge and expertise on the Dutch water system, it was also being criticised for its technocratic working style. Rijkswaterstaat therefore found itself caught on the horns of a dilemma (Van den Brink, 2009): it needed its renowned expert status to fulfil its public responsibilities, whereas it needed to distance itself from this expert status to be able to meet the increasing social and political imperative of developing into a more responsive and effective public organisation.

There were various ‘focusing projects’ (Lowry, 2006), clearly demonstrating the negative side-effects of the prevailing technocratic water management paradigm, in this period. In particular the damming of the Eastern Scheldt estuary, the reclamation of the Markerwaard, the planned river dike improvements and the new A27 motorway through the Amelisweerd estate near Utrecht functioned as focusing projects (Meijerink, 2005; Van den Brink, 2009; Van den Brink and Wiering, 2009). Here, we focus on the controversy about the damming of the Eastern Scheldt estuary, the final large dam that was envisioned in the Delta Plan. Rijkswaterstaat was in favour of carrying out the original Delta Plan drawn up after the disastrous flood of 1953, which included a complete closure of this estuary. However, as the proposed fixed dam would eliminate the saltwater ecosystem and associated fisheries, it became the object of massive and persistent popular protests. Rijkswaterstaat was forced by the government to come up with alternative designs that were both safe and ecologically acceptable, and, if possible, technologically challenging (Leemans and Geers, 1983; Goverde, 1976; Disco, 2002). In 1974, with the help of dredging and construction companies, Rijkswaterstaat proposed to partly close the Eastern Scheldt estuary with a storm barrier caisson dam. In normal circumstances the caissons are open, to a large extent maintaining the tidal regime in the estuary, but they can be closed entirely during unusually high sea levels (Bijker, 2002). This innovative ecological design saved the day for Rijkswaterstaat.

Rijkswaterstaat had already recognised the need for developing ecological knowledge in 1971. In this year a new Environmental Department was established within the Delta Department, and the first university educated biologist within Rijkswaterstaat, Henk Saeijs, was appointed head of this Section (Disco, 2002). Saeijs would attract more ecologists and biologists soon, thus contributing to the dissemination of ecological knowledge within Rijkswaterstaat. This new epistemic community started to build a knowledge-base on ecological issues, and contributed to the reframing of water and safety issues as multidisciplinary issues, including important ecological aspects. Saeijs, who later started working at the Ministry in The Hague, was one of the founding fathers of the concept of integrated water management, emphasising the need to include environmental and ecological issues in water management policies and projects (Saeijs et al., 2004).

## **New shock events**

In 1993 and 1995 (near) river floods raised societal awareness of flood protection issues in the Netherlands, as well as awareness among river experts of the limits to controlling high water levels with higher dikes only. To be able to cope with potential flood disasters in the future, that is, to anticipate the projected impacts of climate change, sea level rise and increasing river discharges, Dutch water managers introduced new flood defence strategies. Building on the principle of integrated water management, the basic idea of the Room for the River safety strategy was to enlarge the discharge capacity of the Dutch main rivers by increasing the amount of space for the rivers (Wiering and Driessen, 2001). The aim of the National Spatial Planning Key Decision procedure was to develop a coherent river-widening plan for the Rhine river and its distributaries Waal, Nederrijn-Lek and IJssel. The initiating ministries were the Ministry of Transport, Public Works and Water Management (the main initiator), the Ministry of Housing, Spatial Planning and the Environment, and the Ministry of Agriculture, Nature and Food Quality. The first and most important objective was to improve the flood security of the roughly four million inhabitants of the riverine area. The second objective was to improve the spatial quality of the river landscape (Ministerie van Verkeer en Waterstaat et al., 2002). Three types of river-widening measures were defined: spatial measures on the river side of the dike (e.g. excavating old river branches), spatial measures on the landward side of the dike (e.g. replacing dikes or the construction of a new river branch), and, only if necessary, technical measures (e.g. strengthening dikes or the removal of obstacles).

The development and organisation of the National Spatial Planning Key Decision procedure has to be understood against the background of the increasing criticism of the technocratic culture and way of working of Rijkswaterstaat – the organisation was obliged to develop a more responsive attitude. The spatial nature of the Room for the River policy also called for a different, more democratic, way of working. As a result, river management became a political issue, instead of being simply and solely a technical issue (see also Van den Brink and Meijerink, 2006).

## **Towards a public-oriented government business**

The first way in which Rijkswaterstaat adapted to the changing circumstances, and tried to deal with the dilemma it faced between preserving its expert status and developing into a more responsive and efficient public organisation was by incorporating the new ecological perspective in its predominantly technocratic system of meaning. This development is generally referred to as the ‘ecological turn’ in the technocratic water management paradigm (1970s–1990s). Concepts such as ‘integrated water management’, ‘water system’ and ‘room for water’ were developed, and biologists and ecologists were hired to assess the ecological impacts of water management projects and to make the environment and the landscape key issues.

In the same period, another turn took place in the technocratic paradigm, which would also greatly influence Dutch coastal zone and river management. The second way in which Rijkswaterstaat adapted to the changing circumstances was by embracing the new neoliberal politico-economic ideology. This development can be referred to as the ‘managerial turn’ (Van den Brink, 2009) in the technocratic water management paradigm. The period of the 1980s and 1990s constituted the first phase of this turn. In line with New Public Management ideas – the ‘tool’ to implement the neoliberal ideology (see Osborne and Gaebler, 1992; Kettl, 2000) –

Rijkswaterstaat introduced various management tools from private business to improve its effectiveness and efficiency. In the early years of the 21st century, the managerial turn accelerated under the influence of new external events – such as the publication of the findings of the temporary committee for infrastructure projects (Tijdelijke Commissie Infrastructuurprojecten, 2004) – and the separation, imposed by Parliament, of policy making and policy implementation. By introducing a Business Plan (Rijkswaterstaat, 2004), Rijkswaterstaat actively tried to transform itself into a ‘public-oriented government business’ and sought to develop a new identity as a policy-implementing agency. For instance, a new business model was introduced consisting of three internal steering relationships with the ministry, a new working style was adopted with the introduction of ‘the market, unless’ principle, and several radical internal reorganisations were implemented to create ‘one Rijkswaterstaat’.

Rijkswaterstaat thus managed to successfully embrace and incorporate elements and practices of the new environmental and neoliberal managerial discourses. Nevertheless, it is still caught on the horns of a dilemma in concrete water planning practices: between its expert status on the one hand and the need to democratise its way of working on the other. This is illustrated by the IJssel Delta South project in the upper riverine area for the construction of a bypass of the river IJssel. IJssel Delta South is an integrated planning project, for which not Rijkswaterstaat, but Overijssel Provincial Executive is the initiator. The Rijkswaterstaat employees involved had difficulty with realising their ambition to be the discussion partner of the region: they wanted to balance a reviewing role, i.e. seeing to it that the strict conditions set by Parliament were met, and a collaborative thinking role. Whereas the local and regional parties mainly identified with the democratic governance discourse to interpret and develop their partner roles, the Rijkswaterstaat employees mainly participated on the basis of their engineering knowledge and expertise, from a managerial control perspective. This was in line with the managerial turn in the technocratic water management paradigm. Although the local and regional parties valued the efforts made by the Rijkswaterstaat employees, they did not perceive Rijkswaterstaat as a real partner. There was more to being a partner than bringing in technical knowledge and expertise and reviewing the plans of the region. Parties were only considered real partners when they were able to negotiate and to make decisions.

#### **iv. Conclusions**

In sum, policy beliefs and discourses have changed fundamentally in the Dutch coastal and river flooding policy domain in the past decades. Though the policy community in the field of Dutch water management is still well organised at different administrative levels, the engineering community is no longer able to capture the flood policy domain on its own. The engineering paradigm is at least partly replaced by an ecological and a managerial paradigm. The influence of new ideas and new actors in this policy community has forced undoubtedly the epistemic community of civil engineers to reflect on its policies and to change its technocratic approach in accordance with demands of openness, transparency and legitimacy in policy-making under democratic conditions.

Looking at the factors relevant to understanding continuity and change in the Dutch flood policy domain, we have seen that new ideas and discourses which are disseminated by coalitions or epistemic communities, focusing events, such as river flooding, focusing projects, such as the Eastern Scheldt storm surge barrier, and elections are all relevant to understanding institutional

dynamics. The study also revealed how the organisation of Rijkswaterstaat has adapted to new societal demands and external pressures, and struggles with dilemmas, such as the dilemma between technocracy and democracy. To develop its positioning in integrated water planning projects, Rijkswaterstaat could reconsider its role of a technical expert in a democratic society. The challenge is to understand technical knowledge and expertise as part of the social context in which it is embedded and together with local and regional parties co-produce new plans.

## References

- Bijker, W.E. (2002). The Oosterschelde storm surge barrier: a test case for Dutch water technology, management, and politics. *Technology and Culture* 43(3):569-584.
- Cramer, J.M. (1989). *De groene golf: geschiedenis en toekomst van de Nederlandse milieubeweging*. Van Arkel, Utrecht.
- Disco, C. (2002). Remaking 'nature': the ecological turn in Dutch water management. *Science, Technology and Human Values* 27(2):206-235.
- Fischer, F. (1990). *Technocracy and the politics of expertise*. Sage, New York.
- Goverde, H. (1976). Oosterschelde: politiek en planning door leerling-watertovenaars? *Plan* 8:6-12.
- Kettl, D.F. (2000). *The global public management revolution: a report on the transformation of governance*. Brookings Institution, Washington DC.
- Leemans, A.F. & Geers, K. (1983). Doorbraak in het Oosterscheldebeleid. Coutinho, Muiderberg.
- Lintsen, H.W. (2005). *Made in Holland: een techniekgeschiedenis van Nederland (1800-2000)*. Walburg Pers, Zutphen.
- Lowry, W. (2006). Potential Focusing Projects and Policy Change. *Policy Studies Journal* 34(3):313-335.
- Meadows, D.L. (1972). *The limits to growth: a report for the Club of Rome's project on the predicament of mankind*. New York, Universe Books.
- Meijerink, S. (2005). Understanding policy stability and change: the interplay of advocacy coalitions and epistemic communities, windows of opportunity, and Dutch coastal flooding policy 1945-2003. *Journal of European Public Policy* 12(6):1060-1077.
- Ministerie van Verkeer en Waterstaat, Ministerie van VROM & Ministerie van LNV (2002). *Startnotitie MER in het kader van de PKB-procedure Ruimte voor de Rivier*. Den Haag.
- Osborne, D.E. & Gaebler, T.A. (1992). *Reinventing government: how the entrepreneurial spirit is transforming the public sector*. Addison-Wesley, Reading, MA.
- Rijkswaterstaat (2004). *Ondernemingsplan. Een nieuw perspectief voor Rijkswaterstaat: doorpakken, wel degelijk*. Den Haag.
- Saeijs, H.L.F., Smits A.J.M., Overmars, W. & Willems, D. (2004). *Changing estuaries, changing views*. Erasmus University Rotterdam, Radboud University Nijmegen.
- Schwartz, P. (1993). De strategie van Rijkswaterstaat: leren bij strategische besluitvorming. *Bestuurskunde* 2(1):34-41.
- Tellegen, E. (1978), *Milieu en maatschappijverordening*. In E. Tellegen & J. Willems, *Milieuaktie in Nederland* (pp. 160-178). De Trommel (Vereniging Milieudefensie), Amsterdam.
- Tijdelijke Commissie Infrastructuurprojecten (2004). *Grote projecten uitvergroot: een infrastructuur voor besluitvorming*. Sdu, Den Haag.

- Van den Brink, M. & Meijerink, S. (2006). Implementing policy innovations: resource dependence, struggle for discursive hegemony and institutional inertia in the Dutch river policy domain. GaP Working Paper Series 2006/2, Radboud University Nijmegen.
- Van den Brink, M. (2009). Rijkswaterstaat on the horns of a dilemma. Eburon, Delft. PhD thesis Radboud University Nijmegen.
- Van den Brink, M. & Wiering, M. (2009). Waterbeleid volgt calamiteit? *Rooilijn* 42(1):6-13.
- Wiering, M. & Driessen, P. (2001). Beyond the art of diking: interactive policy on river management in the Netherlands. *Water Policy* 3(4):283-296.