Review Paper

Discursive shifts in Dutch river management: 'deep' institutional change or adaptation strategy?

M.A. Wiering* & B.J.M. Arts
Political Sciences of the Environment, Nijmegen School of Management, Radboud University Nijmegen, P.O. Box 9108, 6500 HK Nijmegen, The Netherlands
(*Author for correspondence: E-mail: m.wiering@fm.ru.nl)

Abstract

This paper argues that a discursive shift is taking place in Dutch water policy, from 'a battle against water' to 'living with water' or 'accommodating water'. Yet we ask ourselves whether this shift is just an adaptation strategy of the existing elite group of water managers, who pay lip-service to new management approaches in order to maintain their vested interests, as some authors claim, or whether it implies 'deep' institutional change, e.g. in terms of the emergence of new water institutions, power relations and procedures. While investigating this question, we make use of the 'policy arrangement approach', which pays attention to institutional and discursive aspects of policy making alike. Our conclusion is that we are currently observing institutional changes beyond 'policy talk', particularly in terms of new legislation and procedures. However, it is too early to speak of 'deep' institutional change in Dutch water management, because the former water institutions are still maintaining their power positions, despite the availability of additional resources for policy and research as well as the emergence of several new modes of governance.

Introduction

Nowadays environmental scientists, hydrological engineers and policy makers are using a new lexicon when it comes to water issues. Water management can be expressed in such terms as 'room for the river', 'resilient water systems' or 'dynamic enforcement of the coastal zone' (Van Stokkom et al., 2005). In general, these policy concepts have been partly lent from older ecosystem based perspectives on water systems, which seem to have found themselves amidst a new political and societal momentum, because of the public attention aimed at water management. In this article we focus on river policies in the Netherlands and attempt to evaluate developments from an institutionalisation perspective. Is this new lexicon, or this 'discursive shift', a predecessor of fundamental change in the institutions of water management? Or should it be seen as a strategy used by water managers and scientists, consciously or unconsciously, in order to adapt to a changing environment, while the underlying institutions remain the same?

Van Hemert (1999) has a rather cynical explanation for the reason why we should create 'room for the river': it is meant to create more room for the new projects of The Directorate-General of the Ministry of Transport, Public Works and Water Management, in order to continue the engineering of rivers. She claims that the changes proposed are only 'discursive' instead of 'factual'. She describes 'room for the river' as an adaptation strategy of the Directorate-General

for Transport and Water Management in order to give 'room to the engineer'. In terms of institutional dynamics, it is a pattern in which certain 'near core' discourse elements are changed without changing the 'deep core beliefs' so as to ensure that the 'old' organisational structures – organisations, interaction rules, resources – are perceived as being necessary and that they therefore should be maintained (cf. Sabatier & Jenkins Smith, 1993).

We are not certain about this explanation and that is why we must search for an answer stemming from our own theoretical perspective and empirical viewpoints. In order to do this, we must introduce another lexicon, that of institutional dynamics and policy arrangements. Next, we will give a brief history of past developments in Dutch river management, concerning mainly the contrast between 'the battle against water' and 'accommodating water'. Subsequently, we will apply our theoretical framework and then discuss the nature and magnitude of institutional changes in river management.

Policy arrangements and institutional change

For a theoretical framework which combines insights on both discursive shifts and institutional change, we decided to choose the 'Policy Arrangement Approach' (PAA) (Arts & Leroy, 2003; Boonstra, 2004; Van Tatenhove et al., 2000). This approach builds upon multi-actor policy network models. However, it pays more attention than these models to: (1) institutional contexts in which policy actors must operate, (2) the substance of policy making and (3) the power relations between the policy actors involved (for policy network models see: Marsh & Rhodes, 1992; Kickert et al., 1997).

We can define a policy arrangement as the way in which a certain policy domain – such as water management – is shaped in terms of organisation and substance (Van Tatenhove et al., 2000). In addition, we conceive a policy arrangement as consisting of four analytical dimensions: 'discourses', 'rules', 'actors' and 'resources' (*Ibidem*). Actors, resources and (some) rules refer to organisational aspects, whereas discourses and (various other) rules refer to substantive aspects. Furthermore, we have been able to provide a number of 'indicators' for each dimension on the basis of which change over time can be assessed (Table 1). However, the notion of 'indicator' is placed between brackets, as we are aware that – in a strict methodological sense – we are not dealing with 'true' indicators here, namely empirical assets which can be immediately observed. Yet these 'indicators' can help us to analyse institutional change empirically and more thoroughly. In order

Table 1. Operationalisation of the Policy Arrangement Approach (PAA)

Concept	Aspects	Dimensions	Change indicators
Policy arrangement	Substance	Discourses	Change in:
			*Paradigms
			*Utopias
			*Policy programmes
		Rules[a]	*Legislation
	Organisation	Actors	*Procedures
			*Political culture
			*Actor constellation
			*Interaction patterns
			*Coalitions and oppositions
		Resources	*Resource constellation
			*Power relations
			*Political influence

[a]Rules can be both substantive and organisational in nature.

to assess the 'depth' of change, we have made an analytical distinction between 'shallow' and 'deep' institutional change. The former relates to changes in policy discourses only, the latter to a change in the entire policy arrangement.

In our view, a discourse refers to a set of ideas, concepts, buzzwords and stories which combined give meaning to a certain phenomenon in the real world (Hajer, 1995). An example is the sustainability discourse, which brings together notions such as economic, ecological and social sustainability, sustainable development, a belief in the possibility to integrate economy and ecology, examples of win–win situations, etc. This language gives meaning to a world characterised by poverty and ecological degradation, but also to a world which has the potential to become sustainable after all. Theoretically, a discourse consists of three 'layers': ontological, normative and strategic (Therborn, 1980). Discourses can be essentially ontological in nature, related to questions such as: How do we see reality? How do we define problems? What do we think is taking place? Can we be certain about our risk management strategies? Here we deal with the 'paradigms' or 'world views' of policy actors. Whether these (fundamentally) change over time, or not, is our first discursive 'indicator'. At the same time, discursive space is filled with normative expressions, concerning the values at stake and the goals that are set. Here we deal with the 'utopias' or 'ideals' of policy actors. Whether these (fundamentally) change over time, or not, is our second discursive 'indicator'. The third layer of discourse consists of the route or 'road map' from what we see as 'real' to what we conceive of as 'desirable', from problem to solution. Here we deal with the 'policy programmes' of policy actors. Whether these (fundamentally) change over time, or not, is our third discursive 'indicator'.

The next dimension, rules, consists of 'legislation', 'procedures' and 'political culture' (Giddens, 1984; Rittberger, 1993). Legislation refers to the formalisation and transposition of policy discourses into binding law. Therefore, an important aspect of 'deep' institutional change is the extent to which changes in discourse are reflected in changes in legislation. Nevertheless, rules are not only 'substantive' in nature, but also 'organisational' (Giddens, 1984). This latter aspect refers to procedures, to how political participation and decision-making processes are codified in 'the rules of the game'. One might wonder whether discursive shifts in a policy domain also imply that there are new rules to the game, e.g. in terms of the participation of new actors in decision-making. For example, does a cross-border river basin approach (discourse!) indeed lead to the formal participation (rules!) of German policy actors in Dutch water management? Besides the distinction between substantive and organisational rules, one can distinguish between formal and informal ones. The former refers to legislation and procedures, previously dealt with, whereas the latter refers to 'political culture'. For example, the Dutch 'polder model' generally causes other types of policy processes to occur rather than the German 'formal-legalistic model' (Haverland, 1999). Such national 'policy cultures' colour the way in which policies are shaped. Nevertheless, it should be noted that these informal rules do not change that easily.

The third policy arrangement dimension of policy actors is analysed on the basis of 'actor constellation', 'interaction patterns' and 'coalitions & oppositions' (based on: Marsh & Rhodes, 1992; Godfroij & Nelissen, 1993; Kickert et al., 1997). The first 'indicator' relates to the set of (key) policy actors in a given policy domain (such as water management). The question is 'Who is involved in agenda-setting, decision-making and policy implementation, both formally as well as informally?' And do we see changes over time within this constellation of actors? Secondly, we can perhaps observe changes in the way these players interact, quantitatively and qualitatively. For example: does interaction increase or decrease? Do we see more co-operation or, in contrast, more conflict? As a consequence of these changing interaction patterns, we might find the emergence of new coalitions and oppositions, making this our third 'indicator'. However, it should be noted that a change of interaction patterns does not necessarily imply that new coalitions or oppositions have been established. This is just a possibility and, for that reason, we distinguish between this second and third 'indicator'.

Finally, the dimension of resources is elaborated upon in the 'indicators' resource constellation, power relations and political influence (Huberts & Kleinnijenhuis, 1994; Arts, 1998). The first relates to assets which policy actors have or

can mobilise on the basis of which they can exercise power, e.g. authority, money, knowledge or technology. The relevance of these resources and their usefulness may vary depending on the setting and the time span. Generally, these assets are not equally divided among policy actors, which leads to a situation in which not all of the actors share similar capacities to achieve (political) outcomes. Here, unequal power relations between policy actors exist, although one should acknowledge that these relations are dynamic (in time and space). A further question to be asked is whether policy actors do indeed make use of their capacities to achieve the outcomes they wanted. In other words, power should be 'operation' into influence. Although intrinsically related, there is no one-to-one relationship between power and influence, as policy actors may decide not to make use of their resources and/or fail to achieve the outcomes they wanted. Although it should be noted that power (in terms of resources and capacities) is relatively easy to assess, whereas it is very hard to measure political influence. Therefore, in the context of this article, we will limit our analysis to resources and power relations.

Discursive shifts in river management

The traditional discourse in Dutch water management reflects the history of the Netherlands: fighting against the sea, storms and frequent flooding, losing land, building dikes, conquering land from the sea, embanking and cultivating it. Similarly, the Dutch streamlined their rivers, minimised the river basins, closed creeks and small streams and replaced them with canals. Water was mostly viewed as a 'threat' and had to be regulated and controlled. (Van de Ven, 2004; Van Steen & Pellenbarg, 2004) This 'battle against the water' discourse led to a river management that was, up until very recently, focused on building dikes in order to keep peoples feet dry (Wiering & Driessen, 2001). This perspective was widely spread amongst the civil engineers and (other) policy makers of the Ministry for Transport, Public Works and Water Management and its Directorate-General, as well as the regional water boards. From the beginning of the 1960s up until the mid 1980s river management was politically overshadowed by the coastal works (the famous Delta works) and subsequently upon finishing these major projects, river flooding management was discussed, but had low priority on the Dutch political agenda. A long lasting discussion on water safety norms for river flooding was characterised by Van Eeten (1999) as a 'dialogue of the deaf'. Dike enhancement was even more slowed down by protest and litigation from river landscape protectors and environmental agencies, who expressed a 'counter-movement' distrust in Dutch water authorities as well as a Not In My Backyard (NIMBY)-effect among civilians. Yet, in general and among the public at large, feelings of trust in Dutch water management could be sensed.

From the mid-1980s river management gradually incorporated the upcoming issues of water quality, environmental concern and nature conservation, and evolved towards the concept of integrated water management. In 1985, a memorandum of the Ministry (Dealing with Water) promoted a system-oriented and integrated view on water management, thereby initiating a fundamental discussion during the following years. Gradually appeared a new, 'system ecology' discourse on river management, in addition to the – still hegemonic – 'battle against water' discourse of the hydraulic engineering water manager (Van Hemert, 1999; Disco, 2002).

The relatively low priority placed on the (river-) flooding management in the Netherlands changed rapidly in 1995. In January of that year, the Dutch faced a near national disaster, as the water rose to extreme levels in the country's major rivers – the river Rhine (and its branches, the Waal, the Lower Rhine and the IJssel) and the river Meuse. Almost 250,000 people, and a large number of livestock belonging to farmers, had to be evacuated. The authorities feared that the dikes would not hold. The economic damage and evacuation costs were great. In the end, the dikes along the Rhine and its branches did hold, but only just. Large stretches of the river Meuse have only quays and natural embankments, and the people living in the southern part of the Meuse floodplain suffered the most material damage. In 1995 the near flood disaster can be considered as a real *shock event* felt in Dutch society.

Initially, this strengthened the traditional discourse relation to the division of water and land

use. In terms of the different discursive elements we mentioned earlier, we could say that ontologically, water proved to be a threat to society (once again) and that there was a strong feeling of urgency in regard to 'defending ourselves against water'. According to tradition, the Dutch named the policy programme 'Major Rivers Delta Plan' and 'Major Rivers Delta Act' as a blatant reference to the world famous 'Delta Works' which were constructed as a defence against the North Sea. Discursively, this was an important step. The normative discursive space was dominated by 'direct safety first' and the strategy was focussed on strengthening the dikes. Accompanied by a strong sense of urgency and by new legislation, the Dutch diking operation between 1996 and 2000 was, in itself, an example of successful project management (Wiering & Driessen, 2001).

But this was only a short-term response to the shock event and the near-flooding disaster had also a strong impact on the ideas and plans for *future* water management. Policy makers and scientists began to realise that the former policy of dividing water and land – and marking borderlines with dikes – was not sufficient in order to meet the goals of safety and the reduction of risks in the long run. Some even used the term 'control paradox' (Remmelzwaal & Vroon, 2000; Wiering & Immink, 2003): by building and strengthening dikes an idea of safety is created, giving way to more social and economical activities behind the dikes. This, in turn, could lead to an increase in the detrimental social effects and the economic damage suffered when occasional flooding does happen and to an eventual increase in the feelings of *insecurity*. Gradually water management seemed to be moving away from merely building higher dikes towards adjusting and extending the flood plains and giving 'room to the river' (Van Stokkom et al., 2005; Smits et al., 2000). After the first policy guidelines in this direction were established, more radical policy plans were published. We could witness a discursive turn towards a new discourse of 'accommodating water'.

This idea of 'accommodating water' was not new. Environmental scientists, some of the hydrological engineers and even planning agencies, already described ways of water management that took natural water systems into account for many years, especially since the 'Dealing with Water' Memorandum of 1985. Disco (2002) stresses the growing importance of the ecological conceptualisation of water systems in the domain of central water agencies and institutions. He called this the 'ecological turn' of Dutch water management in the 1980s and 1990s, an evolutionary development that is also visible in the different planning reports on the national 'water household'.

How, then, can we judge these processes by way of our discourse-indicators, changes in ontological, normative and strategic discourse? We predominantly witness changes in policy aims and goals (normative discourse) and route-changes (strategic discourse): 'room for the river', 'space for water' and a 'good water quality' are the aims of the water managers. These are to be reached by new strategies: a more system-oriented approach towards water issues, implementing regional views on river basin management, new tools for integrated water management, etc. This is also promoted by communicating with society, by raising the public awareness of water related policy problems and by visualising water as a possibility, and not merely as a threat (Smits et al., 2000).

Interpreting the ontological indicator of discourse is, however, more problematic. We see the traditional 'hydraulic engineering' -perspective of the old 'battle against water' -discourse eroding, but the new discourse 'accommodating water' is to be found somewhere in between the old 'battle against water' and the more radical 'system ecology' discourses. Moreover, concepts such as 'room for the river' and 'space for water' are open to interpretation and can inhabit both natural ecosystem-based or more traditional hydraulic 'room for the engineer'-based views of water systems and similar solutions. We can conclude, though, that the traditional fixation on dike enhancement in river basins has made way for a variety of options to combine flooding management with land use and nature conservation (Van Stokkom et al., 2005).

After having given giving, in general terms, the different discourse-elements that involve fighting over hegemony in water management, we can now turn to the other aspects of the policy arrangement. We will focus on a few major processes of change in the three remaining institutional dimensions: rules of the game, power/resources and actors/coalitions. We will discuss these in more detail, in order to give insight into the nature

of these changes, and to see if these discursive shifts are actually being institutionalised in the current water management.

Changing rules

Legislation

The first organisational dimension in which changes have become visible is the 'rules of the game'- dimension. We shall first, very briefly, characterise this dimension. Present-day water management has differentiated into a set of rules, which have been laid down in, for example, the Water Management Act, the Groundwater Act, the Embankment Act, the Pollution of Surface Waters Act and the Pollution of Sea Water Act. Besides these laws, there are formalised or informal rules concerning the jurisdiction and competences of the water policy agents. The water legislation is looked upon as rather complex and difficult for outsiders to penetrate. Because of its complexity and fragmentation, the relevant authorities often rely on informal agreements concerning the division of tasks. Thus, when it comes down to new rules in general, one of the first questions to answer is whether the Dutch water legislation is on the brink of being redesigned.

In 2002 the Vice-Minister of Transport, Public Works and Water Management asked a special Committee to give its advice whether the legal design had to be revised and the course of possible institutional changes. The Committee argued that there were several reasons for changing the legislation. First of all, there is a lack of internal coherence and transparency in the complex set of rules regarding water management. Secondly, there is an indistinct relationship between the rules on general water policy (e.g. 'water household' planning, norms, standards, general procedures) and the specific rules of water management in practise, i.e. dike enhancement and maintenance, dams and embankments. The Committee concluded that a new, Integrated Water Management Act should be created, which would include most existing water legislation, as mentioned above, but would exclude the rules concerning 'Water Chain Management' and the (constitutional) legislation regarding competencies of organisations. It was

only quite recently that the Dutch government confirmed that it is indeed necessary to redesign and create such an integrated Water Management Act (Memorandum, 2004). Some of the arguments refer to the overall policy intended to streamline rules and to reduce rule density. More importantly, the arguments (of both the Committee and the Cabinet) are connected to the following two policy developments: (1) to anticipate the implementation of the European Water Framework Directive (WFD) and (2) to (better) embed the central concept of integrated water management (referred to as 'water system management') – and to improve its instrumentation. In other words, the proposed legislative changes are though to be an important step in switching from sector-based water management to integrated 'water system management'. These changes are stimulated by obligations, rules and concepts stemming from the European policy arena (WFD).

Change in procedures

Another sign of institutional change can be found in the instrumentation of water management in relation to other policy domains. An exponent of new procedures is the development of the process instrument of the so-called 'Water Assessment'. This procedure is to be considered as a form of 'water impact assessment' (partly resembling the environmental impact assessment) as a result of which water management will change its interrelations with spatial planning in the Netherlands. According to the Water Management in the 21st Century Advisory Committee – in the following referred to as the WB21-Committee – the Cabinet paid insufficient attention to safety and water-related problems in the past. As a result, a great deal of space was gradually reclaimed from the water management system. 'New spatial planning decisions may not exacerbate the challenges to safety and leave water-related problems unnoticed' (Ministry of Public Works, Transport and Water Management, 2000). The water test explicitly addresses water-related aspects in all relevant spatial plans and must result in a separate section in the explanatory policy document. It considers both water quantity issues (impacts on retention and storage capacity, risks of flooding, drought, and groundwater level) and water quality issues

(surface- and groundwater pollution, water sanitation, biodiversity). It must be applied at an early stage in the spatial planning process and water/related problems can not be passed from one watershed to another. If decisions are taken that have negative effects on the water system, adequate measures must be identified to compensate or mitigate these effects. Seen as a new procedure, the water test is expected to influence both the position of water managers and the responsibilities of spatial planners. Water managers will gradually shift from a 're-active' attitude in the realm of spatial planning to a 'pro-active' position, in which water managers are supposed to be involved in an early phase of policy formation of spatial plans (location, impact on water systems, etc.). Spatial planners are expected to take water aspects into account when making decisions concerning spatial plans.

Change in political culture

By using the term 'political culture' we point at the general patterns of the (mainly) informal and implicit rules of the game which can be associated with certain policy domains or which can characterise national politics (see section 2). The political culture of water management can be typified by three features, which are momentarily in a state of flux. First of all, the governmental authorities are the ultimate locus of authoritative power in water management. Both market and civil society are relatively weak regulation mechanisms in this field. A centralised water management planning system exists and water agencies exhibit a rather hierarchical organisational culture. The policy arrangement involved here can thus be called 'state-oriented' or 'etatist' (cf. Van Tatenhove et al., 2000). However, this situation was not problematic during the past decades. Water quality and water safety have always been considered to be important public goods in Dutch society; goods which should be provided for by the state.

Secondly, because of the past history of strong sector-based politics, the water managers are used to operating in a rather autonomous and *isolated* policy field. There has hardly been any public support or protest from social groups, citizens or the business community, except, perhaps, for the traditional strong participation of farmers on Dutch water boards (Wiering & Immink, 2003). Thirdly, water management is *technocratic* in nature. This is the result of the relatively closed policy domain in combination with specific functional governmental tasks and a specific epistemic community focusing on 'hydraulic engineering'.

In the wake of near-flooding disasters, excessive rain fall, drought problems and expected climate change, the political and societal attention paid to water problems is increasing. Because of this, the etatist, closed and technocratic features of the Dutch water policy arrangement have been contested in recent years. A 'socialising' of water management has emerged, including an aspiration of the domain itself to act less hierarchically and to decentralise decisions (Van Leussen, 2002). Moreover, the water boards are being subjected to a democratisation-process. As a consequence, water management has gradually been forced to 'open up', and to become more transparent to its citizens by abandoning its isolated, expert-based and technocratic policy style. Signs of this transition, from 'government-to-governance', can be found in the explicit need for stakeholders to become more involved. However, one could (again) question the 'depth' of this institutional change, because in truth the basic administrative structures have still remained unchanged thus far, as we will see in the next section.

Policy actors

Actor constellation

Dutch constitution consists of three general administrative levels, the municipal and provincial authorities and the national administration. Only the issue of water management has an additional fourth layer: the water boards. The (public) authority of the water boards is geared towards the management of regional water quantity and water quality and those of the province towards groundwater management and the planning aspects of regional water management. The national General-Directorate is responsible for the main water infrastructure of large rivers and canals, and, finally, the local authorities deal with urban water and sewerage.

Two central policy developments arise, in searching for changes in the actor constellation. In the context of the European Water Framework Directive, the river basin approach asks for co-operation within the four river basins of which the Netherlands forms a part – Meuse, Rhine, Scheldt and Eems – and thus, it asks for cross-border water management. But there is no prescription on *how* to co-operate. Up until now, it has not led to any new arrangements in the Netherlands, but instead the co-operation between the existing water authorities, nationally and internationally (such as the International Rhine Commission) continues to predominate (Backes, 1999). When it comes to water quantity issues, the successive discussions on the WB21-Committee -proposals eventually led to a so-called 'National Administrative Agreement on Water', between the national administration and the representatives of the municipalities, provinces and water boards. In short, in both water quality (the WFD) and water quantity (the WB21-policies) the Dutch authorities have clung to the existing organisational order and division of tasks and competencies. The Vice-Minister of Transport, Public Works and Water Management illustrated this nicely by saying that she did not want 'an institutional discussion' concerning the administrative organisation of Dutch water management.

Interaction patterns

Although there are no crucial changes in the actor constellation, there is a change in interaction patterns, namely a move towards decentralising responsibilities and empowering the regional authorities. This can be illustrated by the process architecture of the 'Room for the River' operation. The provinces have obtained an essential voice in this policy process by giving a so-called 'weighty advice', and because of their strong representation in the advisory steering committees. Both the WB21-policies and the WFD have stimulated territorial shifts towards the region and sub-river basins. We can conclude that the interactions between the different governmental layers are being intensified and that this is heading towards more co-operative and horizontal interrelations, accompanied by the empowerment of provinces

and – to a lesser extent – the water boards and the municipalities.

Finally, we should pay attention to changes in the way the water management agencies and the public interact. Here we refer to the ways in which communication has changed since the discourse of 'living with water' and the 'disclosure' of water agencies. It is again difficult to draw conclusions on 'real' institutional change. On the one hand, a change has definitely taken place in policy style, through communication campaigns directed at the public, increasing information flow, stakeholder involvement, etc. On the other hand, when it comes to taking critical steps towards formulating and preparing policy, such as the first stages of the implementation of the WFD or the selection of the location of so-called emergency flooding areas (these are strongly contested in some of the preserved areas), stakeholder participation is much less appreciated and the policy style of the Ministry and the Directorate-General for Public Works and Water Management is, once again, regarded as being technocratic.

Coalitions and oppositions

Are we witnessing new coalitions between water management and other policy actors in the field? Here we notice that, since the upcoming ecosystem-based discourse in river management, agencies that were traditionally primarily engaged with nature conservation, biodiversity and forest policies are entering the policy arena of water management. For example, the National Forest Service has presented interesting ideas on how to combine water safety issues with nature development and the ecological management of river basins (e.g. Ministry of Agriculture, Nature Conservation & Food Quality, 2003). Even though today's water policy seems to have been broadened towards issues of environment, landscape and nature conservation, and even though 'non-water' authorities are sometimes key players in *ad hoc* co-operation in floodplain projects, we still cannot conclude that this has led to new actor coalitions in the water policy arrangement as a whole. At some points the National Forest Service, with a strong nature conservation perspective, has in fact competed with the Directorate-General for Transport, Public

Works and Water Management, which is mainly focussed on safety issues in river reconstruction (Van de Bilt, 2004).

Shifts in power

The two indicators 'resource constellation' and 'power relations' point at the possibility of new and/or more resources in a policy domain on the one hand, and the (re)division of these resources over the different key players, potentially implying new power relations, on the other. With regard to the former, we can observe two important changes: (1) there are more financial resources for water management at our disposal; and (2) there are more resources to further develop the knowledge infrastructure in particular. However, with regard to the second indicator, we can not see structural changes in power balance. As was previously stated, the organisational structure of Dutch water management has remained rather stable so far. We can observe the same key players and (more or less) the same power relations, as the new resources have strengthened those who were already 'in power', neither the smaller parties nor the newcomers. Below we will elaborate on these observations.

Resource constellation

Rudely awakened by the (near-)floods in the 1990s, and triggered by the concern over the effects of climate change, new resources have become available for water management, both internationally and nationally. First of all, extra public money was spent on strengthening the river dikes as quickly as possible (Wiering & Driessen, 2001). Secondly, money was set aside in order to design the *new* policies for water management, in line with the results of the WB21-Committee. In the National Administrative Agreement on Water is was stated that, from 2003 to 2015, an amount of 8 billion euros should be reserved; for the period preceding 2050 about 16 billion euros. Over the short term this entails an investment of 1.3 billion euros until 2007 (Ministry of Transport, Public Works and Water Management, 2003).

Besides these overall financial resources belonging to the policy domain, another essential resource is its knowledge infrastructure. There are several important power resources in water management. For instance, the supreme technical knowledge possessed by water managers, and – to a large extent – the public trust that has traditionally been given to this functional layer – combined with important legislative powers (e.g. risk norm-setting and water-related taxes). The knowledge system of Dutch water management is dominated by specialised governmental services, knowledge institutes and universities. The most important agency is the Directorate-General of the Ministry itself and within this central agency there are specialised services such as the Royal Institute for the Coastal Zone and Sea (RIKZ) or the Institute for Inland Water Management and Waste Water Treatment (RIZA), which are now operating on a more independent basis. The external knowledge infrastructure of Dutch water management is also extensive; especially WL Delft Hydraulics has to be mentioned here (Delft University is traditionally the cradle of Dutch 'hydraulic engineering') but also other institutes are active in the field: the Netherlands Organisation for Applied Scientific Research (TNO), the Meteorological Institute (KNMI) as well as the universities of Wageningen, Nijmegen, Twente and Utrecht. The differentiated knowledge infrastructure (hydraulic engineering, hydrobiology, ecology, policy analysis, rural and urban areas) of these various institutes is gathered together in the Netherlands Centre for River Studies (NCR). Furthermore, there is intensive co-operation between the specialised water management services, the environment and health research institute (RIVM) and Alterra, the research institute for the green living environment. The knowledge infrastructure on water is strong, but it is also narrowly focused on technical issues. A background report on the knowledge for integrated water management (Wisserhof, 2000) claimed that the financial impulses for multi-disciplinary projects did not, as a rule, stem from the water sector, but from other ministries such as the Ministry for Housing, Spatial Planning and Environment or the Ministry for Agriculture, Nature Conservation and Food Quality. But, according to Wisserhof (2000), the broadening of the knowledge system and co-operation is 'in statu nacendi'.

What about the new resources that have become available for research on water management, both

in the Netherlands and Europe? Indeed, there are new research programmes, for instance the NWO Research Council for Earth and Life Sciences (ALW) and the Netherlands Foundation for the Advancement of Tropical Research (WOTRO) have launched a research programme for fundamental research regarding fresh water; there is a new ICES/KISS programme 'living with water' (in total 45.7 million euros, with co-financing) and there are many new initiatives which concern climate change, water and space, water and society, etc. In general, more financial means have been allocated to water management and research on the topic.

Power relations

What does these new resources for water policy and -research signify when it comes to the re-allocation of resources and power relations? With regard to the supplementary public funds made available for the traditional policy of strengthening the dikes (after the 1995 near-flooding disaster), the financial resources went to the core players of Dutch water management: the Directorate-General, the provinces and the water boards. With that, the position of the existing authorities, services and institutes was in fact strengthened. Moreover, in the new 'room for the river' -policy and other WB21-policy measures, as well as the Water Framework Directive, the existing agencies continue to dominate policy formulation and policy implementation, although there is more involvement of other policy domains and more sensibility towards other political arenas and knowledge resources. Considering the content of various research programmes, the focus has (partially) shifted and a gradual broadening of the knowledge infrastructure has occured, with more attention being paid to ecological research, social science research, policy analysis and socio-economical research. At the moment, it is impossible to identify the changing allocation of budgets and their impact on individual research agencies exactly, but we can sense several new initiatives that indicate the general trends. First of all, the Netherlands Centre for River Studies (NCR) is an attempt to integrate the various knowledge sources. The NCR managed a large research umbrella project in the framework of the EU Structure fund (the IRMA- Interregional Rhine/Meuse Action – Pro-

gramme). We can also witness several new clusters geared towards technical knowledge, i.e. hydraulic engineering (i.e. Delft cluster) and new portals that show co-operation between existing knowledge institutes (e.g. Coordinated Programme on Water and Climate). Apparently, the existing well vested research institutes on water, nature conservation, environment, climate and health are searching for new joint ventures in the water domain. All in all, we can observe an increase in public resources for water policy and a gradually broadening of water research, although the division of these resources over the different key players in the water policy field have roughly remained the same. Granted, additional money went to newcomers, e.g. in policy analysis, and ecologists seem to have been strengthened by the broadening and division of resources, but these are minor shifts, compared to the budgets of the 'big players' in the field.

Conclusion

In conclusion, we cannot share Van Hemert's rather 'cynical' conclusion that the new policy discourse 'more room for the river' in the Netherlands is only an adaptation strategy of the Dutch Directorate-General of Transport and Water Management in order to maintain 'room for the engineer' (Van Hemert, 1999), now that there is ever more talk of integrated river basin management, new water partners, 'wet' nature development, biodiversity, etc. After all, we can observe institutional changes beyond discursive shifts, particularly in terms of new legislation and procedures. The Dutch government is preparing an integrated Water Management Act, partly as a consequence of the EU Water Framework Directive, and has already implemented the so-called 'water test' for spatial plans. Furthermore, the traditionally closed, technocratic and 'etatist' political culture of the Dutch water management has become more open-minded and new coalitions on nature development in river basins are emerging in flood plain projects. Hence, besides 'government', we can also observe the first signs of an emergence of 'new modes of governance' in the water policy domain. In addition, more research funds are being spent on ecological and socio-economic issues related to water quality and quantity.

However, it is too early to speak of a 'deep' institutional change in Dutch water management, particularly when its administrative organisation and power structure has been taken into account. Here we do not see much renewal. Newcomers (at least, in the heart of water management) such as the National Forest Service, environmental NGOs and ecologists still hold a weak position in the Dutch water policy arrangement and, as far as new resources for policy making and research becoming available, these have mainly strengthened the positions of the traditional power holders. All in all, from the institutional perspective of the four dimensions of a policy arrangement, we do see a substantial change in terms of policy discourses and rules in the water policy domain, but hardly any change in terms of (key) policy actors, new coalitions and power balance. With that, current renewal in the Dutch water management sector should be positioned somewhere in the 'grey zone' between shallow and deep institutional change. Consequently, the chances that the innovative water policy discourses will indeed institutionalise in new, open and stabilised structures of new agencies and coalitions, because of shifts in resources, are still rather bleak.

This is even more so, since the discourse of 'accommodating water' is in fact ambiguous at the ontological level. It may seem attractive as an 'ecosystem-based' story line – in order to meet new standards of water safety and to design new policy options beyond the traditional strategy of building higher dikes - but part of the policy routes for 'room for the river' is still to build higher dikes. Moreover, on an epistemological level, most water system-engineers keep on believing in 'the engineering of society', and they, normatively, still prioritise water safety over other river values and functions (e.g. landscape and biodiversity). The safety norms and related policy measures in river basins of the hegemonic water agencies are not easily and openly discussed. In other words, 'room for the river' could also be interpreted as combining safety and nature conservation in an open discussion on human and ecological risks. Nevertheless, in less than a decade since the near-flood disaster of 1995, Dutch water management has now set course for a truly institutionalised form of integrated water management. 'Accommodating water' is one of the story lines that is contributing to this development. Although discursive shifts may sometimes seem to be 'a lot of talk', they actually have a function in the long-term process of institutionalisation, which can eventually bring about structural changes in policy.

References

Arts, B. J. M., 1998. The Political Influence of Global NGOs. Case Studies on the Climate and Biodiversity Conventions. International Books, Utrecht.

Arts, B. & P. Leroy (eds), 2003. Verandering van politiek, vernieuwing van milieubeleid. Klassieke en post-moderne arrangementen. Nijmegen University Press, Nijmegen (in Dutch).

Backes, Ch. W., 1999. Towards international water boards and cross-border spatial plans? In Van Hall, A., G. Th. Drupsteen, & H. J. M. Havekes (eds), The State of Water. Koninklijke Vermande, Lelystad: 179–194 (in Dutch).

Boonstra, F., 2004. Laveren tussen regio's en regels. Verankering van beleidsarrangementen rond plattelandsontwikkeling in Noordwest Friesland, de Graafschap en Zuidwest Salland. Van Gorcum, Assen (in Dutch).

Disco, C., 2002. Remaking nature: the ecological turn in Dutch water management. Science, Technology and Human Values 27: 206–235.

Giddens, A., 1984. The Constitution of Society. Polity Press, Cambridge.

Godfroij, A. J. A. & N. J. M. Nelissen (eds), 1993. Verschuivingen in de Besturing van de Samenleving. Coutinho, Bussum (in Dutch).

Hajer, M. A., 1995. The Politics of Environmental Discourse. Ecological Modernization and the Policy Process. Oxford University Press, Oxford.

Haverland, M., 1999. National Autonomy, European Integration and the Politics of Packaging Waste. Thela-thesis, Amsterdam.

Huberts, L. & J. Kleinnijenhuis (eds), 1994. Methoden van Invloedsanalyse. Boom, Meppel (in Dutch).

Kickert, W., E. Klijn & J. Koppejan (eds), 1997. Managing Complex Networks. Strategies for the Public Sector. SAGE, London.

Marsh, D. & R. A. W. Rhodes (eds), 1992. Policy networks in British government. Clarendon Press, Oxford.

Memorandum, 2004. Integratie van Waterwetgeving. Parliamentary Paper 29694, No. 1. Tweede Kamer der Staten-Generaal, Den Haag (in Dutch).

Ministry of Agriculture, Nature Conservation & Food Quality, 2003. Lonkend Rivierenland. National Forest Service, Driebergen (in Dutch).

Ministry of Transport, Public Works and Water Management, 2000. A Different Approach to Water, Water Management Policy in the 21st Century. [English version 2001] http://www.verkeerenwaterstaat.nl.

Ministry of Transport, Public Works and Water Management, 2003. Nationaal Bestuursakkoord Water. Ministerie van Verkeer en Waterstaat, Den Haag (in Dutch).

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Remmelzwaal, A. & J. Vroon 2000. Werken met water, veerkracht als strategie. Report 2000.021. RIZA, Lelystad (in Dutch).

Rittberger, V. (eds), 1993. Regime Theory and International Relations. Clarendon Press, Oxford.

Sabatier, P. A. & H. C. Jenkins Smith (eds), 1993. Policy Change and Learning, an Advocacy Coalition Approach. West View Press Inc., Boulder, Colorado.

Smits, A. J. M., P. H. Nienhuis & R. S. E. W. Leuven (eds), 2000. New Approaches to River Management. Backhuys Publishers, Leiden.

Therborn, G., 1980. The Ideology of Power and the Power of Ideology. Verso NLB, London.

Van de Bilt, S., 2004. Eén terrein, waar twee beheren. MSc-thesis Political Sciences of the Environment. Radboud University, Nijmegen (in Dutch).

Van Eeten, M., 1999. Dialogues of the Deaf, Defining New Agendas for Environmental Deadlocks. Eburon, Delft.

Van Hemert, M., 1999. Ruimte voor de ingenieur, rivierbeheer in Nederland eind jaren negentig. Kennis en Methode, Tijdschrift voor Empirische Filosofie 23: 361–387.

Van Leussen, W., 2002. Leven met water, vermaatschappelijking van het waterbeheer – consequenties voor de civiel ingenieur en voor waterbeheerorganisaties. Inaugural address Universiteit Twente, Enschede (in Dutch).

Van Steen, P. J. M. & P. H. Pellenbarg, 2004. Water management challenges in the Netherlands. Tijdschrift voor Economische en Sociale Geografie 95: 590–598.

Van Stokkom, H. T. C., A. J. M. Smits & R. S. E. W. Leuven, 2005. Flood defense in the Netherlands: a new era, a new approach. Water International 30: 76–87.

Van Tatenhove, J., B. Arts & P. Leroy (eds), 2000. Political Modernization and the Environment. The Renewal of Environmental Policy Arrangements. Kluwer Academic Publishers, Dordrecht.

Van de Ven, G. P., 2004. Man-made Lowlands. History of Water Management and Land Reclamation in the Netherlands. Matrijs, Utrecht.

Wiering, M. A. & P. P. J. Driessen, 2001. Beyond the art of diking. Interactive policy on river management in the Netherlands. Water Policy 3: 283–296.

Wiering, M. A. & I. F. G. Immink, 2003. Nieuwe beleidsarrangementen voor waterbeheer en ruimtelijke ordening? In Hidding, M. & M. Van der Vlist (eds), Water en Ruimte. SDU Uitgevers bv, The Hague (in Dutch): 183–196.

Wisserhof, J., 2000. Inventarisatie kennisinfrastructuur. Report NRLO/2000/4. Nationale Raad voor Landbouwkundig Onderzoek, Adviesraad voor het Wetenschaps- en Technologiebeleid, Raad voor het Milieu- en Natuuronderzoek. The Hague (in Dutch).