WATER AND ENVIRONMENT IN DECISION-MAKING

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WATER AND ENVIRONMENT IN DECISION-MAKING

Water Assessment, Environmental Impact Assessment, and Strategic Environmental Assessment in Dutch Planning. A Comparison.

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Content

Foreword

Combining a PhD study with a job outside university is both a privilege and a burden. Looking back after four years, the first prevails. I love to work within a dynamic practical environment, especially when this is positioned on the front line of new developments that really matter to society. The new and upcoming approaches in water management and spatial planning are right up my street. At the same time, I have always felt an urge to gain a better understanding of what actually happens in carrying out such practices. I have conducted this study as best fits my character and drive, and more importantly for science, I am convinced that a research approach that links theory with practice will serve the social sciences well.

Many of the people around me have helped to create very good circumstances for carrying out this research. Without their trust and support, for which I am very grateful, I would not have been able to bring it to a conclusion. Maarten van der Vlist and Arnold van der Valk convinced me that starting this PhD study would be worth the effort. Without them, I would not even have thought about doing a PhD. Maarten was my manager when I started working at the Directorate-General for Public Works and Water Management [*Rijkswaterstaat*]. He was a core person in developing Water Assessment, and has been a great inspiration to me. Arnold van der Valk has been my PhD thesis supervisor. His comments and critique were always very clear and his enthusiasm never failed to spur me on to further effort. As co-supervisor, Marjan Hidding provided support in an excellent way. She was always there to help me a step further by reading my draft texts thoroughly and giving constructive criticism. After these intensive sessions, I enjoyed all our lunches in Wageningen and Amsterdam.

Halfway through the research, the burden of combining my thesis with my regular job became too heavy. I did not enjoy it anymore, because the workload was at the expense of my well-being. I seriously thought about stopping my PhD study at that time. It was Herman Winkels, my interim-manager at that time, who helped me through this. He convinced me that the results of this research would contribute significantly to the organisation, and that gave me new motivation. Herman also gave me more time to work on the research, so I got more room to breathe. Frances van Lent, my manager for the last two years, has kept an eye, structurally, on the time planning for my projects and thesis. Every two weeks, she checked on whether my planning was realistic. This helped significantly in controlling my ambitions and enthusiasm for engaging in new projects. I am also grateful to the Directorate-General Water [*DG Water*], and to Aline Arends in particular, who gave me financial support last year to finish my thesis. I took this as appreciation for the practical value that my thesis would have in developing Water Assessment further.

With regard to Environmental Impact Assessment and Strategic Environmental Assessment, I was less confident that I would be able to make a relevant contribution. Jos Arts in particular, along with other people active in the practice of environmental assessment, helped me with this part of the research. Jos not only provided relevant literature, but he also invited me to his home several times to discuss draft versions.

Jos has a lot of experience in assessing the infrastructural projects of *Rijkswaterstaat*. The support of such an experienced and enthusiastic person has been of great value. Jurgen van der Heijden and Geoffrey Hagelaar made very useful contributions in helping me to develop and apply the methodology and concepts. I met Jurgen in 2004 at a NETHUR workshop. Jurgen and I are both interested in the work of David Howarth, who was the keynote speaker at this event. Thanks to Jurgen too for reading the final draft texts thoroughly and to Professor Ernst ten Heuvelhof and Professor Bas Arts for reading and assessing this thesis. I would like to thank Susan van der Werff-Woolhouse, of English Text & Dialogue Services, for the language editing. Susan did a great job in changing my 'Dutch English' into real English.

The colleagues in my direct working environment at *Rijkswaterstaat* are really great. About fifteen of us have been working in a department to develop the new spatial approach to water management, including Water Assessment. At the end of 2007, due to the reorganization of the *Waterdienst*, we will have to split up. I have always felt really at home in the atmosphere of openness, trust and collegiality in our department. I would like to thank two colleagues in particular: Frank Alberts and Jolle Landman, who will be my paranymphs in defending this thesis. Frank and I have shared the same office, and he has always been interested in my personal experiences with this PhD project. When I was working hard to finish this thesis earlier this year, he cheered up my birthday by visiting me at home in Amsterdam. I really appreciated gestures of this kind. Jolle was the colleague who most frequently read my work, and he always had something relevant to say. He also helped me during the difficult period of my PhD, in 'little' ways that mean a lot.

Although studying and working for a PhD is not something that one can dispel easily from one's mind, there are more important things in life. My relationship with Wiggert and with my family and friends are certainly more important. I would like to thank them for supporting me, and, most of all, for their ability to put things into perspective. Wiggert was working more hours than I was, but he still had the amazing capacity to let go. I really admire the way in which he runs his companies with good intuition and great energy, and without worrying. Despite our work and other activities, we have been able to spend enough time with each other to enjoy our wonderful relationship. In particular, I would also like to thank my parents. They are always there when things become difficult. They love their four children unconditionally, and support them where they can; having great respect for their individual characters and choices. The way in which our family organized our wedding in 2005 was heartwarming. Having dinner with about 150 people who mean such a lot, one realizes what life is all about.

Judith van Dijk
Amsterdam, November 2007

1. Introduction

The Netherlands is a country on a delta, dominated by the sea and the mouths of four major European rivers: the Rhine, Meuse, Scheldt and Ems. Twenty-six per cent of the country lies below sea level, and without the protective dunes and dykes, sixty-six per cent of the country would be flooded regularly (see Fig. 1.1). The delta is very highly urbanised and densely populated (see Fig. 1.2). The Netherlands has the highest concentration of people and farm animals per hectare in Europe and also a high level of mobility and economic activity. This high density of socio-economic activities in the Netherlands puts a lot of pressure on the water system and the environment. In such an urbanised delta, it is important to be fully alert to the water-related and environmental impacts of these human pressures when making decisions about socio-economic activities. This is the aim behind Water Assessment (WA), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA).

This introductory chapter first describes the backgrounds of WA, EIA and SEA. Though the aims of these instruments are the same, their characters differ. This makes them interesting to compare. The overall aim of this comparative research is to explain the character and effectiveness of WA, EIA and SEA in the Netherlands, the one with the others, and within the context of the policies to which they are linked. The problem definition, research aims and questions, and the outline of this book, will be described in the second, third and fourth sections of this chapter, respectively.

Figure 1.1: Land that would flood if there were no defences (source: Water in the Netherlands 2004-2005; facts and figures)

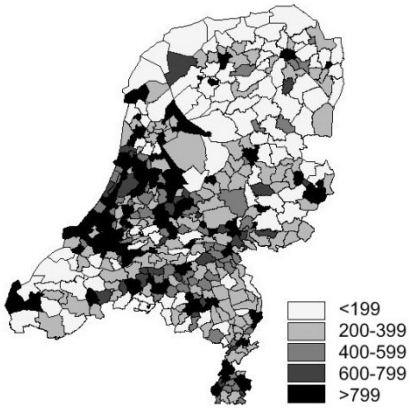


Figure 1.2: Number of inhabitants per square kilometre for each municipality in 2006

1.1 Background

In 2001, the Dutch government introduced Water Assessment (WA) as a new policy instrument in the fields of water management and spatial planning. This assessment instrument is part of a new approach in water management policy that started to develop at the beginning of the 21st century. This policy change was triggered by several incidents that occurred during the 1990s. In 1993 and 1995, the rivers were abnormally high and threatened to overtop or breach the protective dykes. In 1998, prolonged and heavy rainfall caused water surpluses and flooding. At other times in the 1990s the opposite occurred, and there were several summers when the Netherlands experienced unusually low precipitation. The Ministry of Transport, Public Works and Water Management concluded that there was a structural problem with the water system in the Netherlands that would have to be faced (V&W 2000).

Increasing urbanisation is one cause of the problem and managing the water system by technical means is another. Over the centuries, a complex technical infrastructure has evolved, consisting of dykes, regulated rivers, pumping engines to drain polders, etc. Although this is what makes the Netherlands famous, the natural dynamics of the water system have been lost, and this is one of the reasons for the current problems. Ongoing urbanisation restrains the natural dynamics further, because it limits the possibilities for water to filter into the soil and for it to be stored as open water. Urbanised areas have also been developed in unfavourable areas from a water management perspective; for example, where there is a high risk of water surpluses. Land subsidence and climate change aggravate this already problematic situation. Due to climate change, the sea level will rise, more water can be expected in the winters, and in the summers, drier periods will last longer (Commissie Waterbeheer 21e eeuw 2000). Besides challenges resulting from excess amounts and shortages of water, the Netherlands also faces challenges concerning the quality of water. These have been defined in the Water Framework Directive of the European Union (EU 2000).

The Dutch government has recognised that the Netherlands needs to live with water in a more natural way, instead of restraining it by engineering. Their new approach is based on constantly considering spatial measures; on constructing water-storage areas, in addition to using technical measures. This new policy also underlines the need to view water as an important guiding principle for spatial planning, to prevent new spatial developments from being situated in areas that are unfavourable from the perspective of water management. Because this new approach has major implications for spatial planning, it has been incorporated into the National Spatial Strategy [*Nota Ruimte*] (VROM 2006b). Water Assessment is one of the policy instruments for implementing the spatial water-management policy. The aim of this assessment instrument is to ensure that water interests are taken into account in spatial plans and decisions in an explicit and balanced manner (Projectgroep Watertoets 2001).

Environmental Impact Assessment (EIA) is much older than WA. EIA was introduced in the United States in 1969, within the context of the National Environmental Protection Act (NEPA). This Act was passed in response to increasing concern about the environment at that time. Serious environmental incidents raised public

awareness about the negative impacts of industrial plants, nuclear power, motorways, large dams, etc. There was a significant increase in environmental problems after the Second World War, due to demographic and economic growth, and to industrial developments. The American Congress wanted to prevent new projects from causing environmental disasters, by anticipating their environmental impacts at the decision-making stage. NEPA outlined new environmental policy and introduced EIA as an instrument for integrating the new policy into public decision-making. Concern about the environment was worldwide, as was evident from the United Nations conference on the environment in Stockholm in 1972 (Wood 2003; Arts 1998).

EIA was adopted throughout the world; more than a hundred countries have introduced this assessment instrument (Wood 2003). The environmental problem was already a major issue in the Netherlands at the beginning of the 1970s. The start of national environmental policy, in 1971, was marked by setting up a new ministry, the Ministry for Public Health and Environmental Protection (Siraa et al. 1995). The Netherlands became interested in EIA in 1974 (Arts 1998). The new policy field had to deal with urgent environmental problems, such as air and water pollution and soil contamination. EIA was one of the instruments used within the context of the upcoming environmental policy. The aim of EIA was, and still is, to place environmental interests at the centre of decision-making about activities that might have significant negative impacts on the environment (Infomil 2007). After a long period of preparation, and through its implementation under the Dutch Environmental Protection Act in 1986 [*Wet algemene bepalingen milieuhygiëne*, and since 1993, the Environmental Management Act, *Wet Milieubeheer*], EIA has become a statutory requirement. The European Union (EU) introduced EIA during the same period in which EIA was introduced in the Netherlands. After ten years of discussion, the EU Directive was approved in 1985. In the EU Directive, the aim of EIA is to ensure that the environmental impacts of projects are assessed before the projects are authorised (EU 1985).

EIA focuses on decisions at project rather than strategic levels. When discussions on the EIA Directive started in the 1970s, the EU wanted environmental assessments for both projects and plans. In the end, the Directive was restricted to projects. The need for environmental assessment on strategic levels had been identified immediately after the formalisation of EIA. In the Netherlands, 'strategic EIA' has been required ever since EIA was introduced. This was also the case elsewhere, but it was disguised under many names and forms. In the EU, the term Strategic Environmental Assessment (SEA) first appeared in the 1980s (Fischer and Seaton 2002; Thérivel et al. 1992; Partidário 1996), but it was not until 2001 that the SEA Directive was adopted (EU 2001). This Directive uniforms this assessment instrument in the EU Member States to a great extent. The aim of SEA is to provide high-level protection to the environment, and integrate environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development. The SEA Directive was incorporated into the Dutch Environmental Management Act in 2006.

1.2 Problem definition

Though WA, EIA and SEA were developed at different times and in different contexts from the point of view of policy, their aims are similar. All three assessment instruments aim to give water and the environment a fully-valued place in decision-making. They can all be described as policy instruments for the external integration of water-related or environmental aspects by anticipating, *ex-ante,* the impacts of activities. The instruments have more in common than just their aims. WA, EIA and SEA are all instruments of national-level government, though EU Directives strongly influence the character of EIA and SEA, and WA is co-produced together with representatives of regional governments. The development and evaluation of these instruments is the responsibility of ministries. For WA, this is primarily the Directorate-General Water of the Ministry of Transport, Public Works and Water Management. The main department responsible for EIA and SEA is the Directorate-General for Environmental Protection of the Ministry of Housing, Spatial Planning and the Environment. All three instruments have to deal with the problem of influencing the decision-making of regional and local governments. Without interfering with the autonomy of those governments, the ministries want to ensure that other governments take water and the environment sufficiently into account. The national departments do not want to participate actively themselves in all these decision-making processes. WA, EIA and SEA are tools to support decision-making.

WA, EIA and SEA have different characters and differ in the way they try to achieve their aims, and because of these different approaches they are interesting to compare. It seems that the developers of these instruments had varying ideas about how best to achieve a central position for water and environmental interests in decision-making. The introduction of WA on 28 November 2001 in Hilversum was the trigger to start a comparative research between WA and EIA (and later on between these two and SEA). Among those present, in Hilversum, were people who were already starting to compare WA with EIA. The questions they asked to the developers of WA revealed their fear that WA would become like EIA. These participants perceived EIA as a rigidly regulated procedure, whereas WA was being introduced as a cooperative process, with no formal regulations for the instrument itself.

The developers argued that WA was needed alongside EIA, due to four differences. First, WA applies to all spatial plans and decisions, whereas EIA is only applied to a selection. Second, EIA is a formal instrument linked to a formal decision-making procedure, whereas for WA, an interactive process had been proposed, one that starts sooner, before the start of formal procedures. Third, WA is an administrative process in which the water management authority positions itself by making a recommendation on the spatial initiative, whereas a report that results from an EIA does not represent the point of view of a public authority. Fourth, the EIA procedure has its own legislation, whereas WA uses existing procedures (Projectgroep Watertoets 2001).

To summarise, from the above, WA, EIA and SEA appear to be very similar and yet very different at the same time. This initial impression was the starting point for this comparative research. The similar aims of these instruments provide the axis for

exploring the similarities and differences of WA, EIA and SEA in the Netherlands. We want to come to grips with the characters of these instruments and explain the underlying notions. We are also interested in their success: what works best to achieve the aims of these instruments? Comparing instruments that operate in different policy contexts helps us to understand these instruments better and improve their effectiveness. Understanding the functioning of EIA and SEA might provide useful insights for WA, and *vice versa*. Comparing different policy practices helps to dispel fixed notions and to position a practice within a broader perspective. For example, differences between EIA and SEA appear less important when compared with WA.

The focus of this research is *not* on the coordination and integration of these instruments. In practice, though, this research may certainly prove relevant in a search to find the best way of coordinating or even integrating WA, EIA, SEA and other assessment instruments. In fact, from the time when WA was introduced onwards, instrument developers have been stressing the importance of coordinating WA with EIA and SEA. The WA manual even provides guidance on how to do this efficiently (Projectgroep Watertoets 2001b; Projectgroep Watertoets 2003). At the time of writing, in 2007, the national government is trying to improve the coordination or possibly even to integrate all the assessment instruments for spatial decision-making. This was one of the activities of the 'Modernising Government' [*Andere Overheid*] programme, which aimed at de-regulating and reducing bureaucracy (Kabinet 2003c). 'Modernising Government' was one of the former cabinet's programmes, the Balkenende II Cabinet. A comparison of WA, EIA and SEA may provide some useful insights for coordinating and integrating assessment instruments. Such insights will be mentioned in the Appendix. However, the focus of this research is on the character and effectiveness of the instruments themselves and in comparison with each other.

WA, EIA and SEA are dynamic objects of inquiry. Nowadays, WA is not exactly the same as when it was introduced in 2001 and it is still developing. For example, in 2003, statutory requirements for WA were implemented in the Spatial Planning Decree. Policy-makers are currently improving the instrument further along the guidelines of the national evaluation on WA, presented at the end of 2006. EIA and SEA both fall under the so-called 'regauging' [*herijking*] plan, by which the Ministry of Housing, Spatial Planning and the Environment aims to modernise its own regulation. The Ministry is therefore reflecting on its own system of environmental assessment, with a view to renewing it. This is a different trajectory from that of coordinating and integrating existing instruments, as mentioned above, although both aim at deregulation. Following the implementation of SEA — an EU Directive — in the Netherlands in 2006, policy-makers began to renew EIA (TK 2005, 29383, No. 25). In the period during which this thesis was being prepared, the assessment instruments were like moving targets. For instance, at the time of writing this introduction, the instruments were still developing, so this book gives a picture of a moment in time. Far from being a disadvantage, this makes this research even more relevant to practical situations, because it will provide practitioners on the national level with vignettes of change that can act as useful insights in developing WA, EIA and SEA further.

With its focus on governmental decision-making, this research can be positioned mainly in the fields of planning and public administration. However, in selecting the theoretical concepts, we make use of other scientific fields as well. We use those concepts that best enable us to explain the assessment instruments. Hufen and Koppenjan (2004) argue that the problem of research on policy instruments in the field of public administration is its limited usefulness to practice. Improving the link between theory and practice is thus viewed here as an important challenge.

1.3 Research aims and questions

The overall aim of this comparative research is to explain the character and effectiveness of WA, EIA and SEA in the Netherlands, the one with the others, and in relationship to the broader contexts of policy. Theoretical concepts are used as an aid to finding explanations. The expectation is that this research will result in useful insights and recommendations that can be used in improving the effectiveness of WA, EIA and SEA. The overall aim can be specified as gaining more understanding of three elements of these instruments: (1) their character; (2) their effectiveness, (3) their policy context. The research questions are linked to these aims. To explain the first aim — the character of WA, EIA and SEA — we want to gain insight into the character of these instruments by clarifying the underlying notions with the help of theoretical concepts. Once the conceptual basis of an instrument is clear, then we are in a better position to understand the functioning and effectiveness of the instrument itself. Roughly stated, the research question is: what is the character of WA, EIA and SEA? More specifically: How can each instrument be explained in terms of theoretical concepts, and what are the similarities and differences between the instruments in these terms? These questions will be specified further in Chapter 5 using eleven research questions based on the concepts of the constitutive theory.

The second aim is to gain insight into the effectiveness of an instrument, and explain it in terms of the instrument's strengths and weaknesses. Roughly stated, measured against the success of an instrument, we want to know what works and what does not work. 'Effectiveness' can be defined in different ways and can therefore also be evaluated differently. The similar aims of the instruments provide an axis for defining effectiveness. What we want to know is: to what extent has an instrument achieved its aim by being used? This still leaves room for different interpretations of effectiveness. These will be explored in Chapter 10. It is important to note here that we do not have a narrow conception of effectiveness. What actually works best is not just a matter of effectiveness and efficiency. For governmental decision-making, what actually works is also a matter of rightfulness and political acceptability. Decisions need to be legitimate in a broad sense. For each instrument, we want to answer the following three questions. How effective is the instrument, and in what sense? What are the strengths and weaknesses of the instrument related to this effectiveness? How do these strong and weak elements relate to the theoretical concepts, as used in this thesis?

We are able to answer these questions for WA and EIA. However, we cannot do this for SEA, as no evaluation is available yet for this recently introduced instrument. It is important to emphasise that no theoretical concept is used to evaluate the effectiveness of an instrument. This effectiveness is measured against the instrument's aim. However, we assume that the characters of WA and EIA *can* be explained by different theoretical concepts. Our question then is: how do these underlying notions (the concepts as described in Chapters 5 and 9) contribute to the effectiveness of these two instruments? Thus, whereas we do not link indicators of the degree of effectiveness to theoretical concepts, we do link the actual strengths and weaknesses of an instrument to them.

The third aim of the research is to explain the character of the instruments from the broader context of the policy of which they are a part. The question is: viewed from the policy in its historical context, why are WA, EIA and SEA as they are, and why are they similar or different on certain points? WA, EIA and SEA were developed at different times and in different policy contexts. Positioning the instruments in their historical contexts with regard to policy contributes to our understanding of the present situation. Insight into their policy contexts is also needed to be able to give recommendations that are sensitive to the circumstances of an instrument. Only then will the recommendations be useful for practitioners.

Finally, the aim is to provide useful explanations and recommendations for the further development of WA, EIA and SEA in the Netherlands. What should be done to improve the effectiveness of these instruments? The answers can be sought in our research into the character, effectiveness and policy context of these instruments. In relation to character, normative concepts from theory can provide useful insights. In relation to effectiveness, the strengths and weaknesses identified from effectiveness evaluations will help in formulating recommendations. In relation to policy context, developments in this area will also be relevant when making recommendations. Policymakers, and advisors who are working on a policy instrument can learn from experiences with similar instruments, from both the theory and the evaluations. They can then apply these insights to the circumstances of the policy developments on which they are working.

1.4 Outline of the book

For foreign readers, in particular, Chapter 2 gives an introduction to Dutch planning. In the Netherlands, decision-making takes place within a high-density institutional setting. The country is not only physically, but also administratively crowded. Tasks and responsibilities are spread over many governmental organisations. The assessment instruments which support decision-making are embedded in this dense institutional framework. Should foreign readers want to 'transplant' Dutch ideas on assessment instruments to the situation in their own country, it is important that they take account of how the institutional features of two countries differ (for information on institutional transplantation see, for example, De Jong et al. 2002).

In Chapter 3, we introduce the instruments by comparing the basic characteristics of WA, EIA and SEA. These are the status, area of application, range of impacts, the main actors, process or procedure, and the products of the instruments.

Improving the link between theory and practice has been identified as an important challenge. We take up this challenge in Chapter 4, where the method is explained. Philosophically, this thesis can be positioned in Aristotle's '*phronesis*' and '*apagoge*'. *Phronesis* is at the base of an alternative social science where the aim is to make a contribution to on-going practical situations: it is a social science of the things that matter to society. 'Context' is very important in *phronetic* research. *Apagoge* helps to close the gap between theory and practice. Here, this philosophical foundation is linked to the method of articulation and to a comparative research strategy. The method of articulation is about linking general concepts from theory to actual practice. Reading Chapter 4 will clarify what kind of theory will be developed in Chapters 5 and 9 and why we extend the conceptual framework in Chapter 5 to other concepts in Chapter 9. Chapter 4 also clarifies how we use theory to explain practice and will hint at the kind of conclusions and recommendations given in Chapter 12.

Water Assessment, Environmental Impact Assessment and Strategic Environmental Assessment in the Netherlands are compared in four ways in this book (see Table 1.1). In Chapters 8 and 9, the characters of WA, EIA and SEA are compared. This comparison is based on the conceptual framework. The ideal-typical theoretical concepts result in eleven research questions. These concepts are used to throw light on the assessment instruments. Using these concepts and questions, we explain Water Assessment in detail in Chapter 6. We do the same for EIA and SEA in Chapter 7.

Chapter 10 is a comparison of the degree of effectiveness of WA and EIA and a comparison of the strengths and weaknesses of these instruments. It is based on four evaluation studies: the evaluation of Water Assessment (2006); the evaluation of EIA by Ten Heuvelhof and Nauta (1996); the evaluation of EIA by NovioConsult (2003); and the evaluation of EIA by De Valk (1997). We explain in this chapter why these four evaluations were selected and how we deal with the secondary status of this material. For example, to be able to compare the results of an evaluation from the point of view of the degree of effectiveness, we have to know how effectiveness, as used in that evaluation, is understood. Otherwise, we will be comparing apples with oranges. Finally, using the theoretical concepts and explanations of the characters of the instruments, we reflect on the results of each evaluation.

In Chapter 11, we compare the historical contexts of the policies to which WA, EIA and SEA are linked. We then position the assessment instruments within the context of Dutch and European policy developments. The most relevant fields of policy for these instruments are water management policy, environmental policy and spatial planning policy. In the Netherlands, there is a separate policy plan for each of these fields, and each has its own national department (Directorate-General). Chapter 11 concludes with an explanation of why WA, EIA and SEA are similar or different on certain points.

Table 1.1: The four ways of comparing WA, EIA and SEA used in this thesis

Comparison regarding:	**Chapter**	**Clarification**
basics	3	the status of the instruments, their area of application, range of impacts, main actors, process or procedure used, the products of these instruments
character	8 and 9	the content, steering and planning of the instruments, based on theoretical concepts
effectiveness, strengths and weaknesses	10	based on four evaluation studies
policy context	11	Dutch policy regarding water management, the environment and spatial planning, and EU policy

2. The basics of Dutch planning

This chapter describes the basics of Dutch planning. WA, EIA and SEA are embedded in an institutional framework. This is a framework of governmental responsibilities, decision-making procedures and policy documents of Dutch planning systems. The chapter opens with an introduction to the organisation of Dutch government, based on constitutional law. The second section is based on general administrative law. It gives a rough description of how decision-making procedures formally work in the Netherlands. The other three sections describe the planning systems in which WA, EIA and SEA are embedded. These are the planning systems for water management, environmental planning and spatial planning.

2.1 Dutch governmental organisation

Before Napoleon Bonaparte's rule of 1795-1813, known as the French period, the Netherlands was a loose confederacy of autonomous provinces. Napoleon reshaped the Republic into one nation state. The first version of the Dutch Constitution came into effect in 1814. In 1848, Thorbecke reformed the Constitution, giving the Netherlands a system in which primacy rested with a chamber of representatives (the Lower House). He introduced ministerial responsibility and the direct election of the Lower House and the provincial and municipal councils (Andeweg and Irwin 2000). The Netherlands is a constitutional monarchy with a parliamentary system. Its organisation can be described as a decentralised unitary state with a three-tier administrative structure. The three tiers are the national government, the provinces and the municipalities (see Fig. 2.1). This organisational structure is referred to as the House of Thorbecke. The state is said to be decentralised because responsibilities are delegated from the national, to lower levels of government. These lower levels have a certain degree of autonomy (Kortman 2007).

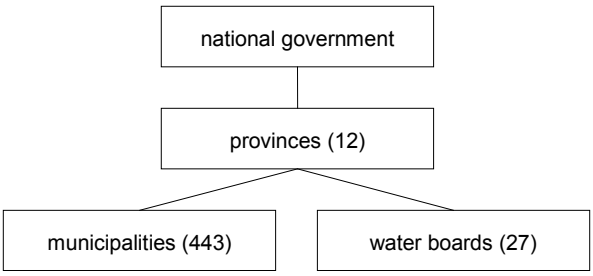


Figure 2.1: Dutch governmental organisations

At each governmental level, public authorities are organised in a similar way. Each organisation has a democratically chosen body, executives and a chairman. This paragraph and the next one explain the terminology used for each type of government. At the national level, the States General (parliament) represents the people of the Netherlands. The States General consists of a Lower House [*Tweede Kamer*] and an Upper House [*Eerste Kamer*]. Together, the Ministers constitute the Cabinet [*Kabinet*]; the Council of Ministers [*Ministerraad*] is chaired by the Prime Minister. Most Ministers head a ministry that consists of a number of Directorate-Generals. In most cases, there is one or more State Secretary operating under a Minister. Each of the twelve provinces (see Fig. 2.2) is headed by a provincial council, literally translated as the Provincial States [*Provinciale Staten*]. The administration of a province consists of the provincial executives [*Gedeputeerde Staten*] and the Crown's Commissioner [*Commissaris van de Koningin*]. At the local level, the provinces are divided into municipalities. Each municipality has a municipal council [*gemeenteraad*] and a municipal executive board of aldermen chaired by the mayor [*College van Burgemeester en Wethouders*]. The organisation of provinces and municipalities is further defined in the Province Act [*Provinciewet*] and the Municipal Act [*Gemeentewet*], respectively (BZK 2002; BZK 2006; Kortman 2007). There are currently 443 municipalities (VNG 2007) (see Fig. 2.3).

Figure 2.2: Provinces in the Netherlands

Figure 2.3: Municipalities in the Netherlands

Article 133 of the Constitution mentions the water boards as administrative authorities. The number of water boards has been reduced significantly and consequently their scale has increased. In 2007, there were 27 water boards (see Fig. 2.4). The organisation of the water boards is regulated by the Water Board Act [*Waterschapswet*] and provincial ordinances. In the Netherlands, water boards take care of operational water management, except for the main waters that are managed by the national government [*Rijkswaterstaat*]. A water board consists of a water board assembly, an executive assembly and a chairman. The chairman is called the *dijkgraaf*. The other members

of the executive assembly are known as the *(hoog)heemraden*. A water board assembly consists of representatives of categories of stakeholders who have an interest in water management. Those with an interest in water board tasks bear the costs. This is the adage of interest-pay-say (Havekes et al. 2004; Unie van Waterschappen 2007).

Figure 2.4: Water boards in the Netherlands

Water boards are a different kind of decentralised public authority to the provinces and municipalities. A water board is solely responsible for water-related tasks. Unlike the state, the provinces and the municipalities, it is not concerned with balancing interests in a generally political arena. Water boards are functional forms of administration with a functional democracy. The other types of government are general forms of administration with a general democracy. The functional status of water boards enables them to focus on their water-related tasks. However, they cannot perform their tasks in isolation from the general forms of administration. "Since water management is closely linked with other fields of government care, more particularly spatial planning, water boards will have to be open to these links and fill them with actual content" (Havekes et al. 2004: 51).

We mentioned that the Netherlands is a decentralised unitary state. Decentralisation can be structured into autonomy for the lower-tier governmental bodies, or co-governance, such as when lower-tier governmental bodies are required by the national government to provide regulation and administration (Article 124 of the Constitution). This means that the Dutch governmental system is not hierarchical. Nevertheless, higher-tier governmental bodies supervise lower-tier ones: so both the national and provincial governments have supervisory tasks. This is necessary for creating unity in the governmental system. Administrative supervision is regulated by Acts of Parliament. There are three types of administrative supervision: preventive, repressive and positive supervision. Preventive supervision is undertaken in advance of a decision that will be made by a lower-tier governing body. With repressive supervision, the higher authority quashes the decision after it has been made. Positive su-

pervision means that the higher authority actively steers the lower authority, for example by giving instructions (Kortman 2007; Bots 2007).

In addition to top-down coordination, bottom-up coordination also contributes to the unity of government in the Netherlands. Provinces, municipalities and water boards have united themselves into, respectively, the Association of Provincial Authorities (*IPO*), the Association of Netherlands Municipalities (*VNG*) and the Association of Water Boards (*UvW*). The national government usually consults these organisations in policy-making at the national level. These organisations, which are in fact informal bodies, have representatives on several advisory councils. Within the overall governmental system, there is a lot of informal coordination by unofficial administrative networks. One example is the National Platform on Water (*LBOW*), a body that is not regulated by law. This platform consists of representatives of national government, provinces, municipalities and water boards and is chaired by the State Secretary of Transport, Public Works and Water Management.

This kind of informal coordination shows that the Netherlands has a decision-making culture centred on consensus. It can be called a consensus democracy. In policy-making, the national government not only consults decentralised governments, but interest groups are also incorporated informally into the policy-making process. A famous example is the polder model, in which the government cooperates with employers and employees. Consultation, consensus and compromise are key words in the decision-making culture of the Netherlands. Governments avoid making clear-cut 'yes' or 'no' decisions. From the viewpoint of the formal institutional structure, it is not surprising that there is a lot of informal cooperation between organisations. Responsibilities and power are spread over many organisations, overlapping and cross-cutting each other. The fragmented formal structure creates interdependence between different tiers of government. Cooperation, consensus and compromise were in fact created by the House of Thorbecke a long time ago (Hendriks and Toonen 2001; Andeweg and Irwin 2002).

2.2 Administrative law

Since 1983, the Constitution states that general rules of administrative law must be laid down by Act of Parliament (Article 107, Subsection 2). In 1994, the General Administrative Law Act [*Algemene wet bestuursrecht, Awb*] came into effect. Before the introduction of general rules of administrative law, there was only specific administrative law for different fields, such as spatial planning and the environment. To make uniform and simplify the diffuse and complicated field of administrative law, the General Administrative Law Act was needed. This Act is being introduced in several phases, called *tranches*. The first two *tranches* were finished in 1994, and the Act is still being developed. Administrative law deals with the administrative activities of government. The General Administrative Law Act is primarily formal administrative law that sets down procedural rules. Administrative law can also be substantive; relating to the outcomes of decisions. The Act provides legal protection in, for example, stating

views in advance of the formal moment of decision-making, and in, for instance, making objections and appeals after formally making a decision. We describe this briefly in the next two paragraphs. The General Administrative Law Act also codifies some of the general principles of good administration, such as carefulness and accountability in decision-making. These principles have been developed in jurisprudence as non-written law (Bots 2007). We will elaborate further on these principles in the last paragraph of this section.

The General Administrative Law Act includes regulations for the procedure in advance of the formal moment of decision. Division 3.4 of the Act describes the public preparatory procedure and Division 3.5 gives the extended version of it. Such a procedure must be followed if this is required by statutory regulation, or by order of the administrative authority. The procedure described in Division 3.4 applies, for example, to decision-making concerning local land-use plans and regional spatial plans based on the Spatial Planning Act. Division 3.4 is a regulation that obliges a governmental authority to deposit a draft of the decision for inspection, together with relevant documents, for a period of at least four weeks. The authority is also obliged to announce in newspapers or free local papers that they have deposited this draft. Interested parties, and in some cases also other actors, are given the opportunity to state their views on the decision given in the draft. In decision-making procedures where there are many interested actors, the authority may have to organise a hearing (Bots 2007; Ministry of Justice 1998; Ministerie van Justitie 2007).

Chapter 6 of the Act is headed 'General provisions concerning objections and appeals'. This chapter provides legal protection after a public authority has made a formal decision. Interested parties then have the opportunity of submitting a notice of objection to the administrative authority that has made the decision. There are two ways of lodging an appeal. The first way is to make an administrative appeal by submitting a notice of appeal to the public authority; for example, an appeal to the province concerned regarding the decision to approve a municipality's local land-use plan. The second way is to submit a notice of appeal to an administrative court. The Council of State's Administrative Jurisdiction Division [*Afdeling Bestuursrechtspraak van de Raad van State*] deals with appeals of this kind. This is the highest administrative court in the Netherlands. (A separate part of the Council of State advises the government and parliament on legislation.) Within the Chambers of spatial planning and environment, the Administrative Jurisdiction Division is the court of sole and last instance. This means it is the only court to hear an appeal and no further appeal is possible; its judgement is irrevocable. In cases heard by the third and fourth Chamber, the Administrative Jurisdiction Division is the court of appeal from judgments given by the administrative law sector of a district court. The third Chamber is concerned with standard appeals in cases concerning planning permits, grants, water boards, etc. The fourth Chamber deals with appeals in alien's cases. The Administrative Jurisdiction Division judges whether the decision of a public authority complies with the law and with the general principles of good administration, both formally and substantively. The Division may quash all or part of the decision of the public authority, if it judges the appeal not to be well-founded (Raad van State 2007).

Principles of good administration can be formal and substantive. Formal principles involve questioning whether the decision was reached after careful and unbiased preparation, whether appropriate reasons were given, and whether the decision is clear and unambiguous. Substantive principles are about the reasonable balance between interests, proportional harm to individual interests and legal security for the individual. The question of whether the authority used its power in the manner envisaged by the legislator for the purpose is also relevant for good substantive administration (Raad van State 2007). The General Administrative Law Act codifies some of the general principles. For example, Division 3.2 is about the obligation to act with care and to balance interests. When preparing a decision, Article 3:2 in this Division requires an administrative authority to gather the necessary information concerning the relevant facts and the interests to be weighed. Division 3.7 is about accountability; what decision is taken and why? It requires a decision to be based on proper reasons and that these reasons must be stated, or referred to, together with the notification of the decision (Ministry of Justice 1998). The general principles of good administration are needed because of the tension between legality and flexibility. Public administration requires a certain degree of manoeuvreability to make decisions; it needs to be flexible, and be able to make decisions that are tailored to specific situations. Not everything can be regulated by law in advance of decision-making. However, if there is a lot of room for manoeuvre, this can also result in arbitrariness and unfairness. The general principles are designed to prevent this (Bots 2007).

2.3 Planning system of water management

The current planning system for water management is regulated by the Water Management Act of 1989 [*Wet op de Waterhuishouding*]. This system includes strategic and operational plans at different governmental levels. These plans are about the quality and quantity of groundwater and surface water. The strategic water-management policy in the Netherlands is outlined in the national government's policy document on water management [*Nota Waterhuishouding*]. The provinces also have a strategic policy, and this is given in the provincial water management plans [*provinciaal waterhuishoudingsplan*]. The planning system has operational management plans at different governmental levels, because the responsibilities are divided (see Table 2.1). The national government makes a management plan for national water bodies [*beheersplan voor de Rijkswateren*]. Each water board makes a management plan for its own regional water bodies [*waterbeheersplan*]. Provinces and municipalities also make operational plans for their water management tasks. The provinces, for instance, are responsible for groundwater and in some cases also for surface-water bodies. They include their operational plan for groundwater and/or surface water in their strategic water management plan. The strategic and operational water management plans are not binding for third parties; they cannot directly derive rights from the plans. A governmental authority is allowed to deviate from its own plan, should there be clear reasons for doing so.

The Water Management Act includes provisions for coordination between governmental levels. For example, the management plan for national water bodies and the provincial water management plan have to take the national policy plan on water management into account. The operational management plans of decentralised governments have to take the provincial water management plan into account. The *Gedeputeerde Staten* of a province have to approve the operational management plan of the decentralised governing bodies. The Minister of Transport, Public Works and Water Management may give instructions to the provinces (Hidding 2006; Van der Vlist 1998).

Table 2.1: The current planning system for water management (Hidding 2006: Fig. 5.6)

Governmental level	**Character of the plan**	**Type of plan**
national	strategic	national policy plan on water management
	operational	management plan for national water bodies
provincial	strategic	provincial water management plan
	operational	management plan
water board	operational	management plan
municipal	operational	management plan

In 2005, the Water Management Act was changed to implement the European Union Water Framework Directive [*Kaderrichtlijn Water*] (EU 2000; Staatsblad 2005(3003)). This Directive requires making a management plan for the river basins, which must be finished in 2009. These river-basin management plans [*stroomgebiedbeheersplannen*] have been incorporated into the planning system of the Water Management Act and are part of the national policy plan on water management.

Water legislation is currently under construction in the Netherlands. Eight existing acts, including the Water Management Act, will be integrated into one Water Act [*Waterwet*]. The proposal for the new Act was sent to the Lower House in 2006 (TK 2006, 30818, No. 2 and No. 3). With this new Act, the planning system of water management will change, though not radically. The national government and the provinces will still be the governing bodies who will establish strategic policy and set the norms. These plans will be called the 'national water plan' [*nationaal waterplan*] and the 'regional water plan' [*regionaal waterplan*]. The new planning system will still include operational management plans [*beheerplannen*] for the water boards and *Rijkswaterstaat*. There will be proactive coordination in this new system. The national government will steer proactively by issuing general administrative orders; the provinces will steer proactively through their provincial ordinances. There will still be possibilities for giving instructions. One of the novelties in the proposed Water Act is the coordination with the new spatial planning system. The national and provincial water plans, in the sense of the Water Act, will act simultaneously as structural visions [*structuurvisies*] in the revised Spatial Planning Act.

Dutch governmental bodies also produce informal policy documents that do not have a legal status. Examples are water-opportunities maps [*waterkansenkaarten*], sub-catchment visions [*deelstroomgebiedsplannen WB21*], water visions and water-structure plans (Van Dijk 2001; Hidding and Van der Vlist 2003). These informal plans aim to implement the new spatial approach in water management by linking water management with spatial planning. For unifying current water management, an important administrative network used since 2003 has been the National Platform on Water (*LBOW*), including the underlying informal organisation [*regiekolom*], and related to the National Administrative Agreement on Water [*NBW: Nationaal Bestuursakkoord Water*] (NBW 2003).

2.4 The environmental planning system

The Environmental Management Act of 1993 [*Wet Milieubeheer*] regulates the environmental planning system (VROM 2004). In this system, the national government, the provinces and the municipalities each have both a strategic and an operational plan. At the national level, these are the national environmental policy plan [*nationaal milieubeleidsplan*] and the national environmental programme [*nationaal milieuprogramma*], respectively. The national environmental policy plan outlines the environmental policy in the Netherlands, focuses on sustainable development, and aims at the greatest possible level of environmental protection. The national environmental programme includes the activities that the national government will carry out to protect the environment in the next four years. There is a similar strategic and operational plan for the provinces and the municipalities on their level (see Table 2.2). For the municipalities, there is an additional operational plan: the municipal sewerage plan [*rioleringsplan*]. A sewerage plan outlines the municipal facilities for the collection and transport of wastewater, and the construction, replacement and operation of this infrastructure. The national government may issue instructions to the province regarding the content of the provincial environmental policy plan, and the province may issue instructions regarding the municipal sewerage plan (Hidding 2006; Van der Vlist 1998).

Table 2.2: The current environmental planning system (Hidding 2006: Fig. 5.7)

Governmental level	Character of the plan	Type of plan
national	strategic	national environmental policy plan
	operational	national environmental policy programme
provincial	strategic	provincial environmental policy plan
	operational	provincial environmental policy programme
municipal	strategic	municipal environmental policy plan
	operational	municipal environmental policy programme
	operational	municipal sewerage plan

Besides the plans described in the previous paragraph, environmental quality requirements are important in environmental policy. Such requirements are regulated by general administrative orders at the national level. Requirements can be values that either set limits or give guidelines. A *limit value* gives the minimum quality that must have been achieved by a specified time, and once achieved, must be maintained. A *guideline value* gives the approximate quality to aim for. According to the Environmental Management Act, the national environmental programme includes determining or reviewing environmental quality requirements. The provinces may regulate the environmental quality requirements further in their environmental ordinances, taking into account their own provincial environmental-policy plan (VROM 2004; Hidding 2006; Van der Vlist 1998).

2.5 Spatial planning system

The spatial planning system is regulated by the Spatial Planning Act of 1965 [*Wet op de Ruimtelijke Ordening, WRO*] and the related Spatial Planning Decree [*Besluit op de ruimtelijke ordening, Bro*]. Article 2a, Subsection 1, of the Act defines the plans at the national level. Such plans are the national structural-outline plan [*structuurschets*], the national structural-policy sector plan [*structuurschema*] and specific policy decisions that are of national importance [*concrete beleidsbeslissing*]. Spatial planning policy in the Netherlands is outlined in a national policy document on spatial planning [*nota ruimtelijke ordening*], the most recent of which is the National Spatial Strategy [*Nota Ruimte*] (VROM 2006b). All these plans on the outlines of national planning are referred to as 'key decisions in spatial planning' [*planologische kernbeslissing, PKB*]. Apart from the specific policy decisions which are directly binding for other levels of government [*concrete beleidsbeslissing*], such plans are usually only indicative.

A province can make a regional spatial plan [*streekplan*] for the entire province, or for a part of it. It is a strategic plan about the future spatial development of the area covered by the plan. A province may also revise such a plan or elaborate parts of it later. Elaborations of regional spatial plans [*streekplanuitwerkingen*] have the same status as the regional spatial plan. All such provincial plans are indicative, except for any specific policy decisions pertaining to these plans.

At the municipal level, there are two types of plans: structure plans [*structuurplannen*] and local land-use plans [*bestemmingsplannen*]. The character of a structure plan is the same as that of a regional spatial plan. There may be variants of the structure plan, where that plan incorporates several cooperating municipalities [*intergemeentelijk*] or the structural plan of regional authorities [*regionaal*] (Hidding 2006; Van der Vlist 1998; EC 1999; National Spatial Planning Agency 1999).

Table 2.3: The current spatial planning system (Hidding 2006: Fig. 5.4)

Governmental level	Character of the plan	Type of plan
national	strategic	plan ex Article 2a *WRO* (*PKB*)
provincial	strategic	regional spatial plan
municipal	strategic	structure plan
	operational	local land-use plan

The character of the local land-use plan is very different from the other types of plans that have been discussed so far, because it has many legal consequences. It is the only plan that is binding for third parties, including citizens, and provides a high degree of legal certainty. For example, a municipality can only agree to issue a building or groundwork permit [*bouw- of aanlegvergunning*], if it is in accordance with the local land-use plan. The procedure for a local land-use plan is therefore more strict and demanding than other planning procedures. There is no regulation of the size of a local land-use plan. Municipalities can make a plan for their entire area, for parts of it, or even for one or two houses — known as a postage-stamp plan [*postzegelplannetje*].

The function of a local land-use plan is to designate land use in the interests of proper spatial planning and, where necessary, to regulate such use. The plan includes one or more maps showing the land uses permitted on the various sites of the area covered [*plankaart met bestemmingen*] (see Fig. 2.5 for an example). The plan describes these designations and their content [*doeleindenomschrijving*]. A designation may be for a single type of use, for example 'residential', or multiple, as in 'agriculture and water'. Should it be necessary, utilisation rules [*voorschriften*] specify the use of the land and buildings; for example, the density of the houses or their design in terms of height, breadth, etc. The utilisation rules may only concern matters that are spatially relevant to the land use. To increase the flexibility of the plan, it may specify rules for further elaboration, modification, exemptions and further conditions (Articles 11 and 15 *WRO*). Such rules bind the municipality when operating the plan. The plan must be accompanied by an explanation [*toelichting*] that describes the results of the studies undertaken and the consultations that have taken place, etc. Unlike the other parts of the plan, this explanation is not legally binding and has no legal consequences (Hidding 2006; Van der Vlist 1998; EC 1999; National Spatial Planning Agency 1999).

Figure 2.5: An example of a local land-use plan, in which an area for water retention (the shaded area in the centre) is combined with a residential area (source: Municipality of Steenwijkerland).

A municipality must submit its local land-use plan to the province for approval. The Minister of VROM can overrule provincial approval of a plan, should the local land-use plan be inconsistent with national policy. The province and the Minister can oblige a municipality to make or revise a local land-use plan. They can also give instructions [*aanwijzingen*] regarding the content of the plan. The Spatial Planning Act includes further means of coordination between governmental tiers, such as consultation. Although the system includes several hierarchical provisions for coordination, the overall system is not fully hierarchical, because the lower tier is allowed to deviate from the indicative plan of the higher tier (with the exception of specific policy decisions) (Hidding 2006; Van der Vlist 1998; EC 1999; National Spatial Planning Agency 1999).

Article 19 of the Spatial Planning Act allows a municipality to grant exemptions from the current local land-use plan when a revision of a draft plan is open for public inspection or if a preliminary decree has been issued (*Artikel 19 vrijstelling*), but the provincial body for that municipality first has to give a declaration to the municipality that it has no objection to that exemption. One of the last major alterations in the current Spatial Planning Act involved changing Article 19 to include an independent project procedure for municipalities (Article 19, Subsection 1). Together with many other amendments of the Act, this has led to a complicated system incorporating many eventualities. The government started fundamentally revising the Act to simplify the system (EC 1999; National Spatial Planning Agency 1999; VROM 2007).

In 2006, the Lower and Upper House both passed the fundamentally revised Spatial Planning Act, and it is expected to come into effect in 2008. The Spatial Planning Decree will also be revised. De-centralisation, de-regulation and more attention to implementation were important principles in the revision of the Spatial Planning Act. Alignment with the General Administrative Law Act was also considered impor-

tant for simplifying procedures and guaranteeing legal protection and public involvement. In the new planning system, the municipality will be given preference in deciding on spatial developments. The provinces and the national government will only assume control when provincial or national interests make this necessary. Similar planning instruments have been created at each governmental level (see Table 2.4). The new planning system clearly distinguishes between policy statements and statements that are legally binding. The national government, provinces and municipalities all set out their policy in one or more structural visions that are not legally binding [*structuurvisies*]. These are strategic policy documents that outline intended spatial developments. Structural visions can also be made for aspects of spatial policy. A structural vision is a commitment of the governing body that made it, and does not legally affect other authorities. The procedure and content of a structural vision is not regulated by the Spatial Planning Act. The local land-use plan [*bestemmingsplan*] remains very important in the new Act. The procedures have been simplified and formally reduced from 62 to 26 weeks. In the new planning system, each governmental level can make a land-use plan that is legally binding. At the provincial and national level, these are called integration plans [*inpassingsplan*]. Where the area covered by the plan is not a part of provincial or municipal territory, like the North Sea, then that plan is referred to as a national land-use plan [*rijksbestemmingsplan*]. For areas without planned spatial developments, a simplified variant of the land-use plan is the management ordinance [*beheersverordening*]. This ordinance only fixes the spatial situation. The third type of plan common to each governmental level is the project decision [*projectbesluit*]. This instrument is used when the land-use plan does not allow for a certain spatial development, but the governing body still wants to facilitate it without immediately adapting the entire land-use plan. Once the project decision becomes irrevocable, the land-use plan has to be adapted within the course of the year (EK 2006; VROM 2006d; Hidding 2006).

Table 2.4: The new spatial planning system (expected to come into effect in 2008) (Hidding 2006: Fig. 5.5)

Governmental level	Character of the plan	Type of plan
national	strategic	structural vision
	operational	national integration plan (imposed land-use plan)
	operational	project decision
provincial	strategic	structural vision
	operational	provincial integration plan (imposed land-use plan)
	operational	project decision
municipal	strategic	structural vision
	operational	local land-use plan
	operational	project decision

The new Spatial Planning Act changes the coordination in the spatial planning system. Local land-use plans no longer have to be approved by the provinces. Instead, the provinces and the national government coordinate in advance of decision-making by issuing general orders and, in case of specific situations, by giving proactive instructions. They can also submit viewpoints during the procedure and give reactive instructions. The aim is to make matters as clear as possible in advance of the moment of decision-making. Under the new Act there will still be the possibility of lodging an appeal with the Administrative Jurisdiction Division of the Council of State (VROM 2006d; Hidding 2006).

3. The basics of the assessment instruments

In this chapter, we describe and compare the basic characteristics of Water Assessment (WA), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) in the Netherlands. Their status, areas of application, and ranges of impacts are described, and also their main actors, and the procedures and products of each instrument. By 'status', we mean the legislation, regulation, and policy documents or other foundations in which an instrument is anchored. The 'area of application' refers to the plans and decisions to which the instrument applies [*werkingssfeer*]. In this thesis, the adoption of a plan is also referred to as a decision. The kind of water-related or environmental aspects that an instrument assesses is referred to as the 'range of impacts' [*reikwijdte*]. The 'main actors' are the actors that have a role to play, i.e. a task or responsibility, in the assessment procedure. Actors are, for example, the public authorities or private organisations that initiate the assessment, the competent authority that makes the decision, and the public (including citizens, companies and interest groups), etc. Under 'process or procedure', we describe the steps that have to be taken in the assessment. When comparing these descriptions, four basic phases can be distinguished: the initial phase (start); the developing phase (before the moment of decision); the decision-making phase (including the competent authority's moment of decision); and the reviewing and/or evaluation phase (after the moment of decision). It is important to note that the assessments facilitate the main decision-making procedure. They are linked to decision-making, but are not themselves decision-making procedures. An assessment results in one or more written documents — the 'products', which can be part of the decision document (or plan). In the last section, we compare these basic characteristics of the instruments.

The description and comparison of the basics of WA, EIA and SEA gives the picture at the moment of writing (2007). As already mentioned, the instruments are dynamic objects of inquiry. We describe the instruments as they are at the time of writing, using basic material such as legislation and manuals. The most recent manuals for WA, EIA and SEA are those published by the *Projectgroep Watertoets* (2003, referring back to Projectgroep Watertoets 2001), by Infomil (2007) and by the Ministry of VROM (2006c), respectively. Additionally, we use basic information on EIA in Dutch theses and international comparative reviews (Mostert 1995; Arts 1996; Pokorný-Versteeg 2003; Soppe 2005; Wood 2003). This chapter is an adapted and updated version of a publication in the journal *Impact Assessment and Project Appraisal* (Van Dijk 2006).

3.1 The basics of WA

Status: The status of WA is anchored in policy documents, administrative agreements and legislation on spatial planning. First, implementing WA is part of national, and most of regional policy. The national government has specified WA in the document

entitled 'Dealing differently with water' and in the National Spatial Strategy (V&W 2000; VROM 2006). WA is also specified in the water management policy and spatial policy of many decentralised governing bodies in the Netherlands, such as the provincial authorities, water boards and municipalities. Second, by signing the National Administrative Agreement on Water (NBW 2003) and the Starting Agreement (Staatscourant 2001(36)) that preceded it, all the governmental organisations involved (including several ministries, the Association of Provincial Authorities, the Association of Netherlands Municipalities and the Association of Water Boards) are committed to implementing WA. Third, in 2003, WA was also included in the Spatial Planning Decree (Staatsblad 294 2003). There is now a statutory requirement that spatial plans stemming from the Spatial Planning Act must include a so-called 'Water Paragraph' and that there is consultation between the municipality and the water board. None of the other aspects of WA are legally prescribed.

Areas of application: The area of application of WA includes all spatial plans and decisions that may have impact on the water system. WA has to be applied to formal and informal plans, whether strategic or operational, of different tiers of government. Formal plans include those mentioned in the Spatial Planning Act, such as regional spatial plans (and their elaborations), the different kinds of structure plans, local land-use plans and Article 19(1) *WRO* exemptions. For these plans, the Spatial Planning Decree obliges provinces and municipalities to implement WA. Other formal plans within the area of application are decisions on infrastructure, based on the Trajectory Act [*Tracéwet*] and plans specific to rural areas. Formal spatial plans and decisions are often preceded or complemented by planning processes in an informal setting. Examples of informal plans are spatial development visions and master plans. Informal plans are not required by law or for administrative purposes, nor do they need to comply with regulations. Nevertheless, it is important to consider water aspects in these plans too. WA does not apply to permits (e.g. building permits), nor does it apply to non-spatial plans and decisions (i.e. plans that do not affect land use). The consequence of this broad area of application is that the implementation of WA becomes part of a huge number of spatial plans, not only those that impact the water system significantly, but also those with little impact. Each year, in the Netherlands, decisions are made about thousands of local land-use plans, and exemptions to these plans. The rationale for applying WA to small plans is that, in the past, a great deal of space was gradually purloined from the water system by small-scale spatial developments (Projectgroep Watertoets 2001; Projectgroep Watertoets 2003).

The range of impacts: The assessment criteria in WA are related to all aspects of water management. These include: flooding with immediate danger to people; water surpluses (overflows and high levels of water that do not pose immediate danger to people); water logging (saturated soil); sewage; water shortages; droughts; avoidable land subsidence; and the quality of ground and surface water. The assessment criteria are based on relevant policy documents, for example, sub-catchment visions and water management plans. How strict the assessment criteria are depends on the strictness of the policy document on which they are based. The criteria are not fixed, but need

to be adjusted to each spatial plan (Projectgroep Watertoets 2001; Projectgroep Watertoets 2003).

Main actors: In processing WA, there are three main actors: the spatial planning authority; the water authority; and the higher authority that has to give its final approval to the spatial plan. The spatial planning authority is the formal initiator of a spatial plan and is competent to make a decision on it. Depending on the type of spatial plan, this public authority can be a municipality, a province or the national government. 'Spatial planner' and 'initiator' are used as synonyms for the spatial planning authority. The water authority is the governing body responsible for the management of the water system in the area of the spatial plan. Because the water management tasks are divided among different authorities in the Netherlands, in some cases more than one governmental organisation constitutes the water authority. In most cases, however, the water authority is a water board and/or the Directorate-General for Public Works and Water Management [*Rijkswaterstaat*]. In some cases, the province or the municipality are (partly) responsible for water management in the area covered by a plan. 'Water manager' is used as synonym for water authorities. The higher authority has to approve the decision of the competent authority: for example, in the case of a local land-use plan, the municipality is the spatial planning authority and the province is the higher authority. 'Reviewer' is used as synonym for higher authority.

Private actors, such as the commercial developers of housing projects and external consultants, can also participate in a WA process. External consultants can facilitate the process or provide information on the water system. Private actors cannot, however, take the place of one of the three main actors, because these actors have their own formal responsibilities in the spatial planning process. The public, including citizens, companies and interest groups, are not mentioned as a main actor in WA. The assessment process itself does not include public involvement, but the spatial planning procedure does give the public possibilities for reacting to water-related aspects of the (draft) plan (Projectgroep Watertoets 2001; Projectgroep Watertoets 2003).

Process/procedure: WA has to fit into different kinds of spatial planning processes. It has therefore been designed as a flexible process, of which only the basic steps are described in the national manual (Projectgroep Watertoets 2003) (see Fig. 3.1). It is up to the actors involved to agree on the precise steps to be taken, whether they are just a few phone calls or many meetings and extensive research. In the initial phase, which starts as soon as the ideas about the plan start crystallising, the spatial-planning authority takes the initiative to inform the water authority. The water authority provides information about the water system and the priorities in water management for that specific area. Together, they define the water criteria that the urban and landscape designers have to take into consideration. The result of this initial phase is an agreement on the assessment criteria and the process to be followed from then onwards.

In the developing phase, the water authority and the spatial planning authority work together interactively and creatively on the design of the plan. The resulting draft plan is sent to the water authority with a request to give a Water Recommendation. The water authority checks if the agreed water criteria have been addressed satisfacto-

rily in the draft spatial plan. In the Water Recommendation, the water authority informs the spatial planning authority of its findings and recommends any necessary adjustments to the plan. Where interaction has been optimal, this recommendation should bring no surprises.

Based on the Water Recommendation, the spatial-planning authority makes the necessary final adjustments to the plan. If the spatial planning authority proceeds with the plan contrary to the recommendation of the water authority, it must explain why. A Water Paragraph, which has to be a part of the plan, outlines the consideration that has been given to water issues as a result of the WA process. In some of the spatial planning procedures, it is mandatory to obtain the approval of a higher authority. The water authority sends its Water Recommendation to the higher authority so the latter can compare it to the plan itself. Water and the process of WA are aspects on which the higher authority can withhold its approval from all or part of the plan (Projectgroep Watertoets 2001; Projectgroep Watertoets 2003).

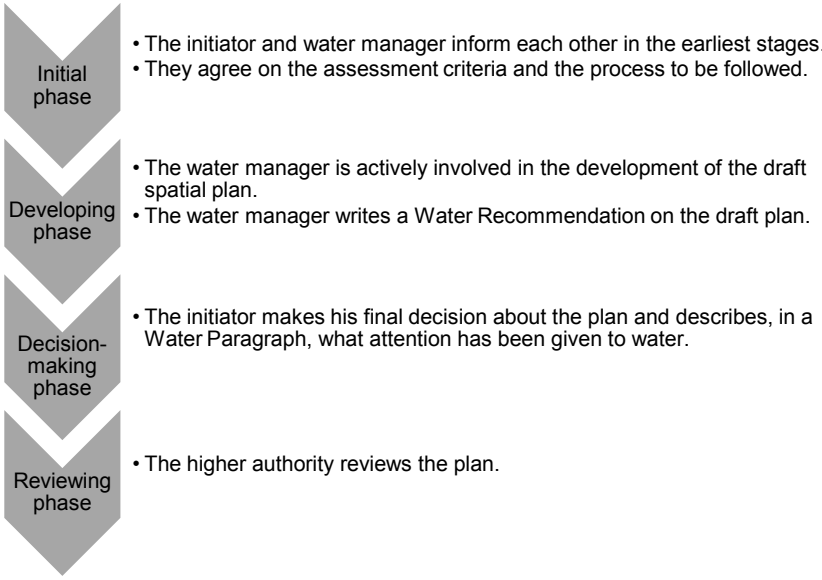


Figure 3.1: The process of Water Assessment

Products: A WA process results in two products: the Water Recommendation and the Water Paragraph. The Water Recommendation is formulated in response to the draft spatial plan. The water authority gives advice during the whole planning process. At the end of this process, the authority weighs up all aspects of the plan and issues a final recommendation. The water authority is responsible for this formal recommendation, so it cannot be considered as independent expert advice. In the Water Recommendation, the water authority describes whether the draft plan complies with the

assessment criteria and, if necessary, whether compensatory measures have been arranged well in the plan. The Water Paragraph makes explicit the decision-making on aspects of water. It describes how account has been taken of any water-related impacts of the spatial plan. Any deviations from the Water Recommendation have to be mentioned and explained. In the case of non-compliance, there has to be clear evidence that compensatory measures are in place. The Water Paragraph also includes a description of the way the water authority has been involved in the spatial planning process (Projectgroep Watertoets 2001; Projectgroep Watertoets 2003).

3.2 The basics of EIA

Status: Dutch EIA has got a European and Dutch legal basis. Since 1985, the Directive of the European Union on assessing the effects of certain public and private projects on the environment, known as the EIA Directive [*Richtlijn m.e.r.*], sets down European Union's minimum requirements for all Member States (EU 1985). The Directive was amended in 1997 (EU 1997). The requirements are specified in four appendices of the Directive. Annex I includes a mandatory list of projects, for which EIA is always compulsory. The list in Annex II comprises projects which may be subject to EIA, if the environmental impacts are expected to be significant. Member States themselves determine this by carrying out a case-by-case examination or by setting thresholds or criteria. In doing so, they are obliged to take the selection criteria of Annex III into account. Annex IV specifies what sort of information has to be included in an EIA.

Dutch EIA was originally anchored in the Environmental Protection Act of 1986 [*Wet algemene bepalingen milieubeheer*]. The area of application was regulated by the EIA Decree of 1987 [*Besluit m.e.r.*]. The Dutch regulations are rather detailed and go further than those of the European Union. However, the original EIA regulation did not fully implement the EU EIA Directive. This was one of the reasons why the legal requirements were revised. Since 1994, EIA has been regulated by the Environmental Management Act [*Wet milieubeheer*], the Act that replaced the Environmental Protection Act. Chapter 7 of the Environmental Management Act is devoted entirely to EIA, although articles on EIA can be found in some of the other chapters. The EIA Decree was renewed in 1994 (Staatsblad 540 1994). Moreover, a new regulation came into force in 1993 on the content requirements for the notification of intent [*Regeling startnotitie milieu-effectrapportage*] (Staatsblad 229 1993). In 1999, both the Act and the Decree were adapted to implement the amended EIA Directive of 1997 (Wood 2003; Arts 1998; Mostert 1995; for an English text of Dutch EIA regulations see VROM 2000). In 2006, the implementation of the EU SEA Directive (EU 2001) caused both the Act and the Decree to be extensively revised, and this also affected EIA (Staatsblad 388 2006; TK 2006, 29383, No. 62). The Ministry of VROM is currently working on a thorough revision of the EIA regulations, which will come into effect in the near future [*beleidsbrief m.e.r.*] (TK 2005, 29383, No. 25).

Areas of application: EIA is obligatory for activities that may have significant, negative impacts on the environment. The Dutch EIA Decree designates these activities in

two lists — Annex C and D — that are somewhat analogous to the EU Directive. Activities listed in Annex C always require EIA; it makes EIA compulsory for major activities. The activities that are listed in Annex D require a screening procedure. The competent authority then decides whether these activities require EIA or not. The lists include diverse activities such as: the construction, change or extension of roads, railways, waterways, pipelines, ports and airports; rural development projects; the construction of leisure or tourist facilities, shopping centres, housing, glass horticulture facilities and industrial sites; the construction, change or extension of dykes; the extraction of resources; waste disposal; industrial activities; etc. Besides these two lists, provinces may require EIA. Voluntary EIA or exemptions are also possibilities (Wood 2003; Arts 1998; Pokorný-Versteeg 2003).

For most activities, thresholds are defined in the EIA Decree. Housing construction, for example, is an activity on the mandatory list. However, this only concerns cases where the activity relates to a joined area comprising two thousand or more dwellings outside urban environments, or four thousand or more dwellings within an urban environment. Housing construction is also an activity that appears on the screening list. This concerns cases where the activity relates to a joined area and provides for two thousand or more dwellings within an urban environment.

The obligation to undertake an EIA is linked to one crucial decision of the competent authority on an activity that may have serious, negative impacts on the environment. Soppe (2005) roughly divides the kinds of decision into two categories: decisions based on the Spatial Planning Act and sectoral decisions concerning development consent based on the Environmental Management Act (environmental permits, *Wm-vergunningen*). EIA was only attached to a spatial decision if a sectoral decision lacks, or where the choice of location is very important. Before 2006, EIA had been linked to all kinds of spatial plans on all tiers of government, from key spatial-planning decisions to Article 19 *WRO* exemptions. The adoption of a spatial plan in which provision had first been made for the activity, was subject to EIA. Overall, approximately 80 EIAs are performed in the Netherlands each year (TK 2005, 29383, No. 25).

With the implementation of SEA, spatial plans were transferred as much as possible from the area of EIA application to SEA. However, this was only possible if another decision was made prior to implementing the project, which then became subject to EIA. Currently, it is only the spatial plans of municipalities that are included in the area of application of EIA. These are elaboration plans of local land-use plans (Article 11 *WRO*), or, if not elaboration plans, then the local land-use plans themselves (Article 10 *WRO*), exemptions to them (like Article 19 *WRO*) and instructions on them from higher authorities. Local land-use plans, local elaboration plans, and instructions may also be subject to a SEA (though not the exemptions such as Article 19 *WRO*), if development consent based on the Environmental Management Plan is required, that is subject to an EIA. Consequently, EIA applies to the most definite decision, at the lowest level possible. This is the final governmental decision before an activity can be implemented (Staatsblad 388 2006).

The range of impacts: An EIA covers all likely significant impacts on the physical environment, including issues such as population (human beings), fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelations between these aspects. The environmental impacts also cover waste (water) disposal, energy, resources and traffic. The impacts extend to secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects. The Environmental Management Act refers to Annex IV of the EU EIA Directive (Staatsblad 477 2005; TK 2005, 30046, No. 3; EU 1985).

Main actors: The five main actors in an EIA are the proponent, the competent authority, the EIA Commission, the legal advisors and the public. The proponent is the person, private organisation or public organisation who wants to undertake an activity for which an EIA is required. 'Initiator' and 'developer' are used as synonyms for the proponent. The competent authority is the governmental organisation that is competent to make a decision on the proposed activity. The roles of proponent and competent authority can be fulfilled by the same organisation in certain situations. The EIA Commission is an independent advisor to the competent authority, for example on the quality of the Environmental Impact Statement. The Commission consists of a pool of about four hundred members, all of whom are independent experts. For EIA projects, these experts are invited to participate in small working groups, usually consisting of three to five members. Their work is supported by the secretariat of the EIA Commission (NCEIA 2007). Apart from this commission, other legal advisors play a role. These legal advisors are the inspector, governing bodies designated by the Minister of *VROM* or the Minister of Agriculture, Nature and Food Quality (*LNV*) and advisors centred on other statutory requirements (ones depending on the main decision-making procedure). The public includes individuals, companies and organisations such as environmental interest groups and other non-governmental organisations (NGOs). Everybody can participate in EIA, not only those people whose interests are directly affected. The EIA procedure includes two periods of public consultation. Lodging objections and appealing is part of the main decision-making procedure, not of EIA itself (Arts 1998; Mostert 2005; Pokorný-Versteeg 2003).

Process/procedure: In the initial phase, screening and determining the scope of the EIA procedure ('scoping') takes place. The proponent and competent authority consult each other. The proponent informs the competent authority on the proposed activity and, if necessary, the competent authority conducts a screening procedure to determine whether an EIA is required. When EIA is required, the proponent writes a notification of intent. In this document, the proposed activity, the purpose, expected environmental impacts and alternatives are briefly described. The formal EIA procedure starts with the publication of a notification of intent. Public and legal advisors may comment on the notification, and give their opinion on what the content of the Environmental Impact Statement (EIS) should be. The EIA Commission gives a scoping advice to the competent authority, along with guidelines as to what the content of the EIS should be. The competent authority is responsible for setting the final guidelines.

The proponent uses these guidelines to prepare the EIS. External consultants can be hired to draw up this report, though the proponent remains responsible for its content. The EIS is then submitted to the competent authority, where it is checked for completeness and correctness. The authority then decides on whether the EIS is acceptable enough. The EIS is published together with the (preliminary) draft decision, or the application for the decision. Public consultations about the EIA and the main decision procedure are being coordinated. The EIA Commission sends a review advice to the competent authority. The Commission checks the EIS against legislation, regulations and the guidelines set in the initial phase. The Commission's recommendation is not about the acceptability of the proposed activity. If necessary, the competent authority will ask the proponent to provide supplementary information.

The EIA procedure and the main decision-making procedure come together in the decision-making phase. The competent authority makes a decision about the proposed activity, taking into account the environmental impacts. The authority can decide either to grant the environmental permit or to approve the plan. It can also decide that the activity will not be undertaken, because of inadmissible negative environmental impacts, or to include conditions, regulations and restrictions for environmental protection in the decision. A written statement on this decision indicates how the environmental impacts of the activity have been taken into account. In its decision, the competent authority has to explain what consideration has been given to the EIS, and what comments and recommendations have been made. After implementing the project, the competent authority has to evaluate the actual environmental impacts of the activity. The results of this *ex post* evaluation have to be laid down in an evaluation report (Arts 1998; Pokorný-Versteeg 2003).

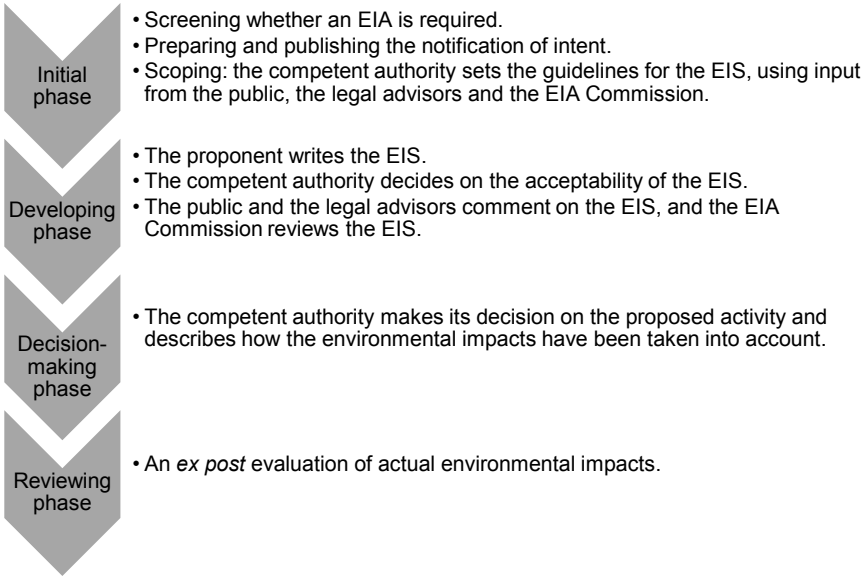


Figure 3.2: The procedure for Environmental Impact Assessment

Products: The following documents are produced in an EIA: the notification of intent (by the proponent), advice on guidelines (by the EIA Commission), guidelines (by the competent authority), the Environmental Impact Statement (by the proponent), review advice (by the EIA Commission), the decision together with the written statement, and an evaluation report (Infomil 2007; Arts 1998). The main product of an EIA is the EIS. The main elements of an EIS are defined in Article 7.10 of the Environmental Management Act. In summary, these are: a description of the purpose of the proposed activity; a description of the proposed activity and any reasonable alternatives; an indication of the decision to which the EIS applies, as well as the previous decisions taken; a description of the current state of the environment and the expected development should neither the proposed activity nor the alternatives be undertaken; a description of the environmental impacts of the proposed activity and any alternatives; a comparison; a review of the omissions, due to lack of information; and a summary for the general public. The alternatives should include one that prevents adverse impacts on the environment or, in so far this is not possible, reduces them as far as possible using the best means available of protecting the environment — in short, the most environmental friendly alternative (*MMA*). Should it not be possible to limit all the negative environmental impacts, then the competent authority may require the proponent to state what compensatory measures they propose to take.

The written statement of the grounds on which the decision is based should describe how account has been taken of the environmental impacts of the activity to which the decision refers, as described in the EIS. The competent authority should also describe what consideration has been given to the alternatives described in the EIS and to the comments (views) and recommendations that have been given on the EIS. The main reasons and considerations for the decisions made are publicised together with the content of the decision outcome. The competent authority must also describe, where necessary, the measures to avoid, to reduce and possibly offset the major negative environmental impacts (Pokorný-Versteeg 2003).

3.3 The basics of SEA

Status: Dutch SEA has got a European and Dutch legal basis. The Directive of the European Parliament and Council of 27 June 2001 on assessing the effects of certain plans and programmes on the environment prescribes the minimum requirements for SEA for all Member States of the European Union (EU 2001). In the Netherlands, this Directive has been applied directly since 21 July 2004, because it had not yet been implemented into Dutch legislation. The Dutch SEA legislation came into effect on 28 September 2006 after the Environmental Management Act and the EIA Decree had been adapted so that SEA could be implemented through them (Staatsblad 336 2006; Staatsblad 388 2006; TK 2004, 29811, No. 3.). The Dutch legislation adds two additional requirements to those of the EU. First, the Environmental Management Act requires an 'organised start' in which the competent authority has to announce the plan and say how the SEA will be carried out. Second, in certain cases, the involve-

ment of the EIA Commission is required. The Ministry of VROM (2006) published a manual for implementing SEA. The legislator uses the term 'EIA for plans' [*milieueffect-rapportage voor plannen*], instead of SEA, and distinguishes it from 'EIA for decisions' [*milieueffectrapportage voor besluiten*]. These terms caused some confusion because, for practitioners, 'plans' are 'decisions'. Therefore, the manual uses the terms 'plan-EIA' for SEA (*plan-m.e.r.*) and 'project-EIA' for EIA (*project-m.e.r.*). In this thesis, we use the terms 'SEA' and 'EIA'.

Areas of application: SEA applies to the government's spatial and sectoral (non-spatial) plans. The obligation for SEA is partly related to the same activities for which an EIA is required and partly to all activities with impact on habitat areas. SEA is required for plans which set the framework for future development consent on activities requiring EIA [*kader vormen voor toekomstige projectmer-(beoordelings)plichtige besluiten*]. A 'framework' can be the choice of a location or a route for an activity, but also the preceding step, when different locations or routes are considered. SEA is not restricted to plans with strict, stated sentences that are legally binding (specific policy decisions), but should also be applied to plans that more vaguely set the tone for later decisions. The term 'plan' only includes spatial and sectoral plans that are required by legislative, regulatory or administrative provisions [*wettelijk of bestuursrechtelijk verplichte plannen*]. These formal plans are listed in a new column in the adapted EIA Decree, next to the three existing columns that show activities, thresholds and crucial decisions. The second part of the area of application comprises all plans that have been considered to require an assessment pursuant to the EU Directive on the conservation of natural habitats and of wild flora and fauna, known as the Habitats Directive (EU 1992). This Directive is being linked to the Birds Directive (EU 1979), which are together the main pieces of legislation for the EU nature conservation policy. These Directives have been incorporated into the Dutch Nature Protection Act of 1998 [*Natuurbeschermingswet 1998*]. The second part of the area of application of SEA concerns the plans with activities that will have a significant impact on habitat areas. There are no thresholds for these activities, so the second part of SEA's area of application is called the 'open part'.

The types of plan to which a SEA is applied are: key decisions in spatial planning, regional spatial plans, structure plans (and regional structure plans), local land-use plans and elaborations on them based on the Spatial Planning Act; national water management plans, management plans for national water bodies, provincial water management plans and management plans of water boards based on the Water Management Act; plans on drinking water and industrial water based on the Water Supply Act [*Waterleidingwet*]; the national plan on the management of waste, based on the Environmental Management Act; national, provincial and municipal traffic and transportation plans, based on the Traffic and Transportation Planning Act [*Planwet verkeer en vervoer*]; reconstruction plans for rural areas and elaborations, based on the Reconstruction Act [*Reconstructiewet concentratiegebieden*]; and nature policy plans, based on the Nature Protection Act 1998 (VROM 2006c: 7). If they all set the framework for the activity, then more than one plan may be subject to a SEA. It can occur, for example, that if a SEA is obligatory for a key decision in spatial planning, then it will also be

obligatory for the regional spatial plan, the structure plan, the local land-use plan, and the elaboration of that plan. The Ministry of VROM has estimated that approximately 105 SEAs will be performed each year (TK 2004, 29811, No. 3).

The range of impacts: A SEA covers all likely significant impacts on the physical environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelations between these aspects. The impacts cover secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects. This is in accordance with Annex I of the EU SEA Directive. How detailed the description of the environmental impacts is depends on the level of the plan. To avoid duplication in assessing, in the EIS it is allowed to refer to environmental information included in another EIS (VROM 2006c).

Main actors: The main actors in a SEA are the competent authority, the EIA Commission (in certain cases), the administrative authorities to be consulted, and the public. The proponent is not mentioned here as a main actor, because this is always the same organisation as the competent authority. The competent authority prepares the plan and the EIS, and formally decides on the adoption of the plan. The involvement of the EIA Commission in a SEA is only obligatory if the plan sets the framework for an activity in an area that is part of the main ecological structure of the Netherlands [*Ecologische Hoofdstructuur, EHS*], or if the activity requires an assessment pursuant to the Habitats Directive. In that case, based on a review of the EIS and the draft plan the EIA Commission will recommend on nature protection. In other cases, to gain a broader review, and input into other phases of the SEA, the competent authority may, of its own accord, ask for an expert-based input. This input can be given by the EIA Commission, but other (expert) organisations may also be asked for input. The administrative authorities to be consulted can be all kinds of governing bodies, such as the national government, provincial and regional governments, water boards, or municipalities. If there is a likelihood of an authority being affected by the environmental impacts of implementing a plan, then they have to be involved in the SEA. Everybody should have the opportunity to state their views on the draft plan, including the EIS. Should the main decision-making procedure not provide for this public involvement, then the SEA does.

Process/procedure: After screening whether a SEA is required for the plan, the competent authority formally starts the SEA procedure by issuing a public announcement. In this announcement, the authority describes the exact SEA procedure to be followed, including, for example, what documents will be deposited for inspection, and when and where; the way in which the public will be consulted; and whether or not an independent recommendation will be part of the procedure. The formal requirements for the SEA procedure provide flexibility. For example, public consultation in the early phase of a SEA is not statutorily required. In the initial phase, the competent authority makes clear how it uses this flexibility and whether or not steps will be taken in addition to the statutorily required procedure. After this organised start, when deciding on the scope and level of detail of information in the EIS, the

competent authority will consult any other authorities likely to be affected by the environmental impacts of the plan. For this, 'scoping' takes place, but the procedure is much more limited than that in an EIA procedure. The competent authority does not have to set guidelines for the EIS.

In the developing phase, the competent authority prepares the Environmental Impact Statement (EIS). It can hire external consultants to draw up this report, though it remains responsible for the content. The EIS is preferably included as part of the draft plan. However, the EIS should be a clearly distinguishable, coherent text. The authority deposits the draft plan, including the EIS, for public inspection and allows the public to state their views. The authorities that were consulted on the scope and level of detail of the EIS are also given the opportunity to express their views on the EIS during this phase. Whether through obligation or in reply to a voluntary request, the EIA Commission has to give its recommendations to the competent authority.

The competent authority formally decides on the adoption of the plan during the decision-making phase. The written statement on this decision indicates how account has been taken of the environmental impacts described in the EIS. The competent authority has to explain how it took the EIS into account, and any comments and recommendations that have been received. After implementing the plan, the competent authority has to evaluate the actual environmental impacts. If the SEA is going to be followed by an EIA of another authority, then the obligation to evaluate the impacts will be transferred to that authority. The results of this *ex post* evaluation must be laid down in an evaluation report.

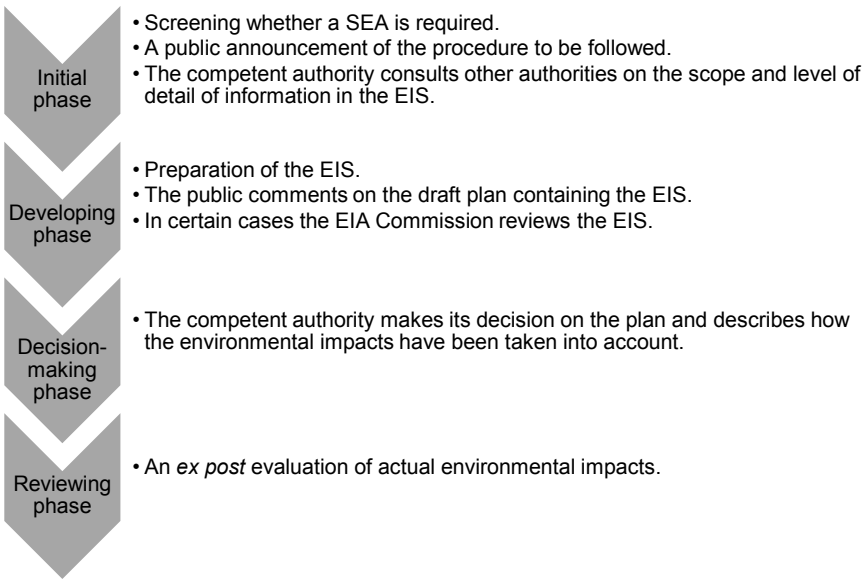


Figure 3.3: The Strategic Environmental Assessment procedure

Products: The following documents are produced in a SEA: a public announcement, the Environmental Impact Statement, the EIA Commission's review advice (if relevant), the plan with the written statement, the evaluation report. The main elements of an EIS in a SEA procedure are defined in Article 7.10 of the Environmental Management Act. In summary, these are: a description of the purpose of the proposed activity; a description of the proposed activity and any reasonable alternatives; a description of any other relevant plans that were adopted previously; a description of the current state of the environment and the expected developments in the event that neither the proposed activity nor the alternatives are undertaken; a description of the environmental impacts of the proposed activity and its alternatives; a comparison; a review of the omissions, due to lack of information; and a summary for the general public. Article 7.10 of the Environmental Management Act does not include an obligation to describe the most environmental friendly alternative (*MMA*). Neither does this Article include a subsection on compensation or mitigation related to an EIS in a SEA procedure. However, according to Article 5 and Annex I of the EU SEA Directive and the Dutch SEA manual, an EIS should also include the measures envisaged to prevent, reduce and offset, as fully as possible, any significant negative impacts on the environments of implementing the plan, as well as the environmental protection objectives and the monitoring measures (EU 2001; VROM 2006c).

3.4 Comparison of the basics

Status: WA has a very different status from EIA and SEA. In the first place, unlike EIA and SEA, there is no obligation here to comply with EU Directives. Secondly, its statutory implementation is much less detailed than that of EIA and SEA. Thirdly, it is not implemented in legislation on water in the same way as EIA and SEA are implemented in legislation on environment. Instead, it is implemented in spatial planning regulations. Comparing EIA and SEA to each other, the statutory requirements for the EIA procedure are more detailed; the SEA regulations provide more procedural flexibility.

Areas of application: The area in which WA is applied corresponds more to that of SEA than to EIA, because WA and SEA both apply to plans, whereas EIA applies to decisions on activities at the more detailed project level. These specific decisions can be permits, but if a permit is not required, then EIA applies to a local land-use plan or to an elaboration of it. Consequently, a local land-use plan is included in the areas of application of all three instruments. A difference between WA compared with EIA and SEA is that WA only applies to spatial plans, whereas EIA and SEA are also used for non-spatial (sectoral) plans and decisions. The number of spatial plans to which WA applies is huge compared to EIA and SEA, because WA applies to all formal and informal plans at all levels. The area of application of EIA and SEA is restricted to formal plans and decisions on a limited list of activities that are likely to have significant impacts on the environment. SEA also applies to plans that are deemed to re-

quire an assessment pursuant to the EU Habitats Directive. In this thesis, the focus is on spatial plans, rather than on environmental permits and sectoral plans.

The range of impacts: WA deals with all kinds of water-related aspects, while in EIA and SEA the impact on water is only one of the many environmental impacts that have to be assessed. The impacts to be assessed in EIA and SEA can differ slightly. Biodiversity and public health are mentioned explicitly within the scope of a SEA, but not in that of EIA. Besides the range of impacts, the way in which the impacts are assessed in WA differs from EIA and SEA. In WA, policy-related criteria are important in assessing the acceptability of spatial plans. The water authority discusses these criteria with the initiator during the initial phase. In an EIA and SEA, the environmental impacts are described as objectively as possible.

Main actors: First, independent experts do not participate in WA, whereas they are always involved in EIA and in some cases in SEA. Secondly, water authorities, and especially the water boards, play a major role in WA. They are actively engaged in the planning process and write a Water Recommendation, while there is no such role in EIA and SEA. Thirdly, EIA is the only instrument of the three in which the proponent can be a private body.

The terminological differences between WA and EIA for the main actors are confusing. The private actor that wants to undertake an activity is not the formal initiator in WA and has no main role, but is referred to as the informal initiator. In fact, the formal initiator in WA is synonymous with the competent authority. However, this term is used in EIA and SEA and not in WA. The private actor in EIA is called the proponent or initiator and does have a main role to play in the assessment. For example, it is this actor who has to write the Environmental Impact Statement. The competent authority is a different role in EIA. Therefore, we prefer the term 'initiator' in WA and 'proponent' in EIA.

Process/procedure: It can be seen that the differences regarding formality and linkage with the main procedure are striking. WA is less formal than EIA and SEA, because the steps to be taken are not regulated in detail. Because of its informal character, WA can begin before the formal planning procedure starts. An EIA formally starts with the notification of intent and a SEA with the public announcement. WA can easily be integrated into planning processes. An EIA procedure is primarily linked to the main procedure during the decision-making phase. SEA has more links with the planning procedure than EIA: it is more flexibly integrated and less heavily regulated. The public is a main actor in EIA and SEA. The EIA procedure formally includes two periods of consultation, a SEA only one. Should the main decision-making procedure not provide for this public involvement, then the SEA does. WA pays far less attention to public involvement. The public can use the possibilities in the spatial-planning procedure. WA itself does provide for such possibilities if the spatial-planning procedure does not offer them.

Products: A Water Recommendation is somewhat comparable to an Environmental Impact Statement (EIS) in an EIA or SEA. The documents are both based on the draft plan or draft decision, and they are produced during the same phase of the process. A Water Recommendation is, however, written by the water authority re-

sponsible, whereas an EIS is written by the proponent. Another difference between these products is the central position of alternatives for the proposed activity in an EIS. The Water Paragraph is similar to the written statement on the decision that includes considerations about environmental impacts in EIA and SEA. All assessment instruments require the decision-making authority to describe how water-related or environmental impacts have been taken into account.

Table 3.1: A comparison of the basic characteristics of WA, EIA and SEA

	Water Assessment	**Environmental Impact Assessment**	**Strategic Environmental Assessment**
status	not required by EU	required by EU	required by EU
	a very small part is regulated	described extensively in law	most parts are described extensively in law, some parts are discretionary
	spatial planning regulation	environmental regulation	environmental regulation
area of application	plans	projects: final decision made before construction can start	plans
	plans on all levels of scale (not permits)	decisions on detailed scales: permits, also (elaborations of) local land-use plans	plans on all levels of scale (not permits)
	formal and informal plans	formal plans	formal plans
	all spatial plans	plans including a listed activity	plans including a listed activity and plans with impacts on natural habitats
	only spatial plans	spatial and non-spatial decisions	spatial and non-spatial plans
range of impacts	water-related impacts	environmental impacts, including water	environmental impacts, including water
	assessment criteria are defined by the water authority after discussion with the spatial planning authority, and are based on policy documents	impacts to be described are defined by the competent authority, after consulting the public, legal advisors and EIA Commission (scoping)	impacts to be described are defined by the competent authority after consulting the authorities concerned (scoping)
main actors	no independent experts involved	involvement of independent experts obligatory	involvement of independent experts obligatory in some cases
	important role for the responsible water authority	no such role as in WA	no such role as in WA
	initiator (=competent authority) is a public body	proponent can be a public or private body	competent authority (=proponent) is a public body

process	informal start, as soon as possible	formal start, linked to the start of the formal decision-making procedure	formal start, linked to the start of the formal decision-making procedure
	process fully integrated into the planning procedure	procedure with a link to decision-making	procedure has more links with planning procedure than EIA
	no dedicated public consultation	dedicated public consultation	dedicated public consultation if not prescribed by planning procedure
products	Water Recommendation written by water authorities	Environmental Impact Statement (EIS) written by the proponent, which may be the competent authority	Environmental Impact Statement (EIS) written by the competent authority (=proponent)
	alternatives do not have to be described in a Water Recommendation	alternatives have to be described in an EIS, including the most environmentally friendly alternative	alternatives have to be described in an EIS
	plan with Water Paragraph written by spatial planning authority (=competent authority)	decision with statement written by the competent authority	plan with statement written by the competent authority
	Water Paragraph refers to Water Recommendation	written statement refers to the EIS	written statement refers to the EIS

4. Philosophy and method

The first chapter made clear that the aim of this research is to find a context-dependent explanation of Water Assessment, Environmental Impact Assessment and Strategic Environmental Assessment. Such an explanation is geared towards policy-makers, to provide them with useful insights for carrying out their tasks. In this chapter, we construct a method to facilitate this aim — a method that links theory with practice.

Aristotle wrote about both practical knowledge and about finding probable explanations for phenomena, which he called *phronesis* and *apagoge,* respectively. We will describe these philosophical underpinnings in Sections 4.1 and 4.2, respectively. Howarth developed a method — his 'method of articulation' — that fits the ideas of *phronesis* and *apagoge* well. It is a method that uses a framework of consistently related concepts; a framework that is intimately connected with actual phenomena encountered in practice. This method is described in Section 4.3. The comparative research strategy is described in Section 4.4, as a further specification of the method. Section 4.5 describes how the philosophical ideas, the method and research strategy have been employed in this thesis. Each section in this chapter should be understood in the light of the preceding sections.

4.1 *Phronesis* or practical knowledge

Poor Aristotle! These are Veatch's first words in his book, *Aristotle: A Contemporary Appreciation.* With the rise of modern science, Aristotle's philosophy declined to a position outside the mainstream of modern Western philosophy. Veatch (1974) ends his book by concluding that Aristotle's work should be considered a viable option in contemporary philosophy, because of its common sense, and indeed, in the social sciences, there has been a rebirth of Aristotle's ideas in recent years. One of the books that has contributed to this revival is Dunne's, *Back to Rough Ground* (1994), in which he discusses *phronesis* in modern philosophy and in Aristotle's work. In the field of planning, a better known book is Flyvbjerg's *Making Social Science Matter* (2001). He promotes an alternative social science based on *phronesis*, which has its origins in Aristotle's work. This alternative social science arose out of discontent with the dominant approach in the social and political sciences.

The method that we use in this thesis is based on Aristotle's *phronesis.* We will first introduce *phronesis* by contrasting it with *episteme* and *techne.* Not only does Aristotle use this threefold distinction himself, but Veatch, Dunne and Flyvberg, whose work we use to describe *phronetic* research, do the same. Then, in line with Flyvbjerg, we argue why a social science that imitates the research approach of the natural sciences is problematic. Social science is strong on *phronesis*, not on *episteme* and *techne.* After describing *phronesis* in more detail, we will clarify the significance of *phronesis* in

carrying out research. *Phronetic* research is at the intersection of the general and the specific.

Aristotle distinguishes three modes of knowledge: theoretical, practical and productive (Veatch 1974; Dunne 1994). Flyvbjerg (2001, 2004c) refers to the original Aristotelian terms: *episteme*, *phronesis* and *techne*. *Episteme* is knowledge about things with fixed principles, such as necessary and universal truths. A theory in the epistemic sense is completely independent of context; independent of time, place and circumstance. By using a theory about a constant, complete and accurate predictions can be made. For natural sciences (physics, mathematics), an epistemic theory is the ideal, and it is the dominant type of theory in modern science in general. *Phronesis* is practical knowledge that is not about constants, and therefore one that may be interpreted differently, depending on the context. General notions can only be rough and in outlines, because they must fit a variety of practical situations. General truths and exact predictions do not exist in *phronesis*. *Phronesis* is about acting or doing: about what should be done in a given situation. It is an ethical mode of knowledge, based on experience and judgment, which includes deliberations on value-laden questions. *Techne* refers to craft and arts. It is about making or producing in the sense of fabrication: about how one should go about effecting or providing something under varying circumstances and conditions. Value-laden questions are outside the scope of *techne*. With *techne*, one applies technical know-how and skills in an instrumental way, with direct control.

The problem with the mainstream social sciences is that researchers try to formulate predictive, universal theories, based on *episteme*. In imitating the natural sciences, such social scientists try to develop general theories of human behaviour, by excluding contexts. This orientation creates problems because social science concerns self-reflecting human beings whose behaviours and judgments are context dependent. Human beings act upon experience-based, situational knowledge to manage particular circumstances. A social science can only imitate the natural sciences if it excludes the specific context of human activity, yet, by excluding that context, it becomes impossible to offer explanations. Thus the conclusion can be drawn that social science is weak on constant *epistemic* theories (Flyvbjerg 2001, 2004c).

To solve social-science problems, one of the other modes defined by Aristotle — *phronesis* — offers an outcome. There is no contemporary term for *phronesis*, but it is variously translated as prudence, practical wisdom or practical knowledge. *Phronesis* was first explained in the Nicomachean Ethics. Aristotle's ethics is an attempt to answer the question: what constitutes a good life for man? Ethics is not an exact science. Whoever makes a judgment in a particular situation is sensitive to what the circumstances require. Social science is strong on *phronesis*, because of its context-dependency. With *phronesis*, one can reflect on practice and deliberate on value-laden questions. It balances instrumental rationality with value-rationality (Flyvbjerg 2001). In line with the former, Dunne (1994) argues that because of the contingency and variability of human affairs, only a rough 'theory' can be drawn up. It cannot be an exact theory as in physics or mathematics. In situations that cannot be circumscribed by fixed limits, success requires sensitivity and a flexible response to the dynamics of

the situation. *Phronesis* is all about acting in practice, but what exactly should be done in a specific situation cannot be fully specified and controlled in advance. Flexibility and improvisation are needed.

A social science that matters is based on *phronesis*. *Phronetic* research: (1) is context dependent, (2) requires experience, (3) requires reflective analysis and (4) contributes to practice. The importance of the first aspect, context dependency, has already been emphasised and explained. In short, therefore, social science is about human behaviour in response to a particular situation, under particular circumstances. Context also relates to the social and historical context in which the situation occurs. Experience is the second important aspect of *phronetic* research. To be able to reflect on practice, social researchers themselves need to have had practical experience, and they should get close to the phenomena being studied. After having acquired the relevant experience, a researcher can then move on to the third aspect of *phronesis,* reflective analysis. *Phronetic* social science is strong on the reflective analysis of goals, values and interests that relate to practice. In conducting such an analysis, the researcher considers, and makes judgments and choices on the information to hand. In this type of analysis, researchers are not bounded by the perspectives of the people they study. To the contrary, by adopting another perspective, they free themselves to be critical of what they see, but, to do this, they need to broaden their own horizon of understanding. The fourth important aspect of *phronetic* research is its contribution to practice. Analysis in social science should lead to action, not just knowledge. In terms of governmental affairs, this means that the social sciences should contribute to political dialogue and public administration. In practice, while conducting research, the researcher influences this dialogue and learns from it at the same time. The contribution to society is a combination of specific analyses and philosophical-ethical considerations (Flyvbjerg 2004a, 2004c).

Phronetic research is about understanding and explanation. Flyvbjerg (2001) summarises the point of departure of classical *phronetic* research by means of three questions: where are we going; is this desirable; and what should be done? He stresses that researchers cannot completely answer these questions, because they do not have a privileged position and therefore cannot claim final authority. Researchers should attempt to give partial answers, as an input to the dialogue in administration and politics. Regarding the third question — 'what should be done?' — to answer this, account must also be taken of the social and historical context. On this point, Flyvbjerg quotes Alasdair MacIntyre: "I can only answer the question 'What am I to do?' if I can answer the prior question 'Of what story or stories do I find myself part?'" (Flyvbjerg 2001: 137). The broader social and historical context provides *phronetic* researchers with some "solid ground under their feet", and this protects them from relativism (Flyvbjerg 2004c: 294).

"*Phronesis* requires an interaction between the general and the concrete" (Flyvbjerg 2004a: 402; Flyvbjerg 2004c: 288). In *phronetic* research, the general can only be roughly stated. It always contains an element of indeterminateness, because it usually covers a variety of particular situations. Only when the general is confronted with actual practice, is it rendered determinate. A method based on *phronesis* mediates con-

cepts on a general level with the particular phenomena, and by doing so may modify and extend the concepts. This means that the general concepts are always modifiable when exposed to the actual, because they have to be attuned to the particular phenomena of that actual situation. The *phronetic* approach is neither deductive, nor inductive. It is more open and dynamic than the deductive approach, because one draws from general concepts what is relevant and applicable to the actual phenomena being studied. *Phronesis* is at a higher level than induction, because it is more than just the accumulation of impressions. It requires attentiveness and an insightful dealing with practice (Dunne 1994).

Does *phronesis* require a specific research method and strategy? One might be tempted to answer the question positively. Flyvbjerg (2001, 2004b), for example, views 'the use of example' as a powerful tool and corrects misunderstandings about using case studies as a scientific method. However, the answer has to be negative because *phronetic* research is not driven by a certain method. Flyvbjerg himself states that he does not argue for the dominance of qualitative methods and case-study work in the social sciences. Quantitative methods can also be useful (Flyvbjerg 2004a, 2004c).

In this section, we have brought *phronesis* to the forefront because our research method is based on it. *Phronesis* is not at the forefront of Aristotle's work. To the contrary, it is an idea that deviates from his overall philosophy, in which ideas about forms and matters predominate. Aristotle paid a lot of attention to naming and classifying things. His treatment of *phronesis* is both fragmentary and implicit. It does not fit in well with his overall schemes. Nevertheless, Dunne (1994) has argued convincingly that, even though Aristotle does not offer it to us clearly, *phronesis* is a significant feature in his thoughts. In the next section, we will describe another, relatively unknown, Aristotelian idea, namely, that of *apagoge*. The idea of *apagoge* is only mentioned briefly in Prior Analytics. Without the attention given to it by Peirce, it would probably have remained as a hidden idea in Aristotle's texts.

4.2 *Apagoge* or retroduction

Having identified the locus of *phronetic* research as being at the point where the general meets the specific, the question of where the actual intersection between the two occurs in research remains open. In the previous section, we mentioned briefly that neither deduction, nor induction is very suitable in a *phronetic* approach. Though less well known, there is a third type of inference: retroduction. It was Aristotle who made a threefold distinction among the types of inference to include, what he calls, *apagoge*. Charles Sanders Peirce (1839-1914) translated *apagoge* as abduction and retroduction. He employed both terms indiscriminately (Bertilsson 2004). In this thesis, we will use the term 'retroduction'. This is a random choice, however, as the terms are interchangeable.

Retroduction, as described in this section, is the second philosophical underpinning of our method. We begin with Aristotle's threefold distinction among the different types of inference. Then we will argue that retroduction is better suited to deal

with the application problem in the social sciences than are deduction and induction. Further elaboration on how retroduction works and the kinds of conclusion that result is based on the work of Hanson (1975, 1969a, 1969b). Though he focuses on the philosophical aspects of the natural sciences, his analysis of retroduction is useful in the context of this thesis. We also refer to Eco's work when elaborating on retroduction. Eco (1983), who compared scientific inference to a good detective story, distinguishes four types of retroduction. We end this section by comparing what constitutes 'truth' in *phronesis* and *apagoge*.

Aristotle's three types of inferences are deduction, induction and retroduction. Deduction proves what something must be. Its reasoning is logical and from the general to the specific. Deductive researchers start with a general, fixed 'law'. Assuming the 'law' to be correct, they then draw conclusions as to which specific phenomena to expect. Deduction is not about discovering something new, but on identifying necessary, logical results. Induction is indicative of something being actually operative. Its reasoning starts with the specific, but infers to the general. The resultant 'law' is a summary of the data. This means that the 'law' is actually a statistical probability statement, rather than a new insight. Retroduction merely suggests that something may be. It also starts with the specific, but results in an explanation rather than just a summary of the data. Retroduction tentatively explains why something is as it is, requiring insight and judgment (Hanson 1975, with reference to Peirce).

Box 4.1: Example of retroductive inference: Peirce's white beans

What does 'something may be' mean? Peirce used the problem of the white beans to clarify the meaning of retroduction. In his example, the first term of the syllogism is known: all the beans from this bag are white. Also the result or the fact is known: these beans are white. This is the last term of the syllogism. The inference of retroduction is towards the middle term. In this example, the suggested middle term is: these beans are from this bag. It is not obvious that the middle term applies to the last term, but it is probable that the beans are from the bag. There may, however, be other and better explanations. The invention of a good middle term is crucial, because this constitutes the explanation (Eco 1983).

In the social sciences, the relation between the general and the specific is problematic. This 'application problem' emanates from separating a theoretical approach from its object of study. Debates in the social sciences either concentrate on the logics of theory formation and verification, or on the merits of generating data. According to the 'application problem', deduction remains too general and induction, too specific. Retroduction has the potential to close the gap between the general and specific, by suggesting a reasonable or probable explanation for the specific. Retroduction is more open than deduction and more insightful than induction. A retroductive approach is in accordance with *phronesis*. Second, retroduction is the only type of inference that

provides new ideas and insights. Retroduction makes it possible to learn and understand phenomena.

We will now elaborate further on how retroduction works. Retroduction can be positioned at the intersection of the general and the specific and infers a probable explanation. It is a form of conjectural, semi-logical thinking, but, although it is largely free of logical rules, it is neither pure intuition nor genius. A researcher starts by observing the actual phenomena, but at the same time, some conceptual point of reference is needed in order to describe and explain these phenomena. To find a point of reference, the researcher looks for a conceptual pattern in the phenomena and tries to grasp the plot. Retroductive judgment often comes to the researcher in a flash; something is perceived that was not seen before. In the early phases of a research project, this judgment is very vague. As the research progresses, however, the interaction between the vague concepts and the actual phenomena helps that judgment to become more defined. In the retroductive inference, the researcher searches for the most intelligible patterns that best explain the phenomena. One explanation is usually more probable than another, because it is more structured, coherent and elegant. However, the researcher cannot be sure that it is the best inference. It is merely a reasonable and probable, though fallible, insight. Other and better explanations are possible (Hanson 1975, 1969a; Eco 1983; Bertilsson 2004).

Eco identifies four types of retroduction (although Eco uses the term abduction): over-coded retroduction, under-coded retroduction, creative retroduction and meta-retroduction. Over-coded retroduction is routine thinking in daily life. The inference comes to someone automatically; no conscious thought is needed. The interpretations are strongly embedded in culture. Under-coded retroduction is typical for controlled modes of inquiry, such as science (or good detective stories). Here, the researcher has to make new interpreting links. The inference, at a particular moment, is the best one at hand to solve the puzzle. For the time being, it is more plausible and robust than any other explanation, but the researcher is aware that things could be different. Under-coded retroduction is being used in this thesis. Creative retroduction refers to great revolutionary scientific discoveries. Paradigms change. Creative retroduction and meta-retroduction — the fourth type of retroduction — are interdependent. Inference in meta-retroduction is a wild guess against all odds. It is triggered by observations that do not fit in with the existing conceptual reference points (Eco 1983; Bertilsson 2004).

Phronesis and *apagoge* imply a similar idea about what constitutes the truth. *Phronesis* is a mode of knowledge about things that can be otherwise, and so it cannot lead us to a universal and certain truth. *Apagoge*, and more specific under-coded retroduction, is a form of conjectural thinking that leads us to probable explanations. These explanations are open to revision. What do authors on *phronesis* and *apagoge* actually tell us about what constitutes truth? To Aristotle, truth is what all people everywhere, in their saner moments, recognise as truth (Veatch 1974). In Peirce's philosophy, truth resides in the belief of common interpretation (Bertilsson 2004). Flyvbjerg (2004a: 408) states that "(…), *phronetic* political science explicitly sees itself as not having a privileged position from which the final truth can be told and further discussion arrested". All these

authors reject absolute truth. Truth is relative to the interpretations made by society. An interpretation or explanation is held to be 'true' until it is surpassed by one that functions better and is more widely accepted.

4.3 The method of articulation

Based on *phronesis* and *apagoge*, we need a method for conducting research that mediates concepts on a general level with particular phenomena. The method must take context dependency fully into account, because of the contingency and variability of human affairs. The method must also be able to generate probable explanations based on insight and an understanding of the phenomena being investigated. Using the philosophical underpinnings of *phronesis* and *apagoge*, we aim to tackle two problems in the social sciences: first, the problem of a social science that tries to imitate the natural sciences, and second the 'application problem' of the social sciences. The 'method of articulation' fits the ideas of *phronesis* and *apagoge* very well and deals with the problems encountered in conducting research in the social sciences. It is, *par excellence,* a method positioned at the intersection of the general and the specific. The method of articulation was developed by Howarth in the context of his work on discourse theory (Howarth 2005; Glynos and Howarth 2007; Howarth 2000).

This section starts by positioning the method of articulation in between the general and the specific. Then, we describe the aim of the method, what 'articulation' means, and how the method should be employed. We end this section by showing why the method is so well attuned to *phronesis* and *apagoge*. To specify this method further, Section 4.4 describes the comparative research strategy. We will use Howarth's work for this next section too. Here we have defined our own focus in relation to Howarth's work. It is not our purpose to discuss the full extent of Howarth's rich and complex theoretical work on discourse theory.

Howarth (2005: 316) introduces his method by stating that "it avoids the difficulties surrounding the mechanical application of 'formal-abstract' theory to 'real-concrete' events and processes". The method indeed copes with the application problem in an elegant way, though no method can fully banish the problem from the social sciences forever. Howarth points to the problems of theorism and empirism. The method of articulation goes beyond this, because articulation is neither general subsumption, nor just in-depth description. The method of articulation is positioned somewhere between theory and practice, in between the universal and the particular. It is a retroductive and critical form of explanation (Howarth 2005; Glynos and Howarth 2007).

What does the method of articulation try to achieve? Its aim is to facilitate new and meaningful explanations of the social and political phenomena it investigates. Such an explanation admits a certain generality, respects the specificity of the particular phenomena, but is nevertheless critical. The overall explanation combines descriptive, explanatory and critical aspects. It should render incomplete understandings more coherent, and locate in a wider historical context, the practices that are being

investigated. Theoretical and practical elements together form an explanation. Articulation is the medium whereby heterogeneous concepts from theory are linked together, in accordance with the actual phenomena being studied (see Box 4.2 for an example of how different concepts are combined). 'Theory', in this case, is thus constitutive, in that it consists of consistently related concepts used as a framework that is intimately connected with the practice it describes and interprets. 'Theory' and the resulting interpretations thus become contingent and contestable (Howarth 2005; Glynos and Howarth 2007; Howarth 2000).

Articulation brings different elements together and combines them, so that they change. Firstly, different concepts from different theoretical fields are combined. These concepts are probably based on different assumptions, so they have to be adjusted to make them compatible with each other. Secondly, the framework comprising the different concepts is combined with the empirical circumstances. This, in turn, modifies the concepts. In other words: the general concepts are articulated to suit the particular circumstances. Such articulation requires the researcher to exercise a reflective kind of judgment. To articulate successfully, it is important to set up the research in an iterative way. During each phase of the research process, the framework of concepts changes. It is refined and extended to give the best explanation of the actual phenomena being studied. The condition for conducting research is therefore that the set of concepts must be sufficiently open and flexible to allow stretching and restructuring to occur during the course of their repeated application to the phenomena being studied. The concepts must have patterning strength and at the same time they must have an open-endedness. Together, the concepts form an open-textured theoretical backdrop, specifically designed to study particular phenomena (Howarth 2005; Glynos and Howarth 2007).

How are concepts from different theoretical traditions of thought adjusted to make them compatible with each other? This is a process of reactivation, deconstruction, commensuration and articulation. Reactivation is to lay bare the questions and assumptions that led to the production of a concept. This makes the second step possible: deconstructing incompatibilities, such as any deterministic or essentialistic aspects. The researcher has to make sure that the concepts are appropriate to the object of study and the level of abstraction required. This is called abstraction and commensuration. After the raw concepts have been formulated, the researcher starts articulating them into a new framework that relates to the empirical circumstances being studied. The concepts and the empirical material are then brought together to produce an explanation (Howarth 2005; Glynos and Howarth 2007).

Box 4.2: An example to illustrate the method of articulation in use

Griggs and Howarth (2002) applied the method of articulation in their research into the protest against the expansion of Manchester Airport in the 1990s. The protest united traditional middle-class protestors — the local residents — with radical eco campaigners. The research investigates the strategies and practices of the two groups, their character, and how alliances arose between them. The researchers started to gather empirical data by conducting field research. They interviewed the key actors and analysed documents. Then a set of concepts was constructed, which included insights from discourse theory, rational choice theory, theories of social movements and policy network analysis. These insights integrate the concept of identity with the concept of interest. However, in order to use the concept of interest from rational choice theory, it had to be deconstructed. In addition, the conception of social agents as self-interested maximisers was too narrow. Moreover, the concept lacked the necessary context dependency. In this way, the concept of interest was rethought to make it compatible with both the concept of identity and the actual problem that was being investigated — the protest against expanding Manchester Airport.

The method of articulation shares the philosophical ideas of *phronesis* and *apagoge*. To recapitulate, *phronesis*: (1) is context dependent, (2) requires experience, (3) requires reflective analysis and (4) contributes to practice. With regard to context dependency, Howarth's argumentation is similar to that of Flyvbjerg. A social science that imitates the positivism of natural science is problematic, because social science is the study of self-reflecting human beings whose behaviours and judgments are context dependent. The method of articulation is therefore based on contingency and (minimal) hermeneutics. The explanation of phenomena also depends on the wider, historical context in which they appear. The method is also compatible with the second requirement of *phronetic* approach — experience. The researcher starts by problematising and characterising actual phenomena. To do this, the researcher does not stand outside the phenomena to explain them, but adopts a position 'within' practice, remaining at the same time critical towards this practice. The third aspect of the *phronetic* approach — reflective analysis — parallels the process of retroductive explanation. The reasoning of the method of articulation is a reflective kind of theoretical reasoning, a reflective judgment. Finally, the insights and explanations that result from the inquiry are incorporated into an ongoing dialogue, just as in the fourth stage of *phronesis*. As there is no definite, correct answer, the aim of the researcher is to persuade scholars and practitioners that their explanation of a set of phenomena is the best one available.

The method of articulation is retroductive in form, based on *apagoge*. With regard to retroduction, in Section 4.2., we have used Aristotle, Peirce and Hanson. Glynos and Howarth (2007) have used the work of the same authors. A more detailed explanation of how retroduction can and should be used in the social sciences can be found in Glynos and Howarth's book. Because of the minimal hermeneutical requirement in the social sciences, an ontological shift is needed to make retroduction relevant. In the

natural sciences, retroduction is only used for developing a hypothesis; for discovery. Retroduction is not the type of inference used for 'testing' a hypothesis; for justification. In social science research, however, this distinction does not hold, because it is more open-ended. Retroduction can be used for both discovery and justification. In the social sciences, justification is capacious rather than deductive.

4.4 Comparative research

The method of articulation raises questions about how research should be conducted. Choosing a research strategy depends on the specific questions that will be addressed in a research project. The choice also depends on the availability of data and the depth of analysis required. Howarth (2005) elaborates on two core research strategies: the use of case studies and comparative research. This thesis is about Water Assessment, Environmental Impact Assessment and Strategic Environmental Assessment in the Netherlands. These three policy instruments all aim to give water or environment a fully valued status in decision-making, but they differ in how they try to achieve this aim. A comparative research strategy, is well-suited to this type of scenario. The phenomena (cases, or practices) that we compare are the three policy instruments.

In a comparative research strategy, what is compared are practices or phenomena that share certain family resemblances (Howarth 2005). It is useful to conduct comparative research, because a phenomenon can be better understood by comparing it with others. To quote Saussure, "all identity is differential", or, in Connolly's words, "every identity requires differences and every difference requires identity". Derrida also argues for the importance of historicity and the contingency of identity (Howarth 2000: 41, referring to Saussure, Connolly and Derrida). Howarth (2005) formulates two conditions that must be satisfied before comparative research can be undertaken. The first one is that the comparison must be related to the specific problems that are being addressed. These problems should be specified to prevent the researcher from being driven by the research strategy that has been chosen, rather than by specific research questions. The second condition is that comparative research cannot short-circuit the focus on historical context and specific actuality.

Howarth (2005) sets out five reasons for engaging in comparative research:

- The description and introduction of comparative practices is important for rendering phenomena more intelligible; the description of a certain practice can be helpful in understanding another practice.
- Comparative research draws attention to the contingent peculiarity of phenomena; a correct overview or perspective on the practices can cast new light on the object of investigation, because it de-sediments and de-familiarises our existing understanding.
- Comparative research pinpoints the decisive factors in understanding and explaining phenomena; it can help to highlight crucial aspects that are either present or absent in a phenomenon.

- Comparative research explores the interplay between the universal and the particular; it tracks the mechanisms that generate the differences between practices.
- Comparative research assists in detecting divergences between the ideals and the phenomena explored, because it offers explanations that contest with alternative accounts.

4.5 Employing philosophy and method in this thesis

This thesis has its philosophical point of departure in Aristotle's *phronesis* and *apagoge* and uses the method of articulation and a comparative research strategy to conduct reflective analysis. This section describes how we employ this philosophy and method in comparing WA, EIA and SEA in Dutch planning. This section is structured to follow the four aspects of *phronetic* research: (1) is context dependent, (2) requires experience, (3) requires reflective analysis and (4) contributing to practice. These four aspects of *phronesis* also run as threads through retroductive reasoning and the method of articulation. We will begin by describing what kinds of circumstance and historical context are relevant to WA, EIA and SEA. Then, we will describe how experience has been acquired, highlighting the difference in the researcher's position with respect to WA on the one hand and EIA and SEA on the other. Third, we will explain how we used retroduction and the method of articulation to conduct a reflective analysis. This will clarify the kind of 'theory' developed in the next chapter. It will also clarify how the interaction between theory and practice has taken shape; the iteration between the general concepts and the actual phenomena, i.e. the instruments. Fourth, we will describe the kind of conclusion and recommendations we hope to be able to make, and the practices to which we would like to contribute.

In a research project, the 'context' depends on the phenomena — in this thesis, WA, EIA and SEA — that are being studied, and the level on which they are being studied. For example, for EIA, a local-level actor who has to apply EIA on a new housing project is in a different situation to a national-level actor who has to reconsider and revise the legislation on EIA. An actor's judgments in a specific decision-making situation on the local level will be influenced by local politics, and in applying the instrument, the actor will also have to remain within the bounds of national legislation. For the actor dealing with the reconsideration and revision of national legislation on EIA, the important factors are the national circumstances and European Union legislation and policy. This thesis focuses on the national-administrative level of WA, EIA and SEA. It is primarily about what is done, and what should be done, by public servants who are working on the development of WA, EIA and SEA on the national level. The reason for this focus is that the researcher works as an advisor at the national-administrative level and therefore has the experience and ability to act on this level. The comparison focuses on WA on the one hand and EIA and SEA on the other. Within the context of this comparison, the differences between EIA and SEA are relatively small.

A national public servant working on WA, EIA or SEA is actively engaged on matters that have already been activated within the context of the policy instrument, and those that have been imposed by international administrative levels, and debates of national politics. When a public servant has to reconsider and revise a policy instrument, or when communicating about the way it has to be applied, what is already there and what has happened before will be taken into account. For example, the civil servant will carefully look at current legislation on the instrument, at manuals on the proposed application and at experiences in applying the instrument. This person may themselves have gained experience with the policy instrument and developed skills within the field. In short, the public servant does not start from a blank position. Besides, people who are already working with a policy instrument would not appreciate it if there were suddenly radical changes in the procedures. For EIA and SEA, the second type of circumstances is very important, those imposed by international administrative levels. The Dutch legislation on EIA and SEA has to be in accordance with European Union Directives. The third type of circumstances is decisions and debates of national politics. Ultimately, the State Secretary or the Minister is responsible for the set up of a policy instrument and the work done by public servants. He or she is accountable to the democratically chosen parliament. A public servant has to take parliamentary debates into account, the umbrella policy of the cabinet and the policy of his State Secretary or Minister.

The development of a policy instrument is part of the development of a whole policy field (see Fig. 4.1). To be able to explain WA, EIA and SEA and to judge how best to develop these instruments further, it is necessary to be familiar with the more general policies of which they are a part. The relevant policy fields for the instruments are water management policy, environmental policy and spatial planning policy. Developments in these policy fields are relevant in the wider context, but are not the main focus of this thesis. Therefore, we will not reflect analytically on the actual policy in these fields, neither will we describe it in much detail (see Chapter 11).

'Below' the instruments at national level is their application in specific decision-making situations (see Fig. 4.1). The application of EIA on a local-level project is one such example. Most of the time, it is actors at the local and regional levels who apply WA, EIA and SEA, but these instruments can also be applied by the national government. Because the specific decision-making situations in which WA, EIA and SEA are being applied are highly varied, these instruments need to be designed to facilitate practical, contingent, situation dependent, application. This is the point of departure throughout the whole thesis. We will take the contingent application of the instruments fully into account, although that level of analysis is not the focus of this thesis. Therefore, no case studies on that level are included. Our 'cases' are WA, EIA and SEA, viewed as national-level assessment instruments.

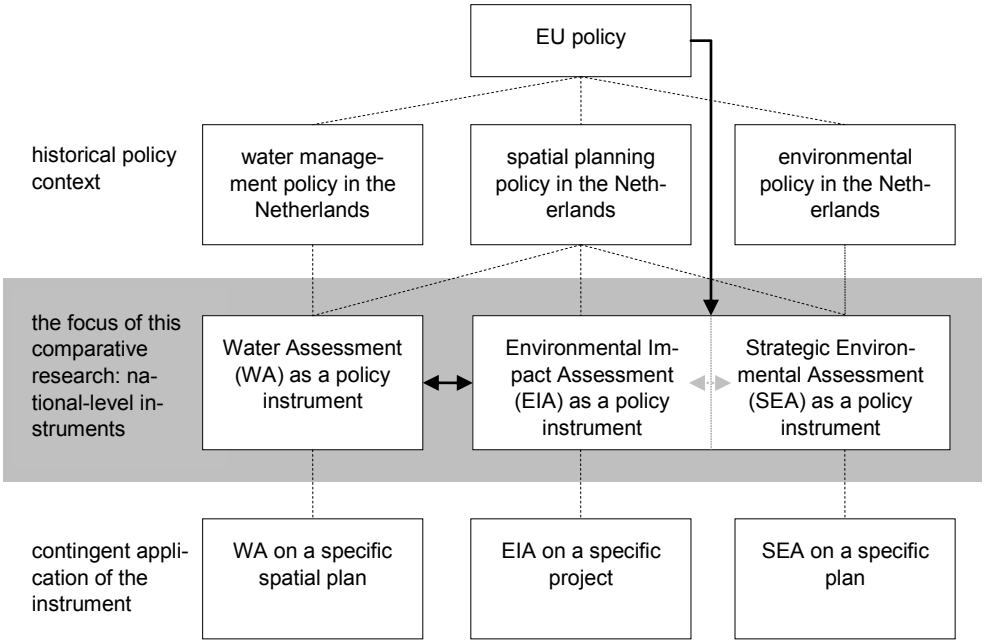


Figure 4.1: The context on different levels and the focus of this thesis

The second aspect of the philosophy and method is that it requires experience. Research should start with experience. The researcher should get close to the phenomena that are being studied, while remaining critical towards this practice. In this thesis, the position of the researcher differs with regard to WA on the one hand and EIA and SEA on the other. Employed as an advisor at the Ministry of Transport, Public Works and Water Management, in the field of Water Assessment, the researcher's position with regard to WA is 'within' practice. In order to be critical, the challenge here has been to create some distance. To acquire experience, the researcher worked at the 'Help-desk for Water Assessment', helping people with the practical problems that they had to face in applying WA. The people who contact the help-desk are from local governments, provinces, national government, water boards, NGOs, commercial advisory companies, real-estate development companies and other companies and citizens. Experience was also acquired by writing the second manual for WA, carrying out evaluations, and assisting policy-makers in their work, for example by answering questions from the Lower House. It was impossible to acquire the same level of experience in the EIA and SEA fields. The researcher's job at the ministry was only indirectly linked to EIA projects, for example, in the form of an EIA for a river management project or an EIA for a new housing area. Here, the challenge was the opposite of that for WA: how to get closer to these phenomena. Experience with these two instruments has been acquired by attending seminars and conferences on them in the

Netherlands, by talking with experienced people in these fields, and by reading widely about these instruments and their application.

Reflective analysis, based on retroduction and the method of articulation requires a kind of 'theory' that is a rough and broad conceptual point of reference for describing and explaining WA, EIA and SEA. The 'theory' is a set of different concepts that together have a patterning strength, but yet are open-ended and flexible. In our comparative research, the set of concepts have to help explain each instrument separately and yet allow for a comparison, one with the others. The set of concepts also has to allow for a contingent application of the instruments in a variety of specific decision-making situations. Selecting concepts from theoretical literature emerged as an important step in the articulatory process. In the literature studied, different authors define quite similar concepts in different ways. Searching for definitions of general concepts that best fit the actual phenomena was a continual process carried out throughout the whole research. As a next step, we used the concepts as ideal-typical torches to emit beams of light onto the instruments. This is the basis for describing and explaining the instruments. We use the same set of concepts to explain WA as for EIA and SEA. This means that a concept that explains one instrument well is also used to cast light on another instrument, even though it may seem less suitable for that instrument. By using the set of concepts in this way, the comparative research detects similarities and differences in the underlying notions of the instruments. This de-sediments and de-familiarises existing understandings, which helps to gain new insights and explanations.

The fourth thread in our philosophy and method is that research should contribute to practice. The reflective analysis results in an overall explanation that admits a certain generality, respects the specificity of the particular phenomena, yet, at the same time, remains critical. This explanation renders incomplete understandings more coherent and locates the practices investigated in a larger context. The conclusions in the last chapter are of this type. After all, *phronetic* research should answer the question: what should be done? The recommendations are formulated in such a way that they can be used as input to a dialogue in public administration.

5. Concepts

This chapter describes the conceptual framework that will be used to explain Water Assessment (WA), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA). Together, the concepts represent a constitutive theory, as defined in the method of articulation. A theory is a framework of related concepts that is connected to the social reality it describes and interprets. These concepts should have explanatory power; they should enable us to give new and meaningful explanations of each separate instrument and of the one compared with the others. The best concepts are those that give the best explanations of the instruments. As an end result, our aim is to contribute to practice by finding an answer to the question of what course of action should be taken to improve the effectiveness of the instruments. It is *not* the aim here to search for concepts that universally and precisely predict how to act in all situations under all circumstances; neither is it necessary to test hypotheses. What we *do* need are ideal-typical concepts that give insight into the character and functioning of the instruments. Such concepts function as 'torches' to illuminate the functioning of WA, EIA and SEA or, to use another metaphor, to act as lenses through which we can view these instruments. We will use the concepts in this way. Moreover, it is not only important that the concepts should illuminate the overall workings of these instruments at the national level, they should also reveal the situation-dependent applications of them in practice.

The method of articulation, incorporates the understanding that the concepts will not remain constant, but will change during several stages of the research process. The researcher iteratively refines and extends the constitutive theory to improve the explanation of the phenomena being studied (see Chapter 4). In fact, we continued to refine the concepts during advanced phases of this research, but describing all these iterations here might confuse the reader. To show all the iterations, many sections on theoretical concepts would have had to be added throughout the book, and by the end of it, those sections added at the beginning would probably have appeared irrelevant. Therefore, this chapter omits the 'earlier versions' and gives an overview of all final concepts, apart from two of them. These are two extensions of the conceptual framework that deal with opportunities and power. The theoretical insights on opportunities and power are presented in Chapter 9.

In the three sections of this chapter, we will describe the concepts used from three perspectives: content, steering and planning. These perspectives function as the basic framework within which all the concepts are being positioned.

- *Content perspective*: How is the relationship between societal initiatives and their environmental consequences perceived within WA, EIA and SEA? This perspective focuses on the aims of the instruments in relation to the decision.
- *Steering perspective*: How do WA, EIA and SEA coordinate relationships between actors to place water or environmental issues in a central, a fully valued, position in decision-making? This perspective relates to the issue of regulation/de-regulation and alternatives for steering by rule-making.

- *Planning perspective*: How do WA, EIA and SEA link knowledge to public decision-making? This perspective focuses on the methodology used in carrying out assessments within the overall planning process.

Why these three perspectives? Each perspective is useful for explaining these instruments, but as each is grounded on a different theoretical background, it will shed a different light on our object of inquiry. None of the perspectives can be disregarded without losing meaningful insights into WA, EIA and SEA, because the perspectives focus attention on different issues. However, as all three perspectives relate to decision-making, there is some overlap among them. For example, the rationalities of planning approaches can be linked to different ways of steering. And the planning and content perspectives are both about facts and values, uncertainty and ambiguity. However, none of the three perspectives can be reduced to the other ones. The planning perspective, for instance, sheds another light on decision-making, and raises different questions, than the content and steering perspectives together. Others who have used the content, steering and planning perspectives as a basic theoretical framework are, for example, Van der Vlist (1998) and Hidding et al. (2002).

Each section starts with a short description of WA, EIA and SEA, as viewed from one of the three perspectives. It introduces the issues that have to be tackled. Then, the framework of concepts within that perspective is described, articulated to suit WA, EIA and SEA. Each section ends with an overview of the concepts and with the questions to be answered for each instrument. The eleven questions posed at that stage, together, refine the three basic questions posed by the three perspectives, as mentioned above. The eleven questions clarify how we use the concepts to explain WA, EIA and SEA in Chapters 6, 7 and 8.

5.1 Trade-offs

The aim of WA, EIA and SEA is to ensure that water and environmental aspects are always fully considered in decision-making. This is necessitated by societal initiatives. Examples of such initiatives are a spatial plan for building houses or a project for an industrial activity. The initiators of these projects focus on their primary objectives, which in most cases have a socio-economic character. However, these initiatives may have unintended consequences for the water system and the environment. The aim of WA, EIA and SEA is to tackle the problem of not taking these consequences into account in decision-making; to prevent environmental problems occurring by taking water and the environment fully into account *ex-ante*. This may result in changing or even cancelling the initiative, which in turn changes the socio-economic consequences of the decision. WA, EIA and SEA in fact high-light the two-sided and interrelated character of decision-making. Decisions are 'trade-offs'.

A 'trade-off' refers to political decision-making in which those who make the decision weigh up the relevant interests. Trade-offs between different interests may result in all kinds of decision outcomes, such as win–lose, and synergetic win–win outcomes. WA, EIA and SEA are instruments for facilitating (part of) this decision-

making process. The aim of this section is to develop a framework of concepts that will enable us to come to an understanding of how these instruments assess the environmental consequences of trade-offs in decision-making. Public decisions are rarely clear-cut, because decision-makers have to deal with uncertainties and ambiguities. Not only do facts count in decision-making, but also values. It is unclear how the assessment instruments deal with the uncertainties, ambiguities and differing perceptions of environmental consequences, so linked to the concept of trade-offs, we develop two interrelated concepts to come to grips with this. The two concepts are: 'exposing the impacts and uncertainties' and 'multiplicity of perceptions and ambiguity'.

We need to come to grips with other things too. On the one hand, WA, EIA and SEA are perceived as neutral tools for facilitating decision-making. From this perception, they are processes or procedures for ensuring that water and the environment are taken into account in decision-making. They are neutral towards the content of the decision outcomes. Where the decision-maker gives political priority to socio-economic interests, nevertheless taking environmental interests properly into account, the assessment instrument does not fail. On the other hand, WA, EIA and SEA are perceived as normative towards decision outcomes. In that case, the instrument fails when the content of the decision outcome does not further environmental interests. Consequently, WA, EIA and SEA are not just processes or procedures, but also normative 'tests' for decision outcomes. In practice, though, the neutral and normative characters of the instruments become mixed up. We hope to clarify this confusion, but without prescribing any one way out.

5.1.1 Trade-offs between environmental and socio-economic consequences

Public decision-making always involves weighing up different interests and values. These political choices are the outcomes of decisions about trade-offs between different kinds of consequences. The focus here is on the trade-off between environmental consequences on the one hand and socio-economic consequences on the other hand. This is the trade-off that relates most closely to the assessment instruments that we are studying. However, drawing a conceptual line between environment and socio-economics does not mean that environment is not a societal interest.

'Environment' is an umbrella term for many environmental aspects. We will keep this term open and broad. For example, the term environment includes both biotic components (animals, plants) and a-biotic components like soil, air and water. 'Water' is also a broad term for many different aspects of water, like the quality of surface water or the quantity of ground water. Broad terms such as 'nature' and 'ecology' fall under the umbrella of 'environment' too. Environmental aspects are interrelated. A positive decision for one environmental aspect may not necessarily have positive consequences for other environmental aspects. The same holds for different water aspects. Consequently, there are trade-offs between environmental aspects as well. The same line of thought holds for 'socio-economics', which is also an umbrella term. In

general, it is about human needs and the well-being of mankind. It includes society and economy; welfare, prosperity and economic growth, and trade-offs occur within this broad range too, such as those between social and economic consequences. Spatial planning is neither covered solely by 'environment' nor by 'socio-economics'. Like most public decisions, spatial planning decisions are about both sides of the trade-off; about environmental *and* socio-economic consequences.

Both 'environment' and 'socio-economics' are complex systems. We do not know exactly what the consequences of interventions will be in either the environmental or the socio-economic systems. We do not know exactly to what extent we can use, transform or otherwise influence our environment for human purposes without unacceptable consequences. Neither do we know to what extent we can change the dynamics of socioeconomic processes without causing unacceptable consequences for society itself, and even if we *did* know the consequences, the question of their acceptability would still remain unanswered. The more uncertain a situation, the greater the number of plausible perspectives there would be on that situation, and none of these perspectives could be proven wrong. Consequently, there may be many different, though plausible, perceptions of an environmental system, of the socio-economic system and the trade-offs between those systems (Dryzek 1997).

In this subsection, the concept — and those related to it — of trade-off is based on the work of the Netherlands Scientific Council for Government Policy (*WRR*), and of Van Asselt. By conceptualising decision-making as a trade-off, the Council stresses the value-based and political character of decision-making. This is inherent to the uncertainties in decision-making. Decisions cannot be clear-cut and based on indisputable scientific facts. It is impossible to determine absolute scientific criteria for environmental impacts. With the concept of trade-off, the Council also stresses the two-sided character of decision-making. Choices in favour of socio-economic needs have possible consequences for the environment and the other way around. Consequently, a decision implies certain perceptions of the environmental *and* socio-economic consequences. No matter whether these perceptions are made explicitly or implicitly, they are always present in decision-making.

Trade-off decisions are made in a variety of situations and at different decision-making levels. In every situation, the balance between environmental and socio-economic interests will be different. The internal trade-offs between different environmental aspects also depend on the specificities of the decision-making situation. Consequently, decisions can only be well-balanced judgments if they are tailored to particular situations. Trade-off decisions are not made in isolation; they are part of a chain of decisions that are linked at different levels. For example, a rough, strategic decision may first be made at the national level, leaving much room for manoeuvre at other decision-making levels. A province could then make a somewhat more specific decision, which, at a level below that, would allow a municipality to make an operational decision on a project (Vermeulen et al. 1997).

5.1.2 Exposing the impacts and uncertainties

In decision-making, the effects of a decision are assessed *ex ante*. However, such assessments assume a future state: The impacts are not yet apparent, but may be in the short-term or long-term future. Some effects are evident immediately after implementing the societal activity, others manifest themselves in the distant future. The consequences of a decision cannot be predicted with absolute certainty. Scientific knowledge can only help us to a certain extent, and more knowledge and information does not necessarily mean more certainty. The problem is not simply an absence of knowledge, but more that uncertainty is a constant factor of our life on earth (Van Asselt 2000; Van Asselt 2005; Van Asselt and Rotmans 2002; Van Asselt and Vos 2006).

A major problem in decision-support is that uncertainty is often hidden, ignored or denied, which results in pseudo-certainty. Certainty about impacts and their consequences tends to be overestimated, and uncertainty, underestimated. The majority of decision-makers expect certainty from scientists and experts. Paradoxically, this is especially the case for decision-making on complex issues, where there is even more uncertainty. For their part, scientists and experts feel that they are more credible when they stress certainties, leaving uncertainties implicit. This is unfortunate. Scientists and experts *should* communicate about their scientific and tacit knowledge of uncertainties, because by making these uncertainties clear, they can be used in societal debates and decision-making. The treatment of uncertainty is an important challenge for impact assessment. Assessments should uncover both certainties *and* uncertainties in decision-making. It is important to acknowledge both the certain and uncertain consequences of decisions and to expose them. This holds for all types of uncertainty, because assessing doubt and uncertainty improves the quality of decision-making (Van Asselt 2000; Van Asselt 2004; Van Asselt 2004b; Van Asselt and Petersen 2003; Slob 2006).

To give an impression of the range of uncertainties, we list a typology of sources of uncertainty (Van Asselt 2000; Van Asselt and Rotmans 2002; Van Asselt 2004b). The first six types arise from a lack of knowledge (epistemological); the last five types from an irreducible variability, inherent in reality (ontological). The first three types are also referred to as unreliability, whereas the other types are also referred to as structural uncertainty.

- Inexactness: we only know roughly
- Lack of observations or measurements: we could have known more
- Practical immeasurability: we are aware of what we do not know
- Conflicting evidence: we do not know what we know
- Reducible ignorance: we do not know what we do not know
- Indeterminacy: we will never know
- Natural randomness: we cannot know
- Value diversity: we cannot know
- Behavioural variability: we cannot know
- Societal randomness: we cannot know
- Technological surprise: we cannot know

Uncertainties on goals and preferences in decision-making relate to irreducible uncertainties, such as value diversity (Van Asselt 2000). Goal uncertainty and political uncertainty are also referred to as ambiguities (see the next subsection), because these are uncertainties with a normative rather than a cognitive character. Value-based uncertainty cannot be reduced to cognitive uncertainty. This would mean de-politicising value-based questions to scientific–technical ones. Therefore, we prefer to distinguish between ambiguities and uncertainties, in accordance with Forester (1993). Van Asselt stresses that uncertainty has both a cognitive and a normative dimension. Uncertainty with a normative dimension (ambiguity) cannot be resolved by collecting more information, because it relates to interpretational multiplicity. However, Van Asselt prefers to subsume ambiguity under the notion of uncertainty. She broadly defines the notion of uncertainty as a "reference to situations in which people experience or construct doubt on something that matters in view of decision-making and acting" (Van Asselt 2005: 149; Van Asselt and Petersen 2003).

To stress uncertainties, the Scientific Council talks about *risks*, rather than consequences (WRR 1995). Van Asselt argues that risks and uncertainties can be considered as two sides of the same coin, uncertain risk and risky uncertainties, rather than a dichotomy in which certain risks are placed in opposition to uncertainties. "We … only think and talk about risks in the face of uncertainty" (Van Asselt 2000: 206). There is no single definition of risk. In line with the Scientific Council and Van Asselt, we therefore keep the definition of risk open and broad. In general, risks are unintended, negative consequences of decisions in situations with uncertainty and a future component. Risks are the possible negative consequences of uncertainties. Decision-making under uncertainty means taking risks. This means we do not define risk as a function of probability (likelihood) and damage (negative impacts) as in the formal definition, based on statistics and economics, often applied in safety literature. This is an objectivist, technical way of defining risk that emphasises facts. It assumes that probability and damage can be calculated statistically. A broad definition of risk, includes facts, uncertainties *and* values. Values matter because different people will estimate any one risk differently and attach a different importance to it. In the face of uncertainty and ambiguity, different perceptions of the inherent risks are equally legitimate (WRR 1995; Van Asselt 2000; Van Asselt 2004b; Van Asselt 2004c; Van Asselt and Petersen 2003; Slob 2006; Vermicelli 1995).

5.1.3 Multiplicity of perceptions and ambiguity

People have different normative interpretations of environmental and socio-economic risks, and of the trade-offs between them. The image of environmental risks need not be the mirror-image of the socio-economic risks, so that a specific environmental perception need not necessarily relate to a specific socio-economic perception. Trade-off decisions are always based, implicitly or explicitly, on perceptions of the resilience of the environment and the socio-economic system (WRR 1995).

A major problem in decision-support is that the multiplicity of perceptions is hidden, ignored or denied. Risks are estimated from one perception only, so this re-

sults in mono-thinking. An important challenge for impact assessment is to acknowledge and to deal explicitly with multiplicity. Multiplicity legitimates different normative perceptions. Decision-making should acknowledge ambiguity and should take multiple perceptions into account. Each decision should be the result of confronting and balancing different perceptions, because value diversity is important for good decision-making (Van Asselt 2000; WRR 1995; Vermeulen et al. 1997; Schwartz and Thompson 1990; Van Asselt et al. 2003).

In general, environmental perceptions can be positioned along the line of 'anthropocentrism–reformism–ecocentrism'. In the anthropocentric view, only human beings are valuable. The environment is only valuable in the sense that it satisfies human needs. In the ecocentric view, environment has a value of its own (Pratt, Howarth and Brady 2000). Perceptions of the socio-economic system can be positioned along the line of 'growth–reformism–radicalism'. In the remaining paragraphs of this subsection, we will give an impression of the multiplicity of perceptions, by describing three perception typologies, each with its own character. The first one, 'the myths of nature', focuses on perceptions of the resilience of the environmental system. This typology originates in ecology. The second one, 'the basic attitudes towards nature', is about the position of humanity in nature. As with the first typology, this one also deals with environmental perceptions, but now in closer relationship with an image of humanity. This typology stems from environmental philosophy, which is concerned with the relationship between humanity and nature. The third typology is positioned along the line of 'growth–reformism–radicalism', which focuses primarily on perceptions of the socio-economic system. It deals with the question of to what extent societies can depart from their commitment to economic growth. This typology has been developed for the purpose of categorising environmental discourses, so, although it focuses mainly on the socio-economic system, it is also linked to environmental perceptions.

The first example, 'the myths of nature', is a typology that focuses on perceptions of the environmental system. The ecologists Holling (1979, 1986) and Timmerman (1986) identified four 'myths of nature' by graphically relating a ball to its surface to represent the stability and resilience of nature. The four myths are (Schwartz and Thompson 1990):

- 'Nature capricious': the response of the environmental system to interventions is a random lottery.
- 'Nature benign': the environmental system is robust and wonderfully forgiving; it fulfils the needs of humans.
- 'Nature perverse/tolerant': the environmental system is robust within limits; it is forgiving of most events, but not of the ones exceeding a threshold.
- 'Nature ephemeral': the environmental system is fragile and terribly unforgiving; human activities may have catastrophic impacts.

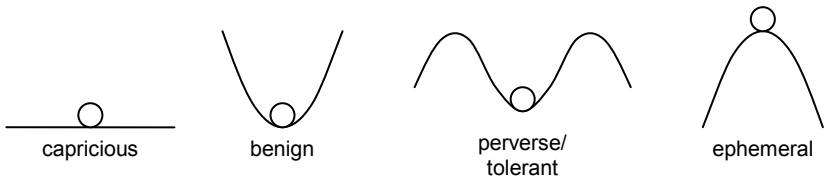


Figure 5.1: The myths of nature (Schwarz and Thompson 1990: 5, Fig. 1.1)

Our second example — a typology of environmental perceptions — is the 'six basic attitudes towards nature'. A basic attitude expresses a particular — value-based — view of the environmental system. This typology was developed by an environmental philosopher, Zweers (1994). Compared to the first example, the basic attitudes pay more attention to humanity in relationship with the environmental system. The six attitudes about the position of humanity in nature are:

- The 'despot' exploits nature and intervenes in an unlimited way in the environmental system.
- The 'enlightened ruler' reigns over the environment, but at the same time recognises that he is dependent upon it. He wants to satisfy human needs as much as he can, but does not exploit nature unlimitedly.
- The 'steward' manages the environment on behalf of the owner to whom he is responsible: God or humanity. He tries to conserve the environmental system because of his accountability towards other human beings.
- The 'partner' considers environmental values to be just as important as societal values. He works together with the environment on the basis of equality.
- The 'participant' experiences solidarity with the environment from which he derives meaning which contributes to his self-image. He views the environmental system as a totality of which he is part.
- At this extreme, there is total 'unity with nature', in which human beings experience a mystical or divine fusion into nature.

Our third typology focuses primarily on perceptions of the socio-economic system. We call this typology 'growth–reformism–radicalism'. Dryzek (1997), a professor in political science, uses the 'reformist' and 'radical' departures from industrialism as a single dimension for categorising his environmental discourses. Industrialism is a shared way of apprehending the world (a long-dominant discourse). Industrial societies are committed to economic growth; a growth in the quantity of goods and services produced geared towards improving the well-being of human beings. Socio-economic processes have a strong internal dynamism towards progress and growth. Dryzek categorises perceptions departing from the growing industrial economy as reformist or radical.

- In the 'growth' perception the current socio-economic processes for economic growth are very important. Someone with such a perception cannot and does not want to imagine other ways of achieving economic growth, nei-

ther are they willing to depart from a commitment to growth. Interventions in the socio-economic system are considered risky or even impossible. The risks are understood as being: conflict with deeply felt rights and freedoms, poverty, unemployment and unacceptable societal unrest.

- People with a 'reformist' perception are committed to economic growth, but they think it is possible to intervene to a certain extent in the way in which we reach this growth. A restructuring of the socio-economic processes is possible, but creating an entirely different system is not an option. Drastic interventions in the system are too risky; they will cause societal instability.
- In the 'radical' departure from industrialism, interventions in socio-economic processes can be large and radical. People with a radical perception believe that economic growth must (and can) be slowed down or even stopped. It seeks a reorientation away from perpetual economic growth, which may result in a whole new socio-economic system.

5.1.4 Overview

The concepts, as described in this section, give us a framework for tackling the complexity of decision-making from the content perspective. Figure 5.2 gives an overview of these concepts. The degree of complexity of decision-making depends on the amount of uncertainty and ambiguity. None of the WA, EIA and SEA related decisions are clear-cut in this sense. With this framework, we take on two major challenges for decision-supporting assessment instruments. The first challenge is to expose not only the certainties, but also the uncertainties about the impacts and consequences of trade-offs. The second challenge is to acknowledge ambiguity and deal explicitly with the multiplicity of perceptions. Overemphasising certainties and thinking only from one perception (mono-thinking) de-grades the quality of decision-making. In the previous subsections, we gave an impression of the range of uncertainties and perceptions involved. Because of their aims, we expect WA, EIA and SEA to be focused on the water-related and environmental consequences of trade-offs.

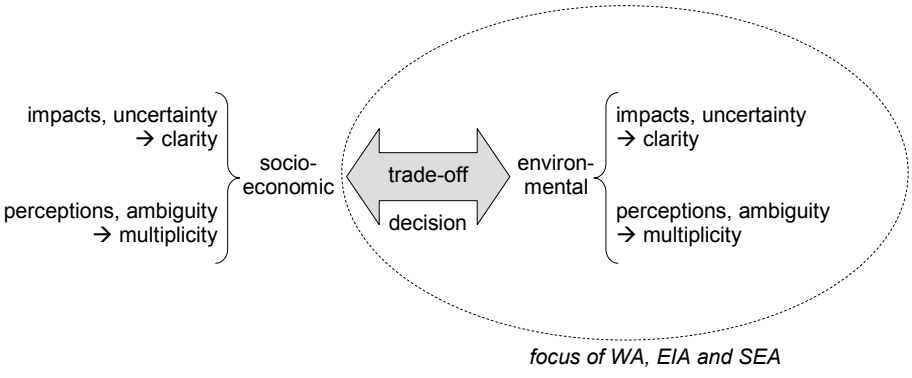


Figure 5.2: Overview of concepts in the content perspective

How will we use the concepts as presented in this section? The two concepts 'exposing the impacts and uncertainties' and 'multiplicity of perceptions and ambiguity' are used as concepts for explanatory and prescriptive purposes. The concepts are lenses through which we will view WA, EIA and SEA. This gives insight into the functioning of the assessment instruments compared with the challenges for good decision support. The typology of uncertainties and the different typologies of perceptions have been presented for illustrative purposes. We will use them in this way to explain the instruments. If an instrument promotes a certain perception, we will try to position it on the lines 'anthropocentrism–reformism–ecocentrism' and 'growth–reformism–radicalism'. The former results in three questions in the content perspective, which we will answer for each assessment instrument:

- To what extent, and in what way, does the instrument identify and bring to the fore the facts and uncertainties of the impacts of trade-offs?
- To what extent, and in what way, does the instrument deal explicitly with the multiplicity of perceptions, in relation to the ambiguity of trade-offs?
- Is the instrument itself neutral towards decision outcomes or does it include a certain trade-off perception? If the instrument is normative towards the decision outcomes, which trade-off perceptions does the instrument favour?

Comparing our theoretical framework to sustainability as the linkage between the social, economic and ecological pillars (Gibson et al. 2005), we put the social and economic pillars on one side of the trade-off and the ecological (environmental) pillar on the other side of it. To explain it in another way, we focus on the trade-off between 'people and profit' (socio-economic) on the one hand and the 'planet' (environment) on the other. We do this because the aim of the instruments is to give the environment a fully valued position in decision-making about activities that primarily have a socio-economic purpose.

However, we have not defined 'sustainability' in this section. As one of the later articulations, we decided to remove this term, because we did not want to choose a single definition for sustainability. The definitions of sustainability differ. According to the Scientific Council, sustainability is about the overall trade-off between the well-being of mankind and the environment: there are multiple highly divergent or even conflicting perceptions of sustainability in decision-making. In this first conception, sustainability is used as a very broad or even neutral term, that includes all kinds of perceptions. Zweers and Dryzek have got a more limited (although still not very specific) and normative conception of sustainability. Zweers relates sustainability to the perception of the enlighted ruler and the steward. Dryzek classifies sustainability as (imaginative) reformism. So they link sustainability to a certain perception, thereby excluding other ones. Other literature on sustainability does not offer a way out. As Wals (2007: 17) states: "After twenty years or so of talk about sustainability and sustainable development, both in theory and practice, it has become clear that there is no single outlook on what sustainability and sustainable development means".

5.2 Metagovernance

This section is about governance in a broad sense and the position of our three assessment instruments within it. This type of governance has been called metagovernance. For a definition, see Subsection 5.2.1, below.

Water Assessment (WA) was introduced on 28 November 2001, at a symposium organised in Hilversum, the Netherlands. Several times, during that symposium, participants made remarks and asked questions in which they compared WA with Environmental Impact Assessment (EIA). Their remarks and questions revealed the fear that WA would become a rigid and bureaucratic instrument like EIA, which they perceived as a formally regulated procedure. However, as WA had been introduced as a cooperative process, no formal regulations had been devised for the instrument itself. At a glance, comparing WA and EIA from a steering perspective results in comparisons like informal versus formal, or process versus procedure. Using the concepts in the steering perspective, our aim is to tackle these kinds of differences and see if they are actually as starkly contrasting as they would first seem.

The practice of both WA and EIA shows that the steering methods employed by the two instruments changes over time. As WA developed, a shift towards more regulation took place. In 2003, a light statutory requirement for WA was implemented in the Spatial Planning Decree. At the end of 2006, it was decided to explore the possibility and desirability of devising stronger juridical requirements. At the same time, it was decided that the strengths of the informal, cooperative process must be kept. Compared with EIA, it is expected that the formal regulation for WA will remain relatively light. The core of WA is the cooperation between spatial planners and water managers. Another development in WA has been an increased attention to cost-analysis (brought about by a motion in the national parliament) and to internalising these costs in decision-making by using the cost-instigating principle (in line with the notion of compensation). Consequently, the cooperative character of the instrument is being supplemented by more regulative and financial ways of steering. How can this be explained?

In EIA and SEA practice, a lot of attention is given to regulatory aspects and to de-regulation. Jurisprudence and the issue of having fewer and less detailed rules are important topics at seminars and symposia. Currently, one of the most important developments in EIA is de-regulation: the so-called 'regauging' [*herijking*]. Detailed rules tend to cause high costs and inflexibility. Why is this? In this section, we will explore the concept of 'metagovernance' to gain an understanding of how these instruments steer.

5.2.1 Governance theory

'Government' focuses on the government itself and how it steers society from the top down. 'Governance' is about how the government interacts with society in a broader sense. It concerns not only how the government steers society hierarchically, but also modes of coordination from the bottom upwards. Governance has become a popular

theory in social science, but it is still not a coherent body of thought. Within the field of public administration, there is discussion about the meaning of governance (Kjaer 2004; Kooiman 1993; Pierre and Peters 2000). Some scientists define it in a narrow sense and some in a broad sense. In a narrow sense, governance is synonymous with network coordination. In a broad sense, governance is about three modes of coordination: market coordination, hierarchical coordination and network coordination (Kjaer 2004). Jessop (2002) calls governance in this broad sense 'metagovernance' to distinguish it from governance in the narrow sense of network coordination. Metagovernance includes both 'government' and 'governance'. In the steering perspective, metagovernance is the central concept to which the other steering concepts are linked.

In this subsection, we first briefly introduce metagovernance as the umbrella mode for markets, hierarchy and networks, as used in the field of public administration. We focus on the explanatory power of these concepts and then talk briefly about the prescriptive power of metagovernance. This prescriptive power will be elaborated on further, in Subsection 5.2.5. Secondly, we turn to the field of economy. It is not surprising that the political and social scientists referred to here are interested in the field of economy, because metagovernance is rooted in transaction-cost economics, a branch of institutional economics. To gain a better understanding of metagovernance, we then describe these roots. Thirdly, we will turn to the field of (environmental) law. Metagovernance parallels 'smart regulation' (or 'smart steering'). Literature on this concept offers additional insights into metagovernance.

Each of the three modes of coordination, markets, hierarchy and networks, has a dominant coordinating mechanism: price, rules and trust, respectively. These ideal type concepts have explanatory power. They can help us to analyse our assessment instruments by unravelling how coordination is achieved along the lines of market, hierarchy and network. This gives insight into the mechanisms through which the instruments steer. The modes can be viewed as a conceptual torches that illuminate different aspects of an instrument. The three modes of coordination are complementary insights, rather than mutually exclusive ones (Thompson et al. 1991; Thompson 2003). It is in this way that we will use the modes to explain WA, EIA and SEA from the steering perspective.

The modes of coordination are not only useful for describing and explaining practice. They are also useful for prescribing steering in practice. Every mode of coordination is prone to dilemmas and failures. This explains why in practice we see hybrid forms. For example, networks are often embedded "in the shadow of hierarchy" (Scharpf 1994: 40). The ideal-typical concepts have analytical value, although, in practice, these almost always appear in mixed forms. "Public administration is organised on the basis of authority as well as competition and cooperation" (Olsen 2006: 18). Coordinating effectively and efficiently therefore requires a judicious mixing of market, hierarchical and network coordination. Judicious mixing means the reflective use of a flexible repertoire of modes of coordination. Practitioners should compare the effectiveness and failures of the three modes of coordination and change the balance between them, dependent on the situation. This means that practitioners should have

the possibility and reflectivity to switch among different modes. Effective coordination is contingent steering: it is situation-dependent. In Subsection 5.2.5, we elaborate further on these ideas, based on the work of Jessop (1999, 2000 and 2003).

Williamson (2005) recognised that hierarchies and markets have distinctive strengths and weaknesses. He also developed the intermediate form of long-term contracts that benefit from the continuity of relationship and cooperation. His transaction-cost approach has been applied to the issue of regulation/de-regulation and broadened to the 'organisation of social life' in the political sciences. It has its origins in transaction-cost economics, which is a branch of institutional economics that challenges mainstream neo-classical economics. The assumption in mainstream economics is that price is the only coordinating mechanism and that transaction costs are zero. Transaction-cost economics argues that these costs are not zero and that there are more ways to coordinate. This branch of economics also assumes that at least one of the actors engaged in the transaction is able to choose how coordination will take place. This actor will make a rational choice for the option with the lowest transaction costs in that situation (Needham and De Kam 2004).

In contrast to Williamson's intermediary form, in the political sciences, 'networks' have been developed as a mode of coordination that are powered by a different mechanism to those that power the market and hierarchy modes of coordination. The essence of network coordination is trust. This, in itself, is another important deviation from economics, which is based on the rational calculation of transaction costs. In economics, trust is either not taken into account or it is calculated (Thompson 2003). As the trust that powers network coordination cannot be calculated, so is metagovernance not purely based on rational calculation. The idea of *judicious* mixing, which means using good judgment and sense, is indicative of the 'looser' conception of metagovernance, compared with economics.

Metagovernance parallels 'smart regulation' (or smart steering) in environmental law (Gunningham and Grabosky 1998; Van der Heijden 2005). Smart regulation stresses the importance of combining different instruments, because of their complementary mechanisms. To use the strengths and to overcome the weaknesses of each individual instrument, most situations require a combination of instruments. A carefully sought-out use of the available range of instruments increases effectiveness. This is in line with our concept of metagovernance, although the interpretation from the view point of an instrument is different. Basically, smart regulation links an instrument to one coordinating mechanism. In our interpretation, one instrument may include several coordination mechanisms *and* it may also be combined with other instruments. This means that the effectiveness of an instrument can be increased by combining it with other instruments *and* by mixing different mechanisms in the instrument itself.

We describe 'smart regulation' here, because it offers additional insights into metagovernance. First, it shows that what actually works best is not just effectiveness and efficiency. Success in public administration includes the additional dimensions of legitimacy and rightfulness. Legitimateness can, for example, be increased by linking interactive processes to formal spatial procedures and by linking informal processes to general principles of good administration. Carefulness (acquiring knowledge on facts

and values), accountability (explaining the decision) and legal security (clearly recognisable decision) are procedural principles in decision-making (Oosten and Van der Heijden 2005; Van der Heijden 2001, see also Section 2.2 on administrative law). In the present thesis, we do not aim to check the legitimacy of the assessment instruments systematically with all the principles of good administration. We merely acknowledge that the success of an instrument in the public domain is not just a matter of effectiveness and efficiency. Second, smart regulation offers useful insights into how to make judicious combinations of coordinating mechanisms. An example is 'temporal sequencing', which in short means starting with voluntary forms of coordination and then, depending on their success, tightening up the coordination along a scale ending with the extreme form, coercion (Gunningham and Grabosky 1998). We will elaborate further on this idea in Subsection 5.2.5. In the next three subsections, we will first describe the ideal-typical characteristics and failures of the three modes of coordination: markets, hierarchy and networks.

5.2.2 Market coordination and price

In its ideal-typical form, market coordination operates as follows. An actor has perfect *ex-ante* information about all the consequences of a decision. This information is quantified in comparable units, costs and benefits, to enable the actor to weigh the value of a positive decision against its costs. All the costs and benefits are reflected in the market price. The price is a simple figure, but it is crucial in signalling information to the actor who has to choose. The actor bases his choice on self-interest. The assumption of the market system is that actors make rational choices, selecting the alternative that, for them, is the most profitable. The actor weighs the costs and benefits of any one option against those of alternatives. In making a rational choice, the actor will only take their own interests into account. They base the decision on the benefits to themselves and the costs they will have to pay. A premise for market coordination is therefore that all costs and all benefits, including the societal ones, will be incorporated into one isolated actor's decision. Market coordination is an extremely decentralised mode of coordination, functioning spontaneously as an invisible hand. Governmental involvement is not needed if the price mechanism functions perfectly, and the actors are private rather than public. Neither is communication between the decision-making actors needed; they can make isolated decisions, because the price signals all the information required (Dahl and Lindblom 1953; Levačić 2001; Thompson 2003).

Market coordination fails if the costs and benefits, including the societal costs and benefits, are not totally reflected in the price. This situation occurs where there are external costs and benefits, inadequate information and imperfect competition (Levačić 2001). External costs result if the consequences of a transaction are adverse for people other than the buyer and seller. A third party, who has no influence on the decision-making process, is then damaged, and has to bear unjust costs. Examples of external costs are: deforestation, air pollution and waste-product discharge. External costs may have to be borne by one or more people or maybe by the whole society as, for example, the taxes paid for a pollution control programme. External benefits are

the positive consequences of a transaction for people other than the buyer and seller. Some goods or services have the inherent property of shared use. These are called sharable or public goods. The costs of such goods are often too high for a single individual to pay (Dahl and Lindblom 1953).

In an ideal market system, all relevant information about the costs and benefits is known and certain. In practice, this information may be unavailable or uncertain, and because it is inadequate, the choice of the decision-making actor cannot be totally rational. This person's rationality becomes bounded. The consequences of information uncertainty are high transaction costs. For example, actors will try to get more adequate information about the costs and benefits of the transaction, which reduces the efficiency of the market transaction. Imperfect competition occurs when there are too few buyers or sellers, or both, to affect the price. In a market system, the price is a result of supply and demand, but if one seller has a monopoly position, then competition will be imperfect. This seller will be able to control the market by getting a higher price for their product than would have been possible under perfect competition. Consequently, the price in a monopoly situation does not reflect the real costs and benefits (Levačić 1991).

5.2.3 Hierarchical coordination and rules

Hierarchical coordination in a governmental context has the following ideal-typical characteristics (Dahl and Lindblom 1953; Lindblom 1977; Mitchell 1991; Jessop 2002). In a very simple form, the governmental chain of control is: people–parliament–executive administration–people. In fact, this chain is more complex, because there are other democratic levels, in addition to the national parliament, such as the European Union, the provinces, municipalities and water boards. Policy is carried out by an executive administrative chain of bureaucratic organisations, each of which has its own chain of control, each link in the bureaucracy directing the action of those lower down. From the top of the chain, moving downwards, the complex decisions are broken down into manageable parts. Each link in the chain can exercise prescribed and limited discretion and specialist skills and positions in performing their prescribed tasks. The ultimate authority resides at the top of the hierarchy which is supposed to maintain an overview. Hierarchical coordination is therefore an extremely centralised mode of coordination. It coordinates from the top, downwards. Formally imposed rules and administrative orders are the central coordination mechanisms of hierarchies, combined with control and sanctioning. Governmental hierarchies operate through law and other prescriptive rules and orders. Each level in the hierarchy has the task of checking whether or not the actions of those lower down comply with the orders and rules given. Actors are threatened with sanctions if they do not obey orders, and to be able to enforce the law, it is necessary to administer justice. The growth of hierarchical coordination is therefore often linked to the growth of legality. A hierarchy is oriented towards adapting the most rational selection of means to the ends. Democracy is needed to control governmental hierarchies. Citizens exercise control over leaders, by using their right to vote in elections and any available possi-

bilities for criticising the government. These forms of democratic control should be legally enforceable.

Hierarchical coordination functions less successfully where the discretions of each link in the chain are unclear, because this results in discussions and conflicts about competences. In practice, it is impossible to prescribe and limit perfectly all discretion for decision-making, because not every practical situation fits into the bureaucratic routine. The failure of formal rules is that they fail to anticipate every possible situation, and this results in inflexibility. Therefore, hierarchy can be equated with an iron fist: it has strong thumbs, but no fingers. Another failure of hierarchy is that actors try to avoid rules and sanctioning by searching for the escape possibilities in regulations, so to prevent non-compliance to the rules, the government has to check that actors are complying. Because of the difficulties and costs involved, these controls are often not carried out in practice. In the ideal form of hierarchical coordination, the top of the hierarchy has a perfect overview of all information relevant to decision-making in the hierarchy. In practice, it is inconceivable that every detail of all the decision-making activities will be governed by one person. Coordination is made difficult by the fact that decision-makers at the top have to cope with an information overload. To decrease this failure in coordination by hierarchy, and to increase flexibility, de-centralisation is an option. In de-centralising, the ultimate authority is transferred to a lower level of decision-making, which is thereby given the final responsibility for a prescribed field of decision-making. In this way, the chain of control is shortened (Dahl and Lindblom 1953; Lindblom 1977; Jessop 2002; Von Hayek 1991).

5.2.4 Network coordination and trust

The ideal-typical characteristics of network coordination are as follows (Marin and Mayntz 1991; Thompson 2003; Powell 1991; Knoke and Kuklinsky 1991; Jessop 2002). A network consists of horizontal relations between actors, horizontal in the sense that there is no formal hierarchical relationship between them. There is no single, hegemonic, central actor in the network, because no one actor has all the resources needed. However, these resources are rarely distributed equally among the actors and therefore the interdependencies are asymmetric most of the time. The actors in the network are mostly from different private or public organisations. The relationships are positioned at the interpersonal and/or inter-organisational level and cross borders of organisations. The boundaries of the network are functionally relevant, positioned as mutually recognised by the actors involved. The relationships in the network are informal and are based on pragmatism. A network is a confederacy of actors, and the main coordinating mechanism that holds them together is trust. Trust is important for the creation, maintenance and success of cooperation (Van Ark 2005). The actors involved forgo the right to pursue their own interests, preferring to focus on similar concerns and their common interests. They are loyal in their cooperation. The essence of networks is non-calculativeness. Trust and cooperation mobilises intangible resources such as tacit knowledge or a spirit of innovation. Tacit knowledge is intangible information stored implicitly in people's minds. In cooperative processes,

an actor's perceptions may be influenced by the reference points of other actors in the network.

The ideal is full trust. In practice, however, swift trust is often the highest form of trust that can be achieved. Actors still focus partly on their own fixed interests, and so bargain strategically. Networks often balance between calculativeness and non-calculativeness; between self-interest and common interest; and between harmony and conflict. Although competitive behaviour driven by self-interest is indicative of a failure to gain full trust in networks, a certain amount of conflict can be productive. Full cooperation and harmony could hinder the emergence of creative tensions and conflicts (Jessop 1999; Hillier 2002; Powell 1991; Thompson 2003). The accountability of networks is often problematic, which reduces the legitimacy of this mode of coordination. Attributing responsibilities in inter-organisational networks is difficult and may interfere with the cooperative spirit. Moreover, what happens in informal processes is often unclear to outsiders. Besides, the actors in a network may not fully represent all the interests that are at stake. Related to this is the fact that networks can become closed. If not too many actors can participate in a network, access is no longer free and open. It is also the case that some closure is needed for effective and efficient coordination. More actors participating, the more the costs of cooperation will increase; networking then becomes too time-consuming (Jessop 1999, 2000 and 2002; Thompson et al. 1991). A further weakness of network coordination is that there is no central actor to control the coordination between different networks. Network failures arise when different networks, possibly at different levels, make un-coordinated decisions on interdependent issues (Jessop 2002).

5.2.5 Reflective and flexible use of the modes of coordination

Successful coordination requires a judicious mixing of different modes of coordination. As described in the previous subsections, market coordination, hierarchical coordination and network coordination are all sensitive to failures and costs, which reduce the success of the modes. In each situation, the modes of coordination should be evaluated *ex ante* and *ex post*: what are the costs of coordination and what are the benefits related to the policy objective? The mode of coordination or the combination of modes that should be chosen is the one that coordinates most successfully in that situation, and at that moment. In short, judicious mixing is the reflective use of a flexible repertoire of modes of coordination. Reflectivity is all about comparing the success and failures of the modes of coordination, choosing an effective combination in a certain situation, and checking regularly to see whether the chosen combination of modes still works. A flexible repertoire of modes of coordination is needed, because the situations to be coordinated can be varied and changing. In different situations and at different times, different modes of coordination may work best. The actors involved must have the possibility and capacity to switch among different modes to minimise any failures and costs that become evident and threaten the effectiveness, efficiency and legitimacy of the chosen mode of coordination (Jessop 2002).

Metagovernance, as described above, leads to a normative assumption about the effectiveness of WA, EIA and SEA. The assumption is that WA, EIA and SEA are more successful when the three modes of coordination can be used flexibly, with reflectivity. At the level of the instrument, this means that the government has to ensure an adequate repertoire of compatible modes of coordination. The national government and the European Union create the preconditions for successful coordination in the actual application of the instrument, while maintaining the flexibility for contingent steering. The actors involved in a specific situation (at least one of them) in which the instrument is being applied, use the repertoire reflectively. They reflect on the success and failures of the modes of coordination in the specific situation and alter the balance if this has the potential to work better.

There is no single method of coordination that has been found to work in all situations. However, 'smart regulation' offers ideas for certain combinations of mechanisms that are inherently complementary, while allowing for the necessary flexibility. One example, which might prove useful for WA, EIA and SEA is 'temporal sequencing'. Another useful example of smart regulation to achieve successful coordination is to involve third parties. These two examples are described respectively, based on Gunningham and Grabosky (1998). A principle of smart regulation is to start with the least interventionist steering method. If this does not succeed, then the level of intervention is raised progressively. In other words, the starting point is to assume virtue and good cooperation. Should this fail for a specific situation, then coordination is progressively tightened up in order to command and control regulation. To be able to reflectively switch to more hierarchical ways of coordination, so that 'temporal sequencing' actually takes place, 'triggers' are needed. A trigger gives a warning of the failure of the initial mode(s) of coordination. Gunningham and Grabosky argue that it is very effective to be able to fall back on regulation; to have a 'regulatory safety net'. They also argue that it is smart to use third-party involvement. Examples of third parties are environmental interest groups or other NGOs. Involving them in the coordinative process can reduce the costs of governmental control significantly. An example of third-party involvement in relation to temporal sequencing is that the government requires firms to give information, which may be judged by third parties, thereby introducing possible pressure. The role of the government in such cases is to facilitate and catalyse third-party involvement. The government creates the preconditions for control, using information as a trigger, but it does not itself exercise control.

5.2.6 Overview

In the steering perspective, the central concept is metagovernance. It is the umbrella for the three modes of coordination: market, hierarchy and network.[1] Each mode

[1] Why do we use the three modes of coordination, instead of including 'physical design' as a fourth mode, as proposed by Van der Heijden (2005) in response to Murray and Scott (2002) and Lessig (1999)? These authors criticise public administration and law for not taking physical interventions sufficiently into account in their theories. In their view, awareness should be

ideal-typically functions through a coordination mechanism: price, rules and trust, respectively. Table 5.1 shows the characteristics of the ideal-typical functioning of each mode in key words. In the following chapters, these modes of coordination are used as 'torches' to throw complementary beams of light on WA, EIA and SEA. One mode alone is not prescriptive for practice, because each mode of coordination is prone to failures and costs. The essence of metagovernance is that a judicious mix of modes, balanced to suit the specific situation, is the most effective. At the level of the instruments, this means that the government has to ensure an adequate repertoire of compatible modes of coordination, while maintaining enough flexibility to allow contingent steering. The actors involved in a specific situation in which an instrument is being applied then have to use this repertoire reflectively. They have to be able to switch to other modes, to alter the balance between those modes and steer successfully.

Table 5.1: Overview of the ideal-typical modes of coordination

mode	**Market**	**Hierarchy**	**Network**
mechanism	**Price**	**Rules**	**Trust**
characteristics	clear costs and benefits price internalises all costs and benefits rational choice self-interest extremely decentralised	chain of control centralised sanctioning adapting means to ends democratic control	horizontal informal intangible, tacit non-calculativeness affected perceptions
failures	inadequate information externalities imperfect competition	unclear discretion inflexibility escaping sanctions costly and difficult to control lacking a central overview	self-interested behaviour lack of accountability tendency towards network closure

raised of the possibility of applying physical interventions for coordinating social life. Examples of physical design and intervention are a land-use plan or a new road. For the assessment instruments WA, EIA and SEA, the initiative for a physical intervention is often the trigger for starting an assessment, and the main focus of the instruments in this situation is the decision about the physical design/intervention. However, although physical intervention is both the trigger and target of this kind of assessment, such assessments are not 'physical' in themselves. Adding physical coordination as a fourth mode would not help in explaining the processes or procedures of assessments themselves. Therefore, we did not include the fourth mode of coordination in the steering perspective.

The concepts described in this section point to five questions in the steering perspective. We will answer these questions for each assessment instrument:

- To what extent does the instrument use the market to coordinate by means of the price mechanism?
- To what extent does the instrument coordinate hierarchically, through rules?
- To what extent does the instrument use network coordination, by building up trust and cooperation?
- What is the balance between the three modes of coordination in the instrument? What is said about this balance by those who reflect on the instruments at national level?
- Can practitioners use the modes of coordination flexibly and reflectively to adapt to the situation at hand?

5.3 Planning approaches

WA, EIA and SEA are instruments that facilitate governmental decision-making. All the instruments provide a methodology for the process, in advance of the moment of decision-making. Such a methodology emphasises and supports taking into account knowledge about water and the environment when making the specific decision. Our first impression of EIA and SEA is that these instruments provide a very systematic methodology, and different alternatives have to be developed and assessed. This results in a report containing information about the alternatives and their consequences. This knowledge is then used by decision-makers and the public. It is important in EIA and SEA that the knowledge is of good quality and that it is unbiased. Compared to EIA and SEA, as improving the communication and interaction between spatial planners and water managers is a core ideal of the instrument, WA puts less emphasis on good-quality information and more on good communication. Spatial planning and water management are considered to be different worlds with different languages, and these have to be connected. Emphasising understandable communication is viewed as the key to bridging the barriers. Water managers communicate their ideas during the planning process; ideas that are based on a knowledge of the water system, on experiences, relevant policy and their areas of responsibility. In summary, the methodology for the assessment process of WA appears to differ from that of EIA and SEA. The knowledge conceptions seem to be different too. We will tackle these differences when looking at the concepts in the planning perspective.

5.3.1 Two planning approaches

Following Friedmann (1987), key terms in a definition of planning are knowledge, action and the public domain. In general, planning can be defined as the attempt to link knowledge to action in the public domain. A planning approach should answer the question how this is to be done effectively. An underlying question is: what is

knowledge?. Following Faludi (1982), we prefer the term 'planning approaches' above other terms, such as 'planning schools' or 'planning theories', because planning should provide a course of action. A planning approach is not only a view that sheds light on reality; it provides a planner with a methodology for dealing with a planning process. Hillier states: "Yet this is not to espouse a reductive acceptance of the way things are instead of working towards the way things might be, which is, after all, the very *raison d'être* of planning" (Hillier 2002: 293 *emphasis in original*). A planning approach has an ideal on the horizon; it is an *ideal type* with a prescriptive character (Van der Valk 1998).

Planning theory offers neither a best planning approach, nor a best typology of planning approaches. Many different typologies for mapping the fragmented field of planning have been proposed. Examples are Faludi's three planning approaches (1982), Friedmann's four traditions of planning thought (1987) and Allmendinger's post-positivist typology (2002). There is no neutral typology, because every overview assumes a certain point of view. Our viewpoint is that of the assessment instruments WA, EIA and SEA. The typology of planning approaches that should be used is the one that best explains these instruments and the differences between them. At first glance, EIA and SEA literature shows that these instruments reflect the ideas of 'rational planning' very well. In articulating this approach, it is important to bear in mind that EIA has its origins in the 1970s. WA was developed to connect the different languages of spatial planners and water managers, and to improve their communication and interaction. Thus, a typology of rational planning versus communicative planning would fit in well when comparing EIA and SEA with WA. These two planning approaches have been juxtaposed to each other as mirror images (Alexander 1996).

The next two subsections describe these two planning approaches, which will be used to illuminate the workings of WA, EIA and SEA. Both rational planning and communicative planning have their own ideals to which they strive. For rational planning, it is the ideal rational-decision model, and for communicative planning, the ideal speech situation. We will describe these ideals and their related characteristics. Planning approaches are, however, more nuanced than their ideals suggest. Both rational and communicative planners are aware of the practical limitations of these ideals and make allowances for their limitations. Although planners strive towards an ideal, at the same time, they acknowledge that it can never be fully achieved in practice. Both planning approaches have been criticised. The criticism often relates to the naivety of the ideals or even to a caricature of the planning approach. We will describe the main limitations and criticisms of each approach. We will also describe how a planning approach deals with the limitations that the critics identify. This pre-empts much of the criticism, and gives a more nuanced picture of the body of thought that rational and communicative planners have developed over time.

Regarding rational planning, we use literature about the decision-oriented view of planning, as advocated in the Netherlands by Faludi and Van der Valk. The strategic-choice approach used by the Institute for Operational Research in London (Friend et al.) influenced the decision-oriented view on planning. The focus on decisions fits in with the WA, EIA and SEA aims of giving water and the environment a fully valued

position in *decision*-making. Besides, the notion of the definition of the decision-making situation, helps rational planners to cope with criticism and the limitations of the ideal rational-decision model. For communicative planning, we draw on literature about collaborative planning and consensus building, as promoted by Healey and Innes, among others.

5.3.2 Rational planning

With his work on decision-making, the American political scientist Simon (1976/1945 and 1957) is a key figure in rational planning, and Meyerson and Banfield (1955) made Simon's thoughts on rational planning accessible to planners, as is evident in Faludi (1996). Simon observed bureaucratic organisations and tried to answer the question of how public administrators can gauge the correctness of their decisions. The model of rational decision-making is summarised below in seven steps (Friedmann 1996). This model is already more nuanced than the ideal rational-comprehensive model, because it speaks of major alternatives and major sets of impacts, instead of giving all the alternatives and all the anticipated impacts. The seven steps are:

1. Formulating goals and objectives.
2. Identifying and designing major alternatives for reaching the goals identified within the given decision-making situation.
3. Predicting major sets of impacts anticipated from the adoption of each alternative.
4. Evaluating these impacts in relation to the desired objectives and other important values.
5. Making decisions based on the information gained from the preceding steps.
6. Implementing these decisions through the appropriate official bodies.
7. Gathering feedback of actual programme results and the assessments made of these results in light of the new decision-making situation.

A rational-planning process explicitly includes generating alternatives, the *ex-ante* evaluation of their impacts and choosing the alternative that will best meet the desired objectives. Decisions are rational if they result from an evaluation of alternatives and their impacts, and the extent to which their application will fulfil the goals that have been set. In an ideal situation, all possible alternatives and all their impacts and further consequences will have been taken into account. This is referred to as 'rational-comprehensiveness'. Rational planning deals with conscious choices of means and ends. Rationality implies searching for optimal solutions. A solution is optimal when it attains the goals with the minimum negative consequences or costs; it must be effective and efficient. A reasonable decision-maker will minimise expenses to solve the problem, thereby saving as many of the available resources as possible for other problems. In addition to effectiveness and efficiency in making choices, accountability is also very important. Decisions have to be justified and accounted for. The decision is of central importance in the relationship between knowledge and action in the public domain. The decision-maker has to be able to justify his choice of alternative. The rational planning approach requires the decision-maker to be explicit about the rea-

sons for his decision and the knowledge he used to make that decision. He has to be able to reconstruct the arguments and thereby facilitate criticism, which is important in the public domain. An explicit justification of the decision is also crucial for democratic accountability (Faludi 1982; Faludi 1984; Faludi 1987; Meyerson and Banfield 1955; Van der Valk and Faludi 1998).

Ideal-typically, politicians, planners (experts) and the public have clearly separated complementary tasks in the rational decision-making process. The task of politicians is to make a formal decision to pursue an alternative and to accept, consciously, the impacts and possible further consequences related to this decision. Due to their political character, the goals and choice of alternative cannot be arrived at by analysis alone. Legitimate decisions can only be made by politicians who can be held accountable. The task of the planner is to help politicians to make the most well-informed decisions based on maximum knowledge of the alternative courses of action, and their known impacts and possible consequences. The planner analyses the known impacts and possible consequences of alternative courses of action as accurately and consciously as the information allows. The planner's task is then to give professional and unbiased advice to the politician. Planners are independent experts who contribute to argumentation. The actual decisions should be made before a forum of informed public. It is therefore very important that reports containing the available knowledge about the impact and possible consequences of alternative courses of action be made public. To facilitate public debate and criticism, politicians should be very explicit about their reasons for favouring a particular decision (Faludi 1984).

The key problems of rational planning are the limits to how much information can be handled and to the availability of information itself. The ideal rational-decision maker bases their decision on complete and perfect information. However, to achieve complete rationality would mean assessing all possible alternatives, with all known impacts and possible consequences against all the objectives being pursued. It would need to be a rational-comprehensive planning process. In practice, however, the available information is limited and it is impossible for the decision-maker to take all alternatives, impacts, possible consequences and ends into consideration. There is always uncertainty. Simon (1957) himself acknowledged that it is impossible, in practice, to reach this ideal. To take account of decision-makers' cognitive limitations, Simon uses the term 'bounded rationality'. In practice, they are only able to deal with a limited volume of information within mental capacities that also have limits. Simon links to this his idea of 'satisficing'. In other words, rather than optimising their choice, Simon views decision-makers' actions as attempting to achieve a minimal level of acceptability, of 'satisficing'. Comprehensiveness is an ideal worth striving for, but rational planners acknowledge that this is practically impossible and have developed ways of dealing with it. Rational planning in practice is decision-making under uncertainty (Faludi 1984).

Friend and Jessop (1977) developed a systematic model in which the formulation and comparison of alternatives is related to uncertainties. An obvious way of responding to uncertainties in knowledge is to conduct more research and collect more information. Friend and Jessop take also uncertainties on value judgments into

account (ambiguity) and uncertainties in related fields of choice. In dealing with these classes of uncertainty, they identify taking more policy guidance and coordinating more closely with other actors, respectively, as effective responses. The British focus on dealing with uncertainty did not extend to the whole field of rational planning. Friend's work has had the greatest impact in the Netherlands (Faludi 2004). Though Friend and Jessop's classification includes different sources of uncertainties, it is not as nuanced as the typology of sources of uncertainties by Van Asselt (2000, see Subsection 5.1.2).

Rational planning has been caricaturised as instrumental, functional, technocratic, scientific and individualised. The instrumental (and also the comprehensive) view on planning can be linked to the positivist ideas of the 1960s and 1970s (Davoudi 2006). Instrumental rationality means that the goals are treated as given and fixed; only the means to reach the goals are questioned. Faludi (1996) argues that rational planning is not as narrow as that and that the earlier research by Meyerson and Banfield (1955) already took goals and values into account, within the idea of rationality. Criticisers of rational planning state that although rational planners acknowledge the importance of discussion about goals and values in planning processes, very little attention is given to these aspects (Friedmann 1987; Healey 1996). The early work of Faludi (1984) and Friend and Jessop (1977) reveals an awareness that goals and preferences in planning are intangible, diverse and dynamic, and they deal with these aspects in a systematic, analytical way. For example, Faludi uses a model of cybernetics with feedback loops to adapt goals in the light of new information.

After the Second World War, in the period of modernistic optimism, planners explored the tenets of logical positivism as being rooted in the Enlightenment. The knowledge conception of rational planning is often still assumed to be positivist, scientific and value-free (Davoudi 2006). It has been criticised for being objectivist, technocratic and expert-driven. However, rational planners like Faludi consider the positivist ideal of complete and neutral knowledge to be unrealistic. Acknowledging the limited availability of information and decision-makers' bounded rationality, they have a more nuanced conception of knowledge. They acknowledge that knowledge cannot be totally objective. Decision-makers create their own images of situations by selecting available information on the basis of their own perceptions and interests, and where there is uncertainty, they will make assumptions. They will assess only those alternatives that they find relevant. Consequently, in practice, the 'definition of the decision-making situation' will always be imperfect and subjective. Perceptions and personal interests play a role, in that how a decision-making situation is defined is both value-laden and political. It is impossible to create a self-evident, objective knowledge base for action (Faludi 1982; Faludi 1984; Faludi 1987; Faludi and Waterhout 2006; Van der Valk 1989).

Until the ascendance of communicative planning, the definition of the decision-making situation remained a black box. The ideas of communicative planning gave more insights into the communicative, interactive and subjective aspects of the decision-making situation. Defining this situation is now viewed as a social and political process in which values and power play a role (Van der Valk and Faludi 1998). By

expanding the notion of the decision-making situation rational planners could deal with both criticism and new insights. Communicative planners criticise rational planners for not dealing sufficiently with questions about value, language and communication. Flyvbjerg (1998) criticises planning for not taking power into account. Faludi and Van der Valk (2001) respond by arguing that the role of power is crystallised in their notion of the definition of the decision-making situation.

Communicative planners consider the ascendancy of their planning approach to reflect a change from reasoning by one individual to reasoning within interactive processes (Healey 1996). They criticise planning procedures in which public involvement is formalistic and reactive (Innes and Booher 2004). Juxtaposing communicative to rational planning, it can be implicitly assumed that rational planning has an individualised, unicentric conception of rationality and that it lacks real participation. Rational planners, however, opposed this view, stating that planners such as Friend and Jessop (1977) can be seen as initiators of the communicative approach. As early as the 1970s, they showed that planning actually takes place within multi-actor, interactive processes, in which the actors have different perceptions, that may change. In this context, the role of a planner is that of a group facilitator who offers support in choosing between different alternatives within a workshop setting. Defining the decision-making situation is now considered to be an interactive process, in which communication, argumentation, meaning and language are important (Van der Valk and Faludi 1998; Faludi 2004; Faludi and Waterhout 2006; Bryson, Ackermann and Eden 2004; Burns 2004; Friend 2004).

5.3.3 Communicative planning

Habermas is a critical theorist in sociology and philosophy. As a framework for the communicative planning approach, communicative planners make particular use of his theory of communicative action (Habermas 1984; Innes 1995). Habermas' work is, however, much broader and more nuanced than his theory on communicative action. For example, his work also includes theory about strategic action. This pre-empts criticism. Habermas is a key figure for communicative planners, but at the same time they criticise him strongly. For example, Innes, in an article written in 1995, points to the important influence of Habermas' theory. In an article written in 2004, however, she denies that consensus-building is grounded in Habermas' concept of communicative action.

Communicative planners attach great importance to the quality of communication, because reasoning should be formed within intersubjective communication. Habermas has defined conditions for the 'ideal speech situation'; conditions that ensure the acceptability of the communicative process. First, all individuals representing all the important interests in the issue must be at the discussion table. Second, all of them must be fully and equally informed and able to represent their interests. Third, all of them must be equally empowered in the discussion. Fourth, the discussion must be carried on in terms of good reasons, so that the most important dynamic will be the power of good argumentation. In summary, in an ideal situation, all concerned

take part, freely, equally and without coercion, in a cooperative search for the better argument (Innes 1998 drawing on Habermas 1984). In this discussion, the actors should question the assumptions and arguments that are made. It must be possible for the actors to assess arguments in terms of integrity, legitimacy, comprehensibility and truth. These terms are the conditions for authentic dialogue. In the first place, participants must express their perceptions sincerely and honestly and make them transparent to the others. Second, actors must be in a legitimate position to express their opinions. For example, an argument must be grounded in expertise and experience, or represent the opinions of an organisation. Third, actors must speak comprehensibly. Their argumentation should be clear to others, and not cluttered with jargon and technical language unfamiliar to other participants. Fourthly, what actors say must be factually true in terms of scientific methods or other methods of verification. Actors must assess the accuracy of arguments to reach a shared understanding (Healey 1996; Innes 1998; Booher and Innes 2002)

Communicative planners have a discursive and collective conception of rationality: communicative rationality. In other words, the results of a communicative process are only fully rational when the conditions for the ideal speech situation are met. Actors mutually search for understanding and consensus in an open process. Innes (1996, 1998) characterises ideal discussions with terms such as 'face-to-face', 'informed' and 'in-depth'. Communicative rationality means that rationality does not reside in the thought processes of individual actors, but in the communication of intentions and understandings between multiple actors. Public values and goals are jointly discovered. Interactive processes begin with a common task, but at that stage, the values and goals remain open. In starting a dialogue, participants use their own values and their own frames of reference for defining the situation. In the course of the planning process these various individual frames will be transformed into shared perceptions. Complete communicative rationality results in full mutual understanding and consensus (Healy 1992; Healey 1996; Innes 1996).

In communicative planning, knowledge must be meaningful to the actors involved. Knowledge that influences action is that contained in people's assumptions and perceptions. Therefore, in the communicative process, all knowledge must be discussed and accepted first. Knowledge is only valid when the participants in the process discursively establish it as valid. This also counts for scientifically grounded information. Communicative planners consider knowledge to be a social construction. In their view, there is no absolute and objective truth. Therefore, scientific knowledge is just one among several forms of knowledge in communicative planning. Knowledge grounded in experience, stories, intuition and feelings also counts. Habermas expanded scientific and technical understandings into a conception of knowledge that encompasses all paths to gaining knowledge and understanding (Innes 1995; Innes 1998; Healey 1996; Healey 1997; Healey 1992).

Communicative planning is interactive planning, a dialogue in which the actors informally fuse their arguments. The amalgamation of arguments in open debates is different from the amalgamation of individual interests and majority voting, which is the difference between deliberative democracy and representative democracy, respec-

tively. In deliberative democracy, preferences are not treated as given, because they change during the deliberation process (Sager 2002). In a communicative planning process, there is no formal moment of decision-making. 'Decisions' arise in the process of giving meaning to knowledge and are not made at formal moments. Actors develop a shared understanding and consensus, and this is what guides their action. Habermas promotion of deliberation in the public sphere is not related to the governmental system. His communicative theory is more about will formation, about forming intentions to do something, not about formal decision-making in a governmental system (Innes 1995; Innes 1998; Booher and Innes 2002; Huxley 2000).

The conditions for ideal speech are never fully met in practice. Therefore, communicative planning is criticised for being too naïve, idealistic and abstract. Flyvbjerg (1998) considers communicative rationality as an utopia. Communicative planners acknowledge the practical limitations, as does Habermas himself. The ideal speech situation is an ideal, unreachable, somewhere on the horizon. The value of identifying those ideal conditions, however, is that they alert planners to the distortions in communication and point the way towards achieving more rationality in communication (Healey 2003; Innes 2004; Fischler 2000). One of the limitations to the ideal is that it is impossible to achieve complete understanding. No one can know themselves completely, and neither can they clarify their perceptions fully to others. Therefore it is also impossible to completely understand the perceptions of others. Actors may assume understanding, but no matter how complete that understanding may appear to be, there will always be a part of their perception that may influence action in a planning process, while remaining implicit and invisible. This is why it is often difficult for decision-makers to be explicit about the knowledge they use in their decisions (Hillier 2002; Innes 1998).

Even if complete understanding were possible, this would not presuppose full consensus. Habermas is criticised for bracketing differences too much. In the ideal situation, actors are able to completely replace their own interests by the common interest. In practice, conflict and disagreement is inevitable. Some differences between actors, for example in culture, class and gender, are deeply rooted. To succeed in changing core values and vested interests is usually impossible or at least very difficult (Huxley 2000; Hillier 2002). Communicative planners acknowledge that conflict is ever present. Ambiguity has creative potentials and should be exposed. Antagonism and contradictions are important for resisting dominant perceptions. Consensus building is not about harmony, but about discussing differences (Healey 1996; Hillier 2002; Innes 2004).

A third main area of critique on communicative planning is that it does not take power into account sufficiently. Power distorts the communicative ideal, because the conditions for ideal speech are not met and the four claims for arguments no longer hold (Forester 1993; Flyvbjerg 1998; Hillier 2002; Huxley 2000). Communicative planners — and Habermas himself — recognise this distortion of the ideal speech situation as commonplace, in practice. They argue that they *do* take power into account. In practice, communicative planning does not exclude strategic action (Healey 1996; Healey 2003; Innes 2004; Forester 1993). In his recent works, Habermas distin-

guishes between "bargaining as a process in which actors strive for a balance of different interests, and consensus, as a process of actors arriving at shared opinions by mutually convincing each other". He considers compromise through bargaining as a second-best alternative for consensus (Hillier 2002: 255, referring to Habermas 2001: 117).

A fourth area of critique is that communicative planning undermines representative democracy and formal decision-making. Therefore, the democratic accountability and legitimacy of communicative planning are being questioned. In the ideal situation, all individuals representing all the important interests in the issue must be at the discussion table. In practice, participation is often selective. People may lack the motivation to participate, not feel the responsibility, or may not have the resources to attend. This results in interactive processes in which only the key interests and active people are represented (Woltjer 2000). Critics argue that informal deliberation is too weak to ensure democratic accountability. Huxley (2000) argues that informal public deliberation can and should be linked to regulations and the governmental system. How to deal with this exactly needs more attention. Fischler (2000) states that weakening representative democracy and formal decision-making may not be a good idea. He sees communicative planning as an extension and completion of formal decision-making. A certain amount of formalisation and coercion will always be needed. Innes (1996) argues that consensus building works best within a system of planning. In her experience, formal procedures and the possibility of litigation function as an incentive to keep actors searching for consensus. With Booher she also argues that dialogue in collaborative planning is more representative and legitimate than formal, reactive procedures such as hearings and comment procedures. Only satisfying legal requirements for public involvement is insufficient for legitimating action, but informal and formal ways of participation can coexist. If the informal dialogue works well during the planning process, few actors will complain formally at the end (Innes and Booher 2004).

5.3.4 Overview

Rational planning and communicative planning are oriented towards different ideals. The former focuses on the consequences of decisions, and in the latter, the core idea is the quality of communication (see Table 5.2 for an overview). However, the differences between the two approaches are not black-and-white. Rational planning has no purely instrumental rationality, nor does it have a positivist, value-free conception of knowledge. Rational planners include considerations of goals and values in their approach. They recognise the subjectivity of defining the decision-making situation and use ideas of communicative planning to come to grips with this. Rational planning has developed over time and new insights have been incorporated. Communicative planning does not dismiss means-end rationality and scientific knowledge. Habermas did not reject modernity and the Enlightenment. He aim was to complete them. What he rejects is the reduction of rationality to means-end rationality only, and the reduction of knowledge to scientific and technical knowledge only. The dividing line between rational and communicative planning is more fluid than is often supposed.

Table 5.2: Overview of the two planning approaches

	Rational planning	**Communicative planning**
oriented towards an ideal	oriented towards the ideal rational decision-model: ex-ante evaluation of the impacts and possible consequences of alternative courses of action to achieve a goal	oriented towards the ideal speech situation: the quality of communication based on the power of argumentation
	means–end rationality: optimising	communicative rationality: intersubjective understanding
	public action requires an explicitly justified decision	public action requires shared understanding and consensus
	complete and neutral knowledge	meaningful knowledge
	experts provide neutral analyses to politicians who then decide formally in the presence of a forum of informed public	informally fusing arguments in interactive processes without a formal moment of decision-making
limitations and criticism > response to it	incomplete knowledge > deals with uncertainties	incomplete understanding > perceptions partly remain implicit
	bounded rationality > satisficing	
	instrumental rationality > not true, goals are systematically taken into account	brackets differences, suggesting harmony > not true: considers ambiguity and disagreement to be important too
	objectivist, technocratic knowledge conception > not true, the definition of the decision-making situation is value-laden and political (not positivist)	ignorant of power and strategic action > not true: power is taken into account
	individualised conception of reason; public involvement reactive and formal > not true, defining the decision-making situation is an interactive process	undermines representative democracy and formal procedures > not true, communicative planning enhances legitimacy

We will not attempt to integrate the two planning approaches into one integrative concept, but we do want to stress the complementarities between rational and communicative planning. In practice, different planning approaches overlap. For example, expert knowledge and lay knowledge are being combined, facts and values, as well as formal and informal public participation. Different approaches can be used to explain the same situation. Alexander (2000) concludes that different kinds of rationality can be used in different situations and in different phases of a planning process. Effective planning takes different kinds of rationality into account. Woltjer (2000) also holds the opinion that the rational and communicative planning approaches are not mutually exclusive. Both approaches have valuable ideals that are worth striving for, but these ideals cannot be fully realised in practice.

The concepts as described in this section result in three questions in the planning perspective. In the following chapters, we will answer these questions for each assessment instrument in turn:

- To what extent does the instrument function according to the rational planning approach?
- To what extent does the instrument function according to the communicative planning approach?
- What is the balance between the two planning approaches in the instrument? What is said about this balance by those who reflect on the instruments on the national level?

6. Water Assessment

In this chapter, we explain WA by juxtaposing it with the relevant theoretical concepts. The structure of this chapter is aligned to that of Chapter 5, and the boxes in the text contain illustrative information.

6.1 WA and its content

The central question in this section is: how is the relationship between societal initiatives and their environmental consequences perceived within WA? More specifically, in relation to WA, societal initiatives are defined as spatial plans, and environmental consequences as water-related impacts. In Chapter 5, we developed two ideal-typical concepts that will now be used to explain WA from the point of view of its content. These concepts are 'exposing the impacts and uncertainties' and 'multiplicity of perceptions and ambiguity'. These concepts contain an inherent challenge for decision-making: dealing with uncertainty and ambiguity. Section 5.1 ended with three questions regarding the content of WA, of which the first two are based on these ideal-typical concepts. The third question is of a more exploratory nature. It explores the actual aim of WA and its normativeness to the outcomes of decisions. Explanations of these three questions will be given in the next three subsections, respectively:

- To what extent, and in what way, does WA identify and bring to the fore the facts and uncertainties of the impacts of trade-offs?
- To what extent, and in what way, does WA deal explicitly with the multiplicity of perceptions, in relation to the ambiguity of trade-offs?
- Is WA itself neutral towards decision outcomes or does it include a certain perception of trade-offs? If WA is normative towards the decision outcomes, which trade-off perception does this instrument favour?

6.1.1 Exposing the impacts and uncertainties

The aim of WA has been formulated as guaranteeing that in spatial plans and in decision-making the interests of water are taken into account, explicitly and in a balanced manner (Projectgroep Watertoets 2001). From this it is clear that the purpose of WA procedures is to identify the water-related consequences of societal initiatives and make them clear and transparent to those involved. That these water-related impacts and consequences are broad and integrated is partly due to a motion put before the Lower House by the parliamentarian Augusteijn-Esser. It was she who asked for water aspects such as water quality and quantity and safety to be integrated within WA (TK 2001, 27625, No. 5; De Jong 2004). This includes both surface and ground water and all kinds of water systems, national as well as regional. WA is also an integrated instrument in the sense that it applies to all spatial plans that may have water-related

consequences (for a description of the range of the impacts and the area of application, see Section 3.1). The WA procedure evaluates the water-related impacts and consequences *ex ante,* i.e. before a decision has been made about a spatial plan. At this stage, there are only predictions of what is likely to happen after the spatial development has been implemented. Some of the planned impacts will occur immediately, for example, developers will lower the ground-water table to realise a new housing area. Other consequences, such as flooding, may have been predicted as a future hazard. The chance of flooding can be calculated as being once in ten thousand years, but no one knows when exactly flooding will occur and what the consequences of that flood will be. It remains a long-term threat that might occur on some future date.

However, WA is not just about avoiding unintended, negative consequences, but also about causing intended, positive impacts for the water system. The designers of WA were very clear about this, that WA is also aimed at making the most of all available opportunities. Water authorities should not only try to prevent or reduce undesirable consequences, but also to utilise spatial developments for realising their water-management goals. The aim is to achieve win–win results (Van der Vlist et al. 2002). In Chapter 5, the focus was on the unintentional, negative environmental consequences of societal initiatives and on the potential risks. However, this conceptualisation is not aligned with actually carrying out WA. The set of concepts needs to be extended to include 'opportunities' (see Chapter 9).

In balancing socio-economic and water-related interests, WA focuses on influencing the decision-making procedures in such a way that the water-related impacts and consequences are identified and exposed. The instrument does not attempt to arrive at an integrated assessment, including socio-economic aspects. What WA *does* show is whether or not a societal initiative is acceptable when seen from a water-management point of view. Where the initiative is shown to be partly or totally unacceptable, WA does not show the socio-economic consequences of 'cancelling' or adapting that initiative. WA focuses on water in decision-making.

One of the problems with instruments that facilitate decision-making is that uncertainty often remains implicit. The necessity of exposing uncertainty was identified in Chapter 5 as being a major challenge. WA does not tackle this challenge well enough. The manual on WA does not provide guidance on how to deal with uncertainty, and no issue is made about uncertainties, either in the literature or in discussions about WA. The actors involved discuss the anticipated water-related impacts and consequences of a spatial plan in a relatively 'certain' and 'factual' manner. Despite the many uncertainties, they are not placed at the forefront of the decision-making. Many of these uncertainties are inherent in the complexity of the water system itself, because the various parts of the system – surface water, groundwater, water quantity, water quality, etc. – interact with each other. Climate changes, which are also very complex, cause further uncertainties, as these influence the water system significantly. Although the people developing WA have viewed uncertainties as an issue, and acknowledged them as inherent factors, they wanted to avoid long debates. Their aim was to integrate WA efficiently into decision-making, without delaying the processes of decision-making. They delegated responsibility for water-related knowledge, and thus the un-

certainties, to the water authorities. For the developers of WA, this was a pragmatic solution. They had 'authorised' knowledge by prioritising governmental water managers' perceptions of the water system above all others. As governmental authorities with a democratic base, water authorities were supposed to make legitimate choices in ambiguous issues concerning water.

In 2006, a risk and cost analysis was added to the WA procedure. In addition to the manual on WA, guidance was given on how to deal explicitly with water-related risks, including the costs of managing water to reduce such risks (Werkgroep Watertoets 2006). A risk and cost analysis is a requirement of the National Spatial Strategy (VROM et al. 2006: Subsection 2.3.2.8), that was introduced in response to a motion in the Lower House. Parliamentarians Van Bochove, Van Lith and Van As had asked the Cabinet to make it obligatory for provinces, municipalities and water boards to make risk analyses of the water-related consequences of their choices for locating new spatial developments (TK 2005, 29435, No. 40). The Cabinet accepted this motion, but changed it slightly by broadening the area of application: in addition, it was now made obligatory for risk analyses to be made for spatial developments within existing built-up areas, as well as for new locations (TK 2005, 29435, No. 104: 13). As risks and uncertainties can be considered as two sides of the same coin, one might expect that by giving more attention to risks in this way, significantly more attention would also be given to uncertainties. However, viewed against the typology of sources of uncertainties, listed in Chapter 5, the attention given to uncertainties appears to be limited. In the manual on risk analysis in WA, risks are defined objectively and technically – as functions of probability and damage. Though this definition is commonly used in water management, especially with regard to safety, it is too narrow. It emphasises facts (certainties) and neglects many sources of uncertainties, including value-based uncertainty. The manual on risk analysis mentions that certain *and* uncertain consequences should be included, without providing much guidance on how to deal with uncertainty.

Box 6.1: Risk analysis in WA

The manual on risk analysis in WA deals with risks in a rather 'certain' way. The manual describes risk in three different ways. The more significant the risk, the more quantitative and monetary the analysis should be (Werkgroep Watertoets 2006). Below are examples of the three different ways in which 'risk' is described:

- *qualitatively*: e.g., lowering the ground-water level results in draughts.
- *quantitatively*: e.g., the ground-water level in 10 hectares of grassland will become 5 centimetres lower in spring.
- *monetarily*: e.g., lowering the ground-water level in spring to facilitate the construction of new buildings next to the grassland will cost 1700 Euros per annum.

6.1.2 Multiplicity of perceptions and ambiguity

WA adds the perception of water authorities to spatial trade-off decisions. This is an improvement on what happened in the past. The WA process is aimed at changing the behaviour of water authorities from reactive to proactive; from facilitating spatial developments technically towards taking an active part in spatial planning. Water authorities are now required to give their opinion about the water-related consequences of new spatial developments and to discuss their acceptability with the initiator of the spatial plan. They confront the spatial planner with their ideas, which are discussed interactively with those of the planner. The authority that manages the water system in the area of the spatial plan presents their perception as a Water Recommendation. The water manager's input is a normative recommendation. It is not hidden as neutral, objective, knowledge about the water system. The Water Recommendation is clearly related to governmental responsibility and to the relevant policy documents. This gives water managers' input both authority and a democratic base.

The instrument does not pay much attention to the fact that other actors, such as citizens, companies and non-governmental organisations (NGOs), may perceive the water system differently from either the water authority or the spatial planning authority. Therefore, although it is a good thing to take into account the opinions of the water authority, the WA instrument does not fully acknowledge the ambiguity in the decision-making process. As described in the previous subsection, WA gives priority to the water authority's input. There is no emphasis on public participation, so the instrument cannot accommodate the multiplicity of perceptions on water issues that this would bring. The WA processes still function by a kind of mono-thinking. The Water Paragraph in the spatial plan, on the other hand, makes water-related consequences more transparent to the public than would otherwise have been the case had such a 'paragraph' not been included. In a Water Paragraph, the spatial planner describes the considerations that have been given to water issues as a result of applying the WA process. Citizens, NGOs and other actors can use this information to form their own opinions. They can state their views on the water issues related to a particular plan during the consultation period for the public that is part of the formal spatial-planning procedure. Although the Water Paragraph constitutes a positive side-effect of WA for the public, in the actual design of the instrument, very little attention was given to making information clear for the public or giving them opportunities to participate.

6.1.3 Is WA neutral or normative towards decision outcomes?

On the one hand, WA can be considered as a neutral tool that facilitates decision-making. The immediate, formal aim and the functioning of the instrument are not normative towards decision outcomes. The aim of WA is to guarantee that the interests of water are taken into account in spatial plans in an explicit and balanced manner. What the 'balance' should be remains the responsibility of the spatial planning authorities; of general democracies. The Water Recommendation is indeed no more

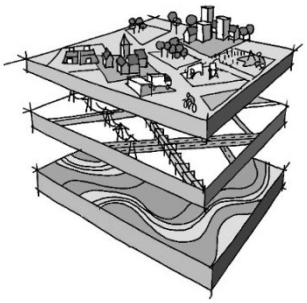
than a recommendation. It is not mandatory to make the spatial plan conform fully with the opinion of the water manager. WA did not change either existing responsibilities, regulations and policies, or the principles of spatial trade-off decisions. Legally, water is just one of the many interests in spatial decisions. Water is not the only guiding principle in spatial planning, but one out of many. This was so before WA, and is still the case with it (Jong 2004).

On the other hand, the ultimate, underlying aim of WA is normative. The very existence of an assessment instrument like WA is normative, because an assessment instrument focuses attention on new issues and on strengthening weakly represented interests in decision-making (Meijerink et al. 2005). Regardless of the formal aim and functioning of an assessment instrument for a specific interest, the instrument is also implicitly aimed at promoting a more positive perception of that interest. WA arose from a normative move to develop a new approach towards water. This new approach requires a fundamental change in the attitude towards water systems. The Tielrooij Committee emphasised our dependency on the natural dynamics of the water system: we should be very careful with it, instead of restraining it by technical means (Commissie Waterbeheer 21e eeuw 2000).

How normative WA is, depends on whether one takes its linkage with policy context into account or not. The more one considers WA in relation to its origins and policy in its broader context, the more normative the image of WA will be. Van Hall (2003) argues that WA will only be effective if all the actors involved know the philosophy from which it originates. By 'philosophy', he means the idea that water systems are valuable and cannot be considered as just one out of many interests in spatial planning. In the new approach towards water, this philosophy has been agreed upon at a high level of abstraction. Whether this new approach will change the balance in regional and local trade-off decisions, will depend on how actors use WA, not on the instrument itself. Van Hall considers water to be a fairly dominant guiding principle in the Netherlands. In his view, the long-term objectives of water management will have to be given precedence over short-term economic objectives. According to Van Hall, this is why there is a WA instrument. He states that using water as a guiding principle requires civil servants and politicians to adopt a fundamentally new attitude (Van Hall 2004).

How 'strong' a guiding principle water needs to be in spatial planning, in relation to WA, remains debatable. In a debate on the National Spatial Strategy, parliamentarian Ravenstein expressed the opinion that water aspects, as implied by WA, should be taken seriously into account. She questions some new building sites for housing and glasshouses in the Zuidplaspolder. Agreeing with the so-called 'layer-approach' in spatial planning (see Box 6.2), Ravenstein considers the surface layer to be the most important, and therefore water as being an important guiding principle. Her motion, together with Van Gent, about this 'hierarchical' relationship between the layers has been supported in the Lower House (TK 2002, 27578, No. 14: 34; TK 2002, 27578, No. 68; TK 2002, 27578, No. 103: 51).

Box 6.2: Layer approach



"One can picture land use in the Netherlands as consisting of three layers: surface (water, soil and the flora and fauna in those environments), networks (all forms of visible and invisible infrastructure) and occupation (spatial patterns due to human use). Each layer influences the spatial considerations and choices of the other layers. For too long, we have considered urbanisation, intensive agriculture and other forms of occupation as separate, unrelated elements, without sufficiently considering the demands created by the other layers. The development of intensive livestock farming on sandy soils and of large-scale urban areas on peat soils located below sea level are striking examples of such problems. Water also sets intrusive constraints on long-term, sustainable location policies. Slowly developing trends such as rising sea levels, higher levels of water discharge and more precipitation force us to change the way we think about water. We need to give much more consideration to the properties and functions of the surface and network layers, as well as the structural significance of both layers. In the planning stage, more consideration needs to be given to the relation between the processes in the different layers. This can prevent conflicts between different users of the same land, as well as creating more coherence in the measures to be taken. After all, intervention can serve more than one policy objective at a time" (VROM 2006b: 10-12, source picture: www.ruimtexmilieu.nl).

The policy context in which WA operates, and to which the instrument is strongly related, is normative (see Chapter 11). In the new water management approach, we see a clear rejection of an exploitative attitude towards water. Human beings are dependent on the natural dynamics of the water system and, in their own interests, have to be careful with it. Interventions in the system, without considering water, will result in unacceptable consequences such as floods. This general story is being translated and interpreted in terms of regional water-management policy. This provides the normative framework for water-authority input in WA. At the same time, the National Spatial Strategy aims to create space for ambitious economic growth. The general story is that the Netherlands is a densely populated and highly urbanised country and that, to facilitate economic growth, urbanisation has to continue. The economic objectives in spatial planning policy clearly indicate that tough interventions to change or stop economic growth for the purpose of water management are unacceptable in the Netherlands. However, the attitude towards growth is not that it should be totally unrestricted, but that it should be combined with a reformist attitude. In the National Spatial Strategy, links have been created between urbanisation to facilitate economic growth and water management. In the chapter about urban areas, terms such as 'to couple' or 'to tune' are used to link urbanisation with water-management criteria. If

urbanisation is planned well and related to the characteristics and conditions of the water system, water-related problems should not occur. There is no talk of favouring water-management objectives and accepting socio-economic risks (VROM 2006b).

The Dutch national government does not consider trade-off decisions as being problematic. There is a strong belief that there is no conflict between growth in welfare and a more natural water system. At a symposium about the relationship between spatial planning and water management (NIROV 2005), the State Secretary of Water Management expressed this win–win attitude. In her speech, Schultz van Haegen proposed an integrated approach whereby water, spatial planning and nature would join forces. She also proposed an innovative approach to unite the often contradictory interests of spatial planning and water. Interestingly, at the same symposium, landscape architect Geuze expressed another perception. He stated that the Netherlands faces extensive flood danger; floods that could be too large to deal with. In his perception, some water issues conflict with spatial developments. Water and spatial planning cannot always join forces. In his opinion, in such cases, the water issue should be dominant. To summarise: opinions differ about how ' guiding' or 'organising' water should be carried out in spatial planning. Some consider water to be just one of the many interests in spatial-planning decisions; others consider water to be a fairly dominant guiding principle. The Dutch national government does not consider the trade-off decision to be problematic; the win–win attitude is dominant. Normatively, WA itself is not arbitrational in this discussion.

6.2 WA as a steering device

In this section, we will view WA from three different modes of coordination: market, hierarchy, and network coordination. The insights gained from these ideal-typical modes of coordination are complementary in that each one highlights a separate part of WA. Together, they explain WA as a steering device. The central question is: how does WA coordinate relationships between actors to give water a fully valued place in decision-making? The first three subsections explain WA from the viewpoint of each separate coordination mode (see Chapter 5 for a description of these concepts). The fourth subsection describes the current mix of market, hierarchy and network in WA and the discussions on this balance. At the national level, an instrument must offer an adequate repertoire of compatible modes of coordination, while allowing enough flexibility to apply the instrument. The last subsection is about the contingent application of the instrument in practice. The most effective balance between the modes of coordination is when that balance is aligned to a specific situation. This requires the actors who apply the instruments to be able to use the modes flexibly and reflectively. Each of the five following subsections gives an answer respectively to the following five questions:

- To what extent does WA use the market to coordinate by means of the price mechanism?
- To what extent does WA use rules to coordinate hierarchically?

- To what extent does WA use trust and cooperation to coordinate through networks?
- What is the balance between the three modes of coordination in WA? What is said about this balance by those who reflect on WA at the national level?
- Can practitioners use the modes of coordination flexibly and reflectively to adapt to the situation at hand?

6.2.1 Market coordination and price

Viewing WA ideal-typically through market coordination, a kind of artificial imitation of the price mechanism can be identified. The ambition is to identify the water-related impacts and consequences, to quantify these consequences into comparable units as far as possible, and to internalise the costs. The failures of market coordination, however, hinder the realisation of these ambitions or make their realisation costly. These failures are inherent in market coordination, especially as water management is a public interest. The decision-maker in WA is a governmental organisation with a public interest. Choices are not decentralised to private actors.

It is a strong aim of WA to identify the water-related consequences of a spatial decision, prior to making a decision. In terms of market coordination, WA has the effect of improving decision-making by reducing the amount of inadequate information. However, the instrument pays little attention to the fact that information about consequences can never be fully available and certain (see the previous section). Originally, WA procedures did not require an analysis of costs and benefits. However, as mentioned in the previous section, in 2005, parliamentarian Van Bochove put forward a motion in the Lower House, asking that provinces, municipalities and water boards should be required to analyse the costs. In response to this motion, cost analyses have become an integral part of WA, together with risk analyses. The manual on cost analysis also pays some attention to benefits (Werkgroep Watertoets 2006). The national working group on Water Assessment has been conscious of the difficulties of quantifying water-related impacts and consequences into costs and benefits, so they have developed an approach in which the level of quantification and monetarisation equates with the severity of the consequences of a spatial plan. The 'transaction costs' for cost-benefit analysis (or other methods) to facilitate market coordination should be proportional to the severity of the expected risks.

Ideal-typically, all cost and benefits are internalised in the price that the decision-maker pays. In developing WA, there have been several attempts to improve the internalisation of water-related costs in decision-making. In 2001, when WA was introduced, the developers already mentioned that the costs of reducing the negative water-related consequences of a spatial plan should, in principle, be borne by the initiator of the plan, along the lines of the compensating principle (Projectgroep Watertoets 2001). In 2003, in the National Administrative Agreement on Water (*NBW*), the relevant governmental organisations agreed on the cost-instigating principle. For new spatial developments, the initiator should pay the costs of water retention, unless the

water retaining capacity of the area is inadequate in the situation prior to the proposed development. In that case, the water authority should pay these costs (NBW 2003). It was in the second manual that WA developers linked this cost-instigating principle explicitly to WA (Projectgroep Watertoets 2003). In 2005, the Association of Netherlands Municipalities and the Association of Water Boards published a manual specifically for the cost-instigating principle, because, in their opinion, the principle, as described in the *NBW,* needed further elaboration if it was to be put successfully into practice. The manual deals with water retention, rain water and sewage in relation to paved areas (VNG and UvW 2005). The cost-instigating principle is at the core of the Dutch government's National Spatial Strategy. The basic idea behind this principle is that initiators must deal with the problems they have created. In the National Spatial Strategy, this financial principle is related to the aim of creating, as a basic quality standard, a good balance between urban, rural and water-based spatial functions (VROM 2006b). The Advisory Committee Water responded to the 2004 version of the National Spatial Strategy by advising the Minister of Transport, Public Works and Water Management to implement the cost-instigating principle in the Spatial Planning Decree, to strengthen the status of the Water Paragraph. Secondly, the committee advised broadening the scope of the cost-instigating principle by including aspects other than water retention, such as water quality, and the costs of maintaining the water system on the long term (Adviescommissie Water 2004). In line with the cost-instigating principle, the new Spatial Planning Decree includes rules for recovering costs, which extend to water-related costs and water compensation, though this has not been linked to the Water Paragraph (Staatscourant 2007(85)).

Box 6.3: Application of the cost-instigating principle

An example of how the cost-instigating principle has been put into practical use is the renewal of the Bijlmermeer. In this south-eastern part of Amsterdam, tower blocks will be replaced by low-rise housing; a change that will increase the proportion of paved area. As a result of WA, the water authority made it clear that this spatial development would cause problems with the water retaining capacity of the area and with the water quality. The water authority recommended that 24 hectares of water retention should be created, located in such a way that it would improve the through-flow of water – and thereby also the water quality. This recommendation has been integrated into the spatial plan as a new spatial structure for water, that will also be used to create a better urban environment. The costs of constructing this new water structure will be included under land development. The water board will only need to pay for the construction of those parts of the water structure located outside the planning area (Van den Brand 2005).

The Netherlands Council of Housing, Spatial Planning and the Environment has doubts about the extent to which the cost-instigating principle can be used. The Council thinks that the cost-instigating principle is only possible in situations where it is clear who the instigator is, and where the costs can be passed on directly to this instigator, as, for example, in cases where paved areas in new housing developments cause the need for water retention. Apart from instances of this type, the Council sees few possibilities for applying the cost-instigating principle (VROM-raad 2002). Indeed, the *NBW* and the manual related to it, on the cost-instigating principle, do mainly deal with water retention in relation to paved areas. The Council, in fact, pointed to the market failure of external costs: it is difficult to internalise all such costs.

While the cost-instigating principle is an issue, the 'benefit-instigating principle' is not. A condition of the ideal-typical price mechanism is to internalise all benefits in decision-making. However, as water management is typically a public interest, internalisation is difficult. Many people profit from investments in water management, including people in the future. Positive water-related consequences of a decision are usually also beneficial in the long term. The decision-maker does not gain all the benefits of a good water system immediately. These long-term benefits are far more difficult to internalise in decision-making than short-term economic benefits (Groothuijse 2005).

Despite all the attempts to analyse and internalise water-related costs, the price mechanism remains an artificial factor in WA. We cannot recognise in it the private actor operating in a perfect market; it remains a governmental instrument. The decision-maker in WA is a governmental organisation with a public interest. However, also a governmental decision-maker wants to take costs and benefits into account when making a decision. In this sense, it is a good thing that governments imitate the mechanisms of the market. But it is an illusion to assume that a governmental instrument for the public interest of water can function as a perfect market, because in that case, it would cease to be a governmental instrument.

6.2.2 Hierarchical coordination and rules

We can partly identify how hierarchical coordination operates in WA procedures by focusing on the WA instrument itself. The first aspects that come to the fore are the statutory requirements for WA and the obligation to obtain approval from the province. Apart from this, hierarchical coordination hardly features at all in WA. This is because WA is a flexible process with few regulations and with hardly any jurisprudence. To find hierarchical coordination, one has to look beyond WA as an instrument. We must also look at the existing framework of formal governmental responsibilities, spatial planning regulations and water management policy, because WA has been strongly embedded in this framework. In the Starting Agreement on Water Management in the 21st century, the actors involved agreed to develop WA without immediately changing the existing framework and regulations (Staatscourant 2001(36)). The developers of WA at that time were convinced that a better cooperation between spatial planners and water managers could be achieved without making new rules.

Stronger than this, they believed that starting a discussion about regulations would hinder cooperation. By introducing WA, the developers had created an arena for co-operation within the existing framework of responsibilities, formal procedures and policy for spatial planning and water management. As WA is closely related to this framework, when applying WA, elements of the framework may come into force (Van der Vlist et al. 2002; Wagemaker et al. 2001; Projectgroep Watertoets 2001). We will now first discuss the hierarchical elements (and failures) of WA itself and then the hierarchical elements in its related framework.

The statutory requirements for WA, have been incorporated into the Spatial Planning Decree. These concern the obligation to engage in consultations and the obligation to produce a Water Paragraph for certain types of spatial plans. The obligation to engage in consultations has been in place since 2000, in fact, before the WA instrument was introduced. Under this obligation, the mayor and aldermen of a municipality must consult the water board about any local land-use plans or structural plans that they are preparing (Staatsblad 2000(234)). In 2003, the obligation to engage in consultations was extended by adding Article 19(1) *WRO* exemptions. Simultaneously, the inclusion of a Water Paragraph in local land-use plans, Article 19(1) *WRO* exemptions, structural plans and regional spatial plans was created as a new obligation. A Water Paragraph has been defined as a description of how account has been taken of the water-related consequences of a spatial plan (Staatsblad 2003(294)). Both statutory requirements originated from motions put to the Lower House by parliamentarian Van den Berg (TK 1999, 26401, No. 9; TK 1999, 94-5401; TK 2001, 27625, No. 8; TK 2001, 96-6055). WA will also be implemented in the new Spatial Planning Decree that is being prepared. This requirement, originating from a motion put forward by parliamentarians Van Ravestein, Van Wijmen and Van Gent has been accepted by the Lower House (TK 2002, 27578, No. 69; TK 2002, 27578, No. 103: 52). The draft of the new Spatial Planning Decree shows that there will be no immediate changes in the statutory requirements for WA. The requirements apply to land-use plans, integration plans and project decisions (see Section 2.5). WA will not apply to structural visions, because these visions are freed from procedural requirements (Staatscourant 2007(85)). At the end of 2006, in response to the WA evaluation (see Chapter 10), it was decided to explore the possibility and desirability of including stronger juridical requirements (V&W 2006).

From a juridical perspective, the statutory requirements for WA are very insubstantial. The legislator prescribes consultation and a Water Paragraph, but does not prescribe their interpretation. The term 'Water Assessment' does not exist in Dutch law. The insubstantial requirements have arisen from a desire to de-regulate (De Jong 2004). Jurists Van Groothuijse and Van Rijswick are not at all convinced that the requirement for a Water Paragraph will carry any extra weight, juridically. They consider the Water Paragraph to be a specific interpretation of the general principles of good administration, and especially those of careful and accountable decision-making, as implemented in the General Administrative Law Act (see Section 2.2). In their view, although the Water Paragraph brings the water-related impacts and consequences to

the fore, water remains just one out of many interests in spatial planning (Groothuijse 2005; Groothuijse and Van Rijswick 2005).

The legislator chose not to regulate the interactive process of Water Assessment. This keeps the process very flexible and pragmatic, so that it can easily be integrated into all kinds of spatial planning processes. The WA processes are explained in a manual that was prepared by the WA project group (Projectgroep Watertoets 2003). This manual recommends, for example, that water authorities should become engaged at early stages in spatial planning processes, and the sooner the better. The best time for this to take place is preferably long before the moment when consultation becomes a statutory requirement; and long before the formal start of a spatial planning procedure. De Jong (2004) discussed the status of the manual, referring to Bröring's (1993) thesis. De Jong states that, although the manual has no official legal status, it nevertheless has some legal significance. The general principles of good administration oblige the relevant government authority to take a manual, such as the one for WA, into account.

In addition to the rules for WA, another hierarchical element in WA that is immediately evident is the obligation to obtain provincial approval for a proposed plan. This obligation is part of a vertical line of control that applies to municipalities in gaining permission to go ahead with (or to get exemptions from) local land-use plans. The province reviews the WA process on engaging the water authorities and decides whether the plan is in accordance with provincial water management policy. The Inspectorate of the Ministry of Housing, Spatial Planning and the Environment is one level further up on the chain of control. The inspectorate is a supervisory body that focuses on enforcing the statutory requirements of WA and ensuring that there is compliance with national spatial policy. The provinces and the ministry are empowered to issue sanctions if they disagree with the manner in which the WA procedures have been applied to a spatial plan. The province can withhold approval of the spatial plans under its control. The Minister of VROM has the authority to replace provincial and municipal spatial decisions with the Minister's own decision or to give them instructions regarding the direction of the decision-making. To be in control, the province needs information from both the municipalities and the water authorities. This information is communicated bottom-upwards by means of the Water Paragraph and the Water Recommendation. Authors such as Groothuijse (2004), Dekker (2003) and Valk et al. (2005) are worried by the planned disappearance of provincial approval in the new Spatial Planning Act that is being prepared. This will make the WA procedures less hierarchical than they are now, because the provinces will lose the safety net provided by the WA.

Box 6.4: Examples of provincial control and sanctioning in WA

The province of Utrecht withheld approval of the local land-use plan 'Tabaksteeg', a plan put forward by the municipality of Leusden for a new housing area consisting of 880 houses. According to the Provincial Executives, guarantees for ground water had not been integrated sufficiently well into the juridical part (utilisation rules) of the plan (Provincie Utrecht 2005, source photo: www.leusden-zuid.nl).

Another example is that, in the period 2003-2004, the province of Zuid-Holland commented on two-thirds of all controlled municipal plans. These remarks were made because the municipalities had either involved the water authorities too late or had not given an adequate enough description of the water-related consequences (Valk et al. 2005).

The assessment criteria used in WA are hierarchical to a certain extent. Water authorities base these criteria on existing spatial and water management policy, the main lines of which are given by the national government. The provinces translate this into provincial policy and the water boards into their own level of policy documents. In carrying out WA, water authorities translate the aims of all those policy documents into assessment criteria for use in specific spatial plans. Following this line of thought, we can consider WA as a means of achieving the policy aims at higher levels. The downside of this is that WA criteria for a specific spatial plan can become 'iron fists' if the aims and norms in policy documents are too strict or are interpreted too strictly. This makes it impossible to tailor to the spatial plan. An example is that a water board requires a minimum water area of ten percent in all spatial plans, including those plans where ten percent is not necessary or impossible. For the developers of WA, the principle of tailoring assessment criteria to each individual spatial plan is very important (Van der Vlist et al. 2002; Projectgroep Watertoets 2003). In practice, the municipalities complain that water authorities use their assessment criteria too rigidly (VNG 2007b).

Under the new Spatial Planning Act, the provinces and the national government will have the authority to issue general demands to municipalities with respect to local land-use plans. The shift in the new Act is to lay the emphasis on issuing clear rules in advance, rather than approving plans after they have been formulated. Above the municipal level, higher authorities will be authorised to issue these general demands, should this be necessary for good spatial planning. Spatial water interests can be incorporated into such demands. The regulations have to be unambiguous and clear.

In talking about the hierarchical elements of water management policy in relation to WA, the explanation moves from the WA instrument itself to the framework in which WA operates, as additional hierarchical elements can be found there. As men-

tioned before, the actors in WA are governmental organisations with prescribed tasks and relationships with each other. They are all democratic and are all bureaucracies in which the final responsibilities rest with the top of the organisation. WA interferes with the existing tasks of these organisations. For example, water boards issue licences for water quality and quantity. To strengthen their recommendations, they can link the sanctioning powers of these licences to WA. For example, the water board *DWR* grants its water licences in direct accordance with WA processes. For example, a licence is needed for all increases in paving of over 1000 m^2 in urban areas and over 5000 m^2 in rural areas. The rules for compensating for additional paving are very strict (Broodbakker 2003; Haan 2001; Cohen 2005).

The WA processes are strongly embedded in spatial planning procedures (De Jong 2004) and these can be very formal and regulated. This is especially the case with local land-use plans, which have the effect on the local population of being binding. Citizens are therefore given democratic possibilities to criticise governmental decision-making on these matters. They can make use of formal possibilities built into the procedures for consultation. Alternatively, they can lodge objections or appeals (see Section 2.2). The water authority can also use these possibilities if it does not agree with the final spatial plan. However, the existence of these control possibilities does not automatically mean that they will be used. Up to the end of 2005, no water board had ever lodged an appeal to the administrative court about WA. Dekker (2003) explains that using these formal possibilities goes against the relationships between governmental organisations. However, water authorities are encouraged by municipalities to make more use of the formal possibilities available to them in spatial procedures (VNG 2007b). On a few occasions, non-governmental actors have made use of the formal possibilities of spatial planning related to WA. Groothuijse and Van Rijswick (2005) analyse the jurisprudence in relation to WA. None of the law-suits have led to quashing the spatial planning decision. Groothuijse and Van Rijswick state that, with respect to WA, the Administrative Jurisdiction Division of the Council of State – the administrative court – judges very distantly.

Another juridical aspect of WA in relation to local land-use plans is how matters concerning water are positioned in these plans. By this we mean is water only incorporated into the Water Paragraph in the non-binding part of the plan or is it also incorporated into the map and the utilisation rules (see Section 2.5). If it is incorporated in strict regulations then there will be more guarantees for water matters and more possibilities for sanctioning. Judging by the many questions on this topic put to the Helpdesk for Water Assessment, asked at seminars and in the literature (see, e.g., Groothuijse 2005; CAW 2004), how this should be done is an issue when operating WA.

6.2.3 Network coordination and trust

Network coordination is a mechanism that is used very frequently in operating the WA instrument. Strongly represented at its core are the coordinating mechanisms of trust and cooperation. Before the introduction of WA, the spatial planning authorities first made plans and the water authorities then made it technically feasible to realise those plans. State Secretary De Vries presented WA as an instrument that would combine the activities of the two authorities (Projectgroep Watertoets 2001), thereby improving the cooperation between them. The viewpoint of the developers of WA was that, in interactive processes, the water authorities should cooperate with planners from the earliest stages onwards. To facilitate this idea, they created a cooperative arena within the existing formal responsibilities and procedures. Within this arena, spatial planners and water managers communicate with each other and attune their ideas (Van der Vlist and Wagemaker 2003; Van der Vlist et al. 2002). Other authors also highlight the cooperative core of WA. Here are some examples (summarised statements): Initiators and water authorities follow the same trajectory: the assessment is an interactive process (Van Hall 2004). WA creates the opportunity for water authorities to open up and cross borders with spatial planning (Wiering and De Rooij 2004). Municipalities and water boards should communicate about important aspects like water retention. WA must streamline discussions between both partners to guarantee that water interests are taken into account in spatial planning (Brand 2002). WA is a process aimed at achieving attunement between the governing bodies involved in water management and spatial planning (De Jong 2004).

The horizontal relationship between the spatial planning authority (the initiator) and the water authority is the core relationship in WA. An initiator decides on the spatial plan, taking into account all the relevant interests. A water authority issues a recommendation, in the interest of water (Dekker 2003). In the Netherlands, this function of the water boards is unique; there are no similar bodies to represent other interests in spatial planning. In the Water Assessment procedure, an initiator's discussion partner is very clearly defined: it is a representative of the water authority (Robles 2003). To perform a WA on a spatial plan, the spatial planner(s) and water manager(s) form a network. One or more people from each of the organisations involved participate in this network, which criss-crosses the borders of organisations and the lines of control within them. The network is temporary. It is set up when a spatial plan starts to be developed and ends when a decision has been made about it. The actors involved will probably meet again during the course of other spatial planning processes. The temporary network around a specific spatial plan is part of the continuing relationships between organisations. It is therefore important to construct long-term structural trust relationships. A subsection of the WA manual, specifically describes the importance of building relations between municipalities and water boards and gives some guidance on how to go about it.

Box 6.5: Example of building structural networks

Gerard and Meek, from water board 'Regge en Dinkel', emphasise the value of developing and maintaining good relations with municipalities in their area. Every member of the 'Regge en Dinkel' board, is an account manager for several municipalities. The account managers maintain relationships with the aldermen of these municipalities. Together, they discuss the linkage between spatial planning and water management in the area. An important aim is to get to know each other, inform each other and to build trust. Maintaining good relations is also very important on the level of employees of the municipalities and water boards. Since 2005, when the 'Twents Waternet' started, the employees have been exchanging their knowledge structurally in network meetings, held twice a year. The meeting in May 2007 was about dealing with a brook in a residential area in Hengelo. It depends on meetings such as these whether or not municipalities inform water boards of their intentions at very early stages of spatial planning processes. The maintenance of good relationships does not imply that actors always agree. In fact, one of the characteristics of a good relationship is that an actor is able to say openly that he does not agree with someone else's ideas (Gerard and Meek 2003; Projectgroep Watertoets 2003; Waterschap Regge en Dinkel 2007).

The informal character of network coordination is particularly evident in the first phases of WA. These include the initial phase and the developing phase, up to the stage when the water manager issues the Water Recommendation. Except for the principle of early involvement, the terms for the creative interactive process are undefined. It is a flexible, open process. The developers of WA have always emphasised the importance of the first phases of WA. In these phases, the initiator and the water authority exchange tacit knowledge about the spatial plan and the water system. They try to understand each others' ideas and to make mutual adjustments. It is during the first phases of WA that perceptions can be adjusted relatively easily. However, WA is not totally informal; it is strongly embedded in formal responsibilities and spatial procedures (see the previous subsection). Neither is the WA network for a spatial plan a loose confederacy of actors; organisations are involved because of their formal responsibilities for spatial planning and water management.

6.2.4 The balance between market, hierarchy and network

WA cannot be explained with one mode of coordination. Each mode highlights a part of WA. This subsection first describes the current balance between market coordination, hierarchical coordination and network coordination. Table 6.1 gives an overview of what has been highlighted in the previous subsections. It summarises the extent to which WA functions according to these three modes relative to each other. Secondly, this subsection describes the opinions of several authors about the balance between these three modes of coordination.

The coordinating mechanism of trust and cooperation is a central force at the core of WA. The intention of the instrument is to improve the cooperation between spatial planning authorities and water authorities. In a WA process, these actors are horizontally related, and intent on building long-term trust relations. The first phases in WA are important: the sooner the water authority is engaged in the informal and flexible first phases of the process, the better. However, WA does not operate entirely by network coordination. Hierarchical elements are also present. WA itself is not totally informal, because the Spatial Planning Decree includes consultation and the Water Paragraph as formal requirements. However, from a juridical perspective, these requirements are very insubstantial. In the framework in which WA is embedded, hierarchical elements are more strongly present. This framework consists of the formal responsibilities of governmental organisations and of formal decision-making procedures. The decision-making and reviewing phases of WA are also formal processes, contrasting strongly with the first, informal, phases of the instrument.

Hierarchical elements in WA, and in the framework in which it is embedded, reduce the failures of network coordination. The democratic accountability of networks is often problematic. Embedding WA in formal decision-making procedures compensates for this. Another possible failure of networks is that only those who are participating in the network know what is happening. The embeddedness in formal procedures and the Water Paragraph open up the informal process and make it more understandable and accessible to those who were not actively involved.

The hierarchical elements of the framework are not part of WA itself, but neither can they be detached from it. The more one considers WA in a direct relationship with the hierarchy of the framework to which it is linked, the more hierarchical WA's image will become. Besides, if the framework changes, then WA will change too. For example, when provincial approval in spatial planning procedures is cancelled by the new Spatial Planning Act, the reviewing phase in the WA process will also disappear. This will make WA less hierarchical. Another example is that should water management policy become more strict and hierarchical, then the WA criteria will also become stricter. Instead of the criteria being tailored to specific plans, they will become imposing, more like 'iron fists'. The EU Water Framework Directive might have such an effect. Provinces and the national government can use the general demands of the new Spatial Planning Act to make water-related criteria stricter. Should this happen, and if, as a result, the assessment criteria in WA also become stricter, then it will be coupled with an element of failure, if the criteria become too rigid. This hierarchy failure conflicts with WA's basic principles of tailoring criteria and maintaining flexible processes.

Market coordination has been a part of WA from its introduction onwards. With the addition of cost (-benefit) analysis and the attention given to the cost-instigating principle, the potentials of this mode of coordination have been increasingly present. However, it can be very costly or even impossible to acquire good information, quantify it and internalise all costs and benefits. WA remains a governmental instrument and water management remains a public interest. It is not possible in WA to have an ideal-typical price mechanism.

We can conclude that WA itself is conducted predominantly through network coordination. There is only a little hierarchical coordination in WA itself, but this form of coordination is much more strongly evident in the linked framework of formal responsibilities, procedures and policy. As WA is embedded in this framework, it cannot be detached from the hierarchical coordination featured there. Market coordination is a subsidiary feature in the functioning of WA. Though networking is at its core, WA appears to be a 'hybrid' instrument; a mixture of elements of all three modes of coordination.

Table 6.1: An overview of WA in the light of the three modes of coordination

	Market	**Hierarchy**	**Network**
features recognisable	clear, transparent water-related impacts and consequences cost(-benefit) analysis cost-instigating principle	WA itself: • statutory requirements • (provincial approval > the requirement will be cancelled by new legislation) the framework linked to WA: • governmental responsibilities • formal spatial procedures empowered with sanctioning possibilities and democratic control • assessment criteria based on water-management policy	cooperation between spatial planners and water managers building trust-relationships horizontal relationships flexible process informal tacit knowledge exchange in the first phases
features not recognisable	WA is a governmental instrument, not a perfect and decentralised market	the core relationship in WA is not vertical the basic principles of WA are: flexible processes and criteria tailored to specific plans, not strict rules	WA is embedded in formal responsibilities and procedures, instead of being a fully informal process
summary	market coordination functions as a subsidiary feature in WA	hierarchical coordination is slightly present in WA itself, but strongly present in the framework in which WA is embedded	network coordination is the core of WA and failures in networking are reduced by hierarchical coordination

After having answered the question about the balance between the three modes of coordination, we will now move to the sub question: what do those who reflect on WA at the national level have to say about this balance ? Market coordination is not

viewed as an issue. The discussions in the literature about WA, often among jurists, are usually about the balance between hierarchy and networking. The two main topics in these discussions are about the two elements of WA hierarchy: the statutory requirements for WA and provincial approval. The opinions about balancing hierarchy and network differ strongly, especially regarding the need for statutory requirements for WA. In the following paragraphs, we describe the argumentation of authors for keeping the current rules, or for having either fewer or more rules. We end this subsection with a paragraph on the topic of the disappearance of provincial approval in WA due to new legislation.

De Jong (2004) and Van Hall (2004) are satisfied with the current statutory requirements for WA. According to De Jong, the combination of insubstantial statutory requirements and a manual is strong. It can be very powerful and effective to combine a few formal, legal requirements with the more informal guidelines of a manual. Van Hall states that the effectiveness of WA depends mainly on the cooperation, from the earliest stages of the planning processes, among the actors involved. But he considers the statutory requirements for a Water Paragraph to be an important step towards a spatial planning practice that takes water into account. Statutory requirements are needed as rules of the game. It would, however, give a wrong signal to focus too much on the statutory requirements, because the greatest value of WA lies in cooperation. Van Hall acknowledges the strength of combining hierarchical and network coordination, but also the tension between these two modes. Driesprong (2001) emphasises the importance of network coordination. Formal statutory requirements can only give some preconditions. Driesprong states that a focus on the prescribed, formal responsibilities of the governmental bodies involved – which is also an aspect of hierarchy – may detract from focusing on cooperation between them.

Meijerink et al. (2005) cast serious doubts over the added value attributed to the current statutory requirements for WA. They recommend seriously reconsidering these requirements, even though they are insubstantial. Meijerink et al. are struck by the apparent dichotomy that it was parliament who decided to implement WA in the Spatial Planning Decree, while the ministry directed its efforts towards communication and networking. In other words, the parliamentarians who stressed de-regulation introduced new rules for WA. According to Meijerink et al., the most probable explanation for this parliamentary dichotomy is the serious attention given to water management on the political agenda. Meijerink et al. consider water to be one of many interests in spatial planning. It is up to the general municipal and provincial democracies to make trade-off decisions between all interests and to take water into account. That is their core business, and therefore statutory requirements for WA are superfluous. The requirements oblige spatial planning authorities to take actions that they should already be taking, but do not always do so in practice. Meijerink et al. acknowledge that water authorities view the statutory requirements as a support. However, in their opinion, the solution is to change attitudes and culture, not to enforce an obligatory Water Paragraph. In 2002, before the statutory requirements for a Water Paragraph had been implemented, The Netherlands Council of Housing, Spatial Planning and the Environment expressed a similar point of view (VROM-raad 2002). The

Council strongly doubts the legitimacy of having specific rules for one specific interest in spatial planning.

Groothuijse and Van Rijswick (2005) argue that stronger statutory requirements are needed for WA, because the current requirements have no added value, juridically. The effectiveness of WA depends too much on the commitment of the governing bodies involved; according to these two authors, it is no more than an interactive process. Van Rijswick (2004) disagrees with Van Hall about the effectiveness of informal coordination in interactive processes. She expects that WA in Flanders, Belgium, will be more effective than the Dutch WA, because the Flemish instrument, which has been extensively implemented in the Decree on Integrated Water Management of 18 July 2003 (De Smedt 2004), will be supported by the force of law. In Van Rijswick's opinion, the success of the Flemish WA will depend on the jurisprudence that still has to be developed. Besselink (2002) stresses the importance of jurisprudence too. He says that what one learns from practical experience is that an interest in spatial planning is only given serious attention in decision-making when a judge quashes the spatial plans because of non-compliance with statutory requirements.

A second topic in discussions in literature about the balance between hierarchy and network is the provincial approval that takes place during the reviewing phase in WA. Groothuijse and Van Rijswick consider the provincial government's task of approving local land-use plans to be crucial, as the effectiveness of WA mainly depends on the position of this higher authority (Groothuijse 2005; Groothuijse and Van Rijswick 2005). The Advisory Committee for Water-management Legislation takes the same standpoint: the value of WA depends to a large extent on the way in which the provinces carry out their approval procedure and give supervision (CAW 2004). Authors (including Dekker 2003 and Valk et al. 2005) writing about this topic express their worries about dropping the requirement for provincial approval. On the other hand, Valk et al. and Groothuijse expect this will be compensated for by intensifying cooperation, and by provinces and water authorities adopting a more proactive attitude and becoming more engaged in spatial planning. If the new law requires less hierarchy, then there will have to be more networking.

6.2.5 Reflective and flexible use

This last subsection is about how the instrument can be applied under different contingencies. The most effective balance between the modes of coordination is that which best suits the specific situation in which a decision has to be made. Therefore, the actors who apply the instruments must be able to use the three modes flexibly and reflectively. As concluded in the previous subsection, all three modes of coordination are present in WA, although the instrument mainly functions through networking. So WA appears to be a 'hybrid' system in this sense. In this subsection, we will argue that the hierarchical elements, in particular, can be used in so far as is required by the particular situation. Actors who apply WA in a specific decision-making process can balance network coordination with hierarchy.

WA revolves around network coordination. However, the actors who apply WA can choose for themselves how much effort they are going to put into informal cooperation and in building trust relationships. They can also choose for themselves how much effort they are going to put into the so-called informal plans; those that are not formally required by law and do not have a formal planning procedure. In applying WA to a certain plan, the actors involved can organise WA as an in-depth cooperative process, in which they exchange a large amount of tacit knowledge. How extensive the cooperation is during the planning process, is up to themselves. The WA manual emphasises that water managers should cooperate with spatial planners from the earliest stages onwards, but remains flexible and open when it comes to actually applying the instrument.

Actors can pull hierarchical elements into the WA process, if they consider this to be necessary in a particular situation. For example, a water board can use the possibilities of the formal spatial planning procedure to state his view, object or appeal, if he does not agree with the decision of the spatial planning authority. He can use these powers to threaten the initiator. Water authorities may also use their powers to grant water licences as a threat in connection with WA. However, so far, although it is clear that water boards are aware of these possibilities for demonstrating their power, the evidence in practice is that they are reluctant to use them. Another line of action open to the actors who apply WA is to put most of their effort into land-use plans, as these are legally binding. A few years after the introduction of WA, more and more attention was given to the legal aspects of local land-use plans. The actors involved wanted to know how to incorporate the water aspects, not just into the non-binding part, but also into the juridical parts of the local land-use plan. Their aim in doing this was to gain more guarantees and enforcement leverage regarding water aspects. A third line of action open to the actors involved is to organise their contacts more formally or standardise them within their own procedures. Since the introduction of WA, many water boards and provinces have made their own manuals and check-lists, to make more specific the national manual on WA.

Market coordination in WA can also be used flexibly. In the first place, the depth of the cost (-benefit) analysis depends on the particular spatial plan. Together, the initiator and the water authority decide on the exact form and method of such an analysis. Secondly, there is the general cost-instigating principle. The actors involved can decide for themselves how exactly this principle should be interpreted, and how important it will be in the argumentation.

The examples above are evidence that the three modes of coordination in WA can be used flexibly and reflectively in a particular situation. WA revolves around, and starts with, good cooperation. Should networking appear to be unsuccessful, then the actors involved can put more emphasis on other modes of coordination. For example, water authorities can switch to a more interventionist way of steering by 'pulling' hierarchical elements into the WA process. Escalating up to hierarchy, to meet the contingencies of the situation is a smart use of regulation. If an initiator of a plan does not appear to be committed to water issues, the water authority can also put more emphasis on the costs of mitigation and compensation that the initiator would then have to

pay. In this example, reducing water-related costs is used as an argument to persuade the initiator to take water more into account in the plan.

6.3 WA as a planning device

In this section, we explain how WA links water-related knowledge to public decision-making. We also attempt to explain the kind of knowledge conception on which WA has been based. In Chapter 5, we conceptualised the various approaches from the initial assumption that the communicative planning approach is the one that best explains how the WA instrument operates. We looked at the differences between rational planning and communicative planning, and then we juxtaposed the two approaches. Later on, we saw that the planning approaches are more nuanced than we had first assumed, and we stressed their complementarity. In explaining WA, our insight of practice became more nuanced too. Rational planning highlights more of the WA instrument's design than we had first expected. In the first two subsections, WA is described in terms of the ideal-typical characteristics of the two planning approaches. The third subsection explains the balance between the two approaches. The three questions that will be answered in the next three subsections are respectively:

- To what extent does WA function according to the rational planning approach?
- To what extent does WA function according to the communicative planning approach?
- What is the balance between the two planning approaches in WA? What is said about this balance by those who reflect on this instrument at the national level?

6.3.1 Rational planning

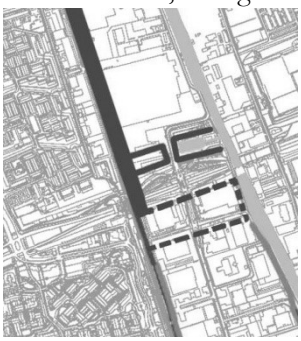
Rational planning highlights an important element of the WA instrument, the Water Paragraph. This document is the product of an often formal and democratic clear-cut moment of decision-making. Of course, as an assessment instrument, WA is an *ex-ante* evaluation of the water-related consequences of decisions, and this is also a characteristic of rational planning. However, other important characteristics of rational planning, such as the identification and design of major alternatives, do not feature in WA. In addition, the knowledge conception of WA does not correspond with that of rational planning. We will elaborate on this mixed picture in this subsection.

The Water Paragraph, as mentioned above, is an important aspect of WA. The importance of such a 'paragraph', which is more than a paragraph in the English sense of the word, is emphasised by making it a statutory requirement. The Water Paragraph requirement was also one of the first steps taken in developing WA. In 2000, the National Spatial Planning Agency published a manual for compiling a Water Paragraph for local land-use plans (Rijksplanologische Dienst 2000). In the Water Paragraph, the

spatial planning authority describes how it has taken account of the water-related consequences of the spatial plan. The authority justifies its choice, reconstructing its arguments along the lines of rational planning requirements. The Water Paragraph forces spatial planning authorities to be explicit and to make decision-making transparent with respect to the water aspects. Such transparency and accountability is important in WA because this makes it easier for higher authorities to review the plan, and for water authorities to see whether account has been taken of their Water Recommendation. It enables them to criticise the decision better. From the point of view of rational planning, the Water Paragraph is also important for informing the public and for enabling them to criticise the plan on water-related issues. It makes decision-making democratically accountable, even though informing and empowering the public is not the main focus of WA.

Box 6.6: Example of a Water Paragraph

In 2006, the municipality of Delft decided to partly modify the local land-use plan for the railway station Delft Zuid and its surroundings. In the current situation, no significant space has been reserved for surface water on the 13 hectare site. The explanation accompanying the plan includes a 3-page section on water. One of the conclusions in the Water Paragraph is that to comply with the water board's requirement of a water retention of 325 m^3 per hectare, 8% of the area (1 hectare) will have to be made into a surface-water structure. This new water structure (see map) complies with the 'Water-structure vision of Delft' developed earlier by the municipality and the water board together (Gemeente Delft 2006).



A second aspect of WA that operates by means of rational planning is the *ex-ante* evaluation of the water-related consequences of a spatial decision. As we have already seen in Section 6.1, although WA exposes the water-related consequences, it does not deal explicitly with the inherent uncertainties. Knowledge can never be fully complete, and rationality is always bounded. Fully aware of these limitations, rational planners have developed systematic ways of dealing with uncertainty and to communicate the uncertainties and assumptions in their analyses to decision-makers. However, issues of this nature in rational planning are not considered issues in WA.

The relation between means and ends is only partly recognisable in WA. As stated earlier, decision-makers have to justify their choices in relation to the aims of WA: they have to guarantee that the interests of water have been taken into account in spatial plans, in an explicit and balanced manner. The more specific nature of these interests is based on the ends, as defined in the spatial water-management policy of

the national government, and the provinces, water authorities and municipalities. Such policy documents are the normative point of departure for a WA of a particular spatial plan. Whether the water-related consequences are acceptable or not depends on what these policy ends are, because the spatial plan has to be attuned to existing policy. However, the policy ends are often intangible and diverse. They are prioritised and tailored to specific plans during the WA processes. Actors in a WA process should relate different ends in water-management to the spatial-planning ends of a particular decision-making situation. The developers of WA describe this as a game of designing and assessing (Van der Vlist et al. 2002); as a kind of creative and political process, which is not as systematic as in rational planning.

Generating and evaluating alternatives is a core element of rational planning, but is not a core element of WA design. For a spatial plan, WA does not explicitly require alternatives. Of course, there is nothing to prevent actors from proposing alternatives which will result in more positive consequences for water. Within the WA process, both the initiators of a spatial plan and the water authorities are free to propose alternatives. For example, a water authority may recommend a completely different alternative for the spatial plan, such as another location for the activity. However, the WA methodology does not cater for the systematic integration of any alternatives developed.

The knowledge conception of WA does not correspond with that of rational planning either. The input of water authorities in spatial planning is not a neutral analysis; neither do they strive for this rational ideal. Water authorities, of course, know a lot about their water system, probably more than any other actor, and they use this to assess the spatial plan. However, the major challenge for a water authority is to develop its own perception about the spatial plan and to communicate this perception to the spatial planner with the right weighting and at the right moment in the interactive process. The water authority's input in WA is interest and policy-based. Water boards are functional democracies with their own managerial priorities. Their aim is to ensure that all the spatial plans that fall within their water system comply with their water-related priorities. A Water Recommendation is therefore not an independent, neutral analysis, neither is it an unbiased expert recommendation. Rather, it is a water authority's standpoint based on its own priorities (see also Gilhuis 2002; Van Hall 2004).

6.3.2 Communicative planning

The ideas of communicative planning can be identified among the core ideas of WA, though not in an ideal-typical way. Two of these ideas, intersubjective communication and developing a shared understanding, are clearly a part of WA. The instrument is used to connect the different languages of spatial planners and water authorities. However, WA is not totally informal and free, as it would be had it followed communicative planning ideals. The communicative arena is pragmatically nested in the existing framework of formal responsibilities, procedures and policy (see also Section 6.2).

Much of the terminology of communicative planning is useful in explaining WA: intersubjective communication, conducting a cooperative search, open and interactive process, developing shared understanding and consensus, comprehensibility, informed actors, focusing on a common task, communicating intentions, etc. In the minds of the WA developers, spatial planning and water management were separate worlds with different languages and different frames of reference. They used the metaphors 'charcoal sketch' for spatial planning and 'slide rules' for water management. Spatial planners use spatial maps, rough drawings and spatial concepts. Water managers use hydrological modelling, numbers, formulas and calculations. The developers of WA wanted to connect these different worlds and languages. The WA manual stresses the difficulty of communicating the meaning of water managers' technical jargon to spatial planners. Therefore water-management criteria need to be 'translated to make them comprehensible for the spatial world, and the water manager has to be constantly aware that he needs to be very careful in communicating information and ideas to spatial planners. Spatial planners, for their part, need to assist water managers with this translation task. In the interactive process of WA, both actors inform each other, and together they develop a shared understanding of the water aspects of the spatial plan (Projectgroep Watertoets 2001b; Projectgroep Watertoets 2003).

In its ideal-typical form, communicative planning is not related to the institutional framework, or to governmental decision-making. Habermas promoted deliberation in the informal life world that is distanced from the governmental system, because governmental involvement would restrict the possibilities for deliberation and spontaneous will formation. Communicative planners are aware of the idealistic character of the ideal speech situation, stating that its conditions are never fully met in practice. They are also aware of the tension with formal decision-making and therefore try to 'nest' communicative planning in governmental systems. How to do this exactly is unclear in theory.

WA takes up this challenge. It does not adopt the communicative planning ideal, as it is not totally informal and free. The communicative arena is pragmatically nested in the existing institutional framework. WA does not promote spontaneous will formation. The actors involved act to fulfil formal responsibilities and are democratically accountable for their decisions. The products of WA – the Water Recommendation and the Water Paragraph – make the WA process transparent and accountable. The invisible becomes visible; intangible knowledge and closed processes are opened up.

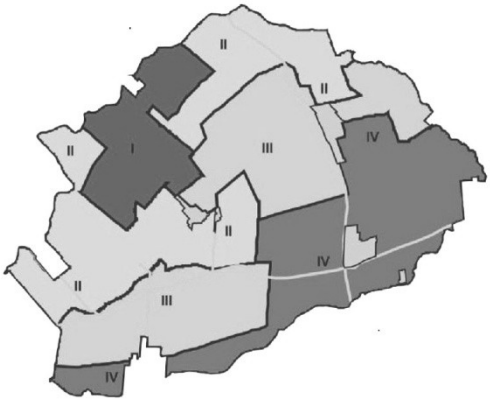
In communicative planning, 'decisions' are supposed to arise spontaneously in the process of giving meaning to knowledge. Through gaining new understandings and meanings, actors will change their actions unconsciously. Knowledge and action are not 'separated' by a moment of decision-making. WA differs from this in that the decision-making moment is very important. The end point of the aim of WA is the decision about a spatial plan. The decision-maker has to justify their choice against the WA aim. The decision-making moment acts as a bridge between the informal phases of WA and the formal spatial planning procedure.

WA is also pragmatic, in the sense that communication is not necessarily 'face-to-face' and 'in-depth', like the ideal discussions promoted by communicative planners.

Communication by letters, phone-calls or conventional meetings may also be used. In this sense, WA is very flexible and pragmatic. For a plan for one or two houses, one short phone call to the water authority might be enough. For a complex plan with huge impacts, the WA procedure may be interactive, requiring a lot of communication in the form of many meetings and in-depth discussions. The thoroughness of a WA process depends on the type and complexity of the spatial-planning process. It is up to the actors involved to decide on the type of communication. If they do not reach full consensus, they should clarify the different perceptions in the Water Recommendation and the Water Paragraph.

Box 6.7: A water-opportunities map for communicating water-management criteria

The ' Krimpenerwaard' is an area with peaty soil and grassland, used for agriculture and nature. These land uses are going to be restructured. It is the province's and the municipality's task to make decisions about these spatial developments. The water board has made a 'water-opportunities map' on which to base its Water Recommendations for the WA. The water board uses this map to communicate its water-management priorities, and indicate, in an understandable way, how this should guide land use. The priority in this area is to slow down land subsidence, by keeping the soil saturated with water. Within the area, there are differences in the current ground level and in the speed of subsidence. Based on these differences, the water board distinguishes categories in the area with different criteria for land use. In category I, the water board recommends a land use that can cope very well with wet circumstances: 'prioritise wet land use'. In category IV, the water board has no strong preference as yet for 'wet land use'. Categories II and III are considered intermediary to the other two categories (Hoogheemraadschap van Schieland en Krimpenerwaard 2006).



6.3.3 The balance between rational and communicative planning

In this subsection, we will discuss the balance between rational and communicative planning in WA. In short, WA is a mixture of both planning approaches, and both are needed to explain the instrument. Table 6.2 summarises the characteristics of rational and communicative planning in WA as being an overview of the two previous subsections. Rational planning explains the importance of the Water Paragraph and of having a clear decision-making moment in WA. Communicative planning explains the interactive process between spatial planners and water managers, in which they link their different languages and work towards a shared understanding. Communicative planning best explains the first phases of WA. In the initial and developing phases, actors inform each other interactively and design a spatial plan together. Rational planning best explains the later, more formal, phases of WA. These later phases include the decision-making moment and the products that make WA accountable and transparent. The decision-making moment, accompanied by the Water Paragraph, acts as the main bridge in 'nesting' the communicative arena of WA into the institutional framework.

Table 6.2: An overview of WA from the point of view of the two planning approaches

	Rational planning	**Communicative planning**
features recognisable	Water Paragraph decision-making moment is important *ex-ante* evaluation of water-related consequences	intersubjective communication in interactive processes linking different languages and frames of reference towards shared understanding and consensus
features not recognisable	WA does not explicitly require major alternatives WA does not strive towards neutral knowledge; no unbiased expert recommendation	WA is not totally informal and free, but is nested in a governmental framework the decision-making moment and transparency are therefore important it is not necessarily face-to-face and in-depth
summary	WA incorporates the presentation of a choice as a rational decision, but leaves other characteristics of rational planning untouched	WA uses communicative-planning ideas pragmatically and nests them in a governmental framework

The developers of WA apparently expected a combination of rational and communicative planning to be the most effective. This can also be concluded from the developers' following statement: "The greatest gain of WA is due to a shared 'commitment', early and mutual interaction between initiator and water authority, writing and using a Water Recommendation and the explicit argumentation in a Water Paragraph" (Wagemaker et al. 2001: 23). Wagemaker et al. mention the communicative process, as well as the explicit, rational argumentation, as an approach that contributes towards an

effective WA. In implementing WA, there is no discussion about the balance between the two planning approaches in the instrument.

One aspect of WA remains untouched by these two planning approaches: the type of knowledge put into WA to represent water interests. The water authority's input is interest and policy based. This interest-based input cannot be explained with rational planning. Rational planners strive towards neutral knowledge and would promote an independent expert recommendation. Interest-based input would also be rejected by communicative planners. They strive towards deliberation that is free from governmental interests and policy. Interest-based strategies are considered to be a distortion of the ideal speech situation. Consequently, the concepts in Chapter 5 do not give us enough insight into the knowledge conception within WA. Therefore, in Chapter 9, the concept of 'power' will be added.

7. Environmental Impact Assessment and Strategic Environmental Assessment

In much the same way as we explained WA in the previous chapter, we turn now to EIA and SEA and examine them against the theoretical concepts given in Chapter 5. The focus here is on EIA and SEA in the Netherlands, but we also used relevant international information. This chapter is about EIA and SEA in general, and on the assessment of spatial plans and decision-making in particular. The assessment of environmental permits falls outside the range of this study.

7.1 EIA and SEA and their content

The central question in this section is: how is the relationship between societal initiatives and their environmental consequences perceived within EIA and SEA? In Chapter 5, we developed two ideal-typical concepts that will now be used to help explain EIA and SEA from the point of view of their content. These concepts are 'exposing the impacts and uncertainties' and 'multiplicity of perceptions and ambiguity'. These concepts contain an inherent challenge for decision-making: dealing with uncertainty and ambiguity. Section 5.1 ended with three questions regarding the content of EIA and SEA, of which the first two are based on these ideal-typical concepts. The third question is of a more exploratory nature. It explores the actual aims of EIA and SEA and their normativeness to the outcomes of decisions. In this exploration, the notion of 'sustainability' is important, but how is this notion being defined and used in EIA and SEA? Explanations of these three questions will be given in the next three subsections, respectively:

- To what extent, and in what way, do EIA and SEA identify and bring to the fore the facts and uncertainties of the impacts of trade-offs?
- To what extent, and in what way, do EIA and SEA deal explicitly with the multiplicity of perceptions, in relation to the ambiguity of trade-offs?
- Are EIA and SEA neutral towards decision outcomes or do they include a certain perception of trade-offs? If EIA and SEA are normative towards the decision outcomes, which trade-off perceptions do these instruments favour?

7.1.1 Exposing the impacts and uncertainties

The EIA and SEA procedures are both geared towards exposing and bringing to the fore the environmental consequences of societal initiatives so that they can be clearly understood by those who have to make decisions on these matters. EIA and SEA procedures include a wide range of impacts on the environment. An Environmental Impact Statement (EIS) for an EIA or SEA should indicate what significant impacts on the environment are likely to occur, including issues such as biodiversity (only

required for SEA), population, human health (only required for SEA), fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelations between these aspects (see Sections 3.2 and 3.3 on the range of impacts).

This definition of 'environment' was only incorporated into the Dutch Environmental Management Act in 2005 (Staatsblad 2005(477); TK 2005, 30046, No. 3). This resulted from a disagreement between the European Commission and the Netherlands. In implementing EIA, the European Commission did not consider the Netherlands to be following the European Directive closely enough. To substantiate their opinion, the Commission started a procedure to prove the Netherlands' default in this matter. The Netherlands did not alter its standpoint, but to prevent the disagreement being taken to the European Court, it changed the Dutch Environmental Management Act. The disagreement revolved around the concept 'environment'. The European Commission wanted it to be defined, but the Netherlands was unwilling to do so, considering 'environment' to be dynamic, flexible and constantly changing. Therefore to appease the European Commission, while at the same time keeping the definition of environment as flexible as possible, the Netherlands incorporated the European list of environmental aspects, without stating that this list is 'definitive'. State Secretary Van Geel does not expect this approved definition of environment to have any influence on how environment is understood in practical situations in the Netherlands. Before the Act was changed, the Evaluative Committee of the Environmental Management Act published an extensive report on the definition of 'environment' (ECWM 2003; Boeve et al. 2003). In these documents, the Committee states that there are many perceptions about 'environment', and so it is hard to arrive at one definition. Every person has their own idea about what 'environment' is. The most common definition in the environmental sciences is the one formulated by De Haes: 'the physical, a-biotic and biotic, environment of society with which it has a reciprocal relationship' (De Haes in Boersema et al. 1991). In carrying out EIA, the definition of environment is not considered to be problematic. Practitioners use a broad definition of environment at the beginning of the EIA procedure and then narrow it down in the course of the procedures.

Following European and Dutch legislation, negative as well as positive environmental consequences must be taken into account in an EIS. The Dutch parliament has stressed that not only should environmental protection be included, but also environmental improvement (TK 2005, 30046, No. 3). In practice, however, there is a tendency to stress the negative impacts and consequences. Arts and Van Lamoen (2005) argue that EIA and SEA focus mainly on prevention and the mitigation of negative consequences and far less on exploiting the opportunities. This is because both EIA and SEA focus on appraising proposed activities and not on developing those proposals. Moreover, the listed activities to which an EIA or SEA should be applied are those with potentially significant negative consequences for the environment.

In EIA and SEA, there is a tendency to include both the socio-economic and the environmental impacts. By so doing, these instruments deal with all the trade-off consequences in a fully integrated way. The trend towards making integrated assessments

is visible not only in the Netherlands but also internationally (Sadler 2004; Gibson et al. 2005). In the Netherlands, the Netherlands Commission on Environmental Assessment (NCEA, previously NCEIA, *Commissie m.e.r.* in Dutch) and the Ministry of VROM are behind this development. Three different ways to expose the social and economic consequences have been suggested: Sustainability Assessment (SA), Integrated EIA (IEIA) and Integrated Impact Assessment (IIA). These will be described in the next paragraph, followed by the arguments for and against integrated assessments.

Sustainability Assessment (SA) is about identifying whether a societal initiative will benefit the social (and cultural), economic and environmental aspects of sustainability. It also identifies whether the impacts and possible consequences will be passed on to future generations or to other regions. A standard format for Sustainability Assessment consists of all three sustainability aspects positioned in a matrix divided into 'here and now', 'elsewhere' and 'later'. The emphasis is on the relationships between the nine boxes of the matrix. The Sustainability Assessment matrix has been developed for use in formulating recommendations for the Dutch Cabinet for the National Strategy for Sustainable Development (NCEIA 2004; Verheem 2002; Verheem and Draaijers 2006; VROM 2002). In an Integrated EIA (IEIA), the main focus is on the environmental aspect. An IEIA names the various interests that have to be weighed against each other, expresses them in numbers and connects one with another. The Ministries of VROM en LNV have given the go ahead to the EIA Commission to experiment with IEIA. An Integrated Impact Assessment (IIA) goes further than focusing mainly on the environment, and therefore further than IEIA. The trade-off relationships between interests are identified, even if the environment is not a factor (Morel et al. 2001). The tendency towards integration is also strongly visible in SEA. In the explanatory memorandum on the Dutch implementation of the SEA Directive, SEA is considered to be an important step towards an integrated trade-off of environmental, social and economic aspects. It is not possible to regulate this under the Environmental Management Act, because it is an Act that is limited to the environment. However, the explanatory memorandum emphasises that, in practice, the socio-economic consequences should be integrated into an assessment (TK 2004, 29811, No. 3).

The main argument of the proponents of integrated assessment is that the implications of a trade-off decision would be much clearer if the socio-economic consequences were described in the same way as the environmental ones. The proponents argue that such integration renders the environmental, social and economic aspects comparable, and the trade-offs between the different interests easily identifiable (Morel et al. 2002; TK 2004, 29811, No. 3; NCEIA 2002). On the other hand, there is a fear that the 'weak' environmental interests may become submerged and lost (NCEIA 2002; Arts et al. 1995). The environmental interest is not yet internalised sufficiently in decision-making to withstand the potential threat from the socio-economic interests that are still the driving forces behind most societal initiatives (Morel et al. 2002). Another dilemma is that deliberations about political issues do not take place openly in the political arena. Before political decisions are made, the aim, especially with the

integrated approach, is to first gain a consensus among the civil servants involved. This reduces the transparency. The sectoral approach, by contrast, is oriented towards confrontation in the political arena (Arts et al. 1995). Scrase and Sheate (2002) state that the limitations of time and resources for undertaking any assessment mean that the environmental aspects will be examined in less depth if the socio-economic aspects are considered at the same time. Scrase and Sheate's concern is that integration can lead to an oversimplification of the environmental consequences and trade-off decisions. Technical methods are used to present complex, political trade-off decisions, with the risk then of confining deliberation about decisions to experts. This may also result in a loss of transparency. To summarise, it is debatable whether the trend towards making integrated impact assessments contributes to bringing the consequences to the fore and to identifying the multiplicity of perceptions in decision-making.

Dealing with uncertainties has been identified as a major challenge for assessment instruments (see Chapter 5). In their design, EIA and SEA stress uncertainties in knowledge. A statutory requirement of an Environmental Impact Statement (EIS) is that it must include an indication of any difficulties, such as technical deficiencies or lack of know-how, that have been encountered by the proponent while compiling the required information. The anticipated consequences not only have to be described *ex-ante*, but also monitored after the activities have been carried out. This follow-up process ensures that any impacts or possible consequences are, in fact, also evaluated *ex-post*. Follow-up creates a feedback loop for learning to deal with uncertainties (Arts and Morrison-Saunders 2004b). The Infomil manual on EIA specifies possible types of deficiencies in information and know-how and how to deal with them. The manual stresses that the information deficiencies and uncertainties described should be restricted to those that are relevant for decision-making (Infomil 2007). The SEA manual provides no further guidance on dealing with uncertainties (VROM 2006c).

Almost forty years ago, Holling (1978) tackled the issue of uncertainties in his book on adaptive environmental assessment and management. In his view, risk-taking encouraged by the inevitability of uncertainties, should be acknowledged. It is delusory to try to eliminate uncertainties because what we know is much less than what we do not know. Therefore, it is a myth that in an environmental assessment all possible consequences can be predicted. Collecting large amounts of data in expensive studies does not solve this problem. A better approach would be to use policy concerns for focusing research and make uncertainties explicit in the assessment. Holling also stressed the importance of *ex-post* evaluation, because this creates a learning experience for the next *ex-ante* evaluation.

7.1.2 Multiplicity of perceptions and ambiguity

On the one hand, EIA and SEA can enhance the multiplicity of perceptions in decision-making by utilising public participation. Citizens, companies, environmental organisations and other NGOs have the possibility of stating their views on the environmental consequences of societal initiatives. A way to involve these actors is to

provide information in the form of an Environmental Impact Statement (EIS). The EIS also stimulates discussion by describing alternatives for the proposal, and, in particular, the most favourable alternative for the environment. This broadens the scope of the discussion. However, EIA and SEA can also reduce the multiplicity, by making it invisible. This occurs when the value-laden discussion are extracted out of the decision-making process into the process among experts resulting in a 'neutral' Environmental Impact Statement. Different normative perceptions are then ignored, and the EIS process is reduced to mono-thinking.

To use the potential of EIA and SEA, it first has to be recognised that there are value differences about 'environment' and that these different perceptions should not be hidden in a 'neutral' or a 'single perception promoting' Environmental Impact Statement. Scrase and Sheate (2002) state that, if the EIS is considered to be neutral and produced by experts, this is potentially risky. Questions of a political nature are removed from the decision-making process and confined to the deliberation of experts. Decision-makers may attempt to diffuse conflicts by 'acting on scientific advice' after 'wide consultation', implying that any further deliberation by actors who have different perceptions is no longer considered an option. This pitfall for EIA and SEA is also strongly visible when their assessment procedures are broadened in the direction of integration. When this happens, deliberation about both environmental consequences and trade-offs with socio-economic consequences may move away from the main decision-making process towards the process for environmental assessment. According to Scrase and Sheate, at one extreme, integrated assessments may represent a desire to exert 'objectivity' over more value-based decision-making, abetted by some politicians who prefer stating their trade-off decisions to be based on science rather than having to make difficult political decisions.

Recognising that ambiguity and the different perceptions arising from it should be made explicit and should be deliberated on, where and how should value differences be discussed and mediated? Richardson's (2005) view is that the EIA and SEA community should debate more about this subject. From analysing the literature, he detects disagreement. Authors disagree on whether, and how value differences should be mediated within the environmental assessment process itself. One option is for environmental assessment processes to become arenas of deliberation between different opinions, values and interests, in which no attempt is made at mediation or settlement. The mediation is concentrated in the main decision-making process, reserved for the politicians whose deliberations are informed by the outputs of the environmental assessment process. Another option is that the environmental assessment process itself should provide a political setting in which value differences can be mediated[2].

The best option is the first one: environmental assessment processes should make different perceptions about the environment explicit, as input for deliberating

[2] It should be noted that in the Netherlands, the environmental assessment procedure is aligned parallel, and linked to the main decision-making procedure. In other countries, the division between environmental assessment and the main decision-making procedure may not be relevant.

trade-offs in the main decision-making process. In this way, the political space for deliberation is not restricted by the EIS, but is encouraged by it. Elling (2004) takes a similar position. He states that the assessment process should identify all conflicts and interests, then fully record that information, and place it before the politicians for them to use as the basis for their decision-making. The assessment itself should not balance the pros and cons. Rather, it should illuminate all likely consequences, and the conflicts and interests connected with them. In the main decision-making process, politicians make the decision, based on the results of the assessment procedure. In this way, EIA and SEA can enhance the multiplicity of perceptions.

Box 7.1: An example of a Sustainability Assessment

With regard to ambiguity and the multiplicity of perceptions, Gibson et al. (2005) develop an interesting approach towards Sustainability Assessment. They develop sustainability requirements and trade-off rules, while at the same time recognising the ambiguity of trade-offs and the context dependency of decision-making. Gibson et al. are convinced that out of the great diversity of sustainability definitions, an essential commonality of shared concerns is becoming increasingly visible. This foundation of general agreement should be combined with the context dependency of sustainability. The approach results in a framework of eight sustainability requirements, six trade-off rules and process components. To illustrate these ideas, the requirements and rules are listed.

The sustainability requirements are: socio-ecological integrity, livelihood sufficiency and opportunity, intra-generational equity, inter-generational equity, resource maintenance and efficiency, socio-ecological civility and democratic governance, precaution and adaptation, immediate and long-term integration. The six trade-off rules are: maximum net gains, burden of argument on trade-off proponent, avoidance of significant adverse effects, protecting the future, explicit justification, open process.

This approach towards Sustainability Assessment focuses on the transparency of trade-offs and acknowledges multiplicity and ambiguity. It does not indicate which trade-offs are acceptable in all circumstances, but requires justification, an open process and case specific adjustment. Gibson et al. allow for the 'creative ambiguity' of sustainability and value-laden preferences.

7.1.3 Are EIA and SEA neutral or normative towards decision outcomes?

The immediate aim and the functioning of EIA and SEA are neutral towards the content of decision outcomes. The instruments do not include normative criteria for a certain substantive decision outcome. When making trade-off decisions, there are no formal restrictions on the decision-makers' manoeuvreability. EIA and SEA provide

information for decision-making, by requiring an Environmental Impact Statement (EIS). Deciding how to balance the environmental and socio-economic interests remains the responsibility of the competent authority. The EIS has to be taken 'into account' in this decision-making process and the competent authority is obliged to include a statement detailing how it has used the environmental information. This obligation does not require the decision-maker to adopt a particular normative perception towards the environment or to make a substantially different decision. The decision-maker is only obliged to expose the environmental consequences of his trade-off decision.

However, both EIA and SEA are geared towards improving decision-makers' attitudes towards the environment, the ultimate aim being to promote sustainability. In the Dutch EIA, improving attitudes towards the environment is an explicitly formulated aim. The idea is that the proponent should incorporate the environmental interests in his inner self. The underlying assumption is that by systematically assessing environmental information, attitudes towards the environment will improve (Infomil 2007; Van der Geest and Delleman 1996). The objective of the SEA Directive is to provide a high level of protection for the environment and to help integrate environmental considerations into the preparation and adoption of plans and programmes, with a view to promoting sustainable development (EU 2000). This objective is cited in the explanatory memorandum on the Dutch implementation of SEA (TK 2004, 29811, No. 3).

In practice, the 'neutral' and 'advocative' aims of EIA and SEA tend to get mixed up. In international literature, authors discuss the tension between the neutral, immediate, aims of EIA and SEA and their normative, advocative aims. According to Cashmore (2004) and Cashmore et al. (2004), it is generally agreed that the main function of EIA is to ensure that the environmental impacts and consequences are explicitly expressed, fundamental considerations in decision-making. In this view, there is no automatic assumption that the resultant decision will be more sensitive to the environment. According to Cashmore (2004) and Glasson et al. (1999), however, the ultimate, underlying aim of EIA is that it will produce decisions that will promote sustainability. Environmental assessments have come to be recognised as central tools for achieving sustainable development (Doelle and Sinclair 2006). It is very difficult, however, to define this ultimate aim of sustainability more specifically. Cashmore (2004) suggests that the views of the EIA community regarding the EIA's aims are divided; researchers interpret the aims differently, but are not explicit enough about their own perceptions of them. Kornov and Thissen (2000) draw a similar conclusion about SEA. There is a tension between the neutral and advocative roles of SEA. If SEA is considered to be neutral, then it is as a support for the decision-making process, irrespective of the outcome of the decisions. If the primary aim is to promote sustainability, then SEA practitioners perceive the outcome of the trade-off in a way that will probably not be shared by all the other actors. SEA will then be viewed as an advocative instrument with respect to environmental interests, even though SEA experts consider themselves as being neutral.

The most commonly accepted definition of sustainable development is the one put forward by the Brundtland Commission in 1987, namely: development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This is still a broad definition, in which the level of 'greenness' – the strength of the environmental interest - can vary significantly (Thérivel and Partidário 2000). A single perception of 'sustainability' has not been agreed upon. Defining sustainability is problematic, because the criteria for doing so cannot be defined objectively. Specifying 'sustainability' is an extremely subjective and therefore political choice (Boeve et al. 2003). Policy documents can provide the normative framework for defining sustainability. In the Netherlands, policy documents at the national and provincial level do not define it very specifically, however (Boeve et al. 2003; Kleefmann and Van der Vlist 1989).

Though the objectives and criteria in policy documents remain general, EIA and SEA should be applied within this normative framework as much as possible. In the Netherlands, an Environmental Impact Statement should contain a review of earlier decisions and plans in relation to the proposed activity. The Infomil manual on EIA interprets 'a review of the decisions previously taken' as decisions which precondition and provide a framework for the current initiative. The importance of linking environmental policy objectives with an EIA or SEA has been stressed in international literature. According to Partidário (1996b), environmental policy can provide guidance for integrating environment into decision-making. According to Noble (2000), alternatives selected in an EIS will ideally be positioned within the context of broader environmental visions and objectives. However, in a Dutch EIS, a concise description of the framework of policy documents and decisions is often missing (Infomil 2007). Verheem et al. (1998) state that environmental objectives, derived from environmental policy plans, can only properly guide the development and comparison of alternatives if they are stated clearly enough, which does not always happen in the Netherlands. De Boer (2002) recommends strengthening the relationship between the criteria in an EIS and the environmental objectives formulated in policy. However, this is not easy, as there is a multitude of different policy documents in which the environmental objectives cannot be easily extracted.

Regarding the trade-off with socio-economic interests, Brundtland's 'sustainable development' suggests that environmental protection and economic development can progress hand in hand (Thérivel and Partidário 2000). In this line of thought, EIA and SEA do not promote radical changes in either society or the economy. These instruments do not interfere with the commitment to further the growth in welfare; EIA and SEA promote a reformist perception instead. They try to reform growth in welfare in an environmentally friendly way, by searching for alternatives that will achieve growth, but with fewer negative consequences for the environment. According to the Dutch working group on sustainability assessment, the essential feature of sustainable development is that it will lead to an 'adequate' social and cultural, economic and environmental situation for future generations. 'Adequate' is not a qualification that can be defined objectively. Value judgements are needed; it is a political choice (Verheem 2002; Verheem and Draaijers 2006).

The dilemma presented by the notion of sustainability in Chapter 5 remains. It can either be defined very broadly and vaguely, including almost every possible trade-off perception between environmental, social and economic aspects, in which case sustainable development has nothing substantial to add, and its aim becomes 'neutral'. Alternatively, sustainability is defined more precisely, promoting a certain trade-off perception. This cannot be done neutrally by experts and scientists, because subjective choices have to be made.

7.2 EIA and SEA as steering devices

The central question in this section is: how do EIA and SEA coordinate relationships between actors to give environment a fully valued place in decision-making? The first three subsections explain the instrument in relation to the market, hierarchy and networks respectively (see Chapter 5 for a description of these concepts). The fourth subsection describes the current mix of these modes of coordination in EIA and SEA and the discussions on this balance. The last subsection examines the contingent application of the instruments in practice. The five subsections answer the following five questions, respectively:

- To what extent do EIA and SEA use the market to coordinate by means of the price mechanism?
- To what extent do EIA and SEA use rules to coordinate hierarchically?
- To what extent do EIA and SEA use trust and cooperation to coordinate through networks?
- What is the balance between the three modes of coordination in EIA and SEA? What is said about this balance by those who reflect on these instruments at the national level?
- Can practitioners use the modes of coordination flexibly and reflectively to adapt to the situation at hand?

7.2.1 Market coordination and price

EIA and SEA are governmental instruments for the interests of the environment. The decision-makers are public authorities. Such instruments can never function fully in accordance with the ideal-typical price mechanism, because, if the market would function spontaneously as the invisible hand, there would be no policy instrument. Nevertheless, if EIA and SEA procedures are contrasted with ideal-typical market coordination, several characteristics of market coordination can be identified in them. Firstly, these procedures go to great lengths to gain full and accurate information about the environmental consequences of projects, and to quantify these consequences into comparable units. Secondly, a sort of internalising mechanism is evident, due to the need for mitigation and for devising compensatory measures.

The aim of EIA and SEA is to provide good information about the environmental consequences of an anticipated decision, before it is actually made. In terms of market coordination, EIA and SEA try to reduce inadequacies in information to prevent ill-advised decision-making. Those who work with the EIA and SEA systems are, of course, aware that it is impossible to give perfectly adequate information: information can never be totally available or completely certain.

In carrying out environmental assessment, a lot of attention is given to presenting environmental consequences as comparable units. The manual on EIA (Infomil 2007), the EIA Commission (NCEIA 2002) and other authors such as Mooren (1996) describe methods for standardising and comparing the various environmental consequences of different alternatives. Quantifying environmental consequences is, however, not always possible. As an example, the EIA Commission (2002) points to the difficulties of quantifying the consequences for landscape. These kinds of consequences are therefore described qualitatively rather than quantitatively. Other aspects, such as a nature conservation area, are easier to quantify in square meters. Quantitatively as well as qualitatively described consequences can be compared by means of a multi-criteria analysis (MCA). For SEA, in particular, it is acknowledged that consequences cannot and should not only be assessed quantitatively. In fact, a qualitative description often suffices (Verheem and Draaijers 2006).

It is even more difficult to translate environmental consequences into monetary units. In a (societal) cost–benefit analysis (CBA), many environmental consequences stay '*pro memoria*'. According to the EIA Commission, a CBA cannot cover all the possible environmental consequences, it cannot substitute an Environmental Impact Statement. However, if the CBA and EIA/SEA are properly coordinated, they can complement each other (NCEIA 2005, 2002). The current possibilities for expressing the environmental aspects of nature, water and soil in monetary units are presented in a manual for infrastructural projects (Berkenbosch 2005; Ruijgrok et al. 2004).

A lot of attention is given to providing good information for EIA and SEA, but less attention to the next step of internalising the costs and benefits to set the price mechanism into motion. In general, in environmental policy, one of the main tenets is internalising environmental costs. However, policy documents and reports on that topic do not explicitly refer to EIA and SEA, or *vice versa* (VROM 2002b; VROM-raad 2002b). No explicit references to a cost-instigating principle are made in the Infomil manual either. The underlying assumption is that good information will automatically improve the incorporation of environmental externalities. Though not very evident, Dutch environmental assessment does include an internalising mechanism, namely the need for mitigation and for devising compensatory measures. If a project will result in unpreventable environmental consequences, then the initiator is required to itemise ways of mitigating the environmental consequences. In addition, the competent authority can ask the proponent to describe how the negative consequences could be compensated, should it prove impossible to mitigate them. If the environmental consequences are negative, then the proponent is required to take the measures either to mitigate them, or compensate for them. Preferably, he realises the measures in kind, or otherwise he pays the costs (Arts 2004).

Box 7.2: An example of a cost–benefit analysis in relation to EIA

'*OEI*' is a type of cost–benefit analysis used in the Netherlands for all major national infrastructural projects. '*OEI*' is the Dutch acronym for what in English would be called an Overview of Infrastructural Impacts. In 2003, this replaced the Research Programme on the Economic Impacts of Investments in Infrastructure (the '*OEEI*' in Dutch) which had been active since 2000. The second '*E*', representing 'economic' has been deliberately removed from the name. Attempts are no longer made to describe all consequences in terms of money. '*OEI*' is a score-card method for all the relevant consequences. The societal costs and benefits of infrastructural projects are analysed and presented either as monetary units, or, if that is not possible, then in physical, quantitative or qualitative terms. According to De Jong and Geerlings (2005b), the shift from '*OEEI*' to '*OEI*' reduces the likelihood of 'econocracy'. They describe the striking growth of this type of CBA in Dutch practice and its more frequent appearance on the political agenda. Improving coordination between *OEI* and EIA is an aim of the Ministry that is responsible for infrastructure (TK 2004, 29800 A, No. 42; V&W 2004).

7.2.2 Hierarchical coordination and rules

Hierarchical coordination features strongly in EIA and SEA. In this subsection, we first describe how rules are being applied in EIA and SEA. We will argue that there are many detailed rules, though not of a traditional kind. After having elaborated on the issue of flexibility, we will emphasise that EIA and SEA should be considered in relation to the existing governmental framework and the main decision-making procedure. One of the possibilities offered by this main procedure is that the public (citizens, NGOs, etc.) can appeal to the administrative court if they want to criticise a decision made by the competent authority. This is the mechanism that operates control and sanctioning in EIA and SEA. Where it fails is that proponents try to escape these sanctions by, for example, producing very voluminous EISs. We will discuss the enforcement and sanctioning by judges, and democratic control, at the end of this subsection.

Detailed requirements for EIA and SEA are included in European and national legislation. At the European level, the EIA Directive of 1985, amended in 1997, and the SEA Directive of 2001 contain the requirements for EIA and SEA. Member States have to implement these Directives. The European Commission has a duty to enforce its Directives, bringing matters to the European Court of Justice if necessary. In the Netherlands, the Environmental Management Act 1994, to which subsequent amendments have been made, contains detailed requirements for EIA. The Act is supported by a Decree. (See the basics in Chapter 3 for further information and references.) The rules and orders for EIA and SEA include, for example, the area of application, the procedure for preparing the EIS, the content of the EIS itself, the in-

volvement of the EIA Commission, the written statement indicating how account has been taken of the EIS, and follow-up monitoring and evaluation. In applying the requirements for EIA and SEA, it is important to take notice of jurisprudence. The requirements themselves are not always easy to interpret. Decisions of the Dutch courts and the European Court provide interpretations of the law. Despite the fact that EIA was introduced more than twenty years ago, the jurisprudence is still growing (Soppe 2005c).

The EIA and SEA requirements are not traditional administrative orders. Taylor (1984) described the impact statement approach as a novelty, one that differed from traditional enforceable standards. The impact assessment approach means that there was no direct change in decision premises or in the mandate for government organisations. Instead, the impact assessment approach provides explicit standards for *ex-ante* evaluations based on formal analysis. The advantage of this approach is that it deals with the very difficult problem of regulating other government organisations; difficult, because the outcomes of trade-off decisions of other government organisations cannot be specified in advance. Normative standards of substantive decision outcomes can only be agreed very generally. There is a need for 'contextual balancing'. In the contingent application of these instruments, priorities must be made depending on the specific decision-making situation. General policy objectives and criteria have to be tailored to it.

According to Wood and Jones (2002), EIA only works when there is a legislative base for it with specific requirements. On the other hand, fears of over-regulation lead to caution. Not everything has to be spelled out in law. Flexibility is needed, since all eventualities cannot be foreshadowed in laws and regulations. Flexibility is also needed to ensure that EIA is focused on decision-making, rather than just on procedural formalities. The Dutch EIA system has been criticised for being too heavy and complicated. As Wood states about the Dutch system: it is "a Rolls Royce where a Ford would suffice" (Wood 2003: 362). Just as with EIA, legal requirements for SEA should not undermine the necessary flexibility (Partidário 2000).

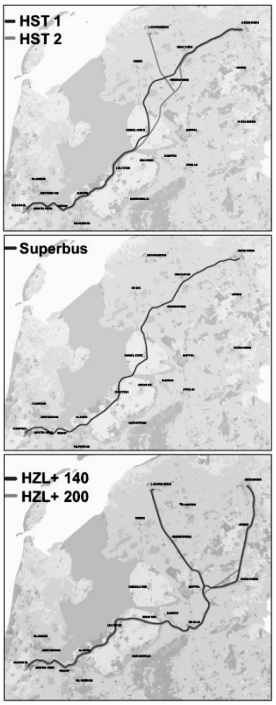
In the Netherlands, the detailed rules for environmental assessment are considered to be problematic. The national government is trying to de-regulate its systems down to the minimum required by the EU Directives. The number of requirements is considered problematic, because of the costs and time required to apply them. For example, it costs between 70,000 and 100,000 Euros to produce one Environmental Impact Statement. In the Netherlands, the European SEA Directive is implemented rather soberly and the EIA requirements are going to be revised. In his letter to parliament, State Secretary Van Geel describes the implications. The number of activities for which an EIA is required will be reduced, and the current EIA requirements for scoping will disappear, including the notification of intent, the guidelines for the EIS and public consultation during the scoping phase. The competent authority will no longer be required to evaluate the acceptability of the EIS and the formal involvement of the EIA Commission will be significantly reduced. Environmental assessment will be integrated more into the main decision-making procedure. Additional procedural steps to the legal minimum will be possible, though not obligatory. The competent

authority will itself decide whether these additional steps are needed, depending on the specific situation. The Ministry will compile a manual to assist the competent authorities in choosing the right assessment procedure for a specific decision-making process (TK 2005, 29383, No. 25).

Box 7.3: An example of the flexibility of SEA compared to that of the current EIA

The 'Zuiderzeelijn' is an infrastructural transport project a 180 kilometres in length, extending from Schiphol Airport in the West of the Netherlands to Groningen in the North-east. For the decision about the usefulness and necessity of this project, the 'Structure Vision Zuiderzeelijn' was compiled. The SEA applies to this plan.

In the scoping phase, many alternatives appeared to be relevant, such as a new high-speed rail link (HST), a super bus, and the use of the existing railway (HZL). Due to the involvement of the Lower House, new alternatives were included during the process, and others were dropped. This meant that the scope of the project changed continuously. Had an EIA been carried out, the dynamics in the scoping phase would have brought about several new notifications of intent and new formal public consultations. For an SEA, there are no such formal requirements in the early phases of the assessment. That is why the actors involved found a SEA procedure more flexible than an EIA. Initially, they feared that SEA would be too rigid and would delay the planning process. In the end, this did not appear to be the case (Janse and Breukels 2006; Boonman and Paulussen 2007) (source maps: www.zuiderzeelijn.nl).



Within the boundaries of existing legal requirements, the Netherlands EIA Commission has already been experimenting with the flexibility of EIA, and flexibility is a recurrent issue in the annual reports of the Commission. The Commission acknowledges that a fixed EIA procedure does not always fit in well with the main decision-making procedure. For complex decision-making processes, the normal EIA procedure is often incompatible with new methods and interactive project planning. In complex cases, such as these, the Commission issues more frequent advice at times that are not specified in the regular EIA procedure. At the other end of the scale, there are simple decision-making procedures, such as issuing standard permits, for which the normal EIA procedure is too regulated. For these, it is possible to include as much information as possible in the notification of intent. The EIS then focuses

only on additional information, should this be required as a result of public consultation. Such information can then be completed quickly. The Commission reviews the detailed notification as if it were a draft EIS. To reduce the possibility of the EIA procedure not fitting the main decision-making procedure, the EIA Commission is flexible in the timing and the level of detail given in its recommendations (Commissie m.e.r. 2000; NCEIA 2002). Experimenting with flexibility in EIA procedures was a key issue in the Ministry of VROM's 'EIA 2000+' programme. Iedema et al. (1999) state that the formalised standard EIA procedure may be a hindrance in complex decision-making processes. There is clearly a dilemma between imposing a formal procedure and flexibility.

EIA and SEA operate in a chain of decision-making at different governmental levels. It is a 'tiered' system of environmental assessment, embedded in a (supposedly) hierarchical decision-making system. In the Dutch system, EIA is applied once in the chain of decision-making, at the end of it. SEA is applied higher up in the hierarchical chain of decision-making. The formal plan with SEA should act as a framework for the activities for which later an EIA is being made. The information in the EISs will change from general to specific as it passes down this chain, dependent on the level of decision-making. An EIS at a lower level in the chain may refer to an EIS higher up in the chain. The assumption of this tiered system is that the decision-making chain is indeed clearly hierarchical. According to Fischer (2003), an important reason for applying SEA is the expectation that if trade-off consequences are properly considered at a high level in the decision-making hierarchy, there should be less friction at decision-making levels further down in the hierarchy. Every decision in the chain should restrict the room for trade-off between environmental and socio-economic aspects to a certain extent, dependent on how much discretion there is for decision-making at that level. To know what information to include in the EIS, the extent of this discretion should be clear. In the Netherlands, the legislator deliberately chose to use the existing formal governmental responsibilities. In certain cases, the scope of decision-making competence may be stretched, to be able to include environmental aspects in the decision. To what extent, is not exactly clear however (Soppe 2005).

In hierarchical coordination, actors are threatened with sanctions if they do not obey the rules. This characteristic of hierarchy is clearly visible in EIA in the Netherlands. The Dutch administrative judges are the most important enforcers of the EIA legislation. The European Court also plays a role in enforcement. The judge may quash the decision, resulting in a delay and additional costs for the proponent. This waste of time and money acts as a sanction that the proponent wants to avoid. Non-compliance with EIA and SEA requirements is not sanctioned with explicit penalties like fines (Soppe and Pieters 2002). What do the courts judge about? Pieters (2001) analysed the jurisprudence on Dutch EIA during the period 1987-2000 (almost two hundred cases). Usually, the judge decides on whether an EIA is required in a specific case. The judge also regularly decides on the quality of an EIS and on the implications of European Directives and international treaties. To judge the quality of an EIS, the Dutch judiciary mostly relies on the advice of the EIA Commission (Soppe and Pieters 2002).

Box 7.4: An example of a judgement regarding EIA made by the Administrative Jurisdiction Division of the Council of State

On 22 March 2006, the Administrative Jurisdiction Division of the Council of State quashed the decision on a local land-use plan to locate a new industrial estate in the municipality of Deventer, called 'Linderveld'. The province of Overijssel should not have given approval for this plan, and the judgement will probably cause years of procedural delay.

Several third parties appealed to the Division. One of them was the Working Group Industrial Estate Linderveld, a group of citizens who had previously expressed their concerns, through their own newsletter, for example, and by erecting banners in the planning area (see photo) (Werkgroep Linderveld 2007). MEGA Projecten B.V., a company that owns land in the area in which the industry was originally supposed to be situated, also appealed. The municipality decided to move the industry to the north, because the municipality owns land there. The Division judged the appeal of MEGA Projects B.V. to be well founded. In particular, they agreed with the argument that related directly to Article 8 of the EU EIA Directive. The results of the EIA procedure, like the mitigation and compensation measures, should have been directly incorporated, juridically, in the local land-use plan. This judgment is important in that it will be incorporated into the jurisprudence on EIA (Pieters 2006). The second argument for quashing the decision was that the local land-use plan was not in accordance with the regional spatial plan of the province (Gemeente Deventer 2007) (source of photo: Dijkstra 2006).

The Commission's advice on the EIS and its acceptance by the competent authority are both checks that take place in advance of administrative judgement. In the proposals for revising the environmental assessment system, these quality checks will not be required anymore. This will probably result in lower quality EISs (Soppe 2005b). The EIA Commission fears that this will result in the need for more juridical reviews and an increased risk of decisions being quashed by the judge (NCEIA 2005).

The administrative courts are only required to judge a decision regarding EIA or SEA if external parties appeal. Where the main decision-making procedure offers this possibility, citizens and environmental pressure groups, among others, can appeal to the administrative court if they want to criticise a decision made by the competent authority. They can address non-compliance with the EIA and SEA regulations and try to persuade the judge that the competent authority made an unreasonable choice. In the Netherlands, decisions with EIA are almost always challenged in court. Con-

cerned citizens and pressure groups fight every decision about activities that are likely to be subject to EIA (Soppe and Pieters 2002; Soppe 2005). Following its recent introduction, environmental jurists Pieters and Backes expect jurisprudence to develop on SEA applications too, although not all plans for which a SEA is required can be challenged in court (Berkenbosch 2005b).

The related failure of enforcement and sanctioning is that actors try to escape these sanctions. Proponents may, for example, produce voluminous Environmental Impact Statements which contain an overload of information. Such an EIS is not tailored to the specific situation, and is hard for the public to understand. Such a report is written to resist legal challenge rather than to meet the aims of EIA (Arts 1998; Iedema et al. 1999; Alton and Underwood 2003).

Democratic control by an informed public is an important aspect of EIA and SEA. To exercise this control, two lines of action are open to the public: they can appeal to court, and they can criticise the decision with the EIS during public consultation procedures. Even if the main decision-making procedure does not include public consultation, the environmental assessment procedure does. Public consultation in environmental assessment is related to the Aarhus Convention on access to information, public participation in environmental decision-making, and access to justice in environmental matters (Feldmann et al. 2001).

7.2.3 Network coordination and trust

Network coordination cannot immediately be associated with EIA and SEA, but by taking a closer look, some networking characteristics can be identified. It is unclear to what extent they are used, because the mechanisms of trust and cooperation are hidden behind the formal procedures. Some authors have tried to use network coordination to elaborate on EIA and SEA. For example, in the 'EIA 2000+' project, the Ministry of VROM asked a firm of consultants to use networks as a possible guiding principle for assessing environmental aspects strategically. This proved impossible as the consultants were unable to find enough leads on which to build a networking approach in the current assessment instruments (Iedema et al. 1999). Verwijmeren (2001) analysed interactions at the municipality level between actors involved in EIA. He could not identify any interactive relationships and concluded that in each of these three cases, the municipality dominated the decision-making. Other authors, however, have been able to identify network characteristics in EIA procedures. Leroy (1996) even goes so far as to say that EIA is a complex, interactive process between the different actors involved. EIA is much more than a procedure bounded by legal requirements or an applied scientific method. In practice, EIA operates through a mix of formal and informal relationships between actors. Leroy considers network coordination to be of increasing importance in EIA. He states: "Instead of according to a formal, legally required procedure, the EIA process is increasingly practiced in the context of networking consultations between many involved actors" (Leroy 1996: 137).

In this subsection, we will highlight three types of (possible) cooperation within EIA and SEA: intra-organisational (internal) cooperation; cooperation with governmental organisations; and cooperation with NGOs, citizens and companies. Regarding intra-organisational cooperation, there is general agreement that cooperation between the team preparing the EIS and the team preparing decision-making is a good thing. The project managers of both teams, at least, should cooperate to coordinate the EIS and the main decision-making procedure. By cooperating with each other, the EIA/SEA team may provide design principles or criteria that could influence the planning team (Fikken 1999; Van Eijk et al. 2005; Van Eck 1998).

Box 7.5: Examples of internal cooperation to coordinate EIA with the main decision-making procedure

In 1991, instead of hiring external consultants, the province of North-Holland decided to develop an Environmental Impact Statement for the regional housing plan in Zaanstad internally. In the process of preparing the regional plan and the EIS, the project manager of the plan, the project manager of the EIS and the provincial coordinator for EIA cooperated intensively with one another. The positive result of this cooperation has been that the EIA process has influenced the planning process to a large extent. The EIS and the regional plan have been coordinated very well and the provincial civil servants involved are able to understand each other better (Mooren et al. 1995).

A second example is the guidance for internal cooperation of the Directorate-General for Public Works and Water Management in South-Holland. For an optimal design of the infrastructure, cooperation is needed between the road designers and the environmental experts. In fact, the manual for infrastructural design in South-Holland takes this principle as its point of departure. In the different phases of developing infrastructure, the manual suggests an iterative process between the design team and the environmental team – both of which are part of different departments within the organisation. In practice, cooperation may vary in intensity: from simple bilateral consultation, to working groups and cooperative designing in 'design workshops' (Arts et al. 2001).

The initial phase of a SEA includes a formal requirement to cooperate with governmental organisations. The competent authority consults the relevant governmental authorities on the scope and detail of environmental information in the EIS. According to Van der Wel et al. (2004), for a SEA of a spatial plan, the relevant authorities are the provincial and municipal executives, and in many cases the water boards too. The Environmental Management Act only states that there must be consultation. It says nothing about the intensity and character of the contact. This is up to the competent authority and may be organised in a cooperative, informal and horizontal way.

As regards cooperation with external, non-governmental actors, we focus on the pressure groups which represent the environmental interests in decision-making. Pressure groups may make use of the possibilities for formal consultation built into the procedure. Involvement in this way, however, comes relatively late, and for a short period. As it is formal and reactive, it is a 'distant' kind of involvement. Compared with the proponent and the competent authority, there are relatively few resources available to the pressure groups and the public. They can appeal to the administrative court and by so doing cause a procedural delay. Pressure groups also use mass media to influence the public. Pressure groups and citizens may feel offended, rather than involved, and may use their power to hinder. There are more constructive and positive ways of involving such groups. For example, the proponent and competent authority may decide to cooperate with pressure groups and the broader public in an informal way, from the very beginnings of a process (Bonte 1996). This reduces the risk of resistance in the concluding stages, in court. By organising the informal involvement of pressure groups and citizens earlier in the process, the networking mechanisms of trust and cooperation come into force.

Box 7.6: An example of cooperation with stakeholders in EIA

An example of external cooperation is a project in which a sand production company wanted to extract sand and gravel in the municipality of Cuijk, in the province of North-Brabant. Usually, these kinds of proposals meet with a lot of resistance, that end up as appeals to the court. The company decided to involve the relevant actors at an early stage and to discuss the company's ideas with them. Communication has been intensive and informal. The company responded flexibly to what the other actors had to say, altered its plan to include their ideas, and at citizens' requests gathered additional information. This approach gained the commitment of the stakeholders (Mooren et al. 1995).

7.2.4 The balance between market, hierarchy and network

In this subsection, we will first answer the question: what is the current balance between the three modes of coordination in EIA and SEA? An overview is given in Table 7.1. Then we will describe what is said about this balance by the people who reflect on EIA and SEA, in practice as well as academically.

The hierarchical mode of coordination is strongly visible in EIA and SEA. This mode of coordination is such a prominent characteristic of these instruments, it tends to hide evidence of the other modes. The EU Directives and Dutch law include many detailed requirements for EIA and SEA, and the systems for controlling and sanctioning are clearly visible. Citizens and NGOs use the possibilities open to them in the main decision-making procedure to appeal to the administrative court to address non-

compliance with the regulations. Therefore, the role of jurisprudence in interpreting the rules correctly is important. It is however important to recognise that the statutory requirements for EIA and SEA are not traditional administrative orders: the orders are not commands that restrict decision-making discretion. Instead, they provide a formal-analysis procedure geared to ensuring that a certain type of environmental information enters the decision-making process.

The network characteristics of EIA and SEA remain hidden behind the dominant hierarchical procedures, so it is not exactly clear how important network coordination is. Networks are rarely used as a means for examining the EIA and SEA processes, and when they are used, their characteristics do not readily come to the fore. Nevertheless, to explain EIA and SEA, network coordination should be included. Within the boundaries of the formal procedure, EIA and SEA emerge as somewhat informal processes of networking relationships among the actors involved. EIA is not just an activity fuelled by a formal procedure. The procedure provides guidance on what should be done, and the process focuses on what actually happens, or what can be done. As for market coordination, some features of the price mechanism are recognisable, but in an artificial way. The EIA and SEA systems clearly try to gain good and accurate information about the consequences of projects for the environment. A lot of attention is also given to quantifying these consequences into comparable units. These systems also contain a kind of cost-internalising principle, although EIA and SEA are not invisible markets but governmental instruments.

Table 7.1: An overview of EIA and SEA in the light of the three modes of coordination

	Market	**Hierarchy**	**Network**
features recognisable	clear, transparent environmental impacts and consequences quantification and monetarisation if possible pay for mitigation and compensation	many EU and national rules (resulting in inflexibility and costs) citizens and NGOs can take part in consultations and use court rulings to control and sanction	within the formal procedure, EIA/SEA can be seen as networking; cooperation is visible/possible: • between the EIA/SEA team and the planning team • with governmental organisations • with NGOs, citizens and other actors
features not recognisable	EIA and SEA are governmental instruments, not perfect markets	EIA and SEA are not traditional commands there is a move towards having fewer rules	formal procedures are at the forefront, rather than informal trust relationships
summary	in EIA and SEA, market coordination functions as an additional feature	hierarchy is strongly visible in the core of EIA/SEA	informal networks are behind the predominant hierarchical activity

In Dutch EIA/SEA practice, any discussions about steering are on the topic of having fewer rules. At the national and instrumental level, one reflects on the effectiveness, efficiency and failures of the hierarchical mode of coordination. The discussion is about the statutory requirements for EIA and SEA and how to de-regulate these assessment procedures. For example, the National Environmental Day on 17 December 2004 in The Hague was given the slogan 'with fewer rules, more environmental quality'. On 13 December 2005, the Centre for Environmental Law of the University of Amsterdam organised a day about 'EIA, current and future law'. On 13 November 2003 the Association for Environmental Law organised a seminar about the future of EIA. On all these occasions, the consequences of having fewer rules, and of reducing the hierarchical mode of coordination, were discussed, but little thought was given to finding ways of making more use of price, trust and cooperation mechanisms. The proposal for revising the environmental assessment system is also reflective only within the hierarchical mode of coordination. Nothing is said about the possibilities of the market and networking modes. From this we can conclude that, the mainstream discussion in the Netherlands at the moment is not so much about being reflective regarding the use of the three modes of governance, but only about using the hierarchy mode.

There are however exceptions to the mainstream discussion. Dutch authors have published some peer-reviewed articles that reflect more broadly on coordination within the EIA and SEA systems. Two examples are the articles by Deelstra et al. (2003) and Nooteboom (2007), both of them for the *Environmental Impact Assessment Review*. The central question of the first article is how the two worlds of formal procedures and informal processes can be connected. Deelstra et al. recognise the increasing importance of networking in assessments. According to them, decision-making can be perceived as a game played by actors operating in informal and semi-formal forums, who are subject, nevertheless, to the constraints of formal procedures and governmental organisations with specific responsibilities. The authors signal, for example, that Dutch environmental NGOs have shifted to a more cooperative position. These organisations are now trying to participate constructively in networks. In essence, Deelstra et al. claim that both systems are still dominated by rules and that the mechanisms of trust and cooperation remain largely hidden, whereas to become truly effective for environmental assessment, hierarchy needs to be balanced by networks. In their own words: "According to most Dutch political scientists, the effectiveness of impact assessment is no longer constrained by a lack of legal provisions for impact assessment, or by a lack of high quality impact assessments. The main constraint is the limited ability of most involved actors to take part in a social learning process that effectively addresses complex issues". "However, such a learning process can be a delicate matter. Cooperation and open-mindedness depend upon trust between parties, an aspect often lacking in such situations" (Deelstra et al. 2003: 521 and 527). One of the recommendations of the authors to stakeholder groups is: "Be conscious that not cooperating and always using legal possibilities to delay the process does not serve your interests at the end of the day" (Deelstra et al. 2003: 539). Another recommendation is: "Always be open to proposals for cooperation: give the other party the

benefit of the doubt. Yet, if trust is unjustified, move back to your old position" (Deelstra et al. 2003: 540).

Box 7.7: An example of balancing hierarchy and networks

This example by Deelstra et al. (2003: 529) concerns the enlargement of the port of Rotterdam: "Stakeholder organisations were 'consulted' by the project bureau, and they were asked to reflect on the documents it produced. Stakeholders occasionally met with high-placed administrators, but their influence on the planning process was basically reactive. This attitude of government towards stakeholders resulted in a clash after several years". (…) "After mediation by the respected ex politician Hans Alders, a new approach was chosen for consulting stakeholders, entitled 'Summit Deliberation new style', or 'ONR'. (…) participation in ONR would not foreclose legal rights of the participants to appeal against any formal decision."

Nooteboom (2007) also discusses the balance between hierarchy and networks in impact assessment. In his opinion, the rules for the formal procedure act as an incentive for good cooperation. They create interdependencies between actors, and trust on the longer term. The rules encourage proactive cooperation, because cooperation in an earlier informal phase of the process reduces the risks of formal delays at the end of it. The tension created by the rules is needed, therefore, to increase cooperation. Additionally, the formal decision-making procedure and the assessment linked with it are needed to create clarity and democratic accountability. Consultation is a safety net built into these formal procedures. However, too many rules cause fear and distrust. When the character of the assessment is too juridical, proponents spend most of their time avoiding sanctioning by the judge. To do this, they focus on the formal procedure, which result in defensive decision outcomes. In summary, some procedural rules are needed to encourage proactive cooperation, but too many rules are counterproductive. Nooteboom's impression is that, overall, even though the rules and juridical fights are more visible, the degree of cooperation is growing. In the end, what results in success and innovation is close cooperation during the informal beginning phases. The later, formal phases, only allow enough scope for giving negative feedback.

7.2.5 Reflective and flexible use

In this subsection, we will focus on the question of whether or not EIA and SEA offer possibilities for using the three modes of coordination flexibly and reflectively so that they can be adapted to the situation at hand. It is this specific decision-making situation that determines what the most effective balance between these modes will be. From the previous subsection, we can conclude that all the modes have the potential to be used in EIA and SEA, but that the hierarchical mode of coordination is too

dominant at the moment. If the rules were less dominant, then EIA and SEA could become 'smarter' instruments. If this were to happen, then the formalities would become a regulatory safety net, rather than the primary focus of the actors involved. This would result in the actors starting the assessment with a cooperative attitude, based on the conviction that by so doing, the outcome would be better for everyone concerned. The information that becomes available during the process shows whether this is indeed the case. The government creates the preconditions (through the rules) for gathering information and ensuring that it is useably expressed, accurate and as complete as possible. The information in the Environmental Impact Statement, and the written statement included in the decision, act as triggers for raising the level of intervention, where necessary. The citizens, NGOs, etc. judge this information against what they had expected to achieve by informal cooperation. If, in their opinion, that cooperation appears to have failed, in that the formal decision is different from the one they had hoped for, then they can pursue the matter further by making use of the legal possibilities built into the procedures.

7.3 EIA and SEA as planning devices

In this section, we view EIA and SEA in relation to rational planning and communicative planning. The overall question is: how do EIA and SEA link knowledge to public decision-making? The three subsections below provide answers, respectively, to the following three questions:

- To what extent do EIA and SEA function according to the rational planning approach?
- To what extent do EIA and SEA function according to the communicative planning approach?
- What is the balance between the two planning approaches in EIA and SEA? What is said about this balance by those who reflect on these instruments at the national level?

7.3.1 Rational planning

Rational planning features strongly in EIA and SEA. Many Dutch and foreign authors, have looked at rational planning in connection with the EIA and SEA systems and have found many similarities:

- "(…) Impact Assessments came into being within the tradition and points of departure of rational planning (…). This is evident from the structure of the Impact Statement and the assessment process that is organised in phases" (Niekerk 2000: 21).
- "As has been argued by various authors, EIA can be seen as a product of the rational-comprehensive approach in that EIA pursues logical and rational de-

cision-making through importing analysis based on scientific principles" (Arts 1998: 58).

- "Depictions of the EIA planning process generally parallel the rational planning process. Consequently, it shares many of the characteristics and positive and negative tendencies of rationalism" (Lawrence 2000: 610).
- "The language of rationalism and EIA are indistinguishable. (…) This rationalist demand for a systematic, objective, procedural approach to EIA remains largely intact today" (Weston 2004: 315).
- "The procedural origins of EA are rooted in rational planning theory (…). Current understanding of SEA is that it is inherently marked by *bounded* rationality" (Fischer 2003: 156 *italics in original*).
- "Environmental assessment approaches are seen to be dominated by notions of positivism and scientific 'rationality', with an implicit assumption that improved decision-making *automatically* results from input of objective scientific evidence, based on observable phenomena, and evaluated and quantified according to a systematic and structured procedure (…). This may be explained by the early dominance of scientists within EA practice, and its origins in NEPA in 1969 when rationalist notions of decision-making dominated" (Nitz and Brown 2001: 331 *italics in original*).
- "EIA was conceived at a time when rational decision-making was the dominant decision theory and the principles of this theory continue to pervasively influence EIA literature (…). Thus, much writing on EIA is based (albeit predominantly implicitly) on the assumption that provision of accurate scientific information on the environmental consequences of a wide range of alternatives will lead to better (i.e. more rational) decisions" (Cashmore 2004: 418).
- "For most authors, EIA is seen as a rational and systematic procedure, perhaps also as holistic, proactive, anticipatory and integrated, but firmly located in the 1960's demand for systematic and rational approaches to environmental planning" (Benson 2003: 262, referring to Lawrence 2000).

The rational model is clearly visible in the requirements for the Environmental Impact Statement and the assessment procedure. The EIS has to contain, amongst other things: a description of the purpose of the proposed activity; the alternatives that should reasonably be taken into consideration; a description of the consequences that the proposed activity and the described alternatives may have on the environment; a comparison between the expected developments in the environment and the descriptions of the impacts and expected consequences for the environment of the proposed activity, and of each of the alternatives described. The EIA/SEA procedure requires the decision-maker to indicate how account has been taken of the environmental impact of the activity, as described in the EIS, and what consideration has been given to the suggested alternatives.

One of the core qualities of EIA and SEA in the Netherlands is considered to be description of the alternatives for the proposed activity and their environmental consequences. According to the Netherlands EIA Commission, the compulsory descrip-

tion of alternatives, and the presentation of those alternatives which have less adverse consequences for the environment, lends clarity and transparency to the information used for considering and balancing interests (NCEIA 2003; NCEIA 2004; Commissie m.e.r. 2000). In reflecting on being a general secretary of the EIA Commission for twenty years, Jules Scholten stated: "Thinking in alternatives, that is what it is about. That is the way to influence decision-making processes positively" (Berkenbosch 2002: 12). Mari van Dreumel, of the Dutch Ministry of VROM, also considers the alternatives to be the most powerful aspect of EIA (speech in Amsterdam on 13 December 2005). Authors outside the Netherlands also recognise the added-value of the requirement to describe alternatives in Environmental Assessment. Partidário (2000) views this information as a vital aid to open and accountable strategic decision-making.

Rationality implies a search for an optimal relation between means and ends. Searching for the optimal solution in EIA/SEA can be seen as minimising the negative consequences for the environment, while at the same time realising the purpose of the proposed activity. In current Dutch law on EIA, the alternatives described have to include one that either prevents the negative environmental consequences occurring or reduces them as far as possible using the best means available for protecting the environment. However, from the proposals for revising the EIA/SEA systems, it appears that the requirement to identify the most favourable alternative for the environment will disappear (TK 2005, 29383, No. 25). However, in a response to this proposal, the EIA Commission states that in practice, the alternative most favourable to the environment is a reasonable alternative that has to be taken into account anyway (Commissie m.e.r. 2005). Whether a formal requirement or not, searching for an optimal alternative for the environment will remain an important aspect of the EIA and SEA procedures.

To develop and compare possible alternatives, it is very important first to define the purpose of the proposed societal activity. The purpose also offers a framework for evaluating the consequences of those alternatives and for comparing them (Commissie m.e.r. 1998; Verheem et al. 1998). Consequently, the proponent of the activity is in a strong position to influence the assessment by defining the purpose of the activity in a certain way (Soppe 2005). Several authors argue in favour of including environmental objectives based on existing policy in the description of the purpose of the activity, formulated as a 'multiple' goal. In this way, the environmental objectives would influence the assessment proactively, by influencing the development of the alternatives and by becoming part of the evaluative framework for comparing those alternatives (Commissie m.e.r. 1998; Commissie m.e.r. 1995; Fikken 1999). Another, complementary way for dealing with environmental policy objectives is to use them as preconditions for all the alternatives.

In practice, however, the goals are often not stated clearly enough and the environmental policy objectives are not always included in the description of the purpose of, or preconditions for the activity. According to Verheem et al. (1998), what the proponent really wants is very often not described in the EIS. The (environmental) goals are not specific enough and no priorities are given. Fikken (1999) considers that

the importance of including environmental goals *is* recognised in practice, although it is unclear to practitioners how this should be done. The assessment procedure has no systematic feedback loops on describing goals.

Rational decision-making requires the decision-maker to be explicit about his arguments and the information he uses to make the decision. This corresponds with the 'written statement' in EIA/SEA, in which the decision-maker is required to indicate how account has been taken of the environmental consequences. In rational planning, as well as in EIA/SEA practice, it is very important to justify the decision in an explicit statement. The Netherlands EIA Commission considers the reasoned ground for the final decision to be one of the core qualities of environmental assessment (NCEIA 2004). "Compulsory justification of the decision in the light of the available information clarifies the role played by environmental aspects in the decision-making process". It thereby enhances transparent decision-making (NCEIA 2003: 19).

The EIA and SEA procedures assume a central, formal decision-making moment to which the written statement is linked. In practice, however, decision-making is not as clear-cut as that, and the different phases of the rational process are difficult to recognise. How decisions are actually made can be classified as iterative, somewhere between a linear process and pure chaos. Signalling this messy practice, authors recommend the environmental assessment community to mould EIA and SEA to fit the specific decision-making process. The effectiveness will increase if EIA and SEA are transformed into processes that fit flexibly into decision-making processes (Noble and Storey 2001; Scrace and Sheate 2002; Nooteboom and Teisman 2003; Ten Heuvelhof 1993; Nitz and Brown 2001). However, at least a part of the EIA/SEA community thinks the other way around; that the decision-making process should fit the assessment procedure. Nooteboom and Teisman (2003) state that most assessment theorists and practitioners seem to assume that they can impose the rationality of the assessment procedure onto its implementation. Because making complex decisions is thought to be an irrational and therefore inadequate practice, they try to change this by applying a rational instrument (Van der Geest and Delleman 1996).

Rational planners acknowledge that knowledge cannot be totally objective. At the same time, they try to reduce the subjectivity of knowledge in the planning process. Such striving towards complete and neutral knowledge is visible in EIA/SEA. Systematic, scientific analysis, recommendations by independent experts and public review should guarantee good information about the environment (Soppe 2005; Commissie m.e.r. 2000). The opinions differ about whether or not the information in the EIS can be really neutral. According to Weston (2004), EIA relies on the core belief that the assessment of environmental impacts can indeed be objective and accurate. Mostert (1995), on the other hand, takes an intermediate position. He holds the opinion that EIA is always subjective to some extent, but if the subjective aspects are handled well, it can be considered balanced rather than biased. Richardson (2005) calls it wishful thinking to assume that objectivity, impartiality and balance can be achieved by exercising professionalism. An Environmental Assessment can never be apolitical, he states.

We will elaborate further on Mostert's ideas. He has analysed the role of the EIA Commission extensively and provides a good representation of the conception of knowledge in Dutch EIA/SEA. According to Mostert, EIA has a mixed character in that although it is about facts and scientific predictions, nevertheless, because of uncertainties, it is also subjective in that it makes choices in the assessment process and in the presentation of the results. The value of an EIA depends on how these subjectivities have been handled, and the extent to which bias has been reduced. Subjective information does not need to be problematic. Only biased or clearly incorrect information is a problem. The EIA Commission is important in that it tries to reduce bias, to improve the quality of information and to prevent or reduce controversies. The Commission can 'objectify' information and make it less controversial. However, this mechanism can only operate in this way if other actors view the EIA Commission as an independent, expert actor. The Commission has that status in the Netherland. With a positive advice from the Commission, even the court assumes that the information in the EIS is correct. The EIA Commission protects its independent position by, for example, only accepting the written representations of interest groups. It does not accept verbal contact (NCEIA 2002).

According to Taylor (1984), to obtain an authoritative resolution for disputes about knowledge, such 'policy neutral' judgement is desirable. The European Commission has a more formal regulation on quality assurance in mind (NCEIA 2004), holding the opinion that formally regulated expert judgement in environmental assessment assures the quality of environmental information, and that this, in turn, increases effectiveness. Irrespective of the European Commission's ideas, and in the face of protests from the EIA Commission (Commissie m.e.r. 2005), the Dutch Cabinet intends to significantly reduce the formal involvement of the Netherlands EIA Commission. In the current proposal, the Commission would only become involved in SEA, to review the EIS, if the proposed activity might affect habitat areas (as defined in the EU Habitat Directive) or the main ecological structure of the Netherlands. In other SEA cases, and in EIA, the involvement of the Commission would no longer be required. Another aspect of the Commission's task that would disappear, if the proposal were accepted, is giving advisory guidelines during the scoping phases (TK 2005, 29383, No. 25).

In debates in the Dutch Lower House about the implementation of the European SEA Directives, the members of two political parties (CDA and PvdA) asked the Cabinet to keep the formal involvement of the EIA Commission in the scoping and reviewing phase, whenever SEA is applied. The State Secretary of VROM, however, is trying to get the SEA Directive implemented to a standard minimum. The competent authority may ask for independent expert advice if necessary, but this will no longer be a statutory requirement (TK 2005, 29811, No. 7). On 12 October 2006, the Ministry of VROM concluded an agreement on the implementation of EIA and SEA with the EIA Commission, the Association of Provincial Authorities, the Association of Netherlands Municipalities and the Association of Water Boards. These actors agreed on how the EIA Commission's recommendations were being financed and on the Com-

mission, in cooperation with Infomil, establishing a 'knowledge-platform' on environmental assessment (TK 2006, 29383, No. 68).

In rational planning, the tasks undertaken by the experts and decision-makers are clearly differentiated. The experts inform the decision-maker by supplying unbiased analyses, including the underlying assumptions and uncertainties. The decision-making politicians make a formal choice to pursue an alternative and to accept the related consequences. The decision should be made in front of a forum of informed public. These rational-planning ideas are strongly visible in EIA and SEA. As Nooteboom and Teisman (2003: 291-292) state about Impact Assessment: "The whole system focuses on 'accountability' and 'liability': those who make decisions should be responsible for all the consequences of their actions." "Transparency of information-gathering processes makes governmental decision-makers accountable. These decision-makers are, therefore, willing to take the information into account." In the Dutch EIA and SEA, it is considered important to separate 'experts' and 'politics'; the objective part of analyses and the subjective part (Commissie m.e.r. 2002). In practice, however, these ideal-type relations may not work out. Mostert (1995) addresses the problem that expertise may play too big a role in EIA, to the extent that decision-makers 'hide' behind expertise and do not take their responsibilities. Instead of political discussions taking place, the only discussion is about the technical details of voluminous environmental reports.

Public consultation is considered to be one of the core qualities of the Dutch EIA/SEA (Commissie m.e.r. 2000). The system includes formal requirements to inform and consult the public. The EIA Commission emphasises the importance of involving the stakeholders, not only in formal consultation, but during the entire assessment process. For example, the proponent and the key stakeholders can develop a common vision about the purpose of the activity and the alternatives to be considered (NCEIA 2004).

Two central notions in rational planning are that the capacity for handling information is limited and that uncertainties characterize choices. It is impossible for knowledge to be complete and neutral. Rationality will always be bounded, although comprehensiveness is an ideal worth striving for. The deeply rooted idea behind rational planning is that the more systematic the information, the better the quality of decision-making (Arts 1998, 2004). Dealing with bounded rationality is an important issue in EIA/SEA. Impact assessment professionals try to generate environmental information that is both certain and precise. They create bulks of information in EISs. The mental capacity and attention of decision-makers and the public is, however, limited (Kornov 1998). The challenge in EIA/SEA is to condense the bulk of information to a level that users are able to handle (Alton and Underwood 2003). The Netherlands EIA Commission tries to focus on information relevant to decision-makers and the public. An environmental aspect is only to be included in the assessment if it is relevant to the decision, and not just to complete the information on that topic (NCEIA 2004). The Ministry of VROM (1999) states that a shift is needed from collecting too much information for fear of not having enough, towards assuring fo-

cussed information for decision-making. The scoping phase in assessment helps in selecting the information needed, as it defines the decision-making situation.

In an EIS, the only deficiencies and uncertainties in information that need to be described are those that are relevant for decision-making. In this way, uncertainties are acknowledged as being inevitable in decision-making. It is unclear, though, how much uncertainty is acceptable (Alton and Underwood 2003). The response to uncertainties in EIA/SEA is often to produce more information or carry out more research.

Box 7.8: Is sufficient environmental information included in the EIS?

In thirty percent of the 77 advisory reviews in 2004, the Netherlands EIA Commission found significant shortcomings and advised a supplementary report to be prepared. Typical shortcomings are that relevant alternatives have not been included or not described in sufficient detail or that the environmental consequences have not been described in sufficient detail. Competent authorities generally adopt the advice to request supplements (NCEIA 2005).

7.3.2 Communicative planning

Communicative planning hardly features at all in EIA and SEA, although some aspects are weakly represented, such as, for example, the requirement that the EIS should inform the public about environmental aspects to give them the opportunity to represent their particular interests. However, formal public consultation does not equate with a cooperative, in-depth search for a better argumentation that results from (ongoing) dialogue. The interactive processes of communicative planning, geared towards promoting dialogue, are very different from the rational procedure that allows the public the opportunity of reacting to reports based on the systematic analyses of experts. In daily practice, although communicative processes of one sort or another may already be in general use, because the rational procedure is so dominant, they are difficult or impossible for people outside the systems to detect.

International literature on EIA and SEA has recently become more influenced by the ideas of communicative planning. For example, Nitz and Brown (2001) emphasise the need for SEA to be seen as a learning process that can influence actors' perceptions, attitudes and behaviour. According to Scrase and Sheate (2002), assessment may be effective in creating new expectations or in adjusting social norms. Partidário (2000) states that the success of SEA often depends on the capacity for openly discussing the underlying objectives, options and latent conflicts surrounding a decision. An effective SEA is also about values. In practice, there is increasing experimentation with the communicative planning approach. Practitioners try to establish dialogue between experts and the public (Wiklund 2005). Nooteboom and Teisman (2003) state that there are still unexplored potentials in impact assessment.

Wiklund (2005) made 'a Habermasian review' of environmental assessment. He states that there are many barriers to implementing Habermasian principles in environmental assessment. Nevertheless, Wiklund concludes that there is a hidden potential for making assessments more participatory and dialogue-based. To exploit the communicative potentials of EIA and SEA, other forms of public participation and another conception of knowledge will need to be devised. Wiklund addresses these two issues, in particular, and they have also been stipulated by other authors as well. To explore the hidden communicative potential of EIA and SEA, we will elaborate on these two issues in this subsection.

According to communicative planners, the current statutory requirements for public involvement do not work. They state that public hearings and 'comment' procedures are particularly ineffective, because they antagonise the public. The communication is reactive and does not promote a two-way dialogue. Wiklund (2005) and Doelle and Sinclair (2006) draw similar conclusions about formal public involvement in EIA and SEA. The public involvement tools normally used in these assessments are: public hearings, information meetings and comment periods. In addition, legislation restricts this involvement to just a few stages in the entire procedure. This type of public involvement is ineffective, and does not encourage dialogue. People react to the information provided in the EIS by expressing their private opinions. No thought has been given to the need for early and ongoing participation. Communicative planners are now proposing forms of public involvement that stimulate interaction and dialogue. This is similar to what Wiklund (2005) and Doelle and Sinclair (2006) promote for environmental assessment: communicate with the public early in the process and maintain the dialogue throughout. Participants should be given the opportunity, at every stage of the assessment process, of discussing the various arguments. There should be a meaningful two-way exchange of information and ideas, conducted in an open atmosphere, in which actors feel free to adjust their perceptions. Current legislation does not stimulate dialogue-based participation. Indeed, this type of participation cannot be legislated. What legislation does is to specify the minimum requirements. It does not obstruct more open, interactive approaches, so the competent authority and the proponent are free to organise more communicative forms of participation, if they so wish.

Dutch SEA and the proposal for the revised EIA, prescribe a public consultation period after the EIS has been written by the initiator. The current formal consultation period in the scoping phase of EIA, before the EIS has been written, will disappear in EIA. Consequently, early public involvement will not be formally required anymore. In response to questions from Parliament about this (with regard to SEA), the State Secretary replied that the competent authority would be free to involve the public in the earlier phases if it so wished (TK 2005 29383, No. 25; TK 2005, 29811, No. 7).

Box 7.9: An example of a SEA in an open planning process

The coast of Southwest Walcheren is one of the weak links in the coastal defences of the Netherlands. To strengthen the protection and to improve spatial quality, the province of Zeeland and other governing bodies have developed a strategic coastal plan (*Kustplan Zuidwest Walcheren*). For this plan, which is an elaboration of the regional spatial plan of the province, a SEA has been carried out. (Source photos: Provincie Zeeland 2006.)

The plan is relevant to many actors, including the water board, *Rijkswaterstaat*, the municipalities, companies, environmental interest groups and citizens. They all have perceptions about the plan, and want to be involved in it in different ways. The planning process is open, interactive, creative and has an iterative character. In contrast to this, the SEA system is a structured and relatively linear procedure. Thus tension arises between the main planning process and the SEA, even though the two processes are complementary. With this project, the SEA, with its structured method, and the creative process were considered to be strongly complementary (Sannen, Helder and Dekker 2006).

The Cabinet has recently adopted 'Consultation new style', based on the advice of the Committee Tops. Consultation new style emphasises interactive processes and dialogue in the early, informal phases of the process. The recommendation is that this open, informal form of public participation should be linked, at the end of the process, to a safety net of formal consultation conforming with the General Administrative Law Act. In this way, informal public deliberation would be linked to regulations and to the governmental system (Werkgroep Inspraak 2006; TK 2006, 29385, No. 7). In the discussions on the implementation of SEA, the commission of the Upper House was not satisfied with the implementation of 'Consultation new style' in SEA. The State Secretary of VROM responded by saying that the new rules for SEA already offer possibilities for more interactive approaches to public participation during the earlier phases of the process (EK 2006, 29811, No. H and No. I).

According to communicative planners, knowledge only influences decision-making if it is meaningful to the actors involved. During the communicative process, therefore, all knowledge should first be discussed and accepted. Wiklund (2005) considers the expert culture of environmental assessment as being one of the barriers preventing the realisation of hidden deliberative potential. Experts have a technical approach and use technical language that the public finds difficult to understand. Moreover, the assumption that experts produce neutral knowledge ignores the importance of values.

Deelstra et al. (2003) recommend an assessment process that has a social constructivist assumption. In such a process, the actors develop joint perceptions of the problem and jointly formulate the questions that experts should answer. In this way, experts deliver information on demand, in a stepwise manner. Nooteboom and Teisman (2003) also address joint fact-finding. According to them, if the knowledge gained by an impact assessment is accepted by the actors involved, it can help to create joint interpretations. The actors should meet to discuss and interpret the information that is presented to them. In the words of De Bruijn and Ten Heuvelhof (2002: 234): "Participation by stakeholders guarantees that they will commit themselves to the negotiated knowledge. (…) (T)he analysis and the decision-making mainly run parallel and are even difficult to distinguish in some cases".

In addition to accepted scientific knowledge, communicative planners also recognise the importance of practical, interpretive and intuitive knowledge. In current EIA/SEA practice, these types of knowledge are rarely addressed. The Dutch manual on scoping, however, addresses the relevance of 'irrational' knowledge. In the Netherlands, a method has been developed for including citizens' experiences and perceptions in EIA alongside scientific and technical information (VROM 1999).

Power and interest-based strategies tend to distort ideal speech situations. This is the main point of criticism against the ideals of communicative planning. It is a weakness also recognised in the EIA/SEA literature. Nooteboom and Teisman (2003) state that impact assessments are used strategically rather than as a constructive learning process, so decisions are likely to arise from power struggles rather than a cooperative search for better arguments. The authors add that it is often easier for actors to stick to the interests of their own organisation, than to focus on a common task. Environmental assessments, in themselves, are sometimes associated with obstructive power, as when, for example, pressure groups use EIA/SEA processes only to delay decision-making (Verwijmeren 2001; Van den Berg 2002).

7.3.3 The balance between rational and communicative planning

In the previous two subsections, it became clear that EIA and SEA reflect the characteristics of rational planning very strongly. This is not the case with communicative planning, although potentially it could have a useful role to play. Table 7.2 summarises this.

Table 7.2: An overview of EIA and SEA from the point of view of the two planning approaches

	Rational planning	**Communicative planning**
features recognisable	rational model with: • alternatives • *ex-ante* evaluation of the environmental consequences • written statement on the environment • a clear and important decision-making moment • experts deliver unbiased information for decision-makers and public consultation • reduces the subjectivities in knowledge	EIA/SEA has hidden potential as a communicative process: • values and meaningful knowledge • dialogue-based public participation
features not recognisable		EIA/SEA were not designed as intersubjective communicative processes searching for better arguments and developing shared values
summary	rational planning features strongly in EIA/SEA	communicative planning hardly features at all at present, but it has hidden potentials

Recently, the balance between rational planning and communicative planning has become an issue in debates on EIA/SEA effectiveness. It has become clear that rational planning is not the only planning theory to be uncritically applied in environmental assessment. Debates about competing and overlapping planning theories may offer insights for EIA/SEA. Authors such as Kornov (1998), Kornov and Thissen (2000), Lawrence (2000), Weston (2004), Cashmore (2004) and Richardson (2005) who address this issue, emphasise the importance of reflecting on the strengths and limitations of different planning theories to increase the effectiveness of EIA/SEA.

We will discuss different positions in this debate about the balance between rational and communicative planning in EIA/SEA. At one extreme, authors like Fischer (2003) argue in favour of sticking to the traditional systematic approach. He states that communicative planning is bound to fail, because only the interests of those present in the process can be considered. The strengths of rational planning, according to Fischer, are that it structures decision-making processes and is democratically accountable.

At the other extreme, Weston proposes a fundamental rethinking of EIA. According to him "the future for EIA clearly does not lie in its rationalist past" (Weston 2004: 323). Rational planning does not take into account that environmental assessment is a value-based judgement. This needs to be acknowledged to raise public trust in the assessment process. Weston signals increasing scepticism from the public to-

wards expert-based knowledge. The systematic analyses, suggesting objectivity, are seen as a smokescreen for legitimising decisions.

In between these extremes, but taking a position closer to the rational planning ideal, is Niekerk (2000). In her thesis on impact assessments for Dutch infrastructural planning, Niekerk recognises the strengths and failures of rational planning, but also those of communicative planning. According to her, the strength of the rational model is the systematic analysis of different alternatives for an activity proposed for a pre-defined purpose. Such an analysis, in her view, is necessary for structuring the planning process. The failure of rational planning is that it neglects values and subjectivities in both the definition of the purpose and in the analysis itself. The knowledge conception is too straightforward, orientated too closely to facts. Using communicative planning could compensate for this, specifically because it focuses on interaction and on intersubjective communication. The failure of communicative planning itself is that, in practice, it is almost impossible to achieve an ideal speech situation. It is difficult to get all the relevant actors at the table, so there is the risk that knowledge agreed upon in the communicative setting will only represent the interests of those present at the meeting. As the communicative approach focuses on values, a further risk is that facts might be neglected and the need for objective knowledge. Knowledge based solely on social interaction is too subjective, according to Niekerk. She considers the communicative planning approach as a supplement to rational planning, as a means of reducing its failures.

Lawrence (2000) states that competing planning approaches should co-exist. Critical multiplicity is a better idea than integration in one theoretical model. This implies that EIA/SEA should not only be based on rational planning, but also on communicative planning. Communicative planning, in Lawrence's view, is not just a supplement, but a fully competing approach. The criticism about rational planning is that it does not take subjectivities, i.e. competing perceptions, into account enough in its knowledge conception and so cannot reflect the complexity of decision-making processes (Kornov 1998). The failure of communicative planning, as emphasised by Richardson (2005) is that power distorts the ideal speech situation. So, as both planning theories have inherent weaknesses that need to be off-set, to make EIA/SEA effective, we need both rational and communicative planning. As Richardson (2005: 360) states: "Not being able to create ideal scientific or communicative processes means that we need to work with an understanding of power and contested rationalities".

Elling (2004) proposes a reflective arrangement in which both cognitive-instrumental rationality and communicative rationality are exercised jointly. Using the two types of rationality together is necessary, in Elling's view, because focusing solely on the first type, with its narrow concept of rationality, would block the further development of environmental assessment. In his view, cognitive-instrumental rationality makes environmental assessment an instrumental tool that is simply part of a technocratic and expert-based practice, efficient in focusing on pre-defined objectives. Elling promotes communicative rationality by opening up the possibilities of true public participation. In this way, environmental assessment will be orientated towards reach-

ing understanding, and not towards a specific result or objective. Elling demonstrates that such an approach for EIA/SEA would be in line with Habermas' ideas, in that it combines the communicative rationality and implicit lay-knowledge of the living world with instrumental rationality and scientific knowledge.

There is still no consensus on what would be the most effective combination of rational and communicative planning for EIA/SEA. It might be close to the traditional rational approach or more towards the communicative ideal. What can be concluded from the previous paragraphs is that focusing solely and uncritically on rational planning ideals probably reduces the effectiveness of EIA/SEA, so without rejecting those ideals, the hidden communicative potential must be explored. Considering rational and communicative planning as competing, though complementary, theoretical ideals, could be a fruitful way forward, but this would require a reflective way of dealing with competing characteristics. Two such examples are: striving towards objective knowledge as opposed to recognising subjectivities, and formal public consultation as opposed to informal public participation based on ongoing dialogue.

8. Comparing WA and EIA/SEA

WA and EIA/SEA have been explained extensively in the previous chapters. This chapter is devoted to comparing them. The comparison has a conclusive character and is organised under the same headings as those used for Chapters 6 and 7. We compare the instruments from the points of view of their content, steering and planning, based on the research questions that were developed in Chapter 5. The answers to these questions are summarised in the comparative tables below. The reader can choose to read the text of this chapter, the tables, or the shorter version in the summary.

8.1 WA and EIA/SEA: comparing their content

8.1.1 Exposing the impacts and uncertainties

From the aims of the instruments, it is obvious that WA focuses on bringing the water-related impacts and consequences of societal initiatives to the fore and that EIA and SEA do the same with regard to environmental impacts and consequences (including water). It is also obvious that all the instruments are *ex-ante* evaluations; they reveal the impacts and consequences of a societal initiative before the decision about the initiative has been made. Within this focus, a broad and integrated range of impacts and consequences is evident. WA and EIA/SEA have quite open definitions of 'water' and 'environment', respectively. Specific definitions depend on the actual contexts of the decision-making situations in which the instruments are being applied.

The consequences of a societal initiative may be negative or positive for the environment. In applying EIA and SEA to an initiative, more emphasis tends to be placed on the negative consequences. The main issue is the prevention, mitigation or compensation of negative environmental consequences. In applying EIA and SEA much less attention is given to exploiting opportunities for improving the environment. Nevertheless, it is a statutory requirement when applying an EIA or a SEA that the negative as well as the positive consequences should be taken into account. In WA, emphasis is placed on the opportunities for the water system. The water authority tries to use spatial developments to realise its own water-management goals, as defined in policy documents. The authority not only tries to prevent or reduce negative consequences, but also to make the most of the opportunities. To explain WA better, we will include more about the opportunities in the set of concepts in the next chapter.

From the aims of the instruments, we expected that they would deal with the environmental side of the overall trade-off decision. This is indeed the case for WA, but, in the field of EIA and SEA, the tendency is to produce integrated assessments that deal with both the environmental as well as the socio-economic consequences of trade-offs. This tendency is visible in the Netherlands as well as internationally. What effect integrated assessments will have on gaining a clear understanding of the envi-

ronmental impacts and consequences that can be expected from trade-off decisions remains to be seen. One the one hand, describing environmental and socio-economic consequences in a comparable way may reveal more about the trade-off. On the other hand, if the 'weak' environmental interests are part of an integrated assessment, the likelihood is that less thought will be given to them so that they are drowned by other matters, and another risk is that decision-making becomes de-politicised.

To provide strong support for decision-making, a prerequisite is to identify and gain an understanding of the uncertainties connected with the specific situation. WA does not take up this challenge sufficiently. It does not provide statutory requirements or sufficient guidance on exposing uncertainty. In designing the instrument, the developers wanted to prevent long and inefficient debates on water-related knowledge in decision-making processes. They dealt pragmatically with uncertainty by giving the water manager the authority to use his own perception in uncertain and ambiguous issues regarding the water system. The recently introduced risk-analysis in WA proposes a very limited way of dealing with uncertainty. Risks are defined as a function of probability and damage, assuming that both can be calculated. This definition is technocratic and neglects many sources of uncertainty. EIA and SEA pay more attention to uncertainty. In the Environmental Impact Statement, it is a statutory requirement that the proponent has to expose uncertainty, *ex-ante*. A feedback loop is created through *ex-post* evaluation. The EIA manual provides further guidance. It remains unclear, however, whether uncertainties are being dealt with sufficiently in the practical application of EIA and SEA.

8.1.2 Multiplicity of perceptions and ambiguity

The WA process enhances the multiplicity of perceptions involved by adding those of the water authorities to spatial decision making. The normative character of this input in decision-making is a visible feature of the process. The Water Recommendation is linked to relevant policy documents. However, WA is about the interaction between perceptions of spatial planners and water managers, both of whom are governmental actors. Other actors, such as citizens, companies and NGOs, may have different perceptions of the water-related aspects in spatial decisions, but these are not included in any detail. WA does not emphasise public participation.

In the EIA and SEA processes, a lot of attention is given to public opinion. The Environmental Impact Statement provides the public with information on the initiative itself and on alternatives for the proposed activity. The public is then free to state its views. Potentially, the EIA and SEA are thus contributing to a significantly greater multiplicity of perceptions than WA. However, it is also in great danger of it being lost, as both these assessments may hide this multiplicity of thought behind a 'neutral', expert-based EIS. By so doing, the public's value-laden issues are extracted out of the political decision-making process and incorporated instead into one that is technocratic and analytical (i.e. the EIS). If, as is likely, there are conflicting perceptions of the environmental issues of a specific initiative, the environmental assessment must identify and highlight such conflicts. The different perceptions put forward by the

public should be used as part of the input for political decision-making, instead of them being mediated within the assessment itself.

8.1.3 Neutral or normative towards decision outcomes?

WA, EIA and SEA have in common that they are both neutral and normative in character. This mixed character results from their ambiguous aims. On the one hand, the instruments are neutral tools for facilitating decision-making. This is expressed by their immediate aims and functioning. The interests of water and the environment should be 'taken into account' in decision-making, but the instruments do not restrict the degree of manoeuvreability in the decision-making processes. At the end of a WA process, the water authority gives a Water Recommendation to the decision-maker, but it is not a binding recommendation. The Environmental Impact Statement informs the decision-maker about the environmental consequences of a proposed activity, and although the decision-maker has to take this information into account, it does not restrict his political manoeuvreability. The outcome of the decision does not have to be in accordance with the alternative that is the friendliest for the environment, for example. WA, EIA and SEA themselves do not include normative criteria for arriving at a decision. Water and the environment are just two of the many interests that have to be considered in order to arrive at a decision.

On the other hand, the instruments would not exist at all if the environmental interest was already perceived to be fully balanced with socio-economic interests. The ultimate, underlying aim of WA, EIA and SEA is to strengthen the position of a 'weak' interest. In the end, the instruments have an advocative aim regarding water and the environment. They want to improve people's attitude towards these interests. The implicit assumption in the instruments is that a neutral tool will ultimately strengthen the interests of water and the environment. However, combining a non-idealistic immediate aim with an idealistic ultimate aim creates tensions in the WA, EIA and SEA systems. Such tensions are evidenced by the difficulties we experienced in defining sustainability and in gauging the effectiveness of the instruments.

The perception of trade-offs that is linked to each of the instruments is quite similar. Roughly stated, WA, EIA and SEA all promote a win–win attitude. On the environmental side of the trade-off, the perception is that the water system and the environment cannot be exploited unlimitedly, and, on the other side of the trade-off, that tough interventions in the socio-economic sphere are unacceptable because the growth of welfare and urbanisation has to be allowed to continue. In general, the Dutch government has a positive belief that these two sides can be synergetically and innovatively united. Water interests and the economy can be 'coupled' or 'attuned'; environmental protection and economic development can 'progress hand in hand'. At the national level, the win–win attitude has a general character. How strong the guidance of water to spatial developments must be, or how strong sustainability must be is debatable. It is impossible to specify this fully at a general national level and this can certainly not be based on objective knowledge.

It is a value-laden choice as to what the win–win perceptions mean more specifically. A normative framework for the instruments is established through political discussions and policy that has been democratically agreed upon. WA uses the normative guidance of policy documents to a greater extent than EIA and SEA do. The specific interpretation of 'water as the guiding principle' or 'sustainability' can only be made within the context of a specific situation in which the instruments are being applied to aid decision-making. Policy objectives have to be specified and prioritised in such concrete practices.

8.1.4 Comparative overview

Table 8.1 is a comparative overview of the similarities and differences in the contents of WA and EIA/SEA. It summarises the previous three subsections.

Table 8.1: Comparing the contents of WA and EIA/SEA (= similarity, ≠ difference)

	WA		**EIA/SEA**
to what extent, and in what way, do WA, EIA and SEA identify and bring to the fore the facts and uncertainties of the impacts of trade-offs?	focuses on the *ex-ante* transparency of a broad range of water-related consequences	=	focuses on the *ex-ante* transparency of a broad range of environmental consequences
	emphasises the opportunities	≠	focuses more on the negative consequences than on opportunities for the environment
	no attention given to the socio-economic consequences	≠	tendency towards integrated assessment, including socio-economic consequences
	WA does not expose uncertainties	≠	the uncertainty factor needs to be given attention
to what extent, and in what way, do WA, EIA and SEA deal explicitly with the multiplicity of perceptions, in relation to the ambiguity of trade-offs?	in spatial trade-off decisions, due to WA, there is also the perception of the water authorities WA does not pay much attention to other perceptions	≠	potentially, through public participation and by proposing alternatives, EIA/SEA processes encourage a multiplicity of perceptions however, there is a danger that the ambiguity and multiple perceptions will be disguised by the 'neutrality' of the EIS
are WA, EIA and SEA neutral towards decision outcomes or do they include a certain trade-off perception?	the immediate aim and functioning are neutral: sends a Water Recommendation to the decision-makers	=	the immediate aim and functioning are neutral: the Environmental Impact Statement informs decision-makers
	the ultimate, underlying aim is normative: to ensure that water interests are more strongly represented in decision outcomes	=	the ultimate, underlying aim is normative: to ensure that environmental interests are more strongly represented in decision outcomes
if the instrument is normative towards the decision outcomes, which trade-off perceptions does the instrument favour?	win–win perception	=	win–win perception
	debatable how strong water as guiding principle should be in a specific decision-making situation	=	debatable how strong sustainability should be in a specific decision-making situation
	normative questions are strongly linked to policy documents	≠	there is no strong link with policy

8.2 WA and EIA/SEA: comparing their steering styles

8.2.1 Market coordination and price

WA, EIA and SEA incorporate the price mechanism in a rather similar way. All the instruments aim at improving the visibility of the impacts and consequences of a decision. These attempts include quantifying the consequences into comparable or even monetary units. Cost analysis has recently been introduced in WA, and, in the fields of EIA and SEA, there is talk of linking both assessments with cost-benefit analysis. WA, EIA and SEA all include some kind of mechanism for internalising environmental costs. In WA, this is the 'cost-instigating principle'. In developing the WA, attention was given to this principle in relation to mitigation and compensation. In EIA and SEA, the focus is more on obtaining good information and accurate analyses than on following an explicit instigating principle, but as EIA and SEA procedures also come in contact with mitigation and compensation measures, they too have a mechanism for internalising costs. However, many difficulties are encountered in quantifying, monetarising and internalising costs and benefits in these instruments. Such difficulties are inherent to the use of this mode of coordination, but as WA, EIA and SEA are governmental instruments in relation to public interest, the difficulties worsen, as instruments such as these can never fully function like a perfect market. As the instruments use the price mechanism artificially, the most one can expect from market coordination here is that it will give added value. It cannot be the core mode of coordination.

8.2.2 Hierarchical coordination and rules

The hierarchical mode of coordination is used much more in the EIA/SEA systems than it is in WA. The EIA/SEA procedures are based on many detailed statutory requirements, whereas the formal requirements for WA are significantly fewer in number. The EIA/SEA requirements, e.g., about the procedure for, and content of, the Environmental Impact Statement, and the written statement indicating what actions the proponent has undertaken in response to the information in the EIS, are part of European as well as national environmental legislation. This regulatory approach is, however, not traditional, because there are no demands to restrict the decision-maker in using their own discretion. SEA is less heavily regulated than EIA, and so is more flexible, especially in the first phases. The national government is working on deregulating EIA to reduce the procedural costs and increase flexibility. WA is a flexible process with few statutory requirements. The only aspects of WA that have been incorporated into spatial legislation are the Water Paragraph and the requirement to consult the water authority.

Another difference between WA and EIA/SEA is the extent of control and sanctioning imposed by court rulings. Non-compliance with the EIA/SEA requirements is controlled and sanctioned juridically. The public has the right to report non-

compliance with the regulations to the administrative court. This form of democratic control is often used, for example, by pressure groups to cause delays and additional costs for the proponent in realising the proposed activity. There is a lot of jurisprudence on EIA. To escape sanctions, proponents submit long and complicated Environmental Impact Statements, overloaded with information. Strong legal control and sanctioning do not feature in WA.

What WA and EIA/SEA *do* have in common, with regard to hierarchy, is that they are all embedded in an existing framework of governmental actors and decision-making procedures. The actors in WA and the competent authority (and proponent in some of the cases) in EIA/SEA are all governmental organisations. They are all democratically chosen, all have formal responsibilities, and they are all hierarchies in themselves. They may also have hierarchical relationships with each other. In most cases, the main decision-making procedure, to which the assessment is applied, is a formal one. This linkage is especially important for WA in the decision-making phase. Although WA itself is only slightly hierarchical, hierarchical aspects may come into force due to its embeddedness in formal spatial-planning procedures. These procedures offer the public, but also the water authorities, possibilities for objecting to, or appealing against decisions. To establish the legitimacy, democracy and accountability of decisions, such procedures are important.

8.2.3 Network coordination and trust

Network coordination is used extensively in WA, especially during the first phases of the process, but it is hardly evident in EIA/SEA. WA functions principally to improve trust relationships and cooperation between water managers and spatial planning. These actors interact in horizontal, informal networks by exchanging tacit knowledge and attuning their perceptions. It is unclear to what extent EIA and SEA use network coordination, because the informalities of networking are hidden behind the formalities of the assessment procedure. The many statutory requirements of the formal procedure force the networking activities into the background, but difficulties in spotting evidence of network coordination does not mean that it is not, or that it is prevented from, taking place. Cooperation in an EIA and SEA can be in the form of internal cooperation between the team working on the assessment and the team working on the main decision process. It can also be in the form of external cooperation with the public, NGOs, governments and other relevant actors during an early phase, before any formal consultation has taken place.

8.2.4 The balance between market, hierarchy and network

Network coordination is the strongest in WA processes, and hierarchical coordination in EIA and SEA. Hierarchy, especially in the linked framework, is used in WA to reduce the weaknesses, such as the lack of democratic accountability, of networks. Network coordination is probably used in carrying out EIA and SEA, but it is hidden by hierarchical procedures. Market coordination is an added value in all three instruments.

The use of hierarchy and networks is a topic for thought and discussion among those working with WA, but in the EIA and SEA fields the only evidence of reflectiveness is on the use of hierarchy. The literature on WA alludes to discussions about networks and hierarchy; their complementarity and the tensions between them. Opinions differ with regard to two topics in this discussion. The first one concerns the statutory requirements for WA. The second topic revolves around the changes in procedures resulting from the new Spatial Planning Act, and in particular, that gaining approval from the province is going to be dropped as a statutory requirement in WA. As far as EIA is concerned, discussions revolve around rules and having fewer rules. The basic line of thought in this discussion is that hierarchy is too dominant in EIA procedures, and should be reduced to lower the costs entailed and the outcomes of its many weaknesses. With these factors in mind, the national government is currently working on de-regulating EIA. However, with the exception of some peer-reviewed articles, reflecting on the use of networks and market mechanisms is not part of the debate.

8.2.5 Reflective and flexible use

At the moment, there are better possibilities for using the three modes of coordination flexibly and reflectively in WA than in EIA and SEA. Networks are dominant in WA, but it also contains elements of hierarchy and market as is indicated in the WA manual. Such elements can be integrated in the assessment process should the situation require it. A weakness of WA procedures is that they can easily focus too much on informal cooperation, without being triggered to use the regulatory safety nets, which is ineffective. The actors involved, especially the water authorities, should be alert to this potential pitfall so that if network coordination appears to be ineffective in a specific situation, they can move over to a tighter means of steering. EIA and SEA have the potential to be hybrid. However, hierarchy is too dominant to use this potential flexibly, which results in defensive decision outcomes, or at best, a respectful compromise. The pitfall of EIA and SEA is that actors are motivated by fear, and so they concentrate all their efforts into following the procedural and analytical rules, which then becomes an aim in itself.

8.2.6 Comparative overview

Table 8.2 is a comparative overview of the similarities and differences in the steering of WA and EIA/SEA. It summarises Section 8.2.

Table 8.2: Comparing the steering of WA and EIA/SEA (= similarity, ≠ difference)

	WA		**EIA/SEA**
to what extent do WA, EIA and SEA use the market to coordinate, by means of the price mechanism?	used in WA: exposing the consequences, cost analysis, the cost-instigating principle	=	used in EIA/SEA: exposing the consequences, (monetary) quantification, mitigation and compensation
to what extent do WA, EIA and SEA coordinate hierarchically, through rules?	with its insubstantial statutory requirements, WA itself is only slightly hierarchical	≠	EIA/SEA have many statutory requirements (EU and NL), though these are not in the form of traditional orders and there is a tendency towards de-regulation
	no legalistic control and sanctioning	≠	the systems incorporate controls and sanctioning (the public appeals in court)
	WA is embedded in the existing framework of governmental responsibilities, formal decision-making procedures and policy	=	EIA/SEA is embedded in the existing framework of governmental responsibilities and decision-making procedures
to what extent do WA, EIA and SEA coordinate through networks, by relying on trust and cooperation?	the core of WA is the cooperation and trust between spatial planners and water managers	≠	networking in informal processes may be going on in practice, but it is hidden behind procedures
what is the balance between the three modes of coordination in WA, EIA and SEA?	the core is networking, embedded in the existing framework, along with hierarchical aspects and the market	≠	the core is hierarchy; it overshadows networking and the market
what is said about this balance by those who reflect on these instruments at the national level?	the discussion is primarily about balancing networking and hierarchy; hierarchy reduces networking weaknesses, for example their lack of democratic accountability	≠	discussion focuses on hierarchy and on its weaknesses and costs: 'rules and fewer rules'
can practitioners use the modes of coordination flexibly and reflectively to adapt to the situation at hand?	yes, WA is a hybrid instrument that uses cooperation as its starting point pitfall: insufficient use of the regulatory safety nets	≠	EIA/SEA is potentially hybrid, but hierarchy is too dominant to use this potential flexibly pitfall: the danger of acting out of fear

8.3 WA and EIA/SEA: comparing their planning approaches

8.3.1 Rational planning

What WA, EIA and SEA have in common with regard to rational planning is the importance of an explicitly justified decision for accountability and transparency. The environmental consequences are assessed before the moment when the decision is made. For the WA, this results in a Water Recommendation, and for EIA and SEA, an Environmental Impact Statement. In the written statement of the grounds on which the decision is based, the decision-maker must state clearly and fully how the knowledge gained from these documents influenced the decision. For WA, this written statement is referred to as the Water Paragraph. The written statements are linked to a clear and often formal moment of decision-making. This decision-making moment is important in all three instruments.

In the rational decision-making model, the explicit justification has to be based on an evaluation of major alternatives and their impacts and possible consequences. EIA and SEA follow the rational decision-making model very strongly, whereas WA does not. Developing and evaluating alternatives is central not only to EIA and SEA but to rational planning in general. In WA, there is no requirement to develop major alternatives for the proposed initiative.

Knowledge is viewed differently in WA compared with EIA/SEA. Rational planners try to gather complete and neutral knowledge, even though they are aware that this is an ideal that cannot be achieved in practice, because rationality is bounded. Experts are supposed to deliver unbiased analyses as an input to political decision-making and to the public. Knowledge is defined and used in this rational way in EIA/SEA. The Environmental Impact Statement informs decision-making and is supposed to be unbiased; experts analyse information systematically in an EIS. The independent EIA Commission has the task of reducing bias in environmental information. In WA, though, the conception of knowledge is different from that in EIA/SEA. Water authorities base their input on their own water-related interests and policy. They are not unbiased experts, but operate from their functional democratic responsibilities. The Water Recommendation of the water authorities is therefore not an independent or neutral analysis.

Public consultation and openness towards the public are important aspects of rational planning. This is also considered to be one of the key qualities of the Dutch EIA/SEA. EIA/SEA includes formal requirements for informing and consulting the public. WA is different in this respect too, in that it is a system that does not emphasise public consultation. However, in normal spatial-planning procedures, the public *is* informed and consulted. The public is informed by means of the Water Paragraph in the spatial plan, though in designing the instrument, this was never an explicit aim. Moreover, the water authorities' Water Recommendation is not used as input for the public on the spatial plan during consultation.

8.3.2 Communicative planning

Communicative planning is based on the idea that reasoning emerges from intersubjective communication. Actors develop a shared understanding through interactive processes. WA functions partly according to communicative planning, especially in the first phases of the process. WA links the different viewpoints of spatial planners and water authorities interactively. In the ideal situation, by communicating in a comprehensible way, these actors reach a shared understanding and consensus about water in the spatial plan. However, WA is not as open and free as in the ideal speech situation of communicative planning. The instrument incorporates the ideals of communicative planning very pragmatically. To remove tension with respect to formal decision-making and to maintain democratic accountability, the communicative process is strongly embedded in the formal procedures of a governmental system. The former is supposed to make the invisible visible; to make the intangible knowledge in the informal process transparent. WA is also pragmatic in the sense that communication is not necessarily 'face-to-face' and 'in-depth', and if the ideal of full consensus is not achieved, disagreement is accepted and expressed in the Water Recommendation and the Water Paragraph.

The communicative planning approach is hardly used in EIA and SEA. The procedures in these two systems, including those for public consultation, are very formal. Communicative planners reject formal, reactive public consultation. They propose an informal, dialogue-based public participation instead. By investigating the EIA and SEA systems, a hidden potential to become more communicative can be identified, in that within the statutory requirements, it is possible to organise dialogue-based public participation. Also in an earlier phase of the process, different perceptions can be taken into account proactively and interactively. EIA and SEA are systems in which expert culture and neutral knowledge are dominant. In contrast to this, communicative planners believe that knowledge must be meaningful to the actors involved. It must be discussed and accepted in communicative processes. As yet, there is no communicative conception of knowledge in the EIA/SEA systems, but it could be integrated into them, for example, through joint fact-finding.

8.3.3 The balance between rational and communicative planning

The WA system operates through a mixture of communicative and rational planning elements, whereas in EIA and SEA rational planning is very strongly present. Communicative planning is strongly visible in the first, informal phases of WA when spatial planners and water managers exchange ideas and work towards a shared understanding. The importance of the decision-making moment and the Water Paragraph are elements of rational planning. It is mainly through the Water Paragraph that 'nesting' the communicative arena of WA in the formal governmental framework takes place. EIA/SEA on the other hand, are dominated by rational planning, but explaining these systems solely from the rational perspective, neglects the hidden communicative potentials of these systems.

The developers of WA expected a combination of the two planning approaches to be the most effective, so they nested the informal communicative arena in the governmental framework. In this way, the informal process does not undermine democratic and legitimate decision-making. There is no debate about the balance between the planning approaches in WA. In the field of EIA and SEA, however, there is a debate going on about the conceptual bases of planning. Particularly in international theoretical debates, people who are deliberating on ways of increasing effectiveness are thinking about the strengths and limitations of the different planning approaches. The positions in this debate range from sticking to the rational character to a fundamental rethinking, away from rational planning. Proponents of the rational character of EIA and SEA emphasise their structured procedures, the systematic analyses carried out and their democratic accountability. Opponents argue that EIA and SEA are too technocratic; that they are too systematic, expert-based, and that their objectivity acts as a smokescreen in decision-making. They suggest adopting a value-based approach in which perceptions are taken into account. We concluded that the hidden communicative potential of EIA and SEA must be explored, without rejecting rational planning ideals. The most promising balance seems to be using the two planning approaches in a nuanced, complementary and reflective manner.

8.3.4 Comparative overview

Table 8.3 is a comparative overview of the similarities and differences of the planning approaches used in WA and EIA/SEA. It summarises Section 8.3.

Table 8.3: Comparing the planning approaches used in WA and EIA/SEA (= similarity, ≠ difference)

	WA		**EIA/SEA**
to what extent do WA, EIA and SEA function according to the rational planning approach?	the Water Paragraph is linked to the formal decision-making moment	=	a written statement is linked to the formal decision-making moment
	there is only an ex-ante evaluation of consequences, no requirement to identify and describe alternatives	≠	closely follows the rational-decision model, including identifying and describing alternatives
	the Water Recommendation includes the water authorities' interests and policy-based inputs	≠	expert analysis in the form of an Environmental Impact Statement: unbiased information
	there is no emphasis on public consultation, although there are provisions for it in the main procedure. The public is informed through the Water Paragraph	≠	public consultation is important and it is a requirement; the public is informed through the Environmental Impact Statement and the written statement
to what extent do WA, EIA and SEA function according to the communicative planning approach?	a pragmatic system; there is a nested use of communicative planning; spatial planners and water managers work to gain a shared understanding in an interactive process, especially in the first (informal) phases of WA	≠	these systems were not designed as intersubjective communication processes to develop shared understanding, but there is a hidden potential for them to become more dialogue and value-based
what is the balance between the two planning approaches in the instruments?	it is a mixture: the first phases of WA operate more in accordance with the communicative planning approach, and the last phases more in accordance with rational planning	≠	the dominant approach in EIA/SEA is rational planning, but there is a hidden potential for adopting some aspects of the communicative planning approach
what is said about this balance by those who reflect on these instruments at the national level?	there is no discussion	≠	there have been debates on how to balance rational planning with communicative planning approaches

9. Conceptual extensions

In this chapter, two extensions of the conceptual framework will be described: opportunities and power. Based on some first insights in WA, EIA and SEA, we developed a set of concepts in Chapter 5. As a second step in this articulatory research, in Chapters 6, 7 and 8, we combined the concepts with the actual phenomena. After this empirical phase, we now reflect on the initial set of concepts and modify it to fit in better with the WA, EIA and SEA procedures.

Why is it necessary to include 'opportunities' as an extension? So far, the explanation of the content of all three systems has focused too much on risks and on negative consequences. In practice, the positive consequences of a trade-off decision for water and the environment also count, especially for WA. Water authorities not only use the WA procedure to prevent negative consequences, but also to realise their positive water-management goals. An exploration of opportunities in connection with the EIA and SEA systems might help to explain why, in practice, there is no automatic emphasis on positive environmental consequences, although the formal thrust is in this direction. Overall, the win–win attitude that we have seen towards trade-offs is directed more towards the opportunities than the risks. There is a perception that it is possible to make decisions that will have positive consequences for both sides of the trade-off.

Why include 'power' in the planning perspective? The critique on rational and communicative planning for not including the political reality of power sufficiently was evident already in Chapter 5. Both planning approaches have responded to this critique. However, we met difficulties in explaining the type of knowledge used by water authorities in WA. This was because the water authorities' input in WA is based on interests and policy. They try to focus the attention of the spatial planner on certain water-related issues. By including power in the conceptual framework to a greater degree, we will try to give a better explanation of water authorities' focus on their own interests and goals, and an improved interpretation of EIA and SEA.

9.1 Opportunities

In this section, we first develop the line of thought that actors can focus effectively on opportunities by using network coordination and communicative planning. We will cross the borders of scientific disciplines to the field of management theory and use insights from Covey (2004). Trust, cooperation, communication and understanding are key words in his 'seven habits of highly effective people'. In the second subsection, we will explore the relationship between a focus on opportunities and the use of formal regulations and procedures (hierarchy). In the third and fourth subsections, we refine the interpretation of WA and EIA/SEA respectively with the help of the new theoretical insights.

9.1.1 The seven habits of highly effective people

According to Covey (2004), maximum effectiveness means maximising opportunities. Effective people think in terms of win–win results, rather than problems. In Covey's management philosophy, effectiveness can be reached through interdependent cooperation between independent actors. He describes seven habits of highly effective people:

1. *Be proactive.* Being proactive means taking the responsibility and initiative. Proactive people make conscious choices and work on the things they can do something about. The opposite are reactive people who are acted upon and blame circumstances for their behaviour.
2. *Begin with the end in mind.* To begin with the end in mind means to have a clear definition of the objective, based on a vision. Creating a vision requires imagination and an examination of values. A vision embodies long-term goals and functions as a frame of reference.
3. *Put first things first.* With a clear end in mind, one can recognise opportunities, build relationships and set priorities. Organising work around priorities means focusing proactively on the things that contribute to the vision and objectives.
4. *Think win–win.* Win–win is not a negotiating technique, but a frame of mind seeking for mutual benefits. Win–win solutions can only be created by investing in the relationships that make it possible. The essence of win–win is ensuring openness, mutual learning, communication and creativity through cooperation and trust.
5. *Seek first to understand, then to be understood.* People should listen with the intention of genuinely understanding, rather than just gaining enough information to reply. By listening genuinely to others, differences in perceptions can be discovered. After understanding the other, one can try to be understood by presenting ideas in the context of the perceptions, paradigms and concerns of the other person. By listening genuinely, people become influenced by other people's ideas. At the same time, it is the key to influencing others.
6. *Synergise.* Synergy means that the whole is greater than the sum of its parts. It results from creative, unpredictable processes. In creative cooperation, people gain more insights by mutual learning. New perspectives and alternatives open up, by valuing differences in perceptions. Synergy and creativity are outcomes of interchanges characterised by high levels of trust and cooperation (see Fig. 9.1).
7. *Sharpen the saw.* Sharpening the saw refers to people who continuously invest in their growth and improvement.

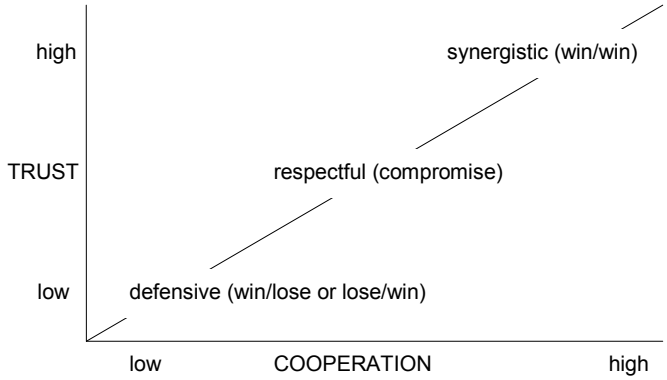


Figure 9.1: Levels of communication by Covey (2004: 270)

In American style, Covey describes a direct positive relationship between using network coordination (trust and cooperation), communicative planning (developing shared understanding) and effectiveness in reaching opportunities (win–win). In his philosophy, defensiveness, rules and structure are ineffective, because this hinders creativity and synergy. It is a view that is too 'black-and-white'. Network coordination is not always the most effective mode of coordination. As we saw in Chapter 5, this mode sometimes fails. There is also criticism about communicative planning, for example that it is sometimes too naïve, because power distorts ideal communication and complete understanding is impossible. Depending on the situation, other modes of coordination, and rational planning, can also be effective. If using full trust and cooperation and full communicative planning suites the circumstances, then this will be the most effective way of making the most of opportunities. However, Covey's American dream does not work effectively and efficiently in all circumstances. Moreover, in a governmental context, synergetic processes have to be linked to democratic accountability and formal procedures.

9.1.2 Formal procedures in relation to opportunities

Hierarchical coordination and structured procedures can be effective in preventing negative consequences. Regulation by law provides certainty to actors and their interests. But can regulation stimulate making the most of opportunities? Or does regulation hinder reaching win–win results? Strict, protective regulations that restrict manoeuvrability in decision-making can indeed put obstacles in the way of making the most of the opportunities that present themselves. In that case, hierarchy functions as an iron fist that cannot cope with variety in practice.

However, modern legislation encompasses more than simply issuing orders in a traditional way. Dutch environmental law, for example, includes environmental 'prin-

ciples'. These principles are not detailed regulations, but they incorporate the abstract win–win ideals of sustainable development into legislation (Verschuuren 2000, 2003). One of them is the 'alara-principle', meaning that one has to protect the environment as well as is reasonably possible. Another one is the principle of 'external integration', which is very relevant to water and environmental assessment. It dictates that not only within environmental policy, but outside it too, the consequences of societal activities for the environment must be also be taken into account in decision-making. WA, EIA and SEA all function according to this principle. 'External integration' is a general principle that stimulates synergy (Van der Heijden 2005).

The principle of 'external integration' can be detailed in formal procedural regulations. Instead of relying on the familiar, traditional, restrictive types of regulation, procedures can be developed that result in external integration, such as we have seen in the assessment instruments studied here. However, if such procedures are detailed and complicated, win–win results are difficult to achieve. In such cases, actors will concentrate their efforts on following the detailed formal procedure, rather than on searching for opportunities. Worse than that, actors will focus on resisting the procedural rules (Edelenbos 2005).

9.1.3 Opportunities and WA

The aim of WA is to make the most of the opportunities. Water authorities should therefore not only try to prevent or reduce negative consequences of an initiative, but also to achieve positive consequences for the water system. To a large extent, the design of WA can be interpreted along the lines of Covey's seven habits of highly effective people:

1. *Be proactive.* WA was developed to encourage water authorities to operate proactively instead of reactively in spatial planning. Prior to this, water authorities had responded to spatial developments by technically facilitating them. They were being acted upon. To give water a proper place in spatial decision-making, that attitude had to change. Water authorities have to engage in spatial planning from the outset of the planning process. They have to anticipate spatial decision-making.
2. *Begin with the end in mind.* Water authorities base their assessment criteria on their own water-management policy, which includes long-term objectives for the water system. They calculate the amount of space they need for water retention, identify targets in the context of the EU Water Framework Directive, make water-opportunities maps for spatial planners, etc.
3. *Put first things first.* Depending on the specifics of the spatial plan presented to it by the initiator, the water authority sets priorities, based on its water-management objectives. Using its overall policy as a frame of reference, it then tailors assessment criteria for that specific spatial plan and tries to identify in it opportunities for the water system.
4. *Think win–win.* Within the context of spatial water-management policy, a good relationship between water authorities and spatial planning authorities is im-

portant. To identify their common interests and win–win solutions, the two worlds of water management and spatial planning have to be connected. This is why cooperation between water managers and spatial planning is one of the basic principles in WA.

5. *Seek first to understand, then to be understood.* Connecting the languages of water managers and spatial planners is important in WA. They should try to understand each others ideas and communicate intentions in a comprehensible way. Extra efforts need to be made to translate the technical criteria used by water authorities into the spatial criteria understood by spatial planners.
6. *Synergise.* The developers of WA consider it to be a creative, interactive process. Water managers and spatial planners can attune their ideas, mutually adjusting them to reach a synergetic solution. Allowing flexibility in this process is an important aspect of WA.
7. *Sharpen the saw.* Water authorities and spatial planning authorities invest continuously in their relationships, and water management policy is renewed every few years.

Box 9.1: An example of a water board that tries to make the most of the opportunities

The 'De Stichtse Rijnlanden' water board not only aims at preventing the negative consequences of spatial plans for the water system. It also tries to improve the water system through WA. In their own WA manual, this water board distinguishes between 'basic WA' and 'WA plus'. Basic WA is geared towards preventing negative consequences. WA plus is geared towards improving the water system. The water board prefers to achieve its own objectives by synergising with spatial planning. The objectives formulated in its water-management plan, and presented on a map, have been based on a vision of the water system in the year 2015, and on a long term vision for 2050.

For example, spearheads of WA plus are:

- Increasing the capacity of the storage canals [*boezems*] 'Kromme Rijn', 'Oude Rijn' and 'Hollandsche IJssel'.
- Reducing or stopping land subsidence in the peaty soils.
- Improving the water quality of the 'Lopikerwaard'.

The water board considers as an opportunity cooperation with the municipalities involved. The water board sees good possibilities for them searching together in the early phases of planning processes to find good solutions. It prioritises its efforts in spatial planning processes according to how strongly water management features in the spatial plan. De Stichtse Rijnlanden aims to participate proactively in the category with the most important plans; those in which the water board can achieve the most for its water system (Hoogheemraadschap De Stichtse Rijnlanden 2004).

Using Covey's habits of effective people, we can link the focus on opportunities in WA to network coordination and communicative planning. However, Covey's ideas cannot fully explain WA. A more nuanced explanation is needed, because the cooperative and communicative process of WA is nested within formal responsibilities and procedures.

9.1.4 Opportunities and EIA/SEA

In EIA and SEA, negative as well as positive consequences should be taken into account. The objective of EIA/SEA encompasses environmental protection and environmental improvement, linked to environmental policy. In practice, however, there is a tendency to stress the risks involved rather than the opportunities. A description of the negative environmental consequences is a standard part of the Environmental Impact Statement. There is less focus on searching for the opportunities, using environmental policy as a visionary frame of reference. How can this be explained?

As we concluded in Chapter 7, network coordination and communicative planning do not get much attention in EIA and SEA. The informal networks and communicative processes remain hidden behind all the procedural requirements. Therefore, we cannot interpret EIA/SEA by means of Covey's seven habits of highly effective people. Covey's philosophy explains that without a focus on trust, cooperation, communication and understanding, the likelihood is small that attention will be given to searching for opportunities. Focusing on procedural requirement thus explains the tendency to stress the risks rather than the opportunities.

Edelenbos (2005) uses EIA as an example for illustrating that, in reaching synergetic solutions, too much focus on formal procedures works contra productively. Under such circumstances, actors devote their time and energy to following the procedural and analytical requirements for EIA and the EIS. Operating out of fear rather than trust, their main aim is to avoid sanctioning. If this occupies all the proponent's resources, then the actors will not pay attention to aspects such as: dialogue, searching together for win–win solutions, creativity, and even the aim of EIA itself. Following the EIA procedure and producing the Environmental Impact Statement will then become a target in itself. To become more effective in making the most of opportunities for the environment, EIA should put more emphasis on network coordination and communicative planning. Although it is important to keep this cooperative and communicative process linked to the formalities, the assessment procedure and the report should not become aims in themselves.

9.2 Power

To explain WA, EIA and SEA better, we need to include power more in the conceptual framework. Power does not feature as a clear-cut concept in the theory. "There has been much theorising about power but relatively little agreement on its definition" (Hillier 2002: 47). Based on the experiences with the instruments, we define power as

agenda-setting and manipulation. This definition is most useful for our explanation. At the same time, we acknowledge that it is very difficult to come to grips with the play of power in practice.

In the first subsection, we elaborate on this definition of power. We use the work of three authors who are authorities in the field of power and planning: Forester (1989, 1993), Flyvbjerg (1998) and Hillier (2002). Next, we discuss the position of power in the planning perspective. How does power relate to the rational and communicative planning approaches? We will argue that power is not a planning approach, because it lacks a normative ideal about planning in the public domain. Instead, it is about political practice and private interests. So to make planning less naïve and more effective, power has to be taken into account in rational and communicative planning. In the last two subsections, we focus on WA and EIA/SEA from the point of view of power.

9.2.1 Power as agenda-setting and manipulation

Forester (1989, 1993) discusses power as 'agenda-setting'. In his view, planning practice is about organising other people to give attention to certain issues. It is a political activity that focuses on mobilising bias. Organisations mobilise people to give attention to those issues that fit in with their organisational mandates and responsibilities. Agenda-setting defines the issue that the planning process is about. What problem does the rational planning process have to solve? What is the common task to focus on in a communicative planning process? In the planning process itself, information about consequences is lacking (uncertainty) and the preferences, perceptions and interests of actors are unknown (ambiguity). In such a planning process with uncertainties and ambiguities, different actors will pay attention to different issues. For this reason, agenda-setting is a necessary, useful and normal aspect of planning processes.

Hillier (2002) and especially Flyvbjerg (1998) view power as 'manipulation'. They both draw on Nietzsche and Foucault. If actors start to manipulate, then power becomes harmful to planning ideals, because it begins to distort the rationalities of rational and communicative planning, as when, for example, information is being manipulated or ignored to support actors' own interests.

Where rational planning is modelled on the ideal rational decision and communicative planning on the ideal speech situation, power has no a normative ideal. Nietzsche's 'will to powered' is an alternative for the ideal on the horizon. During the last period of his life, Nietzsche tried to interpret practical reality from the 'will to power'. According to Nietzsche, it is the principle of life and the one thing (rather than rationality) that all human beings have in common. In his view, human beings should bravely accept the world of power, because that is what the world is about (Weiland 1999). Actors strive to strengthen their own position and weaken that of opponents. They want to make their own view of the world, the world in which others live (Flyvbjerg 1998).

Rationalisation is the rationality of power. First, actors make a decision, or try to influence decision-making, based on their own agendas and interests. Then, they try to

rationalise the decision. Backstage, they manipulate, using the rationality of power. This does not necessarily imply dishonesty, because people can believe in their own rationalisations. Front stage, the actors present their decision rationally, rather than as rationalised. They present the arguments as being objective, for example, whereas, in fact, they are manipulated. Strategic actors, such as these, suppose that other actors are naïve and will believe that they speak the truth.

The Nietzschean doctrine of Hamlet is: "Knowledge kills action; action requires the veils of illusion" (Flyvbjerg 1998: 34). Within the concept of power, decision-making and action require illusion. Unbiased knowledge and better arguments about the consequences may destroy the illusion and kill the action. The knowledge of power is a kind of 'wanted' knowledge: manipulated or ignored, according to one's own interests. Contrary to rational planning, this kind of knowledge is not neutral, and contrary to communicative planning, it is not based on understanding. Front stage, however, it is presented in these ways. Nietzsche stated that "power *makes stupid*" (Flyvbjerg 1998: 37, *emphasis in original*). Nothing is what it seems to be. Is the information true, or has it been manipulated? Are other actors presenting their real preferences, or are they just pretending?

Private interests are far more important than public values and goals. People and organisations act strategically in their own advantage. Planning processes are presented as if they contribute to public goals, whereas, in fact, actors only want to achieve their own objectives. Politicians have their own agendas and may therefore ignore the expert analyses and information given to them by civil servants. On the other hand, experts may create a bias in their analyses, if they think this is what the politician needs. Formal democratic processes have a minor impact on decision-making, because democratic bodies get only the front-stage presentation. The backstage manipulations remain hidden.

Powerful companies and interest groups influence decision-making significantly. Formal public consultation that only builds on front-stage rationality hardy impacts decision-making at all, because it ignores power. Instead, the public should fight for true clarity and participation. The positive side of power is that there is no power without resistance. In accordance with Foucault and Nietzsche, Hillier (2002) states that people will resist power, by trying to unmask it and discover the truth.

9.2.2 The position of power in the planning perspective

Power cannot be positioned at the same level as the rational and communicative planning approaches, because it lacks essential characteristics that define a planning approach. First, power lacks a normative ideal about planning processes. Power does not provide guidance as to how things could be; it merely offers a view on the way things are. Second, power is not about acting in the common good, in the public domain. According to Foucault's idea of power, people basically make decisions for their own advantage. We find support for both arguments in Friedmann's definition of planning (1987), Faludi's definition of a planning approach (1982) and Hillier's idea about the *raison d'être* of planning (2002) (see Section 5.3).

Power distorts the ideals of rational and communicative planning. "The greater the power, the less the rationality", is one of Flyvberg's ten propositions (1998: 229). How does this happen? In the ideal-rational-decision model, an expert systematically follows the stages of formulating goals, identifying alternatives and predicting consequences. The expert delivers a neutral analysis to the decision-maker who uses the analysis to justify their choice. In practice, this phased model may not be used very systematically. This is not problematic, as long afterwards, it is possible to justify that the best alternative has been chosen. However, the ideal of rational planning is distorted if this justification is manipulated. The knowledge is then no longer as neutral as possible, because the *ex-ante* evaluation of the consequences has been manipulated, and the analyses are no longer unbiased. Instead, "power defines reality" and "power blurs the dividing line between rationality and rationalisation" (Flyvbjerg 1998: 227).

In the ideal speech situation of communicative planning all the actors take part, freely and equally and without coercion, in a cooperative search for the better argument. In this case, power distorts the communicative ideal, because the conditions for ideal speech are no longer met. Some of the actors may be missing, or perhaps they do not have all the information, and some have more power than others. Power relationships and social status then become more important than finding better arguments. When power comes into force, then the four validity claims of arguments no longer hold. People manipulate, instead of honestly speaking the truth. Power relates to the control over the four claims of trust, legitimacy, understanding and truth (Forester 1993).

We should take power into account without abandoning the planning ideals. The extremes of raw power at one end and naïve idealism at the other are both ineffective. Raw power is ineffective in the end, especially in the public domain, because it undermines legitimacy and accountability to the public. In most situations, therefore, there is a combination of power with rationality. These combinations occur in stable power relationships, which are more common than open confrontations. A combination of power with rationality gains more legitimacy and consensus than decision-making based on raw power (Flyvbjerg 1998).

Idealism alone is also ineffective, because, in reality, it is again power that is at work. Instead of being naïve and thereby ineffective, we should bring political reality into the ideals of planning, as Hillier (2002) suggests. This does not mean that we have to abandon the idealism of planning, because the essence of planning points the way forward to how things may be. As Forester (1993) argues, it is impossible to correct all the distortions, but we should strive to correct domination. Planning rationality can be strengthened by more clarity, accessibility and participation.

Rational and especially communicative planning have been criticised for not including power. In Chapter 5, we have argued that rational and communicative planners are not so naïve. Rational planners are at least aware of power, because they include it in the definition of the decision-making situation. Communicative planners are aware of power too. Habermas himself points to distortion of the ideal speech situation as a commonplace. On the other hand, these planning approaches lack Foucault's and Nietzsche's depth, because they opened up a different way of shedding

light on power and the dangers it produces. Their insight is a useful supplement to the ideal-typical planning approaches. It helps rational and communicative planning to deal more effectively with power.

To round off this subsection, we will look at Hillier's 'compromise', which is an excellent example of taking power into account in planning. Hillier's idea is not only interesting because it is theoretically thorough. The idea of 'compromise' is very useful for refining our interpretation of the three policy instruments. WA, EIA and SEA all work according to the principle that decision-makers *have to take account of* the interests of water and the environment. The principle is *not* that everyone must agree in the end, but that the decision-maker is clear about what has been agreed upon and where there is still disagreement. Differences and conflicts that cannot be resolved should not be hidden in false consensus or neutrality. On the contrary, conflicts and interests should be brought to the fore and included in the Water Recommendation, Water Paragraph, Environmental Impact Statement, etc. If there are many differing views, then this should be indicated.

Hillier (2002) points to links between the work of Habermas and Foucault. In her view, Habermas' ideal speech situation is too idealistic and abstracted from the real world. Hillier does not describe Habermas' ideas about strategic action, but uses the work of Foucault to discuss power. In his in-depth analysis of power in practice, Foucault gives us few indications of desirable collective action, unlike Habermas in his analysis of the ideal speech situation. Power and the ideal speech situation are very different concepts. In practice, we see combinations of the extremes. Hillier acknowledges that the ideal speech situation and real consensus cannot be reached in practice.

But compromise is a realistic alternative for consensus. Compromise is motivated by ideas of justice and mutual respect. In essence, it attempts to honour conflicts of opinion and agonistic vested interests, should they prove difficult to resolve. People disagree, but recognise each others interests as equal and bargain by applying fairness criteria. They do not act solely in their own interests, but neither do they change their perceptions into one common agreement. Another term for compromise, one that points to a relationship with network coordination, is 'swift trust'. In Section 5.2, we described full trust as the ideal, and acknowledged strategic bargaining in practice. Based on practical swift trust instead of the ideal of full trust, networking can then be understood as bargaining based on fixed interests.

9.2.3 Power and WA

Irrespective of how it functions, a Water Assessment requirement, in itself, directs the attention of spatial planners to water-related issues. The introduction of WA as a policy instrument has been a means for placing water on the agenda of spatial planning. In addition to this simple, but crucial, interpretation of WA as agenda-setting, further insights can be gained by looking at power as agenda-setting in the WA process. This will be described in this subsection.

First and most important, agenda-setting explains the type of knowledge used by water authorities in WA. The input of water authorities in WA is based on interests

and policy. This input cannot be explained by rational and communicative planning. By including the concept of power, we can explain that water authorities focus attention on their own interests and try to reach their own organisational goals. Secondly, we can throw light on what kind of manipulations are likely to occur in WA. However, it is difficult to interpret WA in this way, because there is a lot of emphasis on stable relationships and trust between the initiator and the water manager. Thirdly, we will focus on non-ideal speech and compromise.

In WA, water authorities mobilise attention to water-related issues, based on their organisational mandates and responsibilities. As functional democratic bodies, they act in the interest of water management. We should interpret the input of the water authorities in spatial planning, including the Water Recommendation, in the light of this agenda-setting. The Water Recommendation is a standpoint of a water authority, based on managerial priorities. It is neither an independent expert analysis, as in rational planning, nor is it free deliberation, as in communicative planning. The mechanism of agenda-setting by water authorities is very important in WA.

What sort of manipulations could occur, and how does WA anticipate them? Water authorities may manipulate information about the water system to realise their organisational interests. The municipality or province may have an interest in realising a societal initiative, possibly influenced by the private proponent of an initiative, and may therefore ignore the water authority's input. However, in interpreting the WA, its designers and users may not recognise that this has happened. They will emphasise the stable relationships developed and maintained by the water authorities and the initiators of the plan. On the one hand, it is a bit naïve that the quality of the input of water authorities is not questioned and checked in WA. The water authority has to deal with uncertainty and ambiguity, and so its recommendation is always questionable, and citizens and interest groups may have different perceptions about water management. From this point of view, putting the Water Recommendation under more public scrutiny would be a good thing to do. On the other hand, it is very clear in WA that the water authority represents a specific interest in the planning process; an interest for which it is responsible. This is not a situation in which manipulation is likely to occur.

In Chapter 6, we saw that, in practice, WA is not necessarily the ideal face-to-face and in-depth communicative planning process. It is often impossible to achieve a full consensus at the end of the process. The best that can then be achieved is a compromise. Should the water authority not agree with the initiator, then this authority should express this standpoint in its recommendation. The initiator describes the remaining differences between their spatial plan and the Water Recommendation, in the Water Paragraph.

9.2.4 Power and EIA/SEA

In this subsection, we look at EIA and SEA from the point of view of power. We start with power as an agenda-setting factor, followed by power as manipulative factor. At the end of the subsection, we will argue that EIA and SEA are not totally naïve. They anticipate power by the incorporation of several checks-and-balances and

offer possibilities for resisting domination. However, due to de-regulation, these checks-and-balances are currently being reduced.

An EIA or SEA directs attention towards the environmental aspects of a project or plan. The EIA/SEA obligation in itself directs attention towards the environment. The EIA/SEA procedure can be perceived as a process of agenda-setting. Firstly, in the Netherlands, the start of an EIA/SEA procedure has to be publicly announced. The announcement to the public is intended as a means of placing the environment on the agenda and stimulating public discussion. Secondly, formulating problems and goals is not a neutral activity, in that it creates an interpretation of the situation that sets the stage for action. Thirdly, identifying the key issues in the scoping phase is all about agenda-setting. This determines the alternatives and consequences that will be taken into account. Scoping is necessary to deal with limits to the capacity for handling information and preventing excessively comprehensive reports. Fourthly, an EIA/SEA focuses attention on alternatives. Fifthly, the competent authority has to pay attention to the environment in its decision-making.

To summarise, EIA and SEA can be explained to a large extent in terms of organizing attention towards environmental issues. Interestingly, Forester (1993) does this himself in his book dealing with agenda-setting. The rationale behind providing environmental information to the public is to put environmental interests on decision-makers' agendas. As soon as environmental information attracts public attention, decision-makers cannot ignore it. This mechanism is very important for environmental assessment, but it only functions if the societal initiative and the EIA/SEA indeed get enough public attention (Bonte 1996).

What kind of manipulations are likely to occur in EIA/SEA? As Bonte (1996) explains, the different actors have different interests, and these influence the Environmental Impact Statement (EIS). In the following paragraphs, we will discuss the interests of the actors involved and the manipulations that might occur. We start with the proponent, then the competent authority, environmental interest groups and the public. The proponent wants to realise his proposal. This is his core interest. He does not have an interest in environmental information that will kill his proposed action, so it is very likely that the initiator will write an EIS that will rationalise his own interest. Backstage, he may manipulate information, while front stage, to create commitment for his proposal, he will present the EIS as a neutral report.

The interests of the competent authority may be the same as the proponent, because this can be the same actor. As a decision-maker with political interests, it depends on political will how the competent authority will use the environmental information. Politicians use the EIS if it supports their own agenda, but otherwise they tend to ignore it. Front stage, the decision-maker will always argue that he is receptive to the environmental information and that he is taking it into account. He tries to avoid public distrust, negative attention in media and court rulings.

Environmental interest groups use information to strengthen the environmental interest in decision-making. They depend largely on the EIS, but can use this information selectively. They have the power to influence public opinion and media and to use court rulings. Individual citizens may represent local environmental interests, or

private interests. They often have the 'not in my backyard' attitude. EIA/SEA should provide them with sufficient information, which they will use selectively in their own interest.

EIA/SEA includes checks-and-balances to anticipate a play of power. EIA/SEA is not naïve regarding power. It takes it into account under the motto of guaranteeing good quality information, which viewed negatively, in fact means anticipating manipulation. The independent EIA Commission has the task of checking the quality of environmental information and preventing the proponent from engaging in manipulation. The public and interest groups depend largely on this information; good quality information empowers them. However, in most cases the involvement of the Commission will no longer be obligatory, as it has been in the past. Secondly, the competent authority used to check the environmental information provided in an EIA by the proponent. In the proposal for the new environmental assessment system that will be introduced soon, this will no longer be the case. Public involvement is the third check. In the new system, public consultation during the scoping phase is also being removed.

In the Netherlands, assessment procedures such as EIA and SEA are supposed to have too much power to resist spatial decision-making (VROM-raad 2006). There are too many checks-and-balances in regulations and they prevent proponents from realising their initiatives. Therefore, as described in the previous paragraph, the Ministry of VROM is trying to reduce assessment regulations. This will result in fewer checks-and-balances to prevent domination and manipulation. We can conclude that EIA was certainly not a naïve rational instrument, but one that anticipated the play of power by incorporating many checks-and-balances into its system. The current tendency of reducing these checks, gives more room for manipulation.

The question is whether the remaining checks will anticipate the play of power sufficiently. Of course, the Ministry of VROM (and consequently the Cabinet) answers this question positively. Their argument is that local and regional governments (the competent authorities) have become acquainted with environmental assessment after having used EIA for eighteen years, and so will take the environment into account. Their line of thought is that the environment is already on the agenda of the competent authorities, and so it will stay there after de-regulation. The competent authority can now make its own decisions as to whether or not additional procedural checks (above the remaining minimal national checks) are needed to guarantee that the proponent delivers good environmental information (TK 2005, 29383, No. 25). The Netherlands EIA Commission does not agree with this (Commissie m.e.r. 2005).

The Dutch Lower and Upper Houses have both expressed their doubts about reducing procedural checks in SEA, compared to the existing EIA. The Dutch Lower House has asked the Cabinet to maintain the formal involvement of the EIA Commission in all cases during the scoping and reviewing phases of SEA (TK 2005, 29811, No. 7). The Upper House has stated that public consultation in the scoping phase, and the obligatory involvement of the EIA Commission, are both important and effective guarantees in environmental assessment. The Upper House has thus expressed doubts about whether removing these obligatory checks will leave enough guarantees

for the environmental interest in decision-making (EK 2006, 29811 D). The Upper House eventually accepted the SEA proposal without additional obligatory checks. It has now been left to practice to show whether the remaining minimal procedural checks will suffice. This will be the subject of a policy evaluation, in which the Upper House will be involved (EK 2006, 29811 G).

10. Evaluations

The aim of this chapter is to gain insight into the effectiveness of Water Assessment (WA) and Environmental Impact Assessment (EIA) and the explanations for this effectiveness in terms of the strengths and weaknesses. Strategic Environmental Assessment (SEA) is not included in this chapter, because no evaluation study is available yet for this recently introduced instrument.

In the introductive section, we will first elaborate on what is meant by the effectiveness, strengths and weaknesses of the instruments. Then we discuss different ways in which effectiveness can be evaluated. We end the first section with a description of the empirical data that have been used. Four evaluations were selected. The results of these evaluations are described in Sections 10.2 up to and including 10.5. The last section is reserved for the conclusions.

10.1 Introduction

10.1.1 Research questions

For WA and EIA, the following research questions will be answered (see also Section 1.3):

- How effective is the instrument, and in what sense?
- What are the strengths and weaknesses of the instrument related to this effectiveness?
- How do these strong and weak elements relate to the theoretical concepts, as used in this thesis?

Effectiveness is a term with more than one meaning. It can therefore be evaluated in different ways. So before answering the question, 'how effective is the instrument?', the meaning of effectiveness first needs to be defined. In defining this effectiveness, we hold on to one thing: the meaning of effectiveness as it relates to the main aim of the instrument. We do so because this comparative study is founded on the similarity of the main aims of the instruments. This premise is thus the basis for this chapter too. WA and EIA both aim to give water/environment a fully valued status in decision-making processes. To consider effectiveness, therefore, we have to answer the question: to what extent has the main aim of the instrument been achieved, due to the instrument?

The former still leaves much room for different meanings of effectiveness. The definitions of the aims of the instruments are not specific enough to act directly as a measuring rod for effectiveness. In the explanations of the instruments in the previous chapters, tensions could be identified between the immediate, neutral aim on the one hand, and the ultimate, normative aim on the other. We will unravel the different meanings of effectiveness further in the next subsection, in combination with the

terms 'conformance' and 'performance'. The conformance and performance views of effectiveness relate to different evaluation structures, and to different interpretations of the aims of WA and EIA.

What do we mean by 'the strengths and weaknesses of the instrument'? The strengths of an instrument are those elements that contribute to its effectiveness. The weaknesses are those that fail to contribute to the effectiveness of the instrument, or even hinder its working. In analysing these strengths and weaknesses, we will not only look at how the instruments are designed, but also at how they are actually used. An example of a question related to the design is: 'does early involvement in the spatial planning process of water managers contribute to WA effectiveness'? An example of a question related to the application is: 'are water managers actually involved early enough in spatial planning processes'? These different kinds of questions are difficult to separate in evaluations, but we will distinguish between them wherever possible.

The third question about the relationship between the strengths and weaknesses and the theoretical concepts can only be answered by integrating the answers to the first and second questions with the outcomes of the previous chapters of this thesis. So we will reflect upon the strong and weak elements by relating them to the theoretical concepts and to the explanations of the instruments as presented before.

10.1.2 Conformance versus performance: different evaluation structures

Classical effectiveness evaluations measure the extent to which policy objectives have been realised by implementing the policy concerned. Effectiveness is then viewed as material conformance with these policy objectives. To measure this form of effectiveness, the situation when policy *is* used needs to be compared with the situation when it is *not* used. The difference between the two situations is the degree of effectiveness that can be attributed to the policy. Classical evaluations based on conformance have a 'black-box' approach. They provide insight into cause and effect relationships, but do not provide explanations for effectiveness (De Lange 1995).

In the fields of planning theory and policy implementation, criticism of the conformance view of evaluation has led to the performance view being proposed as an alternative. In this view, effectiveness is measured in terms of its 'use value', i.e., the value to decision-makers of using the instrument. Here, non-conformance with strategic plans or general policy objectives does not necessarily mean ineffectiveness, because effectiveness is gauged in relation to the specifics of the situation that has to be decided upon. In practice, the organisations that implement policy do so in a variety of contexts, and with a degree of autonomy. Implementers are not passive agents who implement policy objectives mechanically (Faludi 1988; Faludi 1980; Van der Valk 1989; Barrett and Fudge 1981; Williams 1971; Simonis 1983; De Lange 1995; Voogd 1995).

We will now explore the different meanings of effectiveness and the evaluation structures that are related to each of them. We do this along three lines — results and/or process; judging results; visibility of results — in a range that extends from

extreme conformance to extreme performance. Table 10.1 summarises the different evaluation structures. It will be used to classify the four types of evaluation described in this chapter.

Results and/or process: Classical conformance evaluations are only concerned with results. The decision-making process is a 'black-box'. Such an evaluation does not provide explanations for the degree of effectiveness, it does not reveal the strengths and weaknesses of the policy. Performance studies evaluate the process and/or the results. It is the process evaluations that open up the black-box of decision-making processes and provide explanations for effectiveness. They do not measure the results, and, in fact, do not evaluate effectiveness itself. However, the second type of performance studies *do* focus on results, in the sense that the policy has to be taken into account in decision-making. A performance study can also focus on *both* process and results. In summary: the positions along this line of evaluation are: a. results (conformance and performance); b. results and process (performance); c. process (performance).

Judging results: In the conformance view, the outcomes of decision-making must correspond in a material sense to the policy objectives. For example, a municipality's decision has to correspond with national policy objectives. In the performance view, the results of decision-making can be judged in two ways. In the first line of thought, policy should give direction to subsequent decision-making. The results must be more or less in line with the policy objectives. In fact, this is a somewhat looser, normative standpoint, as in the conformance view, and the content of the decision outcome remains important. In the second line of thought, policy has to be used in subsequent decision-making, the quality of which has to be improved. The concept of 'use value' is neutral towards the decision outcomes. Policy objectives should be taken into account in the decision-making process, but the decision-maker can also be motivated towards decision outcomes that are not in accordance with these objectives. The content outcomes are unimportant, as long as serious attention has been given to all the relevant arguments. In summary, the positions along this line of evaluation are: a. material conformance; b. in line with (performance in the sense of normative direction); c. use value (performance in the sense of the quality of decision-making).

Visibility of results: Performance includes two types of use. De Lange (1995) calls them instrumental and conceptual use. For instrumental use, there are direct references in documents to the results of decision-making. The results are clearly written down, and are visible in formal documents. For conceptual use, there are no direct references. The actors use the policy in their discussions and their perceptions change, but this is not directly visible in documents. Because of its 'invisibility', it is difficult to measure this type of performance. The two interpretations of use value require different research methods. Evaluating visible use means analysing formal documents. Evaluating invisible use means interviewing or surveying the actors involved. An intermediate form is asking the actors involved about the written results. In summary, the positions along this line of evaluation are: a. visible references in formal documents; b. actor's opinions on the visible value of using something; c. invisible value of using something, in discussions between actors.

Table 10.1: Different evaluation structures

Conformance or performance view of evaluation	**Focus on results and/or process**	**Judging results (effectiveness)**	**Visibility of results in documents**	**Neutral or normative towards decision outcomes**
conformance	results	material conformance	visible	normative
performance	results	in line with	visible	
			opinions on 'visibly in line with'	
		use value	visible	neutral
			opinions on 'visible use value'	
			invisible	
	process			

The conformance-performance issue in the context of WA and EIA is more complicated than the explanation given above. The aim of such an assessment instrument is to improve the *link* between policy objectives (i.e. in our case, between water and environmental interests) and subsequent decision-making. This adds an intermediate step to the conformance/performance issue (see Fig. 10.1). The instrument itself does not include policy objectives about the content of decision outcomes. In fact, it is the instrument itself that aims at conformance and/or performance.

The structure of an evaluation can be related to how the aim of the instrument is interpreted. If we interpret the aim of the assessment instrument as being neutral towards decision outcomes, the aim of the instrument can be classified as performance, in the sense of use value. Environmental consequences should be taken into account in decision-making. Alternatively, if the aim of the instrument is interpreted as being normative, then the decision outcomes must conform with the environmental interest (as formulated in policy), or at least be more or less in line with it (see Table 10.1).

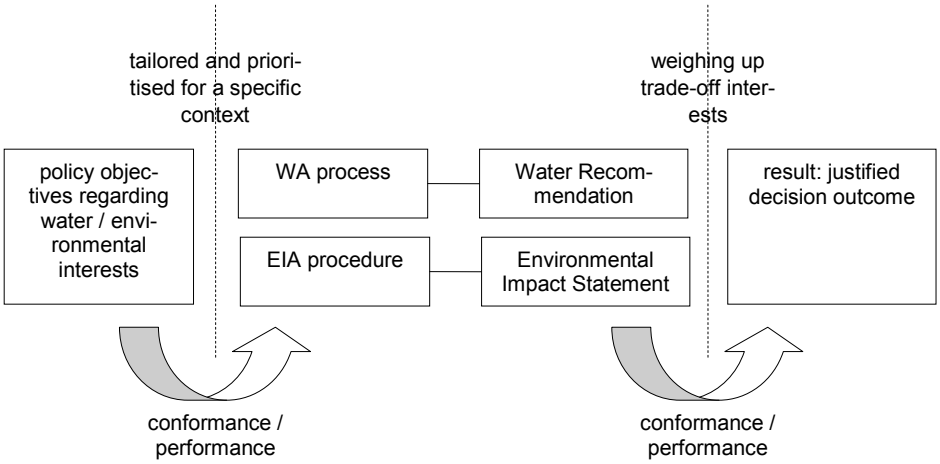


Figure 10.1: Conformance and performance in relation to WA and EIA

10.1.3 Selection of the four evaluations

To answer the research questions, we use secondary empirical data, namely four evaluation studies:

- The 2006 evaluation of the Water Assessment instrument
- Ten Heuvelhof and Nauta's 1996 evaluation of EIA
- NovioConsult's 2003 evaluation of EIA
- De Valk's 1997 of EIA

The Ten Heuvelhof and Nauta evaluation of EIA and the evaluation of WA are both performance evaluations. The NovioConsult evaluation of EIA can be classified as a broad-brush performance evaluation. De Valk's evaluation of EIA is a classical effectiveness study, primarily from a conformance view point.

Why have these four evaluations been selected? In the first place, they all focus on the effectiveness of the instruments and/or on explanations of effectiveness. This is necessary to be able to answer the research questions. Secondly, all four evaluations are national-level analyses, as is the scope of this thesis. Thirdly, the evaluations had to have a certain 'status' so that they could act as a quality mark. They had to be 'official' evaluations requested by the national government, or an evaluation with scientific status, as both function as quality marks. The first three evaluations mentioned are official governmental evaluations. The fourth is a thesis.

How should secondary data be used? The four evaluations were not conducted within the framework of this thesis. Moreover, they evaluate effectiveness in different senses and by using different methods. Consequently, care should be taken in interpreting and comparing the results of the evaluations, and what the evaluation results are based on should be clearly indicated. Therefore, each section about an evaluation starts with a description of its structure and the evaluation method used.

Secondly, we make a distinction between the results of the evaluation and our own interpretation of the results. In the subsections about effectiveness, strengths and weaknesses, we just select the relevant results from the evaluation, without interpreting them. We then checked this with the researchers who had carried out the evaluation, to be sure that we had summarised them correctly. The reflective subsections are our interpretation of the evaluation results. In these subsections, we link the evaluation results to our own set of concepts. The comparison in Section 10.6 is also been based on our own interpretation.

10.2 Evaluation of Water Assessment 2006

The requirement for the evaluation of WA was part of the National Administrative Agreement on Water (NBW 2003). The WA evaluation was carried out within the setting of the National Platform on Water (*LBOW*, see Section 2.1)[3]. This resulted in an overall evaluation report (Werkgroep Evaluatie Watertoets 2006), several underlying reports (Van Ark, Boot and Smits 2006; Duenk and Jansen 2005; Duenk and Roelofsma 2005; Werkgroep Watertoets 2005) and articles in Dutch journals (Van Dijk and Jansen 2007; Van Dijk and Van Ark 2006). This section is based on these documents.

10.2.1 Evaluation structure and method

The WA evaluation focuses both on results and process. The aim was to ascertain the effectiveness of the WA instrument and to provide explanations for the evidence gained. The results were primarily judged in terms of *use value,* and the degree to which water interests had been taken *into account* in decision-making in an *explicit* and *balanced* way. The justification of how water was being handled and utilised was an important input for the evaluation ('explicit'). The word 'balanced' suggests that a normative response is required in the evaluation. It is likely that actors interpreted 'balanced' as a requirement that the outcomes of decision-making must be in line with water interests, or compensation would have to be paid. The WA evaluation looks at the results

[3] The Ministry of Transport, Public Works and Water Management commissioned the so-called Cluster on Monitoring, Reporting and Evaluation (*LBOW-Cluster MRE*) to carry out the evaluation of WA. This cluster monitors and evaluates water management systems, bodies and projects and is made up of representatives of ministries, provinces, water boards and municipalities. Cluster MRE asked seven WA practitioners and two employees of the Dutch Institute for Inland Water Management and Waste Water Treatment (*RWS-RIZA*) to form a working group for the evaluation, for the period of two years (2005 and 2006). As an employee of *RWS-RIZA*, the author of this thesis was the project manager of this evaluation.

in all possible ways: visible references in documents; actor's opinions about WA's visible and invisible use value (see Table 10.2).

Table 10.2: Classification of the evaluation structure of the WA evaluation 2006

Conformance or performance view on evaluation	Focus on results and/or process	Judging results (effectiveness)	Visibility of results in documents	Neutral or normative towards decision outcomes
performance	results	in line with	opinions on 'visibly in line with'	normative
performance	results	use value	visible	neutral
			opinions on 'visible use value'	
			invisible	
	process			

The aim of WA is to guarantee that the interests of water are taken into account in spatial plans in an 'explicit' and 'balanced' way. At the start of the evaluation, this aim was interpreted more specifically, as the criterion for effectiveness. It was stated that the word 'explicit' aims at achieving clear and understandable descriptions of the water interests in WA products such as the Water Recommendation and the Water Paragraph. The recommendation of the water manager must be clearly visible either in a document referred to in the plan, or as part of the Water Paragraph in the spatial plan itself. A spatial plan must include a description of how account has been taken of its water-related consequences. This description must be clearly visible in the plan, whether it is submitted as part of the Water Paragraph or not. It must explain how the initiator deals with the input of water interests as provided by the water manager. The word 'balanced' aims at motivating weighing up water interests against other interests in the decision about trade-offs. It is important to justify this trade-off in the plan, because if it is negative for water interests, then demands for compensation will have to be met. The basic document for motivating the appraisal of water interests is the Water Recommendation (Werkgroep Watertoets 2005).

Different research methods were used for the WA evaluation, some of them quantitative and others, qualitative. It also combined research based on opinions with analyses of written texts in formal documents (see Table 10.3). Royal Haskoning first interviewed 73 employees of governmental organisations. These interviews, each lasting approximately an hour, were conducted by telephone. The units of analysis were organisations. The people interviewed included: 26 employees of municipalities and the WA coordinators of all the provinces, all water boards and all regional departments of the Directorate-General for Public Works and Water Management. These interviews gave insights into the practical application of the WA process. They also gave an overall picture of the effectiveness of the instrument (Duenk and Roelofsma

2005). The people who were interviewed gave many suggestions for interesting case studies. Five of them were analysed through interviewing and through analysing relevant documents. The case studies provided nuanced insights into the practical functioning of the WA instrument (Duenk and Jansen 2005).

Table 10.3: An overview of the methods used in the WA evaluation 2006

73 in-depth interviews with WA practitioners	qualitative	opinions
5 case studies	qualitative	opinions + documents
analysed 183 spatial plans and Water Recommendations	quantitative	documents
surveyed 540 actors who were involved in these 183 WAs	quantitative	opinions

The quantitative part of the evaluation included analyses of documents and surveys. The primary aim was to provide statistically representative conclusions about the effectiveness of WA. The units of analysis were spatial plans for which the final decision-making took place in the year 2005 and for which a WA should have been done. The following types of spatial plans were analysed: local land-use plans (145 plans, which, as a sample, gives a margin of error of 0.1); all the structural plans, all the regional spatial plans, all the infrastructural plans and all the *Reconstructieplannen* (specific plans for rural areas). In total, 183 plans were analysed. For each plan, researchers of DHV analysed the Water Recommendation and the spatial plan with the Water Paragraph. They combined this (for each plan) with an internet survey that asked the actors involved (the water manager, initiator and the higher authority) for their opinions about the plan (Van Ark, Boot and Smits 2006).

10.2.2 Evaluation results: the effectiveness of WA

In the evaluation report, the main conclusion about the effectiveness of WA is that it is quite effective for spatial plans on an actual, operational level of decision-making, but it is not effective enough for strategic spatial plans where decisions have to be made regarding locations. In general, those involved in the assessments were very positive about the instrument's effectiveness. In the surveys on spatial plans, water managers stated that in 81% of the plans the interests of water were taken into account in an explicit and balanced way ('reasonable' to 'very well'). The initiators stated that this was the case in 98% of the spatial plans. However, opinions were much less positive when it came to asking about choices of location for spatial activities. In half of the relevant spatial plans, WA did not influence the choice of location enough. This was the opinion of both the water managers and the initiators. Water authorities have difficulties with positioning the water interest strongly in 'battles' between the various interests involved while making strategic decisions about locations. If water authorities succeed, they do so because of the personal competences of individuals. Most water

managers tend to think that the negative impacts of a location can be mitigated by taking practical measures at the operational level.

Overall, the actors involved were reasonably positive about the extent to which the WA aim was being met *and* about the degree to which the results were actually due the instrument itself. In two-thirds of the spatial plans, initiators, water managers and higher authorities all stated that the results achieved were totally, or at least partly due to WA. The WA instrument is, however, not the only factor that contributes to achieving the aim of the WA instrument. Other factors also contribute to ensuring that water interests are taken fully into account. The most important of these are: recognising the importance of water interests from the very start; that the initiator and water manager contact each other regularly; and striving in general to ensure good spatial planning.

If the evaluation had been based solely on document analyses, the conclusion on effectiveness would have been negative. The Water Recommendation appeared to be unavailable in 43% of the spatial plans, and the quality of half of those that were available was judged by the DHV researchers to be insufficient. The main points of criticism of these recommendations were that the assessment criteria were seldom formulated clearly, and that the water manager did not make clear enough why certain water aspects were relevant for a specific plan.

The evaluation team found that Water Paragraphs were available much more frequently: 84% of all spatial plans included a Water Paragraph that addressed the relevant water aspects, although DHV criticised their quality. According to the initiators, a Water Paragraph was irrelevant for the other spatial plans. DHV found that the initiator often only addressed the water aspects without seeing how these aspects were being tackled in the spatial plan. It was also unclear how the attention paid to water aspects related to policy objectives.

The rule is that if a plan is negative for water interests, then the initiator has to compensate for this. However, in the Water Recommendations and spatial plans, not enough attention is being paid to compensation. Secondly, the spatial plans are not explicit about the financial agreements and the cost-instigating principle. Thirdly, the water aspects as addressed in the Water Paragraph are not visible in the juridical sections of local land-use plans.

Overall, the actors involved were satisfied with the quality of the documents that resulted from a WA. The initiators judged the quality of the Water Recommendations to be sufficient. They understood the recommendations and were positive about the argumentation given by the water manager. The Water Recommendation appears to function well in the total process of WA for the actors that are directly involved in it. In 69% of the spatial plans, the water authority considered the initiator to be sufficiently well motivated in dealing with all the relevant water aspects in the plan. However, an interesting paradox emerged during the questions asked in the in-depth interviews. While the interviewees were positive about the results of WA in the spatial plan, they admitted that the Water Paragraph was formulated too vaguely and did not do justice to WA's achievements. The positive reactions to the WA process, as per-

ceived by insiders, were not explicitly described in the formal written documents. Tension was revealed between the invisible perceptions and the visible results.

To summarise, we will answer the first research question: How effective is the instrument, and in what sense? From the 2006 evaluation it appears that WA performs well in the sense of *use value*, and that water interests are being taken into account in decision-making. This means that water features in actors' discussions (invisible use value) and that these actors are positive about the visible results. However, WA appears to be ineffective with regard to its visible use value, because the direct references in documents are, in fact, insufficient. On the operational level, decision-making is 'balanced' as far as water interests are concerned, which comes close to performance 'in line with' water interests. WA is ineffective in this sense for strategic spatial plans, with respect to decisions about locations.

10.2.3 Evaluation results: the strengths and weaknesses of WA

The primary strength of WA is the involvement of the water manager in the spatial planning process from the earliest stages onwards. That the evaluation has reached this conclusion means that the basic assumption of the instrument has been confirmed: the relationship between the informal, early process and the resulting spatial plan. If the actors involved cooperate and communicate well, and are satisfied about the results of the informal process, water aspects are likely to influence decision-making.

Are the water managers actually involved in good time in spatial planning processes, in practice? In 80% of the spatial plans, the initiator states that he involved the water manager in good time. 54% of the water managers agree with this. In 15% of the spatial plans, they state that they had not been involved in time and that this mattered. This means that there is room for improvement on this point.

In practice, most of the interaction occurs at the local level between municipalities and water boards. They deal with WA pragmatically and flexibly, and prefer to communicate about actual plans rather than vague ideas. The initiators and water authorities are positive about their communication and cooperation. On average, they judge their communication as 'good' to 'very good' in 62% of the spatial planning processes. In 16%, they judged the communication as being mediocre or bad. Spatial planners and water managers strengthened their relationships by, for example, organising cooperation structurally. Based on personal, informal contacts, these networks were reported as functioning adequately. Since the introduction of WA, the linkage between the languages of spatial planning and water management has improved significantly.

Where the actors involved were satisfied with the results of the communication in the first, informal phases of WA, then the following phases did not appear to contribute much more to effectiveness. In these situations, the water manager was confident that the initiator would take the interests of water into account when deciding about the spatial plan. As a result, the water manager put little effort into writing a well thought out Water Recommendation and little attention was given to the formal

decision-making and reviewing phases. In actual fact, the involvement of the water managers in the formal decision-making phase was marginal. In most of the cases, they did not even know what the final, formal, decision about the spatial plan was.

Should the actors involved be dissatisfied with the results of the first phases of WA, then they can use the 'safety nets', such as the Water Recommendations, the review of the higher authority and/or the possibilities for public consultation, objection and appeal. These elements of WA are of a more formal character and, in practice, act as a back-up. The Water Recommendation appears to contribute to the effectiveness of WA, but not directly, as a precondition, as had been assumed. It functions as a 'safety net', because the water manager will use the recommendation to deliver his input in cases where he is not satisfied with the interactive process in the earlier phases. The same applies to the use of statutory requirements for WA. These function as controls for initiators who do not engage with enthusiasm in the informal processes. For water managers and ambitious initiators, the statutory requirements play a much smaller role in their engagement with Water Assessment. The formal safety nets add a useful secondary element to WA procedures, that strengthens the instrument as a whole.

In practice, the review by the higher authority also functions as a 'safety net'. In 73% of the spatial plans, the province made comments about WA to the municipality. A quarter of these comments can be classified as 'heavy'. In the first instance, the province makes these comments informally to allow the municipality to adjust the plan. This happens in most of the cases, so the comments seldom reach the stage of formal disapproval. If the water authority does not agree with the final spatial plan, it can use the possibilities for controlling the spatial planning procedure through consultation, objection and appeal. In practice, the water authorities hardly ever use these possibilities.

The major weakness of WA is the poor quality of its written products. In the evaluation, it was identified that:

- The Water Recommendations were insufficient in number and quality.
- The Water Paragraphs do not contain enough information about how initiators are dealing with the water interests in the plan.
- The water aspects are not incorporated into the strict regulations in local land-use plans.
- No explicit attention was given to compensatory measures and to their financing.

For the researchers who analysed the documents as 'outsiders' in the WA process, it was unclear how the interests of water had been taken into account. This means that Water Assessment is probably also unclear to other actors, such as citizens and NGOs, who were not directly involved in the cooperative process. Moreover, there are no legal guarantees for the interests of water during the implementing phase. For the 'insiders' in the process, this may not be problematic, as they have the feeling that they are achieving something. However, it *is* problematic in the sense that it contravenes the legitimacy, rightfulness and democratic accountability of decision-making.

We summarise this subsection by answering the second research question: What are the strengths and weaknesses of the instrument, related to this effectiveness? The main strength of WA is the involvement of the water manager in the planning process from the earliest stages onwards. Cooperation and communication during these informal phases contributes significantly to the effectiveness of WA. The later phases of WA — the Water Recommendations, the review of the higher authority and/or the possibilities for formal consultation, objection and appeal — act as 'safety nets'. The major weakness of WA is the poor quality of the written products.

10.2.4 Reflecting on the evaluation results

We direct our thoughts about these evaluation results onto three of the topics raised in the evaluation:

- Satisfaction on the operational level of decision-making as opposed to difficulties on the strategic level.
- The strength of informal cooperation in the first phases supported by the 'safety nets' that operate later in the WA process.
- The tension between invisible communication and visible justification.

We will reflect on the first topic with Covey's seven habits and 'power' in mind (see Chapter 9). The evaluation indeed shows that water managers engage with spatial planners proactively in cooperative processes, and invest in relationships. This appears to be successful at the operational level. The question now is whether we can improve effectiveness at the strategic level of decision-making. The actors involved are busy assessing thousands of small plans at the operational level. The evaluation is a good occasion to stand aside from the daily work and examine it against the greater challenge of living in an urbanised delta like the Netherlands. As Covey would say, refresh the mission statement, purpose and values and prioritise your goals. It may be more effective to shift focus away from the many operational plans to those in the higher tiers of decision-making. It requires a redefinition of the cooperative relationships to build creative synergy at the strategic level.

The concept of power warns us to guard against naivety in expecting that this will actually occur in practice. At the higher levels of decision-making, strongly vested socio-economic interests will resist influences from the water-management perspective. They will probably prefer to keep the illusion that negative water-related consequences can be completely eliminated at the operational level. Water authorities can intervene by adopting strategic and tactical behaviour. They can, for example, seek alliances with powerful environmental interest groups and question the legitimacy of socio-economic activities in the light of the water-related risks. They should at least communicate clearly about the areas of disagreement. In practice, however, water boards are not used to acting strategically and politically, so they are not very skilled at this way of negotiating.

The second interesting outcome from the evaluation results is the strength of informal cooperation during the first phases of WA and the support provided by the

functioning of the 'safety nets' later in the process. We will reflect on this from the steering perspective. In the evaluation, network coordination appears to be the core strength of WA. The cooperation between the spatial planning authority and the water authority in the early, informal phases contributes significantly to the effectiveness of WA. The actors build trust relationships and they are positive about their mutual communication and cooperation. Meta-governance theory tells us that there is nothing wrong with this strong focus on network coordination, if the actors remain reflective and flexible; they must be able to switch to other modes of coordination if these would be more effective in particular situations. The evaluation shows that this occurs to a certain extent. However, the actors do not make full use of the possibilities. In particular, the hierarchical elements of the linked framework could be put to better use by tightening up the procedures, by switching over to the formal requirements, should the informal processes appear to be ineffective.

For example, the spatial regulations offer water authorities the possibility of criticising the initiator's formal decision by using the public consultation procedures, lodging objection or by appealing against the decision. The evaluation reveals that, in most of the cases, water authorities do not even know what the final decision is, and even if they do know, and are dissatisfied with it, they seldom use the formal spatial-planning procedure to criticise the decision. As water authorities do not even know the outcomes of their cooperative efforts in the informal phases, they also lack the trigger and reflectivity to shift from informal to formal procedures during the later phases of spatial planning. The market elements in WA could also be put to better use. In particular, the cost-instigating principle could be a strong argument in WA, whereas, in practice, it is given hardly any attention.

The third discussion point arising from the evaluation is the tension between invisible communication and visible motivation. We will reflect on this topic from the planning and content perspectives. WA has been designed as a mixture of communicative and rational planning. The evaluation reveals that the communicative elements of WA live up to their promise (although in a pragmatic way) and that the rational elements do not. In the Water Paragraph, initiators do not explicitly explain how they deal with the water interests. Moreover, water managers do not pay much attention to the formal spatial decision-making moment. This is problematic because this creates a lack of clarity and understanding which in turn influences accountability and how the WA process becomes 'nested' in the institutional framework.

The lack of transparency is also problematic from a content perspective. One effect is that the public, companies, NGOs and other 'outsiders' do not have enough information to enable them to criticise the trade-off decision. More transparency of the water-related consequences and uncertainties would at least enable them to gain a better understanding of what is likely to result from whatever plan is proposed. Although more 'outsider' involvement would also broaden the multiplicity of perceptions involved in decision-making, it can at the same time be seen as representing extra support for water authorities. Thus, a greater multiplicity of perceptions should not be viewed as a drawback, as something to be feared, but welcomed as a support mechanism.

To conclude this reflection, we will briefly answer the third research question: How do these strong and weak elements relate to the theoretical concepts, as used in this thesis? The main strength of WA lies in its capacity for networking and communicative planning. The hierarchical elements of WA function as safety nets should the results of the early, informal cooperation be insufficient. These safety nets are currently not being used fully enough, and neither are the market elements. The same holds for the rational elements of WA. The initiator's motivation statement in the Water Paragraph, related to the formal decision, is rarely convincing enough. This causes problems in that it reduces clarity and understanding, especially for outsiders, which is problematic regarding the multiplicity of perceptions in decision-making. Another conclusion is that it is now time to improve WA effectiveness on the higher levels of decision-making. An ideal at this strategic level would be to try and create synergy; to achieve a stronger outcome by combining the forces of the different parts involved. To get water high on the agenda at this level, the water managers will have to learn to act more powerfully and more strategically.

10.3 Ten Heuvelhof and Nauta's evaluation of EIA in 1996

One of the requirements of the Environmental Management Act is that the EIA has to be periodically evaluated. In 1996, to fulfil this obligation, Ten Heuvelhof and Nauta conducted an in-depth study of the effectiveness of this assessment instrument (Ten Heuvelhof and Nauta 1996; Ten Heuvelhof and Nauta 1997; ECWM 1996).

10.3.1 Evaluation structure and method

Ten Heuvelhof and Nauta's performance evaluation of the EIA focuses on both the process and the results. Performance is mostly measured in terms of use value, although sometimes it focuses on outcomes. The *use value* is evaluated in two ways, based on actors' opinions of both the visible use value (the 'actions') as well as the invisible use value (the 'perceptions'). This evaluation differs from the WA evaluation in that there is no analysis of documents on the decisions that have been made. Another difference is that only quantitative evaluation techniques are used. Even the process component (explanations) is analysed quantitatively.

Table 10.4: Classification of the evaluation structure of the EIA evaluation carried out by Ten Heuvelhof and Nauta in 1996

Conformance or performance view on evaluation	**Focus on results and/or process**	**Judging results (effectiveness)**	**Visibility of results in documents**	**Neutral or normative towards decision outcomes**
performance	results	in line with	opinions on 'visibly in line with'	normative
performance	results	use value	opinions on 'visible use value'	neutral
			invisible	
	process			

In this evaluation, an EIA is considered to perform well if it influences the actions and/or the perceptions of the actors involved. An action is actual behaviour that is visible and tangible. A change in the level of perception refers to the actor's view. The researchers distinguish three kinds of performance: direct, indirect, and net beneficial. *Direct performance* occurs when both the proponent and the competent authority agree that *at least one* of the following seven things has occurred:

- That due to EIA the proposal that the proponent eventually submits to the competent authority differs from the initiative presented at the start of the EIA (action).
- That the competent authority's decision about the submitted proposal has been clearly influenced by the EIA process (action).
- That due to EIA, an actor changes his opinion about the usefulness of and need for the proposal (perception).
- That an actor changes his opinion about the reasonableness of the alternatives in the EIA (perception).
- That due to EIA, an actor gets a better impression of the alternative possibilities (perception).
- That due to EIA, an actor gets a better impression of the environmental consequences (perception).
- That due to EIA, the actors involved 'agree on more' (perception).

Indirect performance refers to EIA operating in other decision-making processes than the one for which the EIA has been carried out. We will not discuss this kind of performance here. *Net beneficial performance* is direct performance in relation to the costs. It occurs when the performance of the EIA is direct and the actor states that the surplus value of EIA offsets its costs.

To find explanations for the determined levels of performance, the researchers looked for variables in the EIA system. They then examined these variables in relation to the net beneficial performance of EIA to find out whether there was a statistically

significant relationship between the variable and the net beneficial performance. The following variables were researched.

- The type of EIA activity: e.g., licence, spatial planning, infrastructure, strategic planning.
- Division of roles between the proponent and the competent authority: i.e., do they come from a different or the same organisation.
- The type of proponent: e.g., private, semi-private, municipality, province or ministry.
- The timing of the EIA procedure: i.e., in time, or too late.
- The degree of definition of the initial proposal: i.e., fully thought out /detailed or vague/in outline.
- The quality of the Environmental Impact Statement: sufficient or insufficient, measured against fourteen variables.
- The suitability of the EIA Commission's advisory guidelines (scoping phase): suitable or unsuitable.
- The suitability of the competent authority's guidelines (scoping phase): suitable or unsuitable.
- The degree of controversy attached to the proposal: small or great.
- Experience of EIA procedures: whether or not the person involved has previously been involved in another EIA.

A quantitative method of evaluation is used, one that is primarily based on the opinions of the actors involved in an EIA. During the last eight years (up to and including 10 April 1995), decisions have been taken on 213 EIAs in the Netherlands, 211 of which were suitable for inclusion in this evaluation. The 211 EIAs were divided into four categories: licence (122), spatial planning (46), infrastructure, including dykes (20) and strategic (23). The researchers used a survey sample that had a reliability of 90 percent and a margin of error of 0.1. This resulted in a total survey sample of 105 EIAs.

Each EIA was analysed in two ways: (1) by conducting telephone surveys with six of the actors involved, and (2) by analysing Environmental Impact Statement documents. The six actors in the first survey were:

- The proponent: the person who represented the proponent in the EIA procedure.
- The competent authority: the person from the organisation that was involved the most.
- The EIA Commission: the secretary of the working group.
- The legal advisor: the person from the organisation that was involved the most.
- Participant in the public consultation: someone from a professional environmental NGO.
- An external advisor (where relevant): someone from the consultancy agency.

The researchers asked 618 respondents to cooperate in the research, 590 of which completed the questionnaire. For analysing the Environmental Impact Statements, the researchers used the gauge developed in 1994 (Van de Gronden et al. 1994). Ten Heuvelhof and Nauta used the secondary data of 27 EISs (analysed in 1994) together with analyses of an additional 78 EISs. The Van de Gronden gauge consists of 14 questions about the EIS. The researchers answer these questions and eventually give the EIS a grade for overall quality.

Table 10.5: Overview of the methods used in Ten Heuvelhof and Nauta's EIA evaluation in 1996

surveyed 618 actors who were involved in 105 EIAs	quantitative	opinions
analyed 105 EISs	quantitative	documents

10.3.2 Evaluation results: the effectiveness of EIA

Ten Heuvelhof and Nauta (1996) concluded that EIA performed very well in the Netherlands. They identified direct performance in 79 of the 100 EIAs: i.e., the actions and/or perceptions of the actors changed due to EIA. Fourteen of the EIAs showed excellent net beneficial performance, 26 EIAs reasonable net beneficial performance, 29 EIAs had some net beneficial performance and 29 EIAs showed no performance at all after the costs of the EIA process had been taken into account. In its overall conclusions and recommendations, the Evaluation Committee concluded that EIA functioned 'reasonably to well'. They did not recommend any major changes in the EIA regulation, because the evaluation results gave no reason for doing so (ECWM 1996).

Table 10.6 shows the direct-performance results in detail. In 52 out of 100 EIAs, direct performance occurs on action level. In these cases, the proposal that the proponent eventually submitted to the competent authority differed from the initiative presented at the start of the EIA, due to the EIA (31), *or* the decision of the competent authority on the submitted proposal has been clearly influenced by the EIA process (40). In 68 out of 100 EIAs, direct performance occurred on a perceptual level. The surveys included an overall question about how effective the EIA had been in raising the status of environmental interests. The results of the questionnaires on EIA performance were then checked against the answers to this question. Overall, the respondents evaluated the effectiveness of EIA positively.

Table 10.6: The number of EIA projects with direct performance (Ten Heuvelhof and Nauta 1996, Table 4). The total of EIA projects is 100.

	According to the proponent and competent authority, EIA influences: …			**According to the proponent and competent authority, EIA influences: …**		**Direct performance, according to the proponent and competent authority**
actions	submitted proponent's proposal to the competent authority	31	or	52	or	79
	the competent authority's decision	40				
perceptions	opinion on the usefulness of, or need for, the proposal	1	or	68		
	opinion on the reasonableness of the alternatives	9	or			
	impression of alternative possibilities	42	or			
	impression of environmental consequences	52	or			
	the 'distance' between actors	29				

How effective is the instrument, and in what way? We will now summarise the answer to this research question for EIA, based on Ten Heuvelhof and Nauta's evaluation. In the last section, we will combine the results of the three EIA evaluations. The answer to the research question above for EIA is that 79% of the EIAs performed in such a way that the actors involved felt that the instrument was influencing their perceptions or the visible actions. These actors also considered the invisible performance to be stronger than the visible performance. Overall, these actors evaluated the EIA positively in that, in their opinion, decision-making was giving greater emphasis to environmental interests.

10.3.3 Evaluation results: the strengths and weaknesses of EIA

The researchers investigated the relationship between ten elements of EIA and the instrument's net beneficial performance. Two of these elements appeared to be related.[4] First, a timely start results in a better net beneficial performance. The starting moment of an EIA (with the notification of intent) is significantly related to the net

[4] In the first instance, a third element appeared to be related too. Where the proponent and the competent authority are identical, i.e. the same organisation, then the net beneficial performance is bigger. However, this variable is not relevant if other elements of EIA (i.e., its management) are taken into account.

beneficial performance of EIA. EIAs that start on time, from the points of view of both the proponent and the competent authority, will perform better than those that start late. Fifty-three out of 63 EIAs in this sample started on time, and 10 of them were late in starting. One reason for a late start is uncertainty about whether the obligation to carry out an EIA applies to that particular initiative.

Second, an EIA on a proposal that was initially formulated on outlines scores higher on net beneficial performance than an EIA based on a detailed proposal. Twenty-two out of 60 proposals were abstract (outlines) in this sample, and 38 of them were detailed. Many of the proponents in the first-mentioned group, who had formulated their proposals more abstractly, were people or organisations with experience of EIA procedures.

In the reflective chapter of the evaluation report, the researchers give additional explanations for the high level of performance of EIA in relation to the starting moment and the detail and exactness of the proposal. If the EIA starts in good time, then the EIA proceeds alongside the decision-making procedure for a longer period. This increases the chances of fruitful interactions between actors. Moreover, at the beginning of the process, actors' perceptions and opinions are more fluid. Actors will therefore be less defensive towards the EIA procedure. An abstract proposal is more positive than a detailed one, because it is more open to new ideas. An early start and an abstract proposal both act as stimulants for the actors involved to reach agreement. The researchers state that both of these strengths fit in easily with the instrument's 'pliability' (flexibility) and the character of its procedures. These easily become a natural part of the decision-making process in which actors interact, bargain, connect issues and influence each others' perceptions.

Interestingly, there is no connection between the quality of the Environmental Impact Statement and the net beneficial performance of an EIA. The quality of the EIS has been analysed in two ways, firstly by analysing the reports against the Van de Gronden gauge. Out of the 79 EISs, 61 EISs were rated as sufficient using this gauge, and 18 as being insufficient. Secondly, the respondents to the survey gave their opinions about the quality of the EIS. The researchers used the opinion of the EIA Commission as representative. The outcome was that neither the results of the document analyses, nor the EIA Commission's opinion appeared to be related to the net beneficial performance of EIA. However, the ECWM (1996) states that the result 'no statistically significant connections' should not be taken as conclusive. It does not necessarily mean that the quality of the EIS has no influence at all on EIA effectiveness.

We end this subsection by answering the second research question listed above in relation to the Ten Heulvelhof and Nauta evaluation, namely: What are the strengths and weaknesses of the instrument, related to this effectiveness? The conclusion is that an early start of the EIA, based on an initiative that has been formulated on outlines, contributes best to the performance of the EIA.

10.3.4 Reflecting on the evaluation results

This evaluation shows the main strength of EIA to be related to aspects of network coordination and communicative planning. To explain EIA's effectiveness in this way is all the more surprising as these steering and planning concepts are hidden in EIA (see Chapter 7). Ten Heuvelhof and Nauta stress the 'process'-character of EIA and its influence on actors' perceptions. The actors involved can give shape to the EIA interactively. It is the 'process'-character and its pliability that relate to network coordination.

Communicative planning can be identified in early and ongoing communication, based on open dialogue. An early start and an abstract proposal both stimulate the actors involved to reach agreement. Their perceptions change in the course of the decision-making process, making it easier for them to develop a shared understanding. Interestingly, the strength of EIA does not lie in its structured, rational approach and written documents with environmental information, but more in its hidden, communicative aspects, although this does not mean that environmental information is not important. The evaluation shows us that this information should be part of a communicative process. Writing an EIS and presenting it to the decision-makers is not enough.

We end this subsection by summarising the answer to the third research question: How do the strong and weak elements relate to the theoretical concepts, as used in this thesis? The answer is that the main strength of EIA relates to network coordination and communicative planning. This is surprising as, in the instrument, these steering and planning concepts are hidden behind hierarchy and rational planning.

10.4 NovioConsult's Evaluation of EIA in 2003

In 2003, NovioConsult was commissioned by the three Dutch ministries VROM, LNV and OCW to evaluate EIA. This evaluation, a requirement of the Environmental Management Act, was a follow-up of the one carried out by Ten Heuvelhof and Nauta in 1996 (Van Kessel et al. 2003).

10.4.1 Evaluation structure and method

NovioConsult analysed the extent to which EIA affects decision-making, and what the surplus value of EIA was in relation to the main decision-making procedure. The NovioConsult evaluation also discussed certain aspects of the functioning of the instrument (process), and sought to identify possibilities for improving and simplifying the instrument. The area of application, range of impacts and consequences, alternatives, quality guarantees, and *ex-post* evaluation were taken into account. This evaluation is not as detailed as the other three, and its structure is not very clear. We can classify it as a broad-brush performance evaluation (see Table 10.7).

Table 10.7: Classification of the (broad-brush) evaluation structure for EIA carried out by NovioConsult in 2003

Conformance or performance view on evaluation	Focus on results and/or process	Judging results (effectiveness)	Visibility of results in documents	Neutral or normative towards decision outcomes
performance	results	in line with	opinions on 'visibly in line with'	normative
performance	results	use value	visible	neutral
			opinions on 'visible use value'	
			invisible	
	process			

The researchers interviewed 27 people, including eight employees of the EIA Commission, three aldermen and three members of the Provincial Executives. In addition, the researchers analysed eleven projects that had been subjected to EIA, and interviewed one or two people from each case study. The evaluation was primarily based on the opinions of the interviewees. It was not the researchers' intention to carry out the evaluation in a scientific way. A qualitative research method was chosen, in which the researchers presented interviewees' opinions of the effectiveness and efficiency of the EIA system. The researchers added their own opinions to the report. The conclusions about effectiveness were based on Ten Heuvelhof and Nauta's 1996 evaluation. To check whether the 1996 results were still valid, NovioConsult conducted the interviews, analysed recent literature, and carried out the case studies.

EIA applies to different types of main decision-making procedures (see the area of application in Chapter 3). In their evaluation, NovioConsult distinguished between environmental permits based on the Environmental Management Act, spatial plans based on the Spatial Planning Act, and infrastructural plans (*Tracéwet*). These were the three most relevant categories. In this section, we describe the outcomes of the spatial and infrastructural plans. Environmental permits were not as relevant in this comparative research.

10.4.2 Evaluation results: the effectiveness of EIA

NovioConsult is positive regarding the effectiveness of EIA. The general conclusion was that, due to EIA, environmental interests had become firmly embedded in decision-making. The 1996 conclusion had been that EIA had had a reasonable effect on decision-making. This was still true in 2003. In general, interviewees' acknowledged the surplus value of EIA for spatial and infrastructural decisions. NovioConsult recommended maintaining EIA. They did not consider any fundamental changes to be necessary in its structure.

Other results of the evaluation reveal variations in this positive picture. In the first place, EIA is often not applied to decisions about locations. This is because, in reality, EIA is applied later in the chain of spatial decisions, at a more detailed level of decision-making. At that stage, the strategic decisions have already been made and the focus is on the activity's operational design. Therefore, if the activity is then located where it will cause substantial environmental harm, the only option at that stage would be to try and reduce the negative environmental consequences as much as possible. Thus if EIA were applied at higher levels of decision-making, its effectiveness could be significantly increased. In the Netherlands, it is jurisprudence that has caused EIA to be applied at the operational level. The introduction of Strategic Environmental Assessment should reduce this problem and increase the effectiveness of the overall environmental assessment system.

Secondly, EIA is not a process that radically rejects initiatives, but it may affect decision-making by causing the proposed initiative to be adapted. This was substantiated by the aldermen and members of the Provincial Executive who were interviewed in connection with this evaluation. Thirdly, EIA achievements are not visible in the written decision. Although the actors involved find EIA effective in aiding decision-making, this is often not immediately visible, especially in the juridical sections of the decision. At the end of this process, at the stage when the formal decision is made, it is then hard to describe how the EIA has influenced the process.

To round off this subsection, we will now summarise an answer to the first research question: How effective is the instrument, and in what sense? From NovioConsult's evaluation, the answer is that, due to EIA, environmental interests have become firmly embedded in decision-making. The actors involved perceive EIA as having an effect on decision-making, the EIS is used in this process, and the outcomes of the decisions are more in line with environmental interests. EIA is *not* effective in making the results explicitly visible in the decision documents. EIA is primarily effective for decision-making at the operational level.

10.4.3 Evaluation results: the strengths and weaknesses of EIA

The NovioConsult evaluation identifies as the two major strengths of EIA: (1) the requirement to develop alternatives, and (2) the guarantee that the knowledge is value-free. With regard to spatial and infrastructural decision-making, almost all the interviewees considered it extremely useful and necessary to compare alternatives in the planning process and especially to develop the alternative that is the friendliest for the environment. With regard to the second strength, the interviewees agreed with the usefulness and necessity of having quality guarantees in EIA, and agreed that information should be as value-free as possible. NovioConsult stated that all the actors had profited from correct, high-quality and independently judged environmental information, and that it had made decision-making transparent. They also considered independent judgement as important, because governmental organisations have more interests than just the environment, some of them short term.

The interviewees were not unanimous about what kinds of checks-and-balances were the most effective for guaranteeing the quality of EIA. NovioConsult could not be conclusive therefore about the effectiveness of the EIA Commission. On the one hand, the EIA Commission's independent judgement was generally considered to be one of the strong elements of the Dutch EIA. But there were also those who thought that public consultation and duality in Dutch democracy offered sufficient guarantees; that independent judgement was unnecessary for relatively simple decisions; and that the EIA Commission had too much influence over decision-making (as it had no democratically legitimated authority to fulfil such a role).

Three other strengths of EIA mentioned in the NovioConsult evaluation are:

- In certain cases, the EIA procedure structures the planning process. This helps to streamline decision-making.
- For complex or controversial projects, an *ex-post* evaluation of environmental consequences is an effective and efficient feedback loop for dealing with uncertainties.
- For some proponents, the formal requirements of the EIA procedure act as useful controls. In addition, by following the legally required EIA procedures, actors are afforded legal security.

Besides the strengths of EIA, current at the time of the evaluation, NovioConsults identified a possible future strength of EIA. In their opinion, the effectiveness of EIA could be increased significantly by including informal dialogue with relevant actors in a very early stage of the planning process. The early stage of an EIA appeared to be decisive for affecting decision-making. For planning processes at the operational level, the direct participation of citizens and local interest groups in an early stage was found to be decisive. At the strategic level, citizens appeared not to be motivated enough to participate, because their personal interests were not specifically affected. At this level of decision-making, NovioConsult considered it more important to involve environmental interest groups and other relevant organizations. Experienced proponents already used this hidden potential of EIA. According to experienced proponents and the EIA Commission, the EIA procedure offered enough flexibility to make EIA more open and communicative.

Many of the weaknesses of EIA identified by NovioConsult, such as lack of clarity about EIA obligations, procedural requirements that can hinder interactive processes, and too much focus on complete and in-depth information, relate to the fear of juridical sanctioning. It is not always clear for proponents and competent authorities exactly which decisions actually require an EIA. This is especially problematic with activities on the screening list. How to deal with the thresholds in the mandatory list is also unclear. This causes a lot of uncertainty and additional costs. Only in court rulings at the end of a procedure does it become absolutely clear as to whether an EIA procedure is legally required or not.

For inexperienced actors, the formally structured EIA procedure makes it difficult for them to link their EIA to an interactive process. They concentrate all their efforts into following the procedural requirements and are not experienced enough to be flexible as well. This, according to aldermen and provincial executives, makes EIA

rigid, ineffective, delaying and defensive. The main reason for focusing on the formal procedure, rather than using its flexibility creatively, is that actors fear juridical sanctions by the administrative court. To gain as much legal security as possible, they concentrate their efforts into carefully sticking to the formal procedure. Experienced EIA practitioners and the EIA Commission believe that it is possible to remodel EIA more in the direction of interactive planning processes. Using flexibility in the EIA procedure will require commitment and creativity from the actors involved, but EIA procedures can be made more interactive.

Many complaints that information in EISs was irrelevant came to light through this evaluation. Decision-makers said that the EISs were very often too long and contained too much information for them to read completely; large parts of these reports were not taken into account in decision-making. It was clear from the remarks made that it would have been more effective and efficient had the EIA focused on information that was crucial for decision-making. In practice, it was the fear of juridical sanctioning that appeared to be hindering good scoping. Actors collected as much information as possible in the hope that the judge would not ask for more or better information.

Next to these weaknesses, the administrators who were interviewed questioned the surplus value of having separate public consultations for EIA. They wanted to abolish formal public consultation in the scoping phase and organise early informal dialogue in its place. In their opinion, public consultation about the EIS should be fully integrated with the public consultation in the main decision-making procedure.

We summarise this subsection by answering the second research question: What are the strengths and weaknesses of the instrument, in relation to this effectiveness? Developing and comparing alternatives for the initiative is one of the main strengths of EIA. Guaranteeing objective knowledge is another strong element of EIA. A possible future strength of EIA is to build informal dialogue into the system in a very early phase of the planning process. Involvement of citizens and interest groups in an open, informal and interactive way, from the earliest stages onwards, would contribute significantly to EIA effectiveness. The formal EIA requirements offer enough flexibility for the instrument to be used in this way, although inexperienced actors often miss opportunities to do so.

Many of the weaknesses of EIA relate to a fear of juridical sanctioning: uncertainties about whether an EIA is formally required; too much focus on the procedural requirements; and insufficient scoping of the environmental information. On the other hand, for some proponents, the threat of juridical sanctioning is necessary to force them to apply EIA.

10.4.4 Reflecting on the evaluation results

NovioConsult's evaluation reveals interesting facts about the balance between hierarchical and network coordination in relation to EIA effectiveness. The evaluation results show that many practitioners (especially the inexperienced ones) focus too much on legal requirements and sanctions causing the system to fail on many fronts. With

too much focus on hierarchy, EIA is perceived as a rigid, defensive instrument. Actors then focus on 'surviving' the EIA and avoiding sanctioning. This negative aim becomes more important than striving to achieve the positive aim of EIA of establishing environmental interests within the mainstream of decision-making. NovioConsult's evaluation results indicated that the EIA system could be made more effective by focusing on network coordination. This means focusing more on the informal exchange of tacit knowledge during those phases of the planning processes in which actors' perceptions are open to change.

Shifting the balance from hierarchical coordination to network coordination does not mean that hierarchical elements are not important. This evaluation states very clearly that the formal EIA requirements contribute to effectiveness. Without these regulations, some actors would not apply EIA at all. Moreover, the formal requirements do not have to hinder organising more informal cooperation and orientating EIA more towards open planning processes. Shifting the balance means encouraging actors to think more about the network elements of EIA, and use them in combination with the hierarchical elements. The recommendation to focus more on informal dialogue with citizens and interest groups is relevant from the planning perspective too. In Chapter 7, we concluded that the hidden communicative potential of EIA should be explored, yet without rejecting the achievements of the rational base of EIA. This is exactly what NovioConsult recommends. The same line of thought holds for the challenge of adapting EIA away from the structured, rational planning procedures it was designed to fit, towards more flexible interactive, open planning processes. NovioConsult stated that the procedural requirements at the time of the evaluation already offered enough flexibility to organise EIA in a more communicative way.

From the planning perspective, two other interesting aspects emerge from the evaluation results. The first one is the strength of having alternatives. Developing and comparing alternatives is a core element of rational planning and is one of the main strengths of EIA. This is a very clear-cut finding from the evaluation. The other interesting finding — about the way knowledge is conceived in EIA — is much more vague and even contradictory. The evaluation states that a strong element of EIA, is that it guarantees impartial (value-free) knowledge. At the same time, the evaluation stresses the importance of taking opinions and values into account interactively, as in communicative planning. This evaluation reflects the debate on the values of combining rational and communicative planning, as described at the end of Chapter 7.

We will summarise the above by answering the third research question: How do these strong and weak elements relate to the theoretical concepts, as used in this thesis? The evaluation is not negative about the hierarchical and rational characteristics of EIA. The formal EIA requirement is a hierarchical control to force reluctant proponents to apply this instrument. One of the main strengths of EIA is its requirement to develop alternatives, which is a core element of rational planning. At the same time, there is too much focus on hierarchy and rational planning. To increase the effectiveness of EIA, more focus should be placed on networking and communicative planning. The informal, interactive and value-based elements can be developed more, without rejecting the existing characteristics of EIA.

10.5 De Valk's evaluation of EIA in 1997

In 1997, Th. Winfried de Valk obtained his doctorate with the thesis titled 'Finally, environment in the decision; an evaluation of the Dutch regulation environmental impact assessment' (De Valk 1997; De Valk 1998). De Valk worked on this evaluation at the faculty of social-cultural sciences of the *Vrije Universiteit* in Amsterdam.

10.5.1 Evaluation structure and method

De Valk's evaluation of EIA is very different from the other three. It is a classical effectiveness study. The evaluation is about visible results and cause–effect relations. The outcomes of decision-making are judged according to the importance of the environmental issue. It is questionable whether this is the same as material conformance, but at least it gives a measure in the sense of being 'in line with' (see Table 10.8). De Valk studies the visibility of the results using detailed text coding. Methodologically, the evaluation is a quantitative with/without measurement that evaluates effectiveness as strictly as possible, using document analyses only.

Table 10.8: Classification of the evaluation structure for De Valk's evaluation of EIA carried out in 1997

Conformance or performance view on evaluation	Focus on results and/or process	Judging results (effectiveness)	Visibility of results in documents	Neutral or normative towards decision outcomes
conformance	results	material conformance	visible	normative
performance	results	in line with	visible	

De Valk's research question was: To what degree and in what way do Environmental Impact Statements (EISs) affect decisions? He used two dependent variables to analyse the EIA's achievements. The first one was the importance attached to the environmental issue in the competent authority's decisions. De Valk analysed the arguments on which these decisions were based, their quality, and their relation to the environmental issue. The second dependent variable was the importance of the environmental issue in the proponent's 'decisions'; decisions such as when the proponent decides to submit a certain proposal to the competent authority. De Valk analysed the dynamics of the proponent's decision-making, by comparing the draft plans with the final versions. He gave both dependent variables a score on a scale from 0 (no importance) to 100 (maximum importance).

By analysing four causality paths (see Fig. 10.2), De Valk's aim was to find out how the EISs affected the decision. For this, two independent variables were distinguished. The first one was the availability of an Environmental Impact Statement.

This variable can only have two values: available or not available. Actually, this is the same as asking whether or not an EIA has been performed on the decision. No other characteristics of the EIS or EIA were analysed with respect to this variable. The second variable was a field variable, the financial–economic interests: to what extent do the financial-economic characteristics have a negative influence on the importance placed on environmental interests. De Valk developed a scaled variable based on several financial–economic characteristics. There are two hypotheses for each of the four 'paths' shown in Figure 10.2. One hypothesis accords with the policy theory of EIA, and another one is based on criticism of that theory.

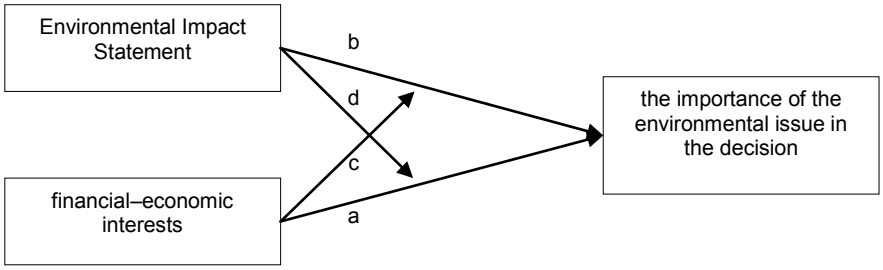


Figure 10.2: The causality paths analysed (De Valk 1997: 62, Fig. 3.1)

The evaluation method for answering the effectiveness question was quasi-experimental, using pair-wise case selection. A pair consisted of two identical or nearly identical decisions. An EIS was produced for one decision, but not for the other one. De Valk analysed 41 pairs (therefore, 82 decisions). Then the decisions with and without EIS were compared, pair-wise and group-wise. To answer the causality question, several multiple-regression analyses were carried out. The evaluation was based on so-called unobtrusive data collection, by analysing existing data. No use was made of self-reporting techniques like interviews and surveys. De Valk measured the variables by carrying out systematic content analyses of texts. He made the variables operational in a detailed way.

De Valk's first dependent variable was the importance placed on environmental issues in the competent authority's decisions. De Valk analysed one of the competent authority's legally binding documents that marks the end of the decision-making process. He selected the relevant parts of the text and coded each sentence in this text in two ways. First, he judged the argumentative quality of the sentence on the basis of: no argument, correct argument or incorrect argument. Secondly, he judged the sentence negative, neutral or positive, according to how strongly it related to the environmental issue. This resulted in nine categories with a certain number of sentences, and an additional tenth category with the total number of sentences. These categories were then transformed into eight indicators that were summed weighted. This resulted in a score ranging from 0 to 100.

The second dependent variable was the importance of the environmental issue in the proponent's decisions. De Valk analysed the development of the proponent's plan. He analysed two documents for each decision: a draft plan and its final version. Both of them were formal (official) documents. For the draft plan, a vague concept was considered insufficient. De Valk compared paragraphs in the text with a similar function. He called the paragraph a 'plan element'. This was easiest in those documents where the textual structure was the same. De Valk judged each pair of 'plan elements' in two ways. First, he examined the dynamics: no change, symbolic change or change with respect to content. Secondly, he judged this change against its relationship with the environmental issue: negative, neutral or positive. In a similar way as the first variable, this resulted in a score ranging from 0 to 100.

10.5.2 Evaluation results: the effectiveness of EIA

The conclusion about effectiveness, with regard to the competent authority, is that, in general, EISs have a rather positive effect on the competent authority's decision. EIS has an 'improvement-effect' of 18.6%. In decisions with an EIS, significantly more attention was paid to the environmental issue, than in decisions where there was no EIS. The analysis and results were unclear with regard to the proponent. However, it can be concluded that if an EIS had been made, the proponent's attention given to the environmental issue was not significantly greater.

In what way do EISs affect the decisions? De Valk's analyses produced unambiguous results with regard to the competent authority's decisions. He concluded that these decisions were being directly influenced by EISs, without substantial interference from the field variable. EISs affect the competent authority's decisions in a positive and fairly autonomous way. The conclusions were ambiguous when it comes to the proponent.

How effective is the instrument, and in what sense? The answer to this research question, with regard to this evaluation, is: EIA is rather effective, in the sense that, where there was an EIS, a competent authority's decision paid significantly more attention to the environmental issue, than in decisions where there was no EIS. Visible decision outcomes conform more, or at least are more in line with environmental interests.

10.5.3 Evaluation results: the strengths and weaknesses of EIA

De Valk's evaluation does not analyse different characteristics of EIA in relation to its effectiveness. The independent variable 'EIS' can only have two values: available or not available. Therefore, we cannot identify strengths and weaknesses of EIA directly from the evaluation results. However, De Valk's reflection on his findings provides some clues.

De Valk argued that using the rational approach towards the proponent was a weak element of EIA. The proponent would resist the formal EIA if it was not in his

own interests to gather the environmental information. De Valk perceives the EIA procedure as starting after the first formal draft plan has been developed. In the informal phase prior to this, the proponent gathers the information that he himself deems necessary for achieving his own objectives. After the formal draft plan has been completed, the proponent will not feel the need to gather any more information, so will resist the demands of EIA to gather and use the environmental information. De Valk stated that an EIS can be viewed simultaneously as a product of both (pseudo)scientific fact-finding, and negotiation. In his opinion, this was why the type of knowledge in an EIS was ambiguous: i.e., scientific and objective, but yet interest-based and subjective at the same time.

De Valk's reflections did not result in strict conclusions regarding strengths and weaknesses. We can only answer the second research question tentatively: What are the strengths and weaknesses of the instrument, related to this effectiveness? The tentative answer is that one of the weaknesses of EIA is that proponents gain a lot of power by writing an EIS, because they can act strategically to realise their objectives, and should the EIA be started rather late, then proponents will act even more strategically in writing their EIS.

10.5.4 Reflecting on the evaluation results

The most interesting conclusion of this evaluation is the one about the importance of the environmental issue in the proponent's decision-making. De Valk compares the proponent's draft proposals with the final versions of these proposals and sees no significant improvement. What is the explanation for this? With regard to the draft proposals, De Valk only analyses formal (official) documents. Because of the methodology that he uses, vague ideas cannot be analysed. Consequently, he analyses proposals that become available relatively late in the planning process: when they have been written down, formally, and in quite a lot of detail. De Valk does not consider the EIA procedure to have started until after the formal draft proposal is ready, so what we can understand from his conclusion is that in the later, formal, phases of planning procedures, the proponent's ideas do not change very much. In fact, they are more or less fixed. De Valk does not give any insight into what happens in advance of these formal phases. It is likely that proponents will anticipate the formal phases of planning processes. They will start gathering environmental information during the earlier, informal phases, and will anticipate the formal EIA when submitting their first proposals. In terms of the theoretical concepts of this thesis: De Valk's focus is hierarchical, because he analyses only the formal aspects of EIA.

The negative results with regard to the proponent's decision-making contrast sharply with the positive results noted for the competent authority's decision-making. It might be possible to explain this by focusing on network coordination. De Valk pays no attention to informal (inter)actions, although his conclusions raise the expectation that something has happened in the earlier, informal process that contributes to EIA effectiveness.

In thinking about this, De Valk discusses the character of knowledge in the EIS. This discussion does not result directly from his analysis, but is nevertheless interesting. He points to the tension between the scientific/objective character and the interest-based/subjective character of the EIS, which reflects the different knowledge conceptions of rational planning, communicative planning and power.

The third research question is: How do these strong and weak elements, as signalled by De Valk, relate to the theoretical concepts, as used in this thesis? With regard to the steering perspective, the answer is that the strength of EIA does not lie in its formal procedure, which then raises the expectation that something happens in the informal process instead. With regard to the planning perspective, the different types of knowledge in the EIS is an issue to be kept in mind.

10.6 Conclusions

10.6.1 Comparing the effectiveness of WA and EIA

The actors who were directly involved are of the opinion that WA and EIA improve the quality of decision-making. Both WA and EIA perform very well when rated according to their invisible usefulness in decision-making. There is evidence that the actors use WA and EIA in their discussions and that their perceptions change in the course of the procedures. This use value is however not sufficiently visible in the formal documents on decision-making. The actors think that the results are not written down clearly enough, although interestingly, in the first instance, they were positive about the quality of the written documents.

A difference in effectiveness has been noted between the operational level of decision-making and the strategic level (in choosing locations, for example). This conclusion holds for both WA and EIA. The WA evaluation is clear about this: on the more strategic level of decision-making, water interests have not been balanced well enough according to the actors involved. This contrasts with the operational level, where decision-making is considered to be balanced. NovioConsult's evaluation states that EIA is primarily effective for decision-making at the operational level and not for strategic decisions about locations. Effectiveness in the sense of strict conformance to (national) policy objectives has not been measured, and neither has the material conformance of the decision outcomes with the Water Recommendation or the EIS (the alternative friendliest to the environment). However, De Valk's evaluation of the EIA comes close to a classical conformance evaluation, especially his analysis of whether the visible decision outcomes of the competent authority conform more with environmental interests due to EIA, which showed that this instrument was effective, despite the fact that it does not show a very high improvement effect.

In summary, the conclusion is that the degree of effectiveness of WA and EIA as well as the sense in which the instruments are effective is quite similar:

- Looking at the quality of decision-making, WA and EIA are highly effective in their invisible usefulness for decision-making. The actors were positive about their visible usefulness too, although their visible performance in formal documents was insufficient for those not involved in the process.
- With regard to the decision outcomes, WA and EIA perform well on the operational level of decision-making, but their performance on the strategic level is insufficient. The negative consequences of a location often have to be mitigated on the operational level.
- Due to EIA, the visible decision outcomes (of the competent authority) have been found to conform more closely with environmental interests. However, from De Valk's measurements, it can be seen that the improvement was rather slight. WA has not been measured in this way.

10.6.2 Comparing the strengths and weaknesses of WA and EIA

The informal and early start of the process: Starting assessments early in a planning process and integrating them flexibly into the main planning process, are two very important prerequisites for the effectiveness of both WA and EIA. At the start of a planning process, the ideas for the initiative are formulated in outline. At this stage actors will be open to new ideas; their perceptions can be influenced relatively easily. The character of these early phases is informal. Interaction and communication between actors is important for exchanging tacit knowledge and creating a common understanding. Interestingly, these elements of networking and communicative planning appear to be strengths of both WA and EIA in practice. With EIA, this is surprising, because it is difficult to recognise elements of networking and communicative planning in the design of this instrument. The three EIA evaluations all point to networking and communicative elements as being major hidden strengths of this instrument. These elements are exploitable during the early, informal phase and not in the later, formal phases of EIA.

Hierarchy as a safety net: The formal requirements for WA and EIA are important as a safety net. For some initiators, the obligation to do an assessment is needed as a control. Otherwise, these initiators would not apply WA or EIA at all. Moreover, it is important that procedural back-ups are available, should the results of the interactive process be unsatisfactory. Hierarchy is also needed to provide structure for linking the assessment process to formal responsibilities and to democratic procedures. In theory, both WA and EIA offer the necessary hierarchy, without hindering networking and communication, although the hierarchy in the design of EIA is much stronger than in WA. In practice, however, the hierarchical elements do not function effectively. With regard to WA, the actors do not use the hierarchical safety nets sufficiently. Water authorities do not intervene when they are dissatisfied with the decision of the spatial planning authority. Most of the time, they do not even know about the formal decision. For EIA the situation is the other way around: its major weakness is that the actors focus far too much on the hierarchical elements of EIA. The failures of hierar-

chy are too strongly present in the practice of EIA. This hinders an early start, flexible integration in the planning process, and good scoping.

Water Recommendation and EIS: The quality of the Water Recommendation and the quality of the EIS are not directly decisive for effectiveness. This is surprising, as there are assumptions in the design of the instruments that the quality of these written products is important. This is especially the case for EIA. On the other hand, none of the evaluations state that the quality of the Water Recommendation and the EIS are not important at all. Apparently, these written documents are functional in the overall assessment process, although not directly. The evaluation of WA explains this for the Water Recommendation. The Water Recommendation is part of a communicative process, in which the water authority gives recommendations in several ways, for example, by phone calls, in meetings and by exchanging written information. So the formal Water Recommendation is just one of the ways of communicating the message. If the water authority is satisfied with the results of other, more informal, communicative actions, it will not devote (much) effort to producing a good quality written Water Recommendation.

There are no checks in the WA system to guarantee the availability and quality of the Water Recommendation. The instrument does not include incentives nor does it require a Water Recommendation. This is very different in EIA, which includes several quality guarantees for the EIS, such as exposure to the public and the EIA Commission review. Although the Water Recommendation and EIS are not decisive for effectiveness, they are important for another reason. These written documents provide the public with clear and understandable information. Clarity is needed to allow the public to criticise decision-making processes, which enhances the multiplicity of perceptions in decision-making. Therefore, compared from the point of view of clarity, understandability and democratic accountability, the EIS performs much better than the Water Recommendation.

The formal decision-making moment and the written justification: The decision-making moment, in combination with a justification of the choice, is of central importance in rational planning. This forces decision-makers to be explicit about the choice they make. In reconstructing arguments, it also facilitates criticism. In the design of both WA and EIA, this rational element is important. WA requires a Water Paragraph that describes how account has been taken of the water-related consequences of the plan. EIA requires the same for environmental consequences. In practice, the quality of these written justifications is problematic. The Water Paragraph is available, but it is too vague. The same holds for EIA: the results are not clearly visible in the decision, so there is much less visible effectiveness, than in the perceptions of the actors involved, the latter having been built up during the planning process when actors continuously interact, change their perceptions and amend the initiative. In the end, when the formal decision is made, it is hard to describe how account has been taken of the environmental consequences.

Knowledge: The conception of knowledge is an issue in EIA evaluations, because it appears to be ambiguous. The core idea about knowledge is rational: environmental information should be as neutral as possible and based on analysis and expertise. The

EIA includes quality guarantees for 'neutral' information, to ensure that proponents do not just present information that rationalises their own interests and values. However, the evaluations reveal that the rational conception of knowledge is too narrow, and that communicative and power-based conceptions of knowledge are also present. NovioConsult recommends starting an EIA with an informal dialogue with citizens, interest groups and other relevant organisations, so that their values can also be taken into account in the assessment process. This will improve the scoping of relevant (meaningful) information to decision-making. The EIS is a product of (pseudo)scientific fact-finding and expertise, and, at the same time, a product of interaction, communication and strategic action. How can one deal with the tension between the two types of information? De Valk signals the tension, but offers no way out. How are similar problems dealt with in the WA system? The big difference there is that the Water Recommendation is written by the water authority and so it is water interests and water management policy that form the basis for the recommendation. It is a form of agenda-setting, combined with expertise about the water system.

Alternatives: Developing and comparing alternatives for the initiative is considered to be one of the main strengths of EIA. This element of rational planning is especially effective in the higher tiers of decision-making, for example, for choosing locations for spatial and infrastructural activities. NovioConsult gave the strength of developing alternatives as conclusion, but they simultaneously drew attention to the ineffectiveness of EIA in the higher tiers of decision-making.

Table 10.9: Comparison between the effectiveness, strengths and weaknesses of WA and EIA (= similarity, ≠ difference)

	WA		**EIA**
effectiveness	highly effective invisible usefulness in decision-making	=	highly effective invisible usefulness in decision-making
	good performance at the operational level; insufficient performance at the strategic level	=	good performance at the operational level; insufficient performance at the strategic level
	(not measured)		more environmental-friendly visible decision outcomes, though the improvement effect is not very high
strengths	early start of the assessment, informally and flexibly integrated in the planning process (networking, communicative planning)	=	early start of the assessment, informally and flexibly integrated in the planning process (networking, communicative planning)
	formal requirements as safety nets (hierarchy)	=	formal requirements as safety nets (hierarchy)
	The Water Recommendation as standpoint of the water authority: it is clear that this is a form of agenda-setting, based on policy objectives	≠	
		≠	The EIS provides clarity to the public on the consequences for the environment
		≠	developing alternatives for the initiative
weaknesses	hierarchical safety nets are not being used sufficiently, in practice	≠	too much focus on the hierarchical elements
	Water Recommendation and Water Paragraph do not provide the public with enough clarity and accountability, in practice	=	the results of the EIA are not clearly visible in the written decision, in practice

11. Historical policy context

The main thrust in the previous chapters was on comparing the WA, EIA and SEA instruments. Comparative research of this kind cannot ignore the broader context (see Section 4.4). In this chapter, we will describe the historical policy context of which the instruments are part. Using information from policy documents, historical overviews, and theses, etc., we will position the instruments within the context of national and European policy. It is not our intention to reflect analytically on the policy itself, nor to describe this policy in much detail.

Why is the chronological development of broader policy important? In the first place, the historical context helps to explain why the instruments are as they are, and why they are similar or different on certain points. WA emerged from the field of water-management policy, which was linked to spatial planning. EIA and SEA emerged from the field of environmental policy, which also had an influence on spatial planning. Each of these policy fields has its own specificities; its own culture and policy stories. This is about the content of the policy as well as the way in which the policy field deals with issues of steering and planning. The character of these instruments retain elements of beliefs held, and policies followed, at the time when they were introduced. EIA is much older than WA. It came into being in the Netherlands in the 1970s and early 1980s, and was introduced even earlier in the United States. WA came into being at the beginning of the 21st century. At the time in which EIA has its origins, the ideas on policy content, steering and planning were different from the current ones. Both instruments are a 'child of their times'. Of course, the current EIA instrument is not exactly the same as it was in the 1970s and 1980s, but the ideas behind, when it was introduced, are still very clearly recognisable. Although, in the European Union (EU), SEA has only been introduced recently, its characteristics are strongly linked to those of EIA.

Secondly, it is important to have insight into the broader context so that our recommendations for the further development of the instruments will be sensitive to the circumstances. 'What should be done?' is the central question of *phronetic* research, and one that we will answer in the next chapter. We can only know what to do, if we understand the context in which we find ourselves; if we know the story of which we are a part. The historical context is fundamental for *phronetic* research (see Chapter 4). We cannot simply transplant a strong element of one instrument to another instrument, because of the particular circumstances of that instrument.

Thus, the two purposes of this chapter are:

- To understand why the policy instruments WA, EIA and SEA are as they are, and why they are similar or different on certain points, from policy contexts.
- To facilitate giving recommendations for the further improvement of these policy instruments that are sensitive to the contexts of which the instruments are a part.

The first three sections describe the Dutch policy fields of water management, environment and spatial planning, respectively. In the Netherlands, each of these fields has

its own national policy plan and its own national department (Directorate-General). Then, in Section 11.4, because the policy and legislation of the EU is especially relevant for EIA and SEA, we will look at the policy of the European Union. In Section 11.5, we will position WA, EIA and SEA in their historical policy contexts. The origins of the instruments will be described and their character will be explained from the context in which they developed. The final section of this chapter (11.6) first explains why the instruments are similar or different on certain points, from the historical policy contexts, and then highlights those aspects of the contexts of WA, EIA and SEA that we must definitely keep in mind when formulating the recommendations.

11.1 Water management policy in the Netherlands

11.1.1 Controlling water technically (until 1985)

The Netherlands is a man-made country. The inhabitants started to influence the landscape strongly from about the year 800 onwards. They drained peat areas and built dykes to protect the low parts of the country from flooding. Over the centuries, a complex technical infrastructure has evolved consisting of ditches, canals, regulated rivers, dykes, polders, pumping engines, and sluices etc. They did not only protect existing land, but also reclaimed it from the water. Over time, these engineering works increased in scale. The two largest projects of the 20th century were the Delta project and the reclamation of parts of the IJsselmeer to create the IJsselmeerpolders. Until far into the 20th century, water management focused on flood protection and regulating the quantity of water for agricultural interests. There was a positive belief in making progress, in the sense of furthering the economic needs of human beings. Water management made it technically possible for the Dutch to use the land in the way they wanted. The Netherlands is still famous for its struggle against the water (Hidding 2006; Van de Ven 2004).

Water management organisations developed from the 'bottom' upwards, starting with the first constructions in the technical infrastructure. Dating from the 12th century, the first water boards were small, local organisations for managing the water in and around a polder. Over time, these small organisations started to cooperate with each other, and their scale of operation increased. Water boards are democratic organisations; 'functional democracies' that operate in the interests of water. They are important and specific to the policy field of water management. This is the only policy field that has functional democracies (Wissink 2000). Traditionally, water boards have acted autonomously on the operational level, and they have concentrated their activities on agricultural land use for a very long time. Water boards have a detailed knowledge of the area they control, and they approach water management technically (Schwartz 2004).

In 1798, a central, national organisation for public water management was founded, the *Rijkswaterstaat,* known in English as the Directorate-General for Public Works and Water Management. It was the time when the Netherlands, as a national

state, came into being. King Lodewijk Napoleon developed the *Rijkswaterstaat* into a technical government service with a hierarchical, military, internal organisation. It became an elite corps of engineers. Until 1970, *Rijkswaterstaat* appeared as technocratic and closed to outsiders. The organisation had its own agenda and did not present its plans until they were finished (Bosch and Van der Ham 1998).

Then, with increasing industrial development and urbanisation, new problems arose. Industrialisation has a bad effect on water quality. In 1949, for example, very toxic water polluted the Rhine so badly that salmon disappeared from the river. It was not until the late sixties that the problem of surface water pollution led to systematic action. The Surface Water Pollution Act became effective in 1970, and since then, the government has paid more attention to the environmental and ecological consequences of economic growth. It was at this time that people from non-technical disciplines became employees of *Rijkswaterstaat* (Bosch and Van der Ham 1998).

Initially, water-quality policy was separated from the policy for water quantity. The first national policy plan on water [*Eerste Nota Waterhuishouding*], in 1968, focused on the technical infrastructure of the main national waters. The first indicative program for water [*IMP: Indicatieve Meerjarenprogramma Water*] in the period 1975-1979 dealt only with the clean-up of industrial and urban water discharges. All the sectoral policies had a technical, infrastructural approach (Van der Vlist 1998).

11.1.2 The integrated management of water systems (1985-2000)

In 1985, the national policy memorandum 'Dealing with water' [*Derde IMP-Water: Omgaan met water*] marked a change in water-management policy (V&W 1985). The two key concepts in this report were 'water system' and 'integrated water management'. A 'water system' is a coherent functioning unity of surface water, ground water, aquatic soils, banks and technical infrastructure, including the living organisms and all related physical, chemical and biological characteristics and processes. 'Integrated water management' is the coherent policy and management of the different governmental organisations responsible for water management. With these developments, water management became broader, more socialised and internally integrated. External cooperation with other policy fields and relevant governmental organisations was the next stage in the development.

Managing a water system means taking the different interests that use the system, both human and ecological, into account. With this approach, water systems started to be assigned a range of functions relating to interests such as industry, agriculture, recreation, drinking water and nature. Each function requires of the water system a different set of physical, chemical and ecological conditions. For example, the quality of the surface water required for swimming water differs from water used by industry. In 1989, the Third National Policy Document on Water Management [*Derde Nota Waterhuishouding*] assigned functions to water at the national level (V&W 1989), with the aim of stimulating sustainable development. In the operational management of water, these functions were translated into the requirements for the water system. To assign these functions, different interests had to be weighed up, one against the other. As

general democratic organisations, this task was allotted to the provinces in the Water Management Act [*Wet op de Waterhuishouding*] of 1989. The province ascribes the functions of the water system geographically. This legitimates the operational water management of the water boards. In this way, water management becomes 'socialised' to a certain degree. However, the focus is on water as a condition for societal interests: water follows function.

In integrated water management, there are two types of integration: internal and external. Internal integration referred to approaching water interests by looking at several key features of water in relation to each other, e.g., by gauging its quantity in relation to its quality, or surface water in relation to ground water. Prior to this, these aspects of the water system were dealt with separately, each with its own separate water-management policy. External integration referred to coordinating water management with other fields of policy, such as environmental policy and spatial policy (Van der Vlist 1998; Hidding 2006; Wissink 2000).

11.1.3 Spatial and interactive water management (since 2000)

Around the beginning of the 21st century, a new approach to water-management policy started to develop. This was formalised in the Fourth National Policy Document on Water Management [*Vierde Nota Waterhuishouding*] (V&W 1998). In this Fourth National Policy Document, the integrated water-system approach of the Third National Policy Document was continued. Its innovative elements were to be found in the way it was set up, and in its content, which stressed and renewed the relationship between water management and spatial planning. Water was considered to be a guiding principle for land-use. Giving water more space for conservation and buffering was also considered to be important. The first of these considerations was very different from the facilitating role of water in the past. This policy document identified climate change and continuing soil subsidence, in combination with the increasing intensity of land-use, as important new factors for long-term policy. This Fourth National Policy Document was developed through public consultation, in which all the relevant actors expressed their views on water management. Compared to the past, planning this document was an open and interactive process. There was an emphasis on cooperating with interest groups and citizens, and an acknowledgement of the need to improve cooperation between water-management authorities, municipalities and provinces.

The change in water management policy was marked by two documents that appeared in 2000. The first document was the advice of the Advisory Committee on Water Management in the 21st Century [*WB21*], also called the Tielrooij Committee (Commissie Waterbeheer 21e eeuw 2000). The second important document detailed the standpoint of the Dutch Cabinet [*Anders omgaan met water*] as a reaction to the advice of the Tielrooij Committee (V&W 2000). The Tielrooij Committee stated that due to the development of a complex, technical infrastructure, the natural dynamics of the water system had been lost, and that this was the cause of many structural water-management problems. Furthermore, ongoing urbanisation was restraining the natural

dynamics of the system, for three reasons. First, in built-up, paved areas, water could not infiltrate and be retained in the soil. Secondly, increasing urbanisation had diminished the area available for water storage. Thirdly, new urbanised areas had been developed in areas that were highly unfavourable from a water-management perspective, for example, where there was a high risk of water surpluses. The situation would be aggravated by climate change, rising sea levels and soil subsidence. To meet the challenges of the 21st Century, water had to become a guiding principle in spatial planning. The Dutch Cabinet acknowledged the need for a new approach in water management, based on spatial solutions, in combination with technological measures. The sole reliance on technical measures had reached its limits; the natural dynamics of water had to be accommodated.

Treating 'water as a guiding principle' was another way of saying that water interests should not longer be subservient to land use, but that water should structure it. This new approach to water management was confirmed in the coalition agreement of the new national government of 7 February 2007. There it is stated that: "Water is a dominant structuring element of land-use in the Netherlands" and "Adaptation to the consequences of climatological developments will play an important role in the future spatial development" (Coalitieakkoord 2007: 20 and 21). This requires a lot of cooperation between water managers and spatial planners, and it gives water managers a new role. Whereas, in the past, water managers had responded to spatial developments by finding technical solutions, in this new approach, water managers would be required to influence spatial developments proactively. Their role would change from 'reactively facilitating' to 'proactively influencing'. Anticipating and going with the flow has become the new paradigm (Hidding and Van der Vlist 2003; Schwartz 2004; Pool and Maka 2006).

The new spatial water-management policy also requires changes in terms of steering and planning. To implement the new policy, water managers will have to interact more with actors in society and with other governmental organisations, especially those responsible for spatial planning. The Tielrooij Committee is of the opinion that water management is still a field for insiders; for the water boards and *Rijkswaterstaat*. Better communication and more societal involvement are needed, to involve both politicians and citizens to a greater extent. Water management should become a societal, rather than a technical issue. The Committee would also like to see more cooperation between all the governmental organisations involved, and recommends that these organisations develop a National Administrative Agreement on Water [*NBW: Nationaal Bestuursakkoord Water*] (Commissie Waterbeheer 21e eeuw 2000).

Since then, inter-governmental cooperation has indeed increased. The National Administrative Agreement on Water was signed in 2003 (NBW 2003) and a new coordinative structure has been developed [*LBOW: Landelijk Bestuurlijk Overleg Water*]. Without the need for new regulations, informal instruments, such as the water-opportunities maps and sub-catchment visions, came into being to bridge the water management and spatial planning cultures (Bosma and Van Dijk 2003; Van Dijk 2001). However, as yet, there is still no dialogue with society. Citizens and interest groups are still too much at a distance from these activities, although some communi-

cation and interaction has occurred. The government has started the campaign 'The Netherland lives with water' to inform the public about new developments, and the public has a say in planning processes. Nevertheless, co-production in open, interactive planning processes appears to be difficult to realise. Water policy is still a field dominated by government organisations (Van Slobbe et al. 2003; Hidding and Van der Vlist 2003). However, the Directorate-General Water, the body responsible for national water management, acknowledges that the societal debate on water management should be strengthened (Pool and Maka 2006).

11.2 Environmental policy in the Netherlands

11.2.1 Fighting urgent environmental problems with technology and legislation (1970-1985)

Dutch environmental policy originates from the period of industrial development and urbanisation during the second half of the 19th century. At that time, environmental problems were defined in terms of public health and poverty. People lived in very unsanitary conditions, because the infrastructure could not cope with the increasing population in urban areas. The result was epidemics of infectious diseases such as cholera. The medical profession was the first to link these public health problems to unsanitary living and working conditions. At the end of the 19th century, the upcoming labour movement stressed these problems too. The government started to take measures to control public diseases, for example by developing infrastructures for sewerage and for supplying drinking water. An important law in this period was the Nuisance Act [*Hinderwet*] of 1896, a follow-up of the Factory Act [*Fabriekswet*] of 1875. The Nuisance Act aimed at preventing industries from causing danger, harm and nuisance and from engaging in activities that caused pollution. It had a local approach. Another law of this period was the Housing Act [*Woningwet*] of 1901 (Van Tatenhove 1993).

After the Second World War, in the 1950s and 1960s, environmental problems increased. Hazardous materials came free, the use of energy increased and waste that was difficult to process started to accumulate. The problems were caused by an enormous growth in population, economy, industry and consumption. People had an optimistic attitude towards industry, even towards heavy chemical industry, because new industry implied new employment and a further increase in welfare. The consequences for the environment were not considered as problematic (Wissink 2000).

Around 1970, people became aware of the seriousness of the environmental consequences of the growth in welfare. This came about due to several serious incidents, two of which were the pollution in the river Rhine and smog in the *Rijnmond* industrial area. Environmental interest groups came into being, and scientific knowledge on the environmental problems increased. At the time of the national elections in 1971, the environment was one of the most important issues (Wissink 2000). This increased

attention in the environment resulted in the development of a national environmental policy. New legislation, such as the Air Pollution Act [*Wet inzake de Luchtverontreiniging*], came into being. Then, in 1971, a new ministry was created, the Ministry for Public Health and Environmental Protection. This marked the start of a national environmental policy. In the 1970s, this new national policy field, operating with few personnel and limited financial means, had to fight for its position. As the existing ministries had retained their responsibilities, the initial role of the new environmental ministry was to coordinate the environmental-related tasks of these other ministries. For instance, one of these tasks — monitoring and maintaining water quality — remained the responsibility of the Ministry of Transport, Public Works and Water Management (Siraa et al. 1995).

In 1972, the national government presented the so-called 'Urgency Policy Document' [*Urgentienota Milieuhygiëne*]. This document was decisive for the character of environmental policy in the 1970s. This policy, which focused on public health, can be characterised by key words such as sectoral, *ex post*, *ad hoc*, end-of-pipe, technological, and legislative. The Urgency Policy Document divides the environment into compartments, like air, soil and water, so its approach to environmental problems is sectoral. It dealt with sectoral problems like air pollution, the pollution of surface water, drinking water, soil contamination, waste substances and pesticides. The intention was to develop legislation for each sectoral problem, with the aim of tackling the problem within a period of five to ten years. The Urgency Policy Document relates environmental problems to the health of human beings. Public health was a strong argument for governmental action and therefore very useful in the new ministry's fight for survival. With its few resources, the ministry focused on developing legislation linked to licensing. In practice, legislation followed the environmental disasters, *ex post* and *ad hoc*, and because the problems were so urgent, there was no time to develop an integrated approach. This resulted in each sector having its own procedures and licences, and there was hardly ever any check on whether the regulations were being followed, nor was there much sanctioning if they weren't (Siraa et al. 1995).

The second document that had a strong influence on Dutch environmental policy of the 1970s was the report entitled 'The limits to growth' circulated by a global think-tank, the Club of Rome (Meadows 1972). The prediction expressed in this report was that population and economic growth could not continue indefinitely because of the limited availability of natural resources, particularly oil. The Club of Rome used a computer simulation of interactions between population, industrial growth, food production and the limits of the earth's ecosystems. Technology was considered to be a solution, with the Club suggesting nuclear energy, for example, as a solution for the limited availability of oil (Wissink 2000).

11.2.2 Working together, integratively, on sustainable development (1985-1998)

At the end of the 1970s, the definition of the environment began to broaden and discussions started about devising a more integrative approach. It became clear that solutions in one environmental compartment could have negative consequences for another compartment. The 'Integration of Environmental Policy Plan' [*Plan Integratie Milieubeleid*] of 1983 defines the environment as 'the entire living and non-living elements of the environment in themselves and in their mutual coherence; soil, water, air, human beings, animals, plants, goods and the relationships between them, including ecosystems, nature and landscape'. Compared with the Urgency Policy Document of 1972, by including the ecological aspects, the definition of the environment was broadened to include not only the well-being of human beings but also the environment as a value in itself. Thus, the focus just on public health had disappeared (Siraa et al. 1995; Van der Vlist 1998).

In the Integration of Environmental Policy Plan, the contours of a new environmental policy started to develop using the integrative-policy concepts 'target groups', 'themes' (e.g., acidification) and 'areas' (e.g., silence areas). These contours had been worked out in a two-track environmental policy during the 1980s. One track focuses on 'effects'. This defines the environmental quality required for the most important environmental themes and for certain areas. The other track focuses on 'sources'; on the behaviour of producers and consumers. This track, which defines targets for the most important target groups and products, is source rather than end-of-pipe directed (Van der Vlist 1998).

In 1987, the World Commission on Environment and Development presented its report called 'Our common future' (Brundtland 1987). The Commission proposed a 'sustainable development', which they defined as 'meeting the needs of the present generation without compromising the ability of future generations to meet their needs'. This concept dealt with the relationship between the environment and the economy in a different way than before. It was an integrative concept that dissolved the dichotomy between environment and economy, and the friction between them. The Brundtland Commission emphasised the importance of economic growth for improving the environment. Sustainable development became a core concept of Dutch environmental policy and again broadened its perspective. However, in carrying out that policy, there were many different interpretations of sustainable development (Van der Vlist and Brussaard 1989). In 1989, the concepts of the integrated two-track policy and sustainable development were brought together under the first National Environmental Policy Plan (Siraa et al. 1995).

In addition to internal integration, external integration with other policy fields became important in the 1980s. External integration with spatial planning was especially important. In 1982, environmental policy and spatial planning became part of one ministry, with the expectation this would increase the coherence of the two policy fields. Prior to this, the relationship between these policy fields had been antagonistic. The technical and legislative culture of environmental policy did not correspond with

that of spatial planning. By the end of the 1980s, though, the national policy documents of both fields had common core concepts, the most important of which were sustainability and quality. The central issue in the integrative area policy was the relationship between spatial planning and environmental policy; the so-called *ROM* areas that were introduced in 1990. The actors involved tried to create win–win solutions in these areas (Van Tatenhove 1993).

In the 1980s, there was less faith in the effectiveness of government regulations and interventions. The costs of controlling and sanctioning the regulations appeared to be high. Stricter controls were applied to existing regulations, and alongside this, new ways of steering environmental policy, aligned more to network and market coordination were developed. The emphasis on cooperation and negotiation was compatible with the Dutch consultative culture. The Ministry concluded voluntary agreements with target groups, and to create more flexibility, agreements with different sectors of industry were based on the self-responsibility of companies (VROM 1997). A very important change for area-based policy was the increased cooperation with regional government organisations and interest groups. The actors tried to reach consensus through open planning processes. Overall, national environmental policy became more 'socialised': it changed from being regulative and on the offence, to becoming more cooperative with other actors (Wissink 2000; Van Tatenhove 1993; Siraa et al. 1995).

11.2.3 Transitions to de-couple economic growth and environmental impact (since 1998)

Sustainability still guides Dutch environmental policy. A sustainable living environment is one of six pillars of the new Cabinet (Coalitieakkoord 2007). The Third and Fourth National Environmental Policy Plans [*Derde en Vierde Nationaal Milieubeleidsplan*] (VROM 1998 and 2001) are in line with the First and Second Plans, with regard to their focus on sustainability. However, sustainability can be defined in different ways. The Third Policy Plan stresses the relationship between economic growth and environmental improvement more strongly than the First and Second Plans. The government is trying to find innovative ways of dealing with this relationship (WRR 2003). The key word in the relationship between economy and environment is 'de-coupling'. The national government is focusing on the complete de-coupling of economic growth and environmental impact. This is *the* current priority. On its 2006 agenda for future environmental policy [*Toekomstagenda Milieu*], and in the coalition agreement of 2007, the government states that economy and environment are not a contradiction. On the contrary, solving environmental problems creates economic chances, and sustainable development implies economic growth. Economic dynamics and ecological development go together (VROM 2006 and 2002b; Coalitieakkoord 2007). The Fourth Policy Plan defines sustainability as managing the environmental, economic *and* social quality dimensions in a balanced way. The relationship between these three aspects *and* between the three aspects 'here and now', 'there' and 'later' is essential in the National Strategy for Sustainable Development (VROM 2002). Sustainability has

become a very broad concept focused on integrating different values. Sustainability is no longer a value focused on the ecological environment. It has become a meta-concept that includes all kinds of values. The Netherlands Scientific Council for Government Policy criticises broadening the definition of sustainability in national policy, because if sustainability is about everything, it cannot give direction to policy any more (WRR 2002).

The perception of environmental problems changes with the Third and Fourth National Environmental Policy Plans. There is a new generation of very serious environmental problems that will be hard to manage. These problems can be characterised using terms such as complex, uncertain, cohesion, creeping, invisible, long-term, supra-national, and related to different values and interests (WRR 2003). Looking ahead to the year 2030, the Fourth Policy Plan addresses seven environmental problems that are closely intertwined with the global growth of population and economy: loss of biodiversity; climate change; over-exploitation of natural resources; threats to health; threats to external safety; damage to the quality of the living environment; and possibly unmanageable risks. Alongside these very serious problems, there is an important category of controllable environmental problems, and although these mainly local and regional problems are under control, they still require management. Examples of this type of problem are noise nuisance and soil sanitation. The seven major environmental problems require a new approach known as 'system innovation' or 'transition'. This is a long-term transformation process comprising technological, economic, socio-cultural and institutional changes. The environmental problems relate to system faults in the current social order, in our production, and in consumption patterns. To attain sustainability, far-reaching social changes will have to take place. Transitions require the government to be able to deal with uncertainty, complexity and cohesion (VROM 2001).

In the period from 1998 to the present, market coordination has become more important in environmental policy. The Fourth National Policy Plan states that environmental costs are insufficiently reflected in prices. The intention is to expand the use of market instruments such as levies, subsidies, taxes and tradeable emission permits to make environmental policy more effective. Cooperation with businesses, societal organisations, other governments and citizens remains very important. On the lower tiers of decision-making, the national government offers room for flexibility and tailored solutions. Overall, there is a strong tendency for de-regulation by having fewer, and less-detailed, rules, and less bureaucracy. Hierarchical coordination is certainly out of fashion (Kabinet 2003a, 2003b and 2003c; Coalitieakkoord 2007).

The external integration of environmental policy with spatial planning, so important in the 1980s and '90s, is still important at the present time, and will remain so in the future (see, e.g., the area-specific policy). "A careful spatial planning policy can create chances for environmental policy, and the other way around" (VROM 2006: 31).

11.3 Spatial planning policy in the Netherlands

11.3.1 Public housing and development control planning (1900-1960)

The origins of Dutch spatial planning lie in the Housing Act of 1901. In the period of industrial development and urbanisation, cities could not cope with the increasing population and living conditions were very bad. Under the Housing Act, the national government subsidised the housing corporations to build houses. The Housing Act also required municipalities to make regulations for the physical quality of houses. It became a legal requirement to apply for a building permit, and municipalities with more than ten thousand inhabitants had to have an extension plan (De Ruijter 1987; Van der Vlist 1998; Van der Valk 1989). Until 1960, there was no independent spatial planning policy at the national level. Spatial planning was closely linked to public housing, initially at the municipal level. Gradually, it started to develop, and higher levels were brought under the scope of planning. The relationship between spatial planning and public housing remained important for a long time. The marriage between housing and planning was especially strong at the time of the welfare state, and these policy fields were aligned (Siraa et al. 1995; Faludi and Van der Valk 1994; Hajer and Zonneveld 2000).

The steering in spatial planning was primarily regulatory and passive: development control planning. The aim was to allow desired activities and avoid harmful ones. If land was used incorrectly, legal measures built into the local land-use plan could be put in force to prevent it. The law did *not* require citizens or governments to implement the plan actively. Development control planning has never disappeared out of Dutch planning.

The linkage between knowledge and public action was not an issue during this period. The view of planning was 'survey-before-plan'. Researchers and engineers analysed the situation from the facts that had been gathered. The idea was that these analyses would result in objective knowledge that would give the engineers an insight into the future. Based on this knowledge, a spatial plan was then designed, aimed at reaching the goals set. *How* this plan was formulated is not a topic of discussion. The engineers and designers did their jobs, and if politicians were satisfied with the plan, they accepted it and the plan was implemented. If there were constraints, legal and administrative experts assisted in overcoming them (Faludi and Van der Valk 1994; Kleefmann 1984).

11.3.2 Managing urban growth (1960-1985)

After the post-war period of restoration, when housing shortage was the main concern, spatial planning became an independent national policy field. It had its own policy plan, its own legislation and its own department. The first national policy document on spatial planning in the Netherlands was presented in 1960. In 1965, a completely new Spatial Planning Act [*Wet op de Ruimtelijke Ordening*] came into force. This

Act had a procedural character. The planning act was based on the Dutch 'decentralised unitary state' structure. In 1965, the name of the Ministry was changed to Housing and Spatial Planning (Faludi and Van der Valk 1994).

The heyday of planning was the 1960s and especially the 1970s. The development of the welfare state and spatial planning went very well together, and there were high expectations for the future. People believed that it was possible to guide society, based on scientific knowledge. The planning department aimed at coordinating the policy and investments of all other relevant national departments (Faludi and Van der Valk 1994; Siraa et al. 1995).

The key spatial concepts in this period were the 'Randstad', and the 'Green Heart', 'concentrated deconcentration' and 'growth centres', all of them orientated towards growth management. In 1958, the national report called 'The development of the Western Netherlands' [*Eindrapport van de Werkcommissie Westen des Lands*] forecasted a growth in the western part of the Netherlands. This would result in congestion and pressure in the western core of the country, and in unemployment around the periphery. The conclusion was that population growth should to be guided towards the periphery. In the western core, known as the 'Randstad', unbridled growth would be prevented by diverting growth away from its 'Green Heart'. These open agricultural areas were to be preserved and urban areas in the Randstad would be separated by green buffer zones. The periphery of the country would be developed to reduce pressure in the Randstad. These ideas on how to guide urbanisation by controlling suburban growth formed the core of the first three national policy documents [*Nota's Ruimtelijke Ordening*] on spatial planning. The First Policy Document (1960) provided incentives to firms to move to problem areas in the periphery. Governmental organisations were also being moved to these areas. To control suburban sprawl, the Second Policy Document (1966) added the concept of 'concentrated deconcentration'. This concept referred to the idea of creating suburban living areas and concentrating them around existing urban areas and in designated 'growth centres'. The idea was that the growth centres would take the pressure off existing cities. Growth centres also featured prominently in the Urbanisation Report [*Verstedelijkingsnota*] that was adopted in 1978 as part of the Third Policy Document (Faludi and Van der Valk 1994).

The 1960s and 1970s were the decades of procedural debates in planning theory. After the Second World War, social scientists entered the field of spatial planning. They criticised the 'intuitive' approach of the designers. Inspired by the theoretical developments in the United States, the social scientists developed a systematic, rational approach towards planning. They conceived the relationship between knowledge and action as rational decision-making and made an issue of the methodology of planning. Planners should explore alternative choices and their consequences. Politicians and the public should make the value choices. In the beginning, the ideas on rational planning were very theoretical and mechanistic, but by the 1970s, they had became more pragmatic. Planners paid more attention to the limitations of knowledge and on the amount of information that people can handle (Faludi and Van der Valk 1994).

The Third Policy Document on Spatial Planning appeared in successive parts between 1973 and the mid-1980s. The first part strongly reflects the methodological innovations in planning. The team that prepared the reports had studied the international literature on rational planning theory. They started with statements of goals, objectives and targets, developed four scenarios to solve the perceived problems and analysed them on the basis of their consequences. A second innovation was that it was subject to public consultation. The Third Policy Document followed a new procedure called the key spatial-planning decision [*PKB: planologische kernbeslissing*], which gave the public the opportunity of reacting to a policy proposal. The procedure of the Third Policy Document reflected the growing insistence on public participation during this period. Another innovation of the Third Policy Document is that the negative environmental consequences of growth became a topic. The attention for the environment (including ecology) in spatial planning was a response to the Club of Rome's report, the Dutch 'Urgency Policy Document' and general public disquiet about the environment (Faludi and Van der Valk 1994).

11.3.3 Working together on spatial quality (since 1985)

The heyday of spatial planning came to an end with the economic crisis and the demise of the welfare state in the eighties. Spatial planning lost its hold in all three perspectives: content, steering and planning. Without growth, spatial planning lost its aim to manage growth. With the demise of the welfare state, the framework of public housing and social justice became outdated. From the steering perspective, it was a period of de-regulation and de-centralization. The belief that a national government could guide societal developments rapidly diminished. People were critical about the performance of the state, and the deep doubts about planned change led to a crisis in planning. People questioned the systematic approach, whether gathering neutral knowledge was an unattainable ideal, and the role of experts.

Responding to the economic recession, spatial planning policy put more emphasis on the economic potentials of the Netherlands. Spatial planning became a tool of economic recovery. In addition to aligning it with strong new interests, spatial planning did find a new identity in 'spatial quality'. Since 1985, these themes had given direction to national policy. The Fourth National Policy Document on Spatial Planning (1988) focused strongly on the competitive position of the Dutch economy, internationally. The two 'mainports' Amsterdam Schiphol Airport and the Port of Rotterdam, the Randstad and transport corridors featured prominently in the Fourth Policy Document, which also introduced the concept of 'spatial quality', defined as a combination of utility value, experience-orientated value and future value, the last mentioned including sustainability. However, the Fourth Policy Document was criticised because of its emphasis on economics. The Fourth Policy Document 'extra' (*VINEX*), approved in 1993, gave more attention to sustainability (Faludi and Van der Valk 1994). The most recent National Policy Document is called the National Spatial Strategy (VROM 2006b). Strengthening the international competitive position

of the Dutch economy and improving the spatial quality are still important themes. The next two paragraphs elaborate on these two themes respectively.

In 1998, the Netherlands Scientific Council for Government Policy published a report on spatial development planning (WRR 1998). It analysed the alignment of spatial planning with strong economic and infrastructural interests since 1988. The ideas on mainports and on the priority for economic development originated in the field of spatial planning, and led to the economisation of spatial policy. In the 1990s, the Ministry of Economic Affairs 'spatialised' its economic policy and the Ministry of Transport, Public Works and Water Management argued for a spatial strategy based on infrastructure. Moreover, the Interdepartmental Commission for Strengthening the Economic Structure [*ICES*] was set up. *ICES* invested revenues from gas exploitation in infrastructure to improve the competitive position of the Netherlands, an approach that overlapped spatial planning policy (Hajer and Zonneveld 2000). Recently, the new Cabinet has emphasised the alignment of spatial planning (especially the large spatial projects) with infrastructure and transport by setting up a long-range programme that will bring together the planned investments in spatial planning, infrastructure and transport (Coalitieakkoord 2007).

In the 1980s, 'spatial quality' was introduced to emphasise that spatial planning is more than just weighing up different interests and values. Spatial planning encompasses creativity, design and vision. The ideal at that time was that planners would be able to overcome conflicts between different interests, for example between economic and environmental interests (Siraa et al. 1995). 'Spatial quality' is still a relevant term in current spatial planning policy, but, as with 'sustainability', it does not have one specific definition. As the Netherlands Institute for Spatial Research states, 'quality' cannot be defined clearly (RPB 2003).

From 1985 onwards, environmental policy and water management policy in spatial planning have undergone continuous integration. Interestingly, the relationship between spatial planning and the environment was emphasised in the *VINEX*, whereas the most recent national policy document brings the relationship between spatial planning and water management to the fore. We will discuss these two relationships respectively. After the struggle between spatial planning and environmental policy in the 1970s, the Minister of VROM is trying to foster cohesion between these two policy fields. 'Spatial quality' and 'sustainable development' are broad themes, which offer chances for integration.

As mentioned in the previous paragraph, in the recent National Spatial Strategy [*Nota Ruimte*], the accent at the moment is on the relationship between spatial planning and water management. This strategy underlines the need to see water as an important guiding principle for spatial planning. This means that spatial choices need to be considered explicitly in the light of the characteristics of the water system. The new spatial water policy is based on the slogan 'going with and anticipating the flow'. It has four starting points. Firstly, space that has already been allocated to water should be kept and, where necessary, extra space should be created. Secondly, the intention is to follow a three-stage strategy for water quantity: retain-store-discharge. Thirdly, for water quality, a three-stage strategy should be followed: prevent-separate-purify. Fourthly,

adverse influences on the water system caused by spatial interventions must be compensated (VROM 2006b).

As stated at the beginning of this subsection, the demise of the welfare state in the 1980s led to de-regulation and de-centralisation. The national government is still adhering to these tendencies, for example by withdrawing from its own top position in steering spatial development. In its search for new ways of coordinating to replace hierarchy and rules, networks, trust and cooperation have become more important (Coalitieakkoord 2007). Both the Fourth Policy Document and the more recent National Strategy delegate as much as possible to other actors. The 'philosophy of governance' for the 'basic quality standards' of the National Spatial Strategy illustrates this de-centralisation. Basic quality standards can be content-based standards, process-related requirements or financial principles. One example of a quality standard is that there is a good balance between urban functions and rural and water-based functions. The national government has delegated the responsibility for achieving these quality standards to the provinces and municipalities. These lower-tier governments decide on the actual form of spatial quality, depending on each specific situation. The national government is responsible for providing them with an effective toolkit to implement the spatial policy (Hidding 2006; VROM 2006b).

In the National Spatial Strategy, the government puts more emphasis on development planning than on development control planning. The aim is to make spatial planning more dynamic; responding more flexibly to development. Within this context, the government sees its role as a partner for enterprising individuals and companies. These private actors are invited to participate in regional and local planning processes. The government expects initiators of new spatial activities solve any negative consequences of their initiative, themselves. For example, they cannot turn to the government to help solve or finance negative consequences for the environment and the water system and the related costs. This is why, in these times of de-regulation and de-centralisation, there is more emphasis on market coordination and the price mechanism (VROM 2006b).

The crisis in planning in the 1960s and 1970s caused the systematic methodology of planning to be strongly questioned. The search for a new identity in the 1980s led to a revival of design and to more communicative planning. Prior to this, decisions had been made by governments and some powerful organised interests, and the public had then been allowed to comment on these decisions. In the 1980s, '*ex-post*' public comment did not suffice anymore. Spatial plans now had to be attractive designs, inviting the public and private actors to join the debate. Planning was re-defined as a process in which different actors debated their perceptions in order to reach a consensus about problems and goals (WRR 1998; Hajer and Zonneveld 2000).

It would be incorrect to characterise Dutch spatial planning only in formalistic and rationalist terms. In reality, planning has an informal 'shadowy' structure comprised of networks, markets and communication. There is a lot of activity before the formal spatial procedures begin, and once they start, in informal spheres parallel to these procedures. The Netherlands Scientific Council for Government Policy warns that these new forms of steering and planning should not be without checks-and-

balances. The informal processes must be linked to the formal, and democratic decision-making system (WRR 1998; Hajer and Zonneveld 2000). The recent working agreement issued by the political parties represented in the new national coalition government stresses the importance of an intensive, open dialogue with society. At the same time, the central position of traditional representative democracy must be retained (Coalitieakkoord 2007; Werkgroep Inspraak 2006).

11.4 European Union policy

Unlike the Netherlands, in the European Union (EU), environment, nature and water form one policy field institutionally (Environment Directorate-General). Sustainable development is a key goal of European environmental policy. General environmental principles are the precautionary principle, the principles about taking preventative action, that environmental damage should be rectified promptly at source, and that the polluter should pay (EU 2006).

The European Council has to decide on environmental policy with a qualified majority. The European Treaty explicitly excludes spatial planning (called in the Treaty 'town and country planning' and 'land use') and quantitative water management from this decision-making procedure. In these fields, European policy can only be applied if the European Council acts unanimously on a proposal from the European Commission. In line with the European Treaty, the influence of the EU on the three national policy fields discussed earlier differs significantly. The following brief explanation will be extended in the next three subsections. The influence of the EU on Dutch water management policy focuses on water quality. There is hardly any EU influence on water quantity, because it is considered to be primarily an issue for national policy. Dutch environmental policy is strongly influenced by the EU. The European and Dutch environmental legislations are similar to an increasing extent. Spatial planning is not a formal policy field of the European Union (EU 2006; SER 2006; Gilhuis and Verschuuren 2003).

Overall, the influence of the EU on national policy has increased significantly over time. For the Netherlands this has been necessary and beneficial, because many environmental problems have an inherently supra-national character. They can only be tackled by using a European or global approach. The same applies to water management, because the Netherlands lies across the delta of four major, cross-border rivers. Viewed from the perspective of transport and logistics, the Netherlands is a gateway to Europe, with Amsterdam Schiphol Airport and the Port of Rotterdam as 'mainports'. The downside is that it is hard for the Netherlands to comply with environmental standards that apply to all EU Member States. The Netherlands is a very densely populated country. It has the highest concentration of people and farm animals per hectare in Europe and a high level of mobility and economic activities. Coping with EU policy correctly opens up major opportunities, but at the same time, presents difficult challenges (Ravesteyn et al. 2003; SER 2006).

There are those in the Netherlands who feel that the EU hinders the spatial-economic development of the country. For example, the implementation of the Air Quality Framework Directive of 1996 has recently led to delays and restrictions of building projects. The general feeling is that national civil servants are unable to come to grips with European policy developments. Knowledge of the EU processes is limited. There is an increasing awareness that the attitude towards the EU needs to change fundamentally. There is a move to oblige every national civil servant to get to know about the EU, to be EU-minded, act proactively and constructively towards the EU and be able to implement EU policy correctly. If this could be achieved, then the problems of applying EU policy in the Netherlands would be significantly reduced (Raad voor Verkeer en Waterstaat 2005; SER 2006; Gilhuis and Verschuuren 2003; Coalitieakkoord 2007).

From a steering and planning perspective, the culture of the EU differs from that of the Netherlands, and particularly the culture regarding the enforcement of regulations. EU Directives are binding and juridical in character, and have to be incorporated into national law within a certain period of time. Rules are backed up by strict value limitations or area designations and the EU is strict about monitoring, controlling and sanctioning policy results. The European Court of Justice can fine Member States if they do not comply. Where the EU keeps a strict eye on the actual results of its policy, the culture of enforcement of Dutch policy is more tolerant and consensus-based. In the Netherlands, lower-tier governments have to convince national government that they have made every effort to achieve the standards. If they have made the effort, but not achieved the required results, then it is not considered problematic. For the EU, it is the result that counts (Ravesteyn et al. 2003).

Since about 1998, EU regulation has become somewhat more flexible. Firstly, instead of detailed directives, the EU started to work with framework directives that only regulate the desired goals and results. It is then up to the Member States how these results are achieved. In its White Paper on European governance, the European Commission states its intention to follow a less top-down approach, using less detailed legislation, and allowing for greater flexibility. The EU also aims to work with more flexible policy instruments, such as guidelines, agreements and contracts, in accordance with network and market coordination, although not to the exclusion of the hierarchical approach with regulations. With regard to planning, the EU emphasises the importance of scientific knowledge, openness and accountability to the public. The EU wants to strengthen early dialogue with the relevant actors. The White Paper on European Governances proposes an open culture of consultation and dialogue (WRR 2003; EU 2001b).

11.4.1 EU influence on Dutch water-management policy

EU policy for water quality has been influencing Dutch policy for about thirty years already. There are many different sorts of EU directives on water quality. We will discuss these briefly now. For instance, the discharge of dangerous substances into surface water and groundwater has been legislated since 1976. Then, there are several

directives, like the Water Quality for Bathing Directive [*Zwemwaterrichtlijn*] of 1976, that regulate the quality of water in relation to a specific use. This directive includes water quality standards for both sea and fresh water. Some directives are aimed at preventing pollution due to certain activities. Examples are the Urban Waste Water Treatment Directive [*Richtlijn Stedelijk Afvalwater*] and the Nitrates Directives for agriculture [*Nitraatrichtlijn*], both of them introduced in 1991. The limits set by the EU on nitrate concentrations in groundwater and surface waters led to serious problems in the Netherlands, because of the extremely high density of pigs and chickens here. Then, there are several other European Directives that are not strictly-speaking water directives, but which, nevertheless, influence water management in the Netherlands. These are directives such as the Habitat Directive [*Habitatrichtlijn*] of 1992 and the Integrated Pollution Prevention and Control Directive [*IPPC-richtlijn*] of 1996. Surprisingly, not very much is known about these directives by Dutch regional governments. Much more widely known are recent developments in EU legislation and policy, such as the Water Framework Directive of 2000 [*KRW: Kaderrichtlijn water*] (Van Rijswick 2003; Van Rijswick et al. 2003).

The EU Water Framework Directive (WFD) has been based on 'integrated river basin management' [*stroomgebiedbenadering*]. It places existing (sectoral) water directives in an integrative framework and harmonises them. A river basin is an area of land from which all surface run-off flows through a sequence of streams, rivers and lakes into the sea at a single river mouth, estuary or delta. Dutch territory extends over parts of four cross-border river basins. A management plan [*stroomgebiedbeheerplan*] for each river basin must be completed by 2009. Each plan has to set objectives for the ecological status or potential of the specific basin, for the quantitative status of groundwater, for the chemical status and for protected areas. The objectives must be achieved in 2015. Ecological objectives are new in European policy. The exact standards of the WFD still have to be set, but it is expected that they will be more stringent than the current Dutch standards and that they will be strictly enforced. The river-basin approach operates in hydrological rather than administrative units. This requires a lot of cooperation between government organisations. In preparing a river-basin management plan, two other aspects are important, namely, that the EU emphasises, firstly, the importance of having a rational economic analysis of the likely measures that will have to be taken, and, secondly, the crucial role of citizens, NGOs and other interested parties. These interested actors should be fully involved in an open and clearly accessible planning process (Van Rijswick 2003; Ravesteyn et al. 2003; EU 2000; Van der Vlist 2006).

The WFD aims at an integrative approach, but, in fact, it is primarily concerned with the quality of surface water. Water quantity is still largely controlled by national policy. At the moment, international water-quantity issues such as flooding are tackled through agreements between individual countries and by international commissions. Water quantity is yet not directly covered by EU legislation. However, the European Commission is looking into the issue of flooding. There is a new EU flood action programme and in January 2006, the Commission proposed a Directive to address the problem of assessing and managing floods. The suggestions in this proposal included

making flood-risk maps and flood-risk management plans. The idea is that these plans will be closely linked to (or even integrated with) the river-basin management plans of the WFD, so that they will function as elements of integrated river-basin management. Because of this, the flood-risk management plan will operate with the same units as the WFD. Their time-tables will be synchronised and they will be developed in a co-ordinated process in which the public will participate. The WFD and the proposal for the directive on floods are the most important recent developments in the EU in relation to water (Van Rijswick 2003; Ravesteyn et al. 2003; EU 2006b; Van der Vlist 2006; Pool and Maka 2006).

11.4.2 EU influence on Dutch environmental policy

The EU has a strong influence on Dutch environmental policy. In a quantitative study carried out recently by The Asser Instituut, 66 per cent of the environmental legislation in the Netherlands was found to have been influenced by European legislation and jurisdiction (Douma et al. 2007). According to the Environmental Balance [*Milieubalans*] of 2002, about 80 per cent of Dutch environmental policy has been influenced by the EU (RIVM 2002). The influence of the EU can be measured in different ways, but however it is measured, it is clear that the EU largely determines environmental policy and regulations in the Netherlands, and its influence will increase. Many environmental problems nowadays have a global character. The first three environmental problems of the Fourth National Environmental Policy Plan —loss of biodiversity, climate change, over-exploitation of natural resources — are explicitly defined as 'global' (VROM 2001).

From the 1970s onwards, the concern to conserve the environment started to give birth to the 'Europeanising' of environmental policy. At the Paris Summit in July 1972, the Heads of State and Government recognised that, in the context of economic expansion, particular attention should be paid to the environment. They were influenced by the report of the Club of Rome (Meadows 1972), and by the United Nations Conference on the Environment in Stockholm. The EU adopted its first environmental action programme in 1973. Although EU environmental policy had not been authorised in the European Treaty yet, the EU had already adopted a series of sectoral environmental directives and regulations prior to the European Act of 1987. These directives were about the protection of air and water, noise abatement, nature conservation and waste management (Van Geel 2007; EU 2007).

In adding a title specifically on the environment to the European Treaty that established the European Community, the Single European Act of 1987 provided the legal basis for EU involvement in the environmental field. It is generally acknowledged as a turning point. The Single European Act allows the European Community to preserve, protect and improve the quality of the environment, using the principle of subsidiarity. The Treaty of Maastricht (1991) and the Amsterdam Treaty (1997) strengthened the legal basis of EU involvement further. The Treaty of Maastricht added the idea of 'respecting the environment by sustainable growth'. With this Treaty, environment gained the status of policy in its own right and made qualified

majority voting in the Council the general rule, replacing unanimity (with the exemptions mentioned at the beginning of this section). The Amsterdam Treaty emphasised *sustainable development* as a task of the European Community and enshrined sustainable development in the preamble and objectives of the EU Treaty. To promote sustainable development, the Amsterdam Treaty introduced a new article on *external integration,* a principle that had already been mentioned in the Treaty of Maastricht. According to this principle, environmental aspects must be integrated into the definition and implementation of other Community policies. Moreover, the Amsterdam Treaty simplified the decision-making procedure again by changing the procedure from one of 'cooperation' to 'co-decision'. The principles of sustainable development (broadly defined to include ecological, economic and social aspects) and external integration are still very important (EU 2007; WRR 2003; Van Geel 2007).

Dutch environmental legislation is becoming ever more closely aligned with EU Directives. The Cabinet 'Balkenende II' stated: "The Netherlands will not introduce new policy that is more stringent than the European standards prescribe, unless a specific Dutch problem requires a specific Dutch solution" (Kabinet 2003a: 12). The Ministry of VROM intends to translate European legislation into Dutch legislation without additional regulations. With a view to re-aligning earlier legislation that is still in force, the Ministry is critically reconsidering all EU legislation that has already been implemented (Gilhuis and Verschuuren 2003).

11.4.3 EU influence on Dutch spatial planning policy

Spatial planning is not a formal policy field of the European Union. However, this is not to mean that the EU has no influence at all on national spatial developments. Several studies show that the EU does indeed have an impact on the spatial development of the Netherlands (Ravesteyn et al. 2003; Fleurke en Hulst 2003; Buunk 2003; Zonneveld and Faludi 1998; Van den Burg and Hidding 2006; Janssen-Jansen and Waterhout 2006). The EU influences spatial developments in several ways: through explicit, informal spatial policy; through the impacts of sectoral EU policy; and through the general European aim of establishing a 'level playing field'. We will describe them respectively. The EU has an explicit spatial policy in the European Spatial Development Perspective (ESDP). The planning ministers of the Member States adopted the ESDP at an informal conference in Potsdam in 1999. Despite its informal status, the ESDP influences formal EU policies such as the economic and social cohesion policy and the structural funds. The European Spatial Planning Observatory Network (ESPON) was also established in 1999, during the same conference. ESPON surveys spatial issues in the EU and provides comparable data for the Member States. Although the explicit, informal spatial policy of the EU is the one that is most visible, it is not most influential. The direct and especially the indirect impacts of EU sectoral policies are more significant. The report of the Netherlands Institute for Spatial Research (*RPB*) shows the direct and indirect spatial impacts of EU policy on regional cohesion, transport, agriculture, competition, environment and nature and water (Ravesteyn et al. 2003). A main European aim is to create a 'level playing field' for fair

competition and to reduce barriers to the free movement of goods, services, people and capital. This general economic aim also has a spatial aspect (Zonneveld and Faludi 1998).

11.5 WA, EIA and SEA in their contexts

11.5.1 WA in its context

Water Assessment is part of the new, spatial approach in water management policy that came into being around the beginning of this century. In 2000, the two documents that mark this change — the advice of the Tielrooij Committee and the Cabinet's response to it — introduced WA as an important tool for dealing with water in the 21st century. The Tielrooij Committee proposed introducing WA to help make decisions about where best to locate spatial activities. The Cabinet immediately introduced the new instrument for all kinds of spatial plans. The introduction of WA is an expression of the change of thought from the technical 'water follows function' approach to the new approach ('function follows water') in which water is considered to be a guiding principle in spatial planning. Technical water management started to 'socialize' to a certain degree from 1985 onwards, but until about 2000, the policy had focused on water as a condition for land use. Since 2000, the idea has been that, using WA as an important tool, water should actively influence spatial development.

Water Assessment is an instrument for the external integration of water policy into spatial planning. It has also been based on the idea of internal integration: WA deals with all kinds of water aspects in an integrated way. Both types of integration are part of integrated water management, which marks water management policy from 1985 onwards. The relationship between water management and spatial planning has been emphasised since about 2000, and WA has played a significant role in that trend.

The policy field of spatial planning has embraced the new ambitions of water management, including WA. The recent National Spatial Strategy underlines the need for water to be a important guiding principle for spatial planning. It states that WA is the most important tool for considering spatial choices explicitly in the light of the characteristics of the water system. At the same time, spatial planning policy is aligned with strong economic and infrastructural interests. An important objective of the National Spatial Strategy is to strengthen the international competitive position of the Netherlands. However, as spatial planning weighs and balances different interests, the focus on water *and* economy is not considered to be problematic. Moreover, planning is supposed to be able to overcome conflicts between these interests. WA helps spatial planning to balance water with other (socio-economic) interests, which is often a difficult challenge in practice.

Water Assessment operates very much through network coordination; it relies heavily on the mechanisms of trust and cooperation. Informal, horizontal relationships between water managers and spatial planners are important. This fits in well with how the new approach to water policy has been implemented, namely, without new

regulations and formal structures, relying largely by inter-governmental cooperation. For example, it was government organisations that closed the National Administrative Agreement on Water (*NBW*). WA is part of this agreement. Government bodies also cooperate in the National Administrative Consultation on Water (*LBOW*), a shadow structure for inter-governmental decision-making that is not formalised by legislation. Many informal instruments came into being to bridge the cultures of water management and spatial planning.

In the cooperative processes, water authorities are supposed to fulfil a proactive and influential role in spatial planning processes. However, for a very long time, water authorities had been accustomed to act technically and autonomously at the operational level. As functional democracies, the water boards implemented operational measures for water management. They were not accustomed to act strategically and politically, so they could not change their practices overnight. The WA evaluation showed that it took five years for cooperative processes to become fruitful at the operational level, and that water managers were still finding it difficult to influence the strategic level of spatial planning. Viewed historically, however, these achievements are already a significant step forward.

WA fits into the period of de-regulation and de-centralisation, from 1985 onwards. The National Spatial Strategy presents WA as a good example of its 'philosophy of governance'. WA is one of the process-related 'basic quality standards' that lower-tier governments are required to meet for spatial plans, although, for each specific situation, they have the autonomy to decide on what form that spatial quality will take. The national government only offers them the tools to do this effectively. WA is one of these tools. With its cost-instigating principle, WA also fits into the financial principle of the National Spatial Strategy to internalise costs (market coordination). This does not mean that formal spatial procedures have disappeared. On the contrary, the proposal for the new Spatial Planning Act makes clear that these procedures and the formal land-use plan are still the basis of spatial planning in the Netherlands. The co-existence of formal and informal coordination is visible in WA too.

Since 1985, planning has become more communicative. By this we mean that it has become a process in which different actors debate their perceptions to reach consensus. Decision-making has become more open and interactive. It is clear that WA fits into this development. It is an interactive process between spatial planners and water managers in which they work together towards gaining shared understanding. The downside is that WA is not open to other actors. It was designed as a governmental process with *ex-post* public participation in the formal spatial procedure. This accords with the overall picture of water management, that citizens and interest groups are still at a distance. The policy field has not yet been fully socialised; it remains a field for governmental organisations.

EU policy has no influence on WA. The origins of WA are in water quantity and spatial planning, both of which are still considered to be national policy affairs. However, the policy context to which WA is linked will be influenced more by the EU. With the Water Framework Directive and the proposal for a directive on floods, EU

influence is steadily getting broader. European policy objectives will have to be taken into account, but it is not clear how this will influence WA.

11.5.2 EIA in its context

EIA began in the United States (US) in 1969, in the context of the National Environmental Protection Act (NEPA). The Council on Environmental Quality, which was set up by NEPA, introduced regulations for the whole EIA procedure in 1978. The NEPA had emerged in response to an unprecedented rise in environmental concern in those days, spearheaded by new environmental interest groups. Section 102(2)c of NEPA required the preparation of an Environmental Impact Statement (EIS) for any major federal action that would significantly affect the quality of the human environment. The section on EIS was rather brief and vaguely worded and it passed through Congress quickly and without much debate. But the EIS section had an astonishing impact. Much of its strength came from court rulings in the early 1970s about how this vague piece of legislation should be interpreted. This litigation was caused mainly by environmental interest groups and citizens' groups. The openness of EIA to litigation was a very important factor for its effectiveness, but this was reduced by users' responses. In attempts to avoid legal challenge, they submitted EISs that were voluminous documents containing a lot of surplus information.

In the 1970s, there was a lot of emphasis on administrative procedures. At that time, there was also a drive for more rational, scientific and objective decision-making and more public involvement. The introduction of EIA in the US fitted in well with these procedural, rational and democratic tendencies. The American EIA has been copied all over the world. Nowadays, more than a hundred countries have EIA systems. Several international organisations have had a hand in this worldwide spread of EIA. Examples are the World Bank, the Organization for Economic Cooperation and Development (OECD), the United Nations Environment Programme (UNEP) and the United Nations Economic Commission for Europe (UNECE) (Wood 2003; Weston 2004; Glasson, Thérivel and Chadwick 1999; Arts 1998; Pokorný-Versteeg 2003).

The OECD recommendation that every OECD country should introduce EIA, stimulated the Dutch government to become interested in EIA, in 1974. In the next thirteen years, research and discussions prepared the way for its introduction in the Netherlands. The Dutch EIA system was established as part of the Environmental Protection Act in 1986. To develop the Dutch EIA, use was made of experiences gained in the US, and especially in Canada. The Canadian system is strong in public participation and scientific approaches. Surprisingly, in developing the Dutch EIA little recourse was made to the EU EIA Directive (Arts 1998; Mostert 1995).

The Dutch preparations for an EIA system fitted into the increased attention for the environment and into the development of national environmental policy in the 1970s. EIA became one of the weapons used by the new policy field in fighting for its position. In the period during which it was being prepared, the EIA system acted as a forerunner in several ways. In the first place, whereas environmental policy had a sectoral approach in the 1970s, the EIA has an integrated approach to the environment.

In 1978, Prime Minister Van Agt mentioned EIA as an important instrument for improving integration. Secondly, EIA is an instrument that integrates the environment into other policy fields. External integration became important in the 1980s and is still an important principle in environmental policy today. Thirdly, it can now be seen that NEPA and EIA anticipated the concept of sustainable development (Wood 2003). Fourthly, with its focus on preventing adverse environmental impacts, EIA had moved away from the *ex post* and end-of-pipe approaches. Overall, from its very start, EIA already had many elements of working integratively on sustainable development. These elements — internal and external integration, sustainable development, precaution, prevention and source-directed — are still important.

EIA was developed in the Netherlands at a time when environmental policy was focused on developing legislation. With legislation, the new policy field was able to fight environmental problems with few resources, in terms of financing and personnel. The detailed procedural regulations for EIA fit in with this early period of environmental policy (NCEIA 2003). The procedural character of EIA was also in accordance with the legislative framework for environment and spatial planning. The Environmental Protection Act of 1980, in which EIA was implemented, was strongly procedural. The Spatial Planning Act of 1965 was also very procedural, and in line with the overall structure of the Netherlands as a decentralised unitary state. The procedural regulations of the EIA give lower-tier governments, as competent authorities, the autonomy to make substantial decisions. Proponents also have a heavy responsibility, because it is they who have to write the EISs. These two features made EIA a forerunner to a certain extent, but overall, the EIA has always been predominantly regulatory, and it still is nowadays. Criticism about focusing on formal requirements started in the 1980s already. After a long period of preparation, and in line with Prime Minister Lubbers' moves towards de-regulation during the 1980s, the EIA system that was adopted in 1986 was already less detailed than the procedural regulations that had been proposed in the 1970s. There was still criticism about the regulatory character of EIA after this period, and the strong tendency to de-regulate also continued.

EIA is an instrument of the heyday of rational planning in the 1960s and 1970s. NEPA and EIA emerged in response to the dominant rationalist view in the US. There was a strong belief in a systematic, objective scientific assessment of environmental impacts. This was linked to the idea that the rational model leads to better decision-making (Weston 2004). The EIA was firmly based on the rationalist notions that dominated at the time when the instrument came into being. Theoretical planning developments in the US had a strong influence on Dutch planning at the time, so the Dutch EIA is also largely influenced by North American ideas. In Chapter 7, we saw that the Dutch EIA reflects the characteristics of rational planning very strongly. This is readily understandable from EIA's historical context. However, the crisis in planning in the 1980s, led to the questioning of the systematic, scientific methodology that had been used until then. As a result, planning became more communicative. Despite these developments, EIA has retained its rational base, but a debate has started recently on using the communicative planning approach in EIA.

In 1985, after ten years of discussion, the EU introduced their EIA Directive, which gave EIA an important boost in Europe. EIA is now linked to the main goal and principles of EU environmental policy, namely, sustainable development, external integration, precaution, prevention and source-directed. The EU Directive does not incorporate the polluter-pays principle (Pokorný-Versteeg 2003). EIA fits into the traditional EU culture of steering and planning. The EIA Directive is binding and obligatory in character and is enforced by the courts. The EU emphasises the importance of science and of openness and clarity to the public, which are also important in EIA. The Dutch EIA was developed largely independently of the EU EIA Directive. The first national EIA regulations did not fully implement the EU Directive. Since then, however, Dutch environmental legislation has been adjusted so that it accords more and more directly with EU Directives. The aim of the Ministry of VROM to implement EU legislation without any national additions applies to EIA too. The current revision of the Dutch EIA should be understood in this context.

11.5.3 SEA in its context

When discussion about the EU EIA Directive started in the mid 1970s there was no focus on projects. The original intention was that the system should apply to plans as well as projects. By the time the EIA Directive was approved in 1985, its application had been restricted to projects. Discussion about a SEA Directive started soon afterwards. But then it was decided to stop the discussion, so that Member States could concentrate on the EIA Directive. The discussion on the SEA Directive was formally restarted when the European Commission presented a proposal in 1996. The EU SEA Directive was adopted in 2001. To a great extent, this Directive was based on experience gained from EIA. Basically, the stages used in the EIA system were adapted to conditions at the planning level. This formula was chosen to not overburden administrations with a new tool (Thérivel and Partidário 1996; Partidário 2000; Partidário 1996; Thérivel et al. 1992; Clark 2000, Fischer and Seaton 2002; Feldmann, Vanderhaegen and Pirotte 2001).

The Netherlands SEA system was established before the EU SEA Directive came into being. With the introduction of the Dutch EIA system, 'strategic EIA' became compulsory for several strategic decisions. Besides, SEAs were carried out on a voluntary basis. From 1987 until 2002, about fifty strategic EIAs were accomplished. Strategic EIA in the Netherlands was an example of an EIA project-based approach. It was a pure extension of project EIA to the strategic level. Compared with the Dutch EIA, the current SEA procedure based on the EU Directive contains fewer legal requirements than EIA, which makes it possible to fit SEA better in the plan procedures (Partidário 2000; Holder and Verheem 1996; Verheem and Tonk 1998; NCEIA 2003).

SEA has many of the same principles as EIA. This is because, in the EU as well in the Netherlands, SEA has been strongly based on existing EIA regulations. As SEA arose in the wake of EIA, it is hardly surprising that the SEA and EIA systems are similar in many ways. However, SEA is more flexible because, firstly plan procedures

at the higher levels of decision-making are more fluid and less structured than project-level procedures, and a second explanation might be the time-frame and context in which the assessment tools came into being. The situation in the 1970s, when EIA took its form, differs from the current situation. Ideas on steering and planning have developed since then. Although some of these new ideas have been adopted in SEA, basically, it still follows the ideas on which the EIA is based.

11.6 Comparison

In this last section, we will first explain the similarities of WA, EIA and SEA from their historical contexts. These similarities are mainly to be found in their internal and external integration, in their aims to create win–win solutions, sustainability and the autonomy for decision-makers. Then the differences will be explained. For instance, because WA was introduced recently, it reflects current ideas on steering and planning. This explains the elements of network coordination and communicative planning in WA. EIA was developed earlier, when there was still a strong belief in hierarchical steering and rational planning. This explains the dominance of hierarchy and rational planning in EIA. It also explains SEA, which came into being in the wake of EIA. Third, we will highlight some aspects of the context of WA, EIA and SEA that we must definitely keep in mind when formulating the recommendations in the next chapter.

11.6.1 Similarities

WA, EIA and SEA are instruments for internal and external integration. The aim of the WA instrument is to clarify the broad scope of impacts and consequences for water systems brought about by societal activities and to deal with them in an integrated way. EIA and SEA do the same for environmental impacts and consequences. All three instruments are similar in that they are all concerned to integrate internally, which relates to the broadening of the policy fields in general. In the policy field of water management, water quantity was first broadened with a separate track for water quality. From 1985 onwards, all water aspects were integrated under the concepts 'water system' and 'integrated water management' and these are still important today. The environmental policy field had a sectoral approach in the 1970s focusing on public health. In the 1980s, the definition of the environment was broadened to include ecological aspects, and the environment was defined as a coherent whole. EIA was a forerunner of the integrated approach.

The aims of WA, EIA and SEA are to give water (WA) or the environment (EIA/SEA) a permanent and central position in decision-making. WA focuses on decision-making in spatial planning. EIA and SEA also include spatial decision-making, but they have a broader scope. These objectives are the same as the aim for external integration. In the field of water management, external cooperation with other policy fields started to develop around 1985, with the introduction of 'integrated

water management'. Around the beginning of the 21st century, there was an emphasis on coordinating and renewing water management and spatial planning. The need to view water as an important guiding principle for spatial planning is now emphasised in both water management policy and spatial planning policy. WA was developed in the front line of this new approach. EIA was a forerunner of external integration, which started to develop in 1982, at the time when environmental policy and spatial planning were brought under one ministry. It is still an important principle in EIA today. By the end of the 1980s, the concepts of sustainability and spatial quality offered further possibilities for external integration.

Dominant in all three instruments is the desire to find win–win solutions for both the environment and welfare. The introduction of 'sustainable development' in 1987, a concept that is still important today, relates to this attitude. The intention behind 'sustainable development' is to diffuse the dichotomy and friction between the environment and the economy. EIA, introduced in the 1970s as a weapon in the fight for the environment, was soon linked to sustainability. SEA is strongly linked to sustainability too. During the same period, the concept of 'spatial quality' was developed in spatial planning to help spatial planners overcome creatively conflicts between different interests such as the environment and the economy. WA is now one of the basic quality standards. Sustainability and spatial quality are concepts that are very broad and integrative, and both stress the opportunities. However, their very broadness causes them to be vague, which results in continuing discussions about how to define them.

WA, EIA and SEA have in common that, in formal decision-making, they do not reduce the autonomy of decision-makers. They only recommend or inform them about water and the environment. WA is a process-related tool for lower-tier governments. EIA and SEA are procedures that steer decision-making mainly through formal requirements, but yet without reducing the decision-maker's substantive powers to reach a decision. In this sense, EIA was a forerunner of de-centralisation and tailored decision-making. WA, EIA and SEA all have to deal with the difficult problem of influencing other (predominantly lower-tier) government organisations. There is an informal process in WA for doing this, and a formal procedure in EIA and SEA, but none of these instruments set substantive standards for decision outcomes. This fits in well with the overall character of the Netherlands as a decentralised unitary state. It also links in well with the procedural character of Dutch planning in which WA, EIA and SEA are embedded.

11.6.2 Differences

As shown in the comparison in Chapter 8, the steering of WA differs from that of EIA and SEA in that hierarchical coordination dominates EIA and SEA, whereas WA is steered through network coordination predominantly. This has to do with when the instruments came into being: the fact that EIA was set up before the 1980s, and WA at a later date. The 1980s was significant because it was then that the national government started to look for new ways of steering. The informal character of WA fits

in well with these new, and still dominant, ideas about steering. However, WA (and water policy in general) focuses primarily on governmental cooperation, not on cooperation with other actors in society. Besides, these new ideas are not without problems. As the Netherlands Scientific Council for Government Policy has already noted, institutional checks-and-balances are needed. Cooperative, informal processes have to be linked to formal decision-making structures. These formal structures are still in place, and remain important, even though formal regulations have gained a negative connotation since the change in thought of the 1980s. The turning point in the 1980s was not as radical, or as black-and-white as it may seem. In its design, WA indeed creates linkages between its informal process and formal, hierarchical structures.

Due to its origin in the US of the 1960s and 1970s, administrative procedures and sanctioning by court rulings is strongly emphasised in EIA. The hierarchical, legislative approach dominated the field of environmental policy in the Netherlands at the time in which EIA started. EIA still has a formal, procedural character and the fear of juridical sanctioning still influences EIA practice. Since the 1980s, the tendency throughout government to de-regulate has been an issue in relation to EIA. De-regulation is currently the key issue in reforming EIA to make its procedures more flexible. SEA already has a somewhat more flexible character than EIA.

From the planning perspective, WA differs from EIA and SEA. The comparison in Chapter 8 showed that rational planning dominates EIA and SEA and that WA is a mixture of communicative planning and rational planning. The explanation for this difference follows the same line of argumentation as the difference in steering. The crisis of the 1980s caused the systematic, scientific approach of rational planning to be questioned. From then onwards, planning became more communicative.

Communicative planning dominates the first phases of the WA process, and rational planning the last phases. Informal dialogue is linked to formal decision-making to make the process clear and accountable. However, the rational elements (and thereby the democratic accountability) of WA are not effective in practice, as yet. In its design, WA does not invite public and private actors to express their views early in the process. In this sense, the WA instrument is not in accordance with the new communicative ideas on public participation, and this is true of the water-management field in general. It is now acknowledged that more societal involvement is needed, but, in practice, water management is still a field operated by insiders and governments.

EIA was developed within the context of the rational view on planning, dominant in the 1960s and 1970s. This was also the period when there was a strong emphasis on ensuring clarity and democracy in decision-making processes. Even though the ideas on planning have changed since the 1980s, EIA has retained its rationalist base. Recently, there have been discussions about the usefulness of incorporating communicative planning in EIA and SEA.

The dominance of hierarchy and rational planning in EIA and SEA fits to a certain degree into the culture of the European Union, at least in the Dutch perception of the EU. EU Directives are formal and obligatory, backed-up by strict enforcement and sanctioning. The EU also emphasises the importance of scientific and expert-based knowledge, clarity, accessibility and accountability. But like Dutch national pol-

icy, the EU is also trying to introduce more flexible regulation, non-legislative instruments and reinforce early dialogue with society. The fact that Dutch EIA and SEA are strongly linked to the EU policy context, creates another important difference between them and WA, which was developed in a national setting.

11.6.3 Aspects to keep in mind

This chapter has concentrated on the context of the policy instruments. It is important to gain insight into this broader context to ensure that the recommendations for the further development of the instruments will take the relevant circumstances into consideration. In this last subsection, we will highlight some aspects of the context of WA, EIA and SEA that must be kept in mind when formulating the recommendations in the next chapter. Two differences in the policy contexts of WA and EIA/SEA have a direct and formal influence on the feasibility of making recommendations: firstly, the influence of the EU and, secondly, the position of the functional democracies for water management. We will discuss these two aspects first, followed by other aspects that may influence the recommendations in a more indirect way. For WA, this is the socialisation of water management, and for EIA and SEA, it is being more open towards new concepts of steering and planning.

Dutch EIA and SEA have to be in accordance with the EU Directives for EIA and SEA. The current aim of the national government is to interpret EU Directives without adding on any Dutch legislation. In making recommendations for EIA and SEA, this means that we have to adhere strictly to the EU regulations, and take the ideas on de-regulation in the Netherlands into account.

The water boards have a specific function in the Dutch democratic system. They are 'functional democracies' for water interests. This makes the policy field of water management unique compared to other policy fields. WA has been built on these specific institutional characteristics. The effective elements of WA that are based on the position of functional democracies cannot be 'transplanted' to EIA and SEA. The same applies to trying to 'transplant' the effective elements of EIA and SEA to WA. There, we have to take the position of water boards into account. More indirectly, we have to be aware that the proactive and cooperative role of water managers is a major change compared to the past. Compared with the long history of technical, operational and autonomous water management, the new role of water managers is still in its infancy.

The new role of water managers fits into the overall socialisation of water management. Water managers have started to cooperate and communicate to an increasing extent, in a way that fits the new concepts on steering and planning. However, this cooperation and communication is still limited to governmental organisations. Citizens and interest groups are not closely involved yet, although socialisation in this direction too is one of the ambitions of the new approach in water management. In formulating recommendations for WA, this ambition is something to take into account.

It has become clear in this chapter that EIA and SEA have been built on steering and planning concepts that were dominant before the 1980s. Since the 1980s, the policy context has become more oriented towards networking, markets and communicative planning. Within this changed context, hierarchical steering and rational planning are still dominant in EIA and SEA. In formulating recommendations for EIA and SEA, we must be aware that the traditional ways of steering and planning may be less effective in the current context. Of course, this does not mean that all hierarchical and rational elements should be eliminated, but we have to think about the potential of the new concepts of steering and planning.

12. Conclusion and contributions to practice

In the summary of this thesis, we give a systematic overview of the results, in terms of the research questions. In this chapter with the conclusion, we show the main lines through the explanations of WA, EIA and SEA. We start by emphasising that WA, EIA and SEA are instruments for integrative decision-making. The aim of the instruments is to guarantee that decision-makers not only emphasise the socio-economic interests, but take the water-related and environmental interests fully into account too. In the Dutch policy context, there is a belief that, through innovation and integration, win–win results are possible in such trade-offs. In practice, this is a difficult challenge. Second, we explain the tension between the neutral and normative aims of the instruments. On the one hand, the instruments have the advocative and agenda-setting aim of strengthening the interests of water and the environment in decision outcomes. On the other hand, these instruments facilitate decentralised decision-making processes in a 'neutral' way. Effectiveness can therefore have different meanings. Third, our argumentation moves to the inherent uncertain and ambiguous character of decision-making, in relation to the insight of bounded rationality. The need to fully acknowledge uncertainty and ambiguity is something that is clear in theory, but a pitfall in practice for WA, EIA and SEA.

The fourth and fifth conclusions are about the steering and planning methods in the instruments. With regard to steering, we explain how the three modes of coordination — markets, hierarchy and networks — are used in WA, EIA and SEA. We link this to the evaluations of the instruments' effectiveness and to the concept of 'metagovernance', in relation to smart regulation and management theory. With regard to planning, there is complementarity and mutual tension between the rational and communicative approaches. In addition, power can distort the ideals of these two planning approaches. In this conclusion, we focus on the importance and difficulties of an explicitly justified decision. In the sixth and final conclusion, the instruments are considered as children of their times. This makes it easier to understand the underlying notions in WA and EIA/SEA with regard to steering and planning.

The recommendations follow the argumentation that combining different conceptual notions in an instrument can be very effective, but full of tensions as well. Therefore, the recommendations cannot be clear-cut. In Sections 12.2 and 12.3, we describe the most important topics for improving the instruments, including the dilemmas, tensions and difficulties that go with these recommendations. One dilemma, for example, is that an increased use of hierarchy in WA can reduce the functioning of informal networking. Another is that by giving more attention to communicative planning in EIA and SEA, it is likely that less attention will be given to the strengths of rational planning, because actors only have limited (time) resources. Another type of dilemma is the tension between what, in theory, would be advisable, such as scaling up the application of WA to more strategic levels, and what is likely to be feasible in practice. Taking such dilemmas and difficulties into account, we give suggestions for implementing the recommendations. These suggestions are improvements that are

relatively easy to implement, but, at the same time, ones that affect the underlying notions of the instrument.

12.1 Conclusion

12.1.1 Instruments for integrative decision-making in the context of win–win policies

WA, EIA and SEA are exponents and forerunners of internal and external integration in policy. The assessment instruments are internally integrated as they are designed to deal with the water system and with the environment in a broad and integrated way. In a fully integrated system, all the relevant water-related and environmental aspects should be included coherently in a Water Recommendation (for WA) or an Environmental Impact Statement (EIS) (for EIA and SEA), so that they can be fully integrated into decision-making about (mostly) socio-economic activities. The instruments try to integrate water and the environment externally in decision-making processes. WA, EIA and SEA provide decision-makers with knowledge about the environmental consequences *ex-ante*, so that they take these consequences into account. Decisions are always trade-offs, and the instruments should act as an aid to prevent decision-makers from emphasising one side of the trade-off only.

EIA was a forerunner of the integrative approach. In the 1980s, internal and external integration became important in environmental policy as well as in water management policy. External integration was directed especially towards the policy field of spatial planning. The integration of water management in spatial planning got a boost with the development of the new policy approach that came into being around the beginning of the 21st century. In this new approach, water is an important guiding principle for spatial developments. WA was introduced in the frontline of the new policy approach to help water managers have a proactive influence on spatial planning.

Within the context of Dutch policy there is a belief that win–win outcomes are possible in the trade-off between environmental and socio-economic consequences. A concern for water and the environment does not mean being less ambitious about welfare and economic growth. On the contrary, the idea is that through innovation and integration we can overcome conflicting interests and create synergy. Sustainability provides the framework for this thinking, despite, or probably thanks to the vagueness of this concept.

The use of the assessment instruments should be understood within the context of this win–win perception of trade-offs. The WA, EIA and SEA instruments are intended to help balance different interests and overcome conflicts. In practice, this is a difficult challenge, especially when making strategic decisions, such as choosing a location for a project. Evaluations show that WA and EIA do not perform well enough at this level of decision-making. They perform well at the operational level.

There is a belief that the negative consequences for the environment and the water system at the strategic level can be mitigated and compensated at the operational level. Such a perception may be due to the power of vested socio-economic interests, and due to traditions in a policy field. For example, Dutch water authorities are accustomed to act technically at the operational level. Whether this belief in the win–win results in policy is an illusion or the truth is not the issue here. The issue is that we should prevent mono-thinking and instead be open to other ideas. Debate and confrontation at strategic levels of decision-making are difficult, but at the same time crucial in the highly urbanised delta of the Netherlands. Under-estimating the risks would be costly and even dangerous. The recent introduction of SEA is an attempt to shift attention to the strategic level in environmental assessment. We are curious whether SEA will indeed perform strategically and what contribution the requirement to develop alternatives for an initiative will make. In complex circumstances where power is at work, can a systematic and structured approach influence decision-making effectively?

12.1.2 The tension between the neutral and normative aims

WA, EIA and SEA exist because of a concern that the interests of water and the environment are too weakly represented in trade-offs with socio-economic interests. The ultimate, normative, advocatory aim of these instruments is to strengthen the weak interests of water and the environment. They can be understood as forms of agenda-setting within a play of power because they concentrate actors' attention on water and environmental issues during decision-making processes. The immediate aim and design of the instruments are of a neutral and facilitating character. 'Neutral' here means that decision-makers only have to take the Water Recommendation, or the EIS, 'into account'. If they have good arguments, they may deviate from the recommendation or the most environmentally friendly alternative. Decision-makers retain their autonomy to decide on the balance between the environmental and socio-economic interests.

The tension between the neutral and normative interpretation of the aim means that the expectations of the instruments can differ. Consequently, effectiveness can have different meanings. The neutral aim relates to a performance view of effectiveness, in which the quality of decision-making is important. An extremely normative interpretation of the aims of WA, EIA and SEA means that decision outcomes must conform with environmental interests and related policy objectives. Where effectiveness means full conformance, the instrument will be considered to have failed if the decision-maker deviates from the Water Recommendation, or the most environmentally friendly alternative. In the evaluations that we analysed in this thesis, effectiveness was mainly viewed from the point of view of performance. The evaluations make clear that WA and EIA improve the quality of decision-making. The actors who were involved in the process thought that water and the environment had been taken explicitly into account. They stated that they used the assessments in their discussions and that their opinions changed during this process. Where effectiveness was gauged as conformance with water or environmental interests and policy objectives, the effec-

tiveness of the instruments was judged to be much lower. From the design of the instruments, the most realistic way to view effectiveness is through performance. There is a persistent, but mistaken idea that the instruments include normative criteria in order to 'test' societal initiatives. However, assessment instruments are not designed to test and they do not contain normative criteria as such. In fact, the inclusion of strictly normative criteria in the design of these instruments would not make sense, because at the national level of the instruments it would be impossible to define a specific set of criteria that would fit all the varied circumstances to which the instrument is applied. Experts would not be able to define them objectively either. Moreover, the Netherlands is a decentralised unitary state in which the provinces and municipalities have been granted a certain degree of autonomy in decision-making. Assessment instruments all deal with the difficult problem of regulating decentralised decision-makers, but in different ways. In WA, the Water Recommendation to the decision-maker is a tailored, prioritised interpretation of policy objectives. It is a standpoint of the water authority that has been developed in an interactive process with the initiator of the spatial plan. WA can only be designed in this way, because the water boards are functional democracies in the Netherlands. The EIA and SEA procedures require the proponent to formulate good quality environmental information in the form of an EIS, and the instrument provides the procedural and analytical standards to accomplish this.

12.1.3 The pitfalls of suggesting certainty and of mono-thinking

It goes without saying that WA, EIA and SEA intend to make the impacts and consequences of societal activities for water and the environment clear, *ex-ante,* in decision-making. It is less obvious whether such instruments can also make the uncertainties and ambiguities transparent. In theory, we know that uncertainty and ambiguity are inherent to decision-making processes. Complete and neutral knowledge about the consequences of societal initiatives is a rational ideal worth striving for, but we know that rationality in decision-making is always bounded. In practice, it would appear attractive to suggest that there is more certainty than there actually is, as well as to think from one point of view only, as this would reduce the complexity of decision-making. However, good quality decision-making means acknowledging complexity and coping well with uncertainties and with many different perceptions. Assessment instruments should do justice to the value-laden and political character of trade-off decisions. In this regard, mono-thinking by water authorities and experts is a potential pitfall inherent in the design and practical application of WA, EIA and SEA.

In WA, no particular attention is paid to uncertainties or to perceptions other than those of the governmental organisations involved. The strength as well as the pitfall of WA is the strong focus on the water authority's perception. It is they who write the Water Recommendation, using their knowledge of the water system. There is nothing wrong at all with this construction, because the water boards are democratic bodies, and because the recommendation is not presented as neutral knowledge. It is clearly a form of agenda-setting, based on policy objectives. The pitfall is that WA is

too much of a governmental process. Citizens, interest groups and companies must be provided with information about the water-related consequences and uncertainties of societal activities. This enables them to develop their own perceptions and to deliver input into the main decision-making process, which in turn enhances the multiplicity of perceptions. In the design of the instrument, information is supposed to be made clear and accessible through the Water Paragraph in the spatial plan which refers to the Water Recommendation. However, in practice, this does not function effectively.

In EIA and SEA, a statutory requirement is that uncertainties and any gaps in knowledge must be clarified. Whether this indeed happens fully enough in practice is another question. A lot of attention is given in these instruments to openness and public involvement. The EIS provides environmental information that empowers citizens, interest groups and companies to express their perceptions. EIA and SEA acknowledge ambiguity with the above construction and use third-party pressure on decision-makers as a smart steering mechanism. The risk is that, instead of presenting different perceptions to the decision-maker, the many view points are hidden behind the 'neutral' EIS. There is also a danger that value-laden questions will be removed from political decision making and restricted to discussions between experts. So a seemingly objective EIS, then becomes a smokescreen in decision-making. The knowledge in an EIS is in fact also a product of communicative and strategic action.

12.1.4 Smart steering with a hybrid instrument

Governmental instruments are often associated with hierarchical coordination: rules, control and sanctioning. WA, in fact, has contributed very few rules. Most of the hierarchy associated with applying WA is not actually in the instrument itself, but in the existing institutional framework. There is a kind of bias towards perceiving instruments in hierarchical terms and to using this mode of coordination for increasing effectiveness. Rules give a feeling of control, although it is well-known that inflexibility often leads to failure and relatively high transaction costs, and that what is eventually achieved is an unsatisfactory, defensive response. Because EIA and SEA are much more regulated, there is a strong move to reduce the number of rules, though, of course, within the requirements of the European Union. Unfortunately, the discussion is only about rules and fewer rules. At the instrumental level no thought has been given to restructuring EIA and SEA in any other way. That is not smart. There are other coordination mechanisms, such as trust and price, that can contribute significantly to the effectiveness of an instrument, though these mechanisms are not foolproof either and neither are they free of costs.

In practice, informal cooperation and communication in the early stages of the planning process appear to be very important for the effectiveness of both WA and EIA, as has been shown in evaluations. The assessment can then be flexibly integrated in the main planning process, tacit knowledge can be exchanged and opinions can be influenced relatively easily. This main strength of the instruments arises from network coordination — a form of steering based on trust and cooperation — and from communicative planning. For WA, this confirms the conceptual notions in its design.

For EIA, this is a surprising result, because other conceptual notions are dominant in the design of this instrument: hierarchical coordination, based on rules, and a rational planning approach. In practice, more informal ways of steering and planning are at work. The main strength of the instruments confirms the theories of smart regulation and management theory: to reach win–win results it is smart to start with trust and cooperation.

The secondary strength of these instruments appears to be the formal requirements for the assessment instruments. The obligation to apply the assessment at all is needed as a control for unwilling actors, and the formal stages in the assessment procedure are needed as 'safety nets' should the results of the informal interactive process be unsatisfactory. This enables actors to tighten up their ways of steering, to become more interventionist; shifting towards a hierarchical approach, should the specific circumstances require it. In reality, however, these safety nets do not function effectively. For WA, the actors do not use the safety nets sufficiently. For example, water authorities hardly ever go to court if they do not agree with the decision of the spatial planner. For EIA, it is the other way around. There, the actors focus too much on the statutory requirements and juridical sanctioning, which hinders making an early start, flexible integration in the planning process and good scoping. The risk for WA is that actors will focus too much on informal cooperation, and not be triggered to use the regulatory safety nets when needed. The risk for EIA and SEA is that proponents will only act out of fear, and put all their efforts into following the procedural and analytical rules, which then becomes an aim in itself. In this regard, reciprocal learning is possible.

The assessment instruments exist because the invisible hand of the market does not operate thoroughly enough to include the environmental consequences of decision-making. Environmental costs are well-known externalities. By using assessment instruments, the government can try to internalise these costs in decision-making. We see this mechanism at work in WA, EIA and SEA in putting the requirements for the compensation and mitigation of negative environmental consequences into effect, and it is clearly evident in WA in the cost-instigating principle. If the price mechanism is used in this way, it can contribute to the effectiveness of an instrument, although it has to be acknowledged that the interplay between the government and private actors is a combination of hierarchy and market, rather than an ideal market.

Finding the most effective and efficient way of steering with an instrument requires reflecting on all three modes of coordination to find the most suitable mix to fit the situation. 'Metagovernance' is the umbrella concept for this way of steering. To be effective, contingent steering is needed; in applying the instrument, actors should be able to switch flexibly to another mode of coordination to suit the specific situation. At the instrument level, this means that WA, EIA and SEA should be hybrid and allow flexibility in using coordination mechanisms. WA is already designed as a hybrid instrument. EIA and SEA have the appearance of being hierarchical instruments. They are hybrid to the extent that markets and networks are present to some extent, but they are hidden behind the much stronger hierarchical elements.

12.1.5 The importance and difficulties of an explicitly justified decision

Very important stages in the rational planning approach, are the moment when the decision is made and formulating a clear justification of that decision. Decision-makers must give clear reasons for their decision and the knowledge sourcing to make that decision. It is a statutory requirement for decision-makers to explain how they took water and the environment into account. In WA, this is contained in the Water Paragraph. The knowledge-base for the decision is revealed in the Water Recommendation and the EIS. Reconstructing the arguments into an explicit justification is crucial for democratic accountability and defending the rightfulness and legitimacy of the decision. This element is indeed very important in the design of all three instruments. The rational element is also important for nesting informal processes in the institutional framework of formal procedures.

In practice, it appears to be rather difficult to write down the argumentation for the decision clearly. Evaluations show that the instruments perform invisibly to a large extent, but that their visible performance is insufficient. This was a central theme in the WA evaluation. Evaluating effectiveness by asking the actors involved in the assessment process for their opinion gives very positive results. Evaluating effectiveness by analysing the formal documents does not, because the contents of the Water Recommendation and Water Paragraph are not good enough. The requirement to reveal all the information is like asking someone to make the invisible fully visible. It seems that it is not so easy to reveal the informal cooperative and communicative processes which appear to be the strength of these instruments. This may be because such processes are often not well structured, knowledge is partly tacit, and perceptions may change unconsciously. Besides, when the actors involved are satisfied with the results of the process, they do not feel the need to write everything down in detail. In the design of WA, different ways of steering and planning are combined smartly. Potentially, the hierarchical and rational elements counterbalance the weaknesses and limitations (like the lack of democratic accountability) of networking and the communicative approach. In practice, this construction has not blossomed yet. What is visible are the tensions between different ways of steering and planning.

Another difficulty is that justifying the decision may be rationalised rather than rational, as when an actor decides first, or tries to influence the decision (e.g. with a biased EIS) based on their own agenda and interests, followed by attempts to rationalise the decision. In so doing, the actor consciously or unconsciously ignores or manipulates the information, while front stage, they always present the decision as a rational one. Such power play occurs regularly in planning processes, so it is something to be reckoned with and acknowledged. This is especially true in EIA and SEA, where the basis for decision-making is the EIS, which the proponent of the activity has to write. Some controls, such as public involvement and nowadays the involvement of the EIA Commission, are already in place in these instruments.

Interest-based action can also distort the communicative ideal of a full consensus. The front stage justification of the decision may seem to represent consensus, while

backstage there is only a compromise or even a conflict. It is better to present a truthful compromise rather than a false consensus. For WA, this means that water managers and spatial planners should clearly declare any remaining disagreements in the Water Recommendation and the Water Paragraph. If there are different opinions, this should be revealed.

12.1.6 Instruments as children of their times

We have seen that WA and EIA/SEA have different underlying notions regarding their steering and planning approaches, though the differences are not as stark as we had first assumed. These differences can be understood better by looking at when each instrument was launched and at policy contexts in which they have their origins. EIA came into being in the 1970s, at a time when new environmental policy was fighting serious problems with legislation. EIA is also definitely a child of the heyday of rational planning. With its *ex-ante* evaluation of alternatives, EIA is strongly oriented towards the rational-decision model. Hierarchical and rational approaches have been questioned since the 1980s. That was when we moved from government to governance and made the turn towards the communicative approach, though this movement was not a complete turnaround. EIA hardly changed at all in this changing context. SEA is a bit more flexible instrument, yet it took the same conceptual notions on board as EIA.

WA is a child of the present time, when the tendency is more towards using networks and communicative planning. The instrument is also a clear exponent of how the new approach in water management policy has been implemented. Without changing the formal institutional framework, new forms of cooperation and communication have been developed. However, with WA, cooperation and communication is mainly a process that is conducted between governments. At the moment, this is also the case with water management in general. Citizens, interest groups and companies are kept at a distance. This is a limited interpretation of what network coordination and the communicative planning approach are actually about. EIA and SEA are much more focused on public involvement. In the socialisation of water management since the 1980s, an important step has been the proactive influence of water managers on spatial planning. To fully socialise water-management policy, however, further steps will have to be taken.

12.2 Recommendations for improving WA

12.2.1 Open-up to others

It would be wonderful if WA could contribute to the further socialisation of water management in the Netherlands. Water is of major importance in our urbanised delta where there are huge ambitions for economic growth in an area that, potentially, will

be subject to huge dangers due to climate change. Water is an issue that affects society as a whole. It can bring enormous opportunities for developing the Netherlands and be a stimulus for innovation. If we deal with it well, water will be a source of pride to Dutch citizens, but if we neglect it, water will endanger the habitability of the country. The influence of water on the future spatial development of the Netherlands is a societal, rather than merely a governmental issue, or a problem for experts to solve. Though the government is keen to open up a dialogue with other actors, water is still too much of an internal affair. This is also the case in the current practice of WA. It is an intergovernmental process that is not clear and open to third parties, such as interest groups, citizens and companies. This can make it difficult for them to participate in debates on spatial decisions with relevant water aspects, because they do not have the relevant information at their disposal about what is happening. WA is concerned with current spatial decisions ranging from small and large-scale, each in its own specific context. Each decision is a chance to show what water as a guiding principle means under given circumstances. Together, these decisions will determine what the Netherlands will look like in the future. This means that WA has a great potential for establishing abstract national principles and debates on specific decision-making situations at regional and local levels, where different interests really do come together in trade-offs.

The current design of WA already has the potential for catalysing public debate on water in spatial decision-making. The Water Paragraph and the Water Recommendation provide the instrument with mechanisms that give clarity to actors who are not directly involved in the process. These products are meant to show how the decision-maker took water into account and to describe the standpoint of the water authorities; a requirement also needed to establish the legitimacy and democratic accountability of the decision. However, in implementing WA, the quality of the Water Paragraph and the Water Recommendation are insufficient to fulfil such functions. The argumentation in the documents is too vague, and in almost half of the cases, the recommendations are even untraceable. Only those who were involved in the process can cope with these documents. It is easy to say that they should be improved, but, in practice, it appears hard to make a communicative process such as this fully accessible. It might also be the case that actors do not seriously try to be open, because they do not feel the need to do so, or do not think it is an efficient use of their time. They perceive WA as a networking process between governments, and nothing more. This is not surprising, as, at the national level, this instrument has always been presented as such. Water authorities and spatial planning authorities should become more aware that openness to other actors adds to the quality of the decision.

Opening up the WA process might suggest that the assessment itself should become a process of public participation. This is definitely not what we intend. We intend to stimulate public debate with WA, not in it. The instrument itself must remain as it is, with the water manager in the important role. As functional democracies, the water boards have a specific function within the context of Dutch institutions. In this way, no other interest is represented. This creates mechanisms in WA that are not available to any other assessment instrument. Water boards have knowledge and au-

thority over water issues. Their recommendation is a standpoint with a clear legitimacy and policy base. This is at the core of WA, and should not be changed. The water manager's specialised opinion carries a lot of authority, but this should not cause the exclusion of any other perception. If the water manager is clear and understandable about the certain and the uncertain consequences for the water system, this helps others in developing their own views. Such openness potentially encourages many people to express their opinions regarding what would be the best decision to make and this creates more third-party pressure on the decision-maker to take water fully into account.

What we suggest above can actually be implemented very simply and very effectively. We recommend opening up the Water Recommendation. Water authorities should not only send their recommendation to the spatial authority, but make it public too. Each water authority can start disclosing their Water Recommendations immediately, and the Association of Water Boards can stimulate them to do so. In the spatial-planning procedure, it should be clear to everybody that a Water Recommendation is available. More information on water issues to the public, earlier in the planning process, would of course be even better, especially for major planning processes. However, easy access to the recommendation, would be a good start. By making the recommendation generally accessible, this might trigger the following: firstly, if water authorities know that their recommendation will be made public, they will pay more attention to the quality of the product. Then, with a better motivation in the recommendation, and under more public scrutiny, the quality of the argumentation in the Water Paragraph would probably increase too. Thirdly, better information would enable third parties to develop and express their perceptions about water in the spatial plan. Citizens, interest groups and companies would also be able to contribute to the search for win–win solutions. They could propose ideas or ask critical questions, which would otherwise remain outside the scope of governmental decision-making. This would prevent mono-thinking and stimulate innovation. Finally, third parties might pressure decision-makers to take the interests of water into account, for example by organising media attention or by using the formal procedures present. We cannot provide certainty that this will actually happen, but it is at least worth a good try.

12.2.2 Become stricter if necessary

The design of WA is smart, but it could be applied better in practice. In particular, this means that the existing regulatory safety nets should be used better. If the process of networking and communication does not function well in a specific situation, the water authority should shift to another mode of coordination. For example, to the hierarchical mode, as provided by the regulatory safety nets later in the procedure. Being more assertive from time to time would sharpen the debate on water in spatial plans, and put a bonus on good cooperation in the early stages of the process. When the initiator of a spatial plan knows that a water authority will think seriously about taking formal steps should they be dissatisfied with how water has been taken into

account, it would be in the initiator's interest to keep the water authority satisfied during the informal process.

We recommend that the regulatory safety nets should be put to better use, but, at the same time, we do not want to sacrifice anything of WA's core strength of networking and communication. Trust and cooperation is the most effective way of steering to achieve win–win results. Theory as well as practice show this. The proactive involvement of the water managers in the early, informal stages of the planning process must remain both the core and starting point of the WA process. More focus on the formal aspects of WA, which is its secondary strength, can mean less focus on the informal aspects, which is the primary strength of the instrument. This dilemma should be seriously taken into account when improving the use of the regulatory safety nets. Hierarchy should be applied contingently, giving thought to the negative sides of using this mode of coordination. The use of regulations should not transform the trust between actors involved into distrust.

To implement this recommendation, water authorities would first have to be better aware of what they really achieve by their cooperative and communicative efforts. It is not enough to feel good after the informal process, nor to take the attitude that, after the informal WA process, the spatial planning authority makes the trade-off decision, and that the water authority is powerless to take further action, if necessary. Having a good look at the draft decision and the final decision, and judging whether you are satisfied with the results of the process, can be triggers to shift to a more interventionist way of steering. Spatial planning authorities can help by sending the final decision on the spatial plan to the water authorities, together with a good quality Water Paragraph.

The water authorities already have several options for expressing disagreement with the way in which the spatial planning authority is taking water into account. These could be used better. Their first safety net is the Water Recommendation. If water authorities are not satisfied with the results of the informal process, they should express their standpoint clearly in their reaction to the draft decision. The spatial planning authority would then have a chance to improve their plan in accordance with the Water Recommendation. If it does not, then the spatial planning procedure, in combination with the general principles of good administration, provides legal protection. Just as other actors, the water authority can use these legal possibilities. It can state its view, based on the draft decision that has been deposited for inspection. Should this not suffice, then the water authority can submit a notice of objection to the formal decision, followed eventually by a notice of appeal to the court. Another possible safety net is one that water authorities can create themselves, by using their water permits. A water permit has to be issued for some projects, and this is granted by the water authority. Water authorities can link the refusal of such a permit to the outcomes of WA. If networking fails, water authorities can also put more emphasis on the cost-instigating principle. In that case, the water authority can indicate, for example, the compensatory measures that are needed, which have to be financed by the initiator. With all these options, the water authority should first reflect on what the extra interventions would achieve and what the transaction costs would be. Hopefully,

the water authority's intervention, would stimulate the initiator to involve the water authority earlier and more thoroughly.

12.2.3 Influence the strategic level

In implementing WA, it is advisable to shift the focus more towards the strategic level of spatial planning. As we stated in the conclusion, debate and confrontation at this level is crucial for the spatial development of the country. Of course, it is important to apply WA to all the small, operational plans that together would take a lot of space from the water system. However, strategic decisions can really have an impact on the future land use of the Netherlands, so taking water fully into account at this level could be very profitable.

Trade-off decisions at the strategic level can be very complex, with large uncertainties and ambiguities. Getting water on the agenda in such decision-making is difficult, because the vested socio-economic interests are often strong. It is likely that powerful actors in such strategic games would prefer to keep the illusion that the mitigation of negative water-related consequences is possible at the local, operational level. They would keep water issues off the agenda in strategic decision-making and would stress instead the opportunities for win–win results and innovation at the lower scale of spatial planning. Local win–win solutions might indeed be possible, but we should be critical as to whether or not we were fooling ourselves with the possibilities for mitigation and compensation, and underestimating the risks of certain locations.

If water authorities could influence spatial planning at the strategic level, that would be a great step forward. This seems possible. The organisations have shown that they have been able to take a proactive role in WA at the operational level. It is really a significant achievement for organisations that traditionally have acted reactively and technically in spatial planning, to take on a new role in the relatively short period of about seven years. Viewed positively, this gives good hope that the water authorities will be able to become more assertive at the strategic level in the next seven years. Viewed negatively, it is doubtful whether organisations with such long-standing traditions will be able to become really influential at the strategic level of planning soon enough.

Without offering a way out of this dilemma, we have two suggestions for improving WA at the strategic level. A first suggestion is to link WA more closely to water issues that, from their content, require more strategic and long-term solutions. Within the context of current policy, examples of such issues would be the new policy for water safety in the 21st century [*Waterveiligheid 21st eeuw*] and the new policy regarding the spatial adaptation to climate change [*Adaptatieprogramma Ruimte en Klimaat*]. Linking WA to such policy developments can stimulate the application of WA on a higher scale, because this policy requires assessment criteria of a more strategic kind in WA. For example, the objective in new safety policy of reducing flood damage, rather than the probability of flooding, can result in assessment criteria for the location of new spatial activities. A second suggestion is that, in strategic decisions, water authorities should propose a major alternative. They could suggest the most water-friendly

alternative for the location proposed for the activity. Developing major alternatives is considered to be a strong element in EIA and SEA.

Table 12.1: Overview of the recommendations for improving WA

Recommendations	**Dilemmas and difficulties**	**Suggestions for practical implementation**
Open up the WA process to other actors to catalyse public debate and increase pressure from third parties.	In practice, however, it appears difficult to make the invisible visible, or it could be that actors do not feel the need to be open and clear. This is about public debate *with* WA, not *in* WA. Watch out for confusion, because the position of the water authority must remain central to the WA process.	Keep the instrument as it is and disclose the Water Recommendation better. Water authorities can start with this now.
Use a stricter way of steering, should the specific situation require it.	This may reduce the core strength of networking and the communicative approach.	Water authorities should make better use of the regulatory safety nets already available should the cooperative, communicative process not be effective enough.
Apply WA better at the strategic level of spatial decision-making.	We are not sure whether the water authorities will be capable of acting effectively in such complex decision-making situations.	Relate the assessment criteria in WA better to water management policy requiring large-scale and long-term thinking. Water authorities should suggest a major water-friendly alternative for the location of spatial developments.

12.3 Recommendations for improving EIA and SEA

12.3.1 Exploit the potential for trust and dialogue

The potential for trust and dialogue could be utilised better in EIA and SEA. Evaluations have shown that cooperation and communication in the early stages of the process are very important for the effectiveness of the assessment. Perceptions can be changed relatively easily during these informal, flexible stages. Based on theory, we know that starting with informal steering, based on trust, potentially results in synergy and win–win solutions in an efficient way. Currently, the formal procedure is too much in the forefront. On the level of the instruments, the discussions only revolve

around rules and having fewer rules. No thought is given to other modes of coordination than the hierarchical one. It is smarter to take the strengths of other ways of steering, like network coordination, into account too. In practice, such informal processes are already at work behind the formal procedure. The drawback of too much hierarchy is that the actors would focus too much on the procedural and analytical rules, which would then become an aim in themselves. They would then act out of fear for juridical sanctions, which would hinder an early start, flexibility and good scoping. This would reduce the effectiveness of the assessment and result in defensive decision outcomes. It is better to consider the formal procedure as a safety net; as a juridical back-up should the informal process cease to function, instead of the core focus of the assessment. Referring to the underlying theoretical notions, this recommendation was made with a view to directing more thought towards the strengths of network coordination and the communicative planning approach.

At the same time, the current strengths of hierarchical coordination and the rational planning approach must be retained. Broadening the conceptual base of EIA and SEA could be very effective, but it would also create tensions and dilemma's with currently effective elements of the instruments. The clarity of the assessments must be maintained, as well as the mechanisms for democratic control. The instruments are currently clearly structured and clearly linked to the formal decision-making procedure. We must be aware of such dilemma's, and, for example, be careful that by improving informal communication it will not close off the assessment to actors who are not directly involved in the process. During the informal stages, not everybody's interest is represented, so formal consultation at the end should always be there as a safety net. The dilemma works also the other way around. Could one use the potential of networking and communicative planning better within the boundaries of formal procedure? Or do the formal rules hinder flexibility and a strong process too much? Viewed positively, the national government is reducing its emphasis on rules. Within current regulations, it is possible to perceive and present rules as a stimulus for proactive cooperation, and as a safety-net should this cooperation be insufficient. Viewed negatively, there is little hope because the national government is continuing to think mainly in terms of a formal and rational procedure, even within a context of deregulation, and a rather long time after the turn in planning towards the communicative approach. In the practice of EIA, it is a positive signal that experienced actors are already able to organise the process more openly and communicatively, by using the flexible elements in the instrument. On the other hand, the fear for juridical sanctioning is still a major weakness in practice. Inexperienced actors perceive the instrument in terms of its procedural requirements and put all their efforts in closely following them.

In its practical implementation, networking and communicative planning can take on different forms in EIA and SEA. In this thesis, we have paid attention to three forms. First, within the proponent's organisation, the team that prepares the Environmental Impact Statement (EIS) can cooperate with the team that develops the project or plan within the main planning process. Together, they can create more synergy and the environment can really become a guiding principle in developing the

proposal from the early start. This is more effective than assessing a proposal that is, in fact, all settled, at the end of the planning process. Second, the cooperation with governmental organisations, as is required in the initial phase of SEA, can be organised in an informal way early in the process. Third, cooperation with third parties such as NGOs, citizens and companies can be organised in the form of an informal, open dialogue early in the process. This is a more constructive and interactive way of public involvement than merely having formal consultation at the end, though this also remains obligatory within the context of the General Administrative Law Act. Early dialogue is also in the interests of third parties, because the chance is greater of their input really being used. It is also in proponents' interests, because they get a better project or plan and avoid delay and costly juridical fights at the end of the process. When the third parties involved are dissatisfied, they can still use their legal power to delay the proceedings. But this is less likely to occur.

In practice, as the formal requirements for the assessment do not stand in the way, the actors can already implement the suggestions outlined above. At the instrument level, the national government can stimulate actors to do so. We recommend bringing the strengths of informal cooperation and communication more to the forefront during discussions and in communication, for example, in the EIA/SEA manuals. This would fit into the advice of the Committee Tops on 'Consultation new style', that the Cabinet has recently adopted. The national government can also provide facilitation to inexperienced actors on how to organise the EIA/SEA process well. EIA and SEA would be far less effective without networks and the communicative approach, because herein lies their main strength in practice. Synergy and innovation arise in these sorts of informal practices, when actors strengthen each other; they don't occur very often in the formal procedure at the end. Creating such synergetic cooperation and communication should therefore be the core focus of instruments.

12.3.2 Show ambiguity

As we concluded in Subsection 12.1.3, it is important to show decision-makers clearly the multiplicity of perceptions about the environmental impacts and consequences. EIA and SEA have a great potential to facilitate this, but they also have the major weakness of hiding ambiguity. This can be described as a theory–practice dilemma. In theory we know what good quality decision-making and bounded rationality implies. In practice, we tend to suggest more certainty than is available, and thereby do not do full justice to the value-laden and political character of the decision.

First theory. Rational planners acknowledge that complete and neutral knowledge is impossible. Rationality is always bounded. The definition of the decision situation is always value-laden and political. Communicative processes and power are at work. In theory, rational planners acknowledge this. The concepts that we developed around trade-offs emphasise the same, but then from the content perspective. According to these concepts, good quality decision-making means dealing explicitly with uncertainty and ambiguity. The many different perceptions about the trade-off between environ-

mental and socio-economic aspects should be shown. It is problematic to over-emphasise certainties and mono-thinking.

Now practice. In general, there is a tendency to present more certainty than actually is available. Apparently, it is attractive for experts to reduce the complexity for decision-makers. In fact, the experts then make value-laden choices rather than the politicians. For decision-makers, it is sometimes easier to diffuse trade-off decisions by stating that they based their decision on scientific analysis and wide consultation. EIA and SEA are presented as value-free assessments, with a neutral EIS as product. The neutrality or even objectivity of this information is then seen as a strength of the instrument. This has the risk behind suggesting objectivity in decision-making situations that are value-laden. In extreme cases, the assessment becomes a smokescreen in decision-making, used to hide ambiguity instead of making it explicit.

What can be done in the practice of EIA and SEA to prevent them from being lured into this trap? In the EIS, the uncertainties and ambiguities regarding the environmental consequences should be clarified. This should be considered as an essential aspect of the quality of the EIS. The EIS should stimulate other actors to develop their own perceptions regarding the environmental consequences of the decision. This is definitely not the case when the EIS expresses the perception of the proponent or the experts only, while presenting this as objective. This seems evident, but in practice it may happen without anyone realising. The different perceptions that the various actors have regarding the environmental consequences should be presented to the decision-maker. The assessment can facilitate this. The former also means that normative criteria should not be presented as scientific or expert-based criteria. Instead, if criteria are legitimated by objectives and criteria in environmental policy, this linkage should be clearly presented. The EIA or SEA should help to clarify value-laden issue. In this construction, the assessment itself does not become an arena for mediating different perceptions. It delivers good input for deliberating trade-offs in all their complexity, in the main decision-making procedure.

12.3.3 Take the use of power into account

The ultimate aim of EIA and SEA is to strengthen environmental interests, by putting them on decision-makers' agendas. Interestingly, the instruments were designed to provide neutral environmental information. So what happens is that we try to mobilize bias to environmental issues with unbiased information. It is easy to see that this creates tensions and dilemmas. Though the instrument may be presented as neutral, it is likely that other actors perceive it as advocative.

Power is present in the practice of EIA and SEA. It is inherent to uncertain and ambiguous situations in which agenda-setting takes place. There is nothing wrong with that. Scoping, for example, cannot be a neutral activity in environmental assessment. Scoping is a phase in EIA and SEA during which actors determine what alternatives and environmental consequences are relevant for decision-making. Rational planners call this defining the decision-making situation. It is needed to deal with bounded rationality. Rational planners know that this is a political activity. Alongside agenda-

setting, manipulation is likely to occur too in the practice of EIA and SEA. This happens consciously or unconsciously, because actors in the assessment have interests other than the environment. For example, in most cases, the core interest of the proponent is to realise his proposed activity by gaining a socio-economic interest. It is unlikely that he will present any environmental information in the EIS that may kill his proposed activity. This implies that manipulation is likely to occur. And, as we stated in the conclusion, in justifying the decision, the competent authority may rationalize the decision afterwards. Such rationalisation are difficult to unmask.

Although power helps to explain the way things are in practice, the design of a planning instrument cannot be fully based on it. Planning is always about the way things may be, whereas power lacks such a normative ideal. Secondly, planning is about acting in the common good, in the public domain, whereas power is about actor's selfish interests. This means that there will always be tensions between the design of a planning instrument and the political reality. To counteract this, we can include checks-and-balances in the instrument to anticipate power play. This prevents naïve idealism. In theory, creating clarity and public involvement and resistance are acknowledged as good ways of dealing with power.

Dutch EIA currently includes several checks-and-balances for dealing with power. Clarity and public involvement are important in this regard. In addition, the EIA Commission (with a good and 'neutral' reputation) and the competent authority have to check the environmental information, to prevent bias from the proponent's perspective. With these checks-and-balances to guarantee good information, the instrument is well designed for anticipating power. Because of the move towards de-regulation, however, the checks-and-balances in environmental assessments will be reduced significantly. In the current context, the assessments are themselves perceived as a hindrance for the socio-economic development of the country. Of course, deciding on trade-offs between environmental and socio-economic interests can be tough decisions. We must avoid creating the illusion that proposed socio-economic activities never harm the environment in an unacceptable way. It would be advisable to keep a sharp eye on whether, after de-regulation, the remaining checks-and-balances in EIA and SEA will be sufficient to deal with power play, in practice. In accordance with opinions in both the Lower and Upper House, power should be fully acknowledged. The active interest of parliament is a good signal.

Table 12.2: Overview of the recommendations for improving EIA and SEA

Recommendations	**Dilemmas and difficulties**	**Suggestions for practical implementation**
Make better use of the potential in trust and dialogue, because what happens in the early informal stages will contribute significantly to effectiveness.	This may reduce the strengths, such as clarity and democratic control, of the formal and rational procedure.	At the instrument level, the government should put more emphasis on the strength of networking and the communicative approach in the early stages of the assessment. The formal procedure should be seen as safety net.
Where there is ambiguity or multiple perceptions of the environmental consequences, make decision-makers aware of this.	In practice, however, there is a tendency to present more certainty than there actually is, and to reduce the complexity of the decision.	In practice, full attention to uncertainty and ambiguity should be considered as an essential aspect of the quality of the EIS.
Account adequately for the use of power.	The aim of EIA and SEA is to mobilise the bias towards environmental interests using 'unbiased' information. This creates tensions however.	The national government should take care not to de-regulate the instruments and risk them becoming too naïve when confronted with power.

Epilogue: Further thoughts on the methodology and theory

We explored the philosophical underpinnings of a methodology that would cope with the problem of applying theory to practice in a social-science research project (see Chapter 4). Our aim has been to conduct research that connects general concepts from theory to phenomena in practice (in our case, three assessment instruments). To underpin such a methodology, we used aspects of Aristotle's philosophy. In this quest to connect theory with practice, we have been greatly inspired by the work of contemporary authors such as Flyvbjerg and Howarth. To gain more insight, we interpreted their work, using Aristotle's philosophy as a foundation, and with the research aim of this thesis in mind.

Looking back upon the research process, we have been able to employ the methodology and the set of concepts consistently. This is a clear indication that the methodology worked well. Positioned between a practical work environment and university, the methodology suited the researcher very well. Having a methodology made it easier to reflect on how the research should be set up, and to legitimate these activities to others. Had we taken these steps intuitively, without using methodology so explicitly, there would not have been these advantages. Nevertheless, we would probably have done something similar.

The methodology also legitimised the use of a broad set of articulated concepts spanning different theoretical backgrounds. This broad set of concepts enriched the explanation of the practical phenomena in the study. At the same time, this method prevented the researcher from introducing theoretical concepts at the beginning that would not really be used in later stages of the research. Reflecting on the present thesis, we are confident that all the concepts used have helped to clarify and reveal the workings of the WA, EIA and SEA instruments. However, a set of theoretical concepts can never fully explain practical reality. Concepts are always selective, focusing on particular aspects of practice. The researcher's own theoretical background matters in selecting these concepts. For these reasons, the explanation concluding the research is always fallible. Of course, this also holds true for our conclusion and recommendations: they are not general truths, and better ones are possible. However, we are confident enough that our contribution to practice is relevant. The conclusions and recommendations have been based on the insights provided by the theoretical concepts that we have used, on the results of several evaluative studies, and on insight into relevant policy.

Can the theoretical concepts that we used be applied in a wider field? Concepts that we used are: trade-offs where there is uncertainty and ambiguity; metagovernance with markets, hierarchy and networks; and the rational and communicative planning approaches complemented with power. Though, at first glance, these concepts may seem to be general enough, we would caution other researchers about using these concepts more widely than we have. These concepts have been modelled to fit WA, EIA and SEA in the Netherlands. In our experience, in order to model them in this

way, a nuanced judgment is required to refine their definition gradually, in the course of the research. One of the most evident refinements to the concept definitions in this thesis is that they have been modelled to explain instruments in a governmental context. Network coordination and communicative planning, for example, are different in this context to when they are applied in other, non-governmental, contexts. In fact, the communicative planning approach did not originate within the governmental context at all. So, while we hope that our set of concepts will inspire other researchers, they will have to go through this refining process themselves to judge whether and how the concepts will best fit into the context of their own research.

In general, a social-science researcher has to look for concepts that help to identify and explain patterns in the practical phenomena that are being studied. But, at the same time, these concepts must be open-ended and flexible. Concepts that are deterministic, suggesting universal truths, should be avoided, because they do not represent the context-dependent judgement of self-reflecting human beings. If a researcher wants to use such a concept, then the deterministic elements of the concept first need to be deconstructed. We have used many ideal-typical concepts in this thesis. This works well if the researcher acknowledges the practical failures and limitations attached to ideals. Using combinations of ideal-typical concepts works well too, because this prevents the researcher from gaining too one-sided a view of what happens in practice.

The methodology that we have developed and used in this thesis is suitable for wider application in the social sciences. Although this methodology is strongly founded in the work of Aristotle and contemporary authors such as Flyvbjerg and Howarth, within the context of this research, it is nevertheless, clearly our own interpretation. Other interpretations are possible too. For example, Flyvbjerg starts with Aristotle, but also builds on the work of Foucault to include power in his research methodology. 'Who gains and who loses, and by which mechanisms of power?' then becomes an important question in his analysis. We included power as a concept, instead of giving it a central position within the methodology. This fits our research well, because we consciously chose to compare WA, EIA and SEA at the instrument level. Thus, in our research, power remains a relatively abstract factor. For assessment instruments, the use of power can be explained better by analysing the effects of applying an instrument in specific decision-making situations. To gain more insight into the power relationships that influence how water and the environment are taken into account, in-depth case studies at the micro-practical level of political decision-making would probably give the most enlightening results.

We have deliberately focused the method of articulation on linking theoretical concepts with phenomena from practical settings. In our interpretation of the methodology, we have not used links to discourse theory and related terminology. We are aware that both Flyvbjerg and Howarth did. Flyvbjerg links discourses to power. In this perspective, discourses have a tactical function; they transfer and produce power. Power and discourse are also core concepts in Foucault's work, and Howarth builds on Foucault's work. Howarth's method of articulation is about how to apply discourse theory. If a researcher wants to study WA, EIA and SEA at the level of application,

we recommend exploring the work of Flyvbjerg and Howarth, both of which focus more on power and discourse. The results of that exploration could be used in addition to the methodology and concepts that we have developed to gain an understanding of WA, EIA and SEA at the instrument level.

Appendix: 'Streamlining' assessment instruments

This appendix was promised in the Introduction. In Section 1.2, we mentioned that the national government is working on a better coordination and integration of assessment instruments for spatial planning. This action programme is being referred to as 'Streamlining assessment instruments in spatial planning' [*Stroomlijning toetsen ruimtelijke planvorming*]. It is part of the de-regulation programme of the Cabinet Balkenende II, called 'Modernising Government' [*Andere Overheid*], which started in 2003. This action programme also resulted from implementing the National Spatial Strategy. The 'streamlining' is being carried out by an interdepartmental project group representing six ministries, with the Ministries of *VROM* and *LNV* as initiators. This activity is not the same as the Ministry of VROM's initiative to renew the EIA and SEA environmental assessment systems, which is being undertaken at the same time. Because we had another aim, this thesis does *not* focus on the coordination and integration of assessment instruments. However, our comparison of WA, EIA and SEA *does* provide insights into the coordination and integration of instruments such as these. These are included below. Why these assessment instruments are being streamlined, and to what extent this has been achieved so far, is also explained.

'Streamlining' in the context of these assessment instruments refers to reducing the time needed to apply the assessments in spatial planning, and thereby the costs. There are a lot of assessment instruments in the Netherlands. In addition to WA, EIA and SEA, the list of assessments also includes: assessment in connection with the Nature Protection Act [*Natuurbeschermingswet-toets*], flora and fauna assessment [*Flora en faunatoets*]; archaeological assessment [*Archeologietoets*]; assessment of external safety risks for society [*Verantwoordingsplicht groepsrisico externe veiligheid*], assessment of the consequences for the main ecological structure of the Netherlands [*EHS-effectentoets*], subsoil assessment [*Ondergrondtoets*], assessment of building resources [*Bouwgrondstoffentoets*], research on soil decontamination [*Bodemsaneringsonderzoek*], air quality assessment [*Luchtkwaliteitstoets*], research on noise [*Geluidsonderzoek*] and research on consequences for mobility [*Mobiliteitseffectenonderzoek*]. Because of the different areas of application, not every assessment has to be applied to every spatial plan. However, any one spatial plan is likely to be subject to several of these assessments. A lot of work is attached to them and therefore the costs related to them are also high, not to mention the possible procedural delays for the initiator of a spatial activity. Other problems in applying multiple assessments are the rigidity of the statutory requirements in the assessment procedures and the fear and uncertainty of possible court rulings. This results in inflexibility and in avoiding approaches that are tailored to the specific situation being assessed. The aim of 'streamlining' is to create flexible assessment instruments that can be tailored to each specific spatial plan, that are both clear and simple to use, and therefore fast, effective and cheap to implement.

In the first half of 2007, when this thesis was written, 'streamlining' was in its second phase. The first phase had ended in 2006. It was then that the Council of Min-

isters decided to integrate and de-regulate the assessments. This decision heralded three plans of action. First, no new, independent assessment instruments would be introduced. Second, the national government would first coordinate and finally integrate assessments, step by step, as follows: in 2007 already, to facilitate the coordination of existing assessments, by developing a website to act as a digital manual; from 2008 onwards, by starting to develop one, integrated assessment to cover all aspects of the environment; in 2010, by incorporating the integrated assessment into national legislation. Thirdly, the national government would try to intensify the de-regulation of the statutory requirements in assessment procedures. The idea behind this move was to decrease national regulation, and delegate the overseeing of spatial decisions more to authorities who are competent to make judgements about such decisions (decentralisation).

Because of EU requirements, it is likely that the integrated environmental assessment will be based on the renewed procedures for EIA and SEA. It is also likely that the integrated environmental assessment will have the same area of application as EIA and SEA. For smaller plans and decisions, the aim is to have no statutory requirements in excess of those in the Spatial Planning Act, the Spatial Planning Decree and the General Administrative Law Act.

Viewed from the knowledge gained from working on this thesis, it is striking how strong a focus there is, in this streamlining, on rules and rational planning. The terminology and definitions used also correspond to those ways of steering and planning. Assessments are perceived as formalised, structured ways of presenting correct information in a report to decision-makers. In this 'streamlining', questions are asked that reflect hierarchical coordination by rules, e.g., is it mandatory to apply a certain assessment; what are the statutory requirements for the procedure and for the content of the report; what are the formal responsibilities of the actors involved in an assessment; and how can delays due to court rulings be prevented? As far as planning is concerned, in the streamlining activity, 'assessment' is taken as being synonymous with a statutory research process: which analytical model should be applied, what (quantitative) techniques should be used; and which data are needed?

There are no references to other ways of steering and planning. No attention is given to the informal, cooperative process, based on trust. Dialogue, communication, understanding and consensus building are not considered to be essential elements of assessments, and the value-laden questions in decision-making about environmental issues are ignored. There is also no mention of differences in perceptions, ambiguities, uncertainties and ideas concerning public participation. To us, the conceptual basis of streamlining appears to be too one-sided, and thus in danger of becoming rigid and less effective. Just as in the EIA and SEA procedures, the dominant steering devices are hierarchical coordination and an out-dated variant of rational planning. Thus, the recommendations regarding EIA and SEA are applicable to this 'streamlining' action, too. More thought should be given to exploring the strengths of networking and communicative planning in assessment instruments. It would also be advisable to pay more attention to what can be gained from having access to many different opinions, and to how to cope with ambiguity and uncertainty in decision-making. The concep-

tual basis of EIA and SEA and the 'streamlining' discussion should be broadened to include such notions, before being used as a basis for integrating other assessment instruments.

The national working group on WA and the Directorate-General Water are hesitant about integrating WA within one single integrated environmental assessment instrument. In the first place, they fear that the strongest elements of WA — the involvement of water managers in the early, informal phases of spatial planning, and WA's flexible, tailored approach — will be lost. This is very understandable, because, so far, in the streamlining activities, the networking and communication approaches at the centre of WA, which are its main strengths, are already being bypassed. Another fear is that the agenda-setting function of WA will be lost. With its name, its implementation in the Spatial Planning Decree and its strong position in the National Spatial Strategy, WA is successful in getting water onto decision-makers' agendas. It would not be advisable for WA, as a recently introduced and well functioning instrument, to lose its identity at the moment. Every innovation needs some time to reach maturity. Thirdly, WA already fits very well into the aims of 'streamlining', so why change it? There is nothing much to de-regulate in WA, because it is already a flexible instrument. However, as practitioners in the WA field have been trying to coordinate well with EIA and SEA from the very beginning, they support the aim behind streamlining. Hopefully, in the long run, there will be no need to have WA as an 'independent' instrument with a separate name. The ultimate aim is that the spatial planners themselves will take water interests fully into account, without the help of an instrument.

References

Adviescommissie Water (2004). *Advies van de Adviescommissie Water inzake de Nota Ruimte.* AcW 2004/31, 18 November 2004. The Hague, The Netherlands: Adviescommissie Water.

Alexander, E.R. (1996). After rationality; towards a contingency theory for planning. In: S.J. Mandelbaum, L. Mazza and R.W. Burchell (eds.). *Explorations in planning theory.* New Jersey: Center for urban policy research.

Alexander, E.R. (2000). Rationality revisited; planning paradigms in a post-postmodernist perspective. In: *Journal of planning education and research* 19(3) 242-256.

Alexander, E.R. (2001). The planner-prince: interdependence, rationalities and post-communicative practice. In: *Planning Theory and Practice* 2(3) 311-324.

Allmendinger, P. (2002). Towards a post-positivist typology of planning theory. In: *Planning Theory* 1(1) 77-99.

Alton, C.C. and P.B. Underwood (2003). Let us make impact assessment more accessible. In: *Environmental Impact Assessment Review* 23(2) 141-153.

Andeweg, R.B. and G.A. Irwin (2002). *Governance and politics of the Netherlands.* New York: Pallgrave Macmillan.

Ark, R. van, S. Boot and J. Smits (2006). *De watertoets getoetst; kwantitatieve evaluatie effectiviteit watertoets.* Tussenrapportage in het kader van de Landelijke Evaluatie Watertoets. Amersfoort, The Netherlands: DHV B.V.

Ark, R.G.H. van (2005). *Planning, contract and commitment; naar een relationeel perspectief op gebiedscontracten in de ruimtelijke planvorming.* Thesis Wageningen University. Delft, The Netherlands: Eburon.

Arts, J., F. Niekerk and H. Voogd (1995). *Stroomlijning effectrapportages; een verkennend onderzoek naar de mogelijkheden om te komen tot een betere structurering en procesmatige inpassing van effectanalyses bij infrastructuurprojecten.* In het kader van Integrale Prioriteitstelling Hoofd Infrastructuur. The Hague, The Netherlands: Ministerie van Verkeer en Waterstaat.

Arts, E.J.M.M. (1998). *EIA follow-up; on the role of ex post evaluation in environmental impact assessment.* Thesis Groningen University. Groningen, The Netherlands: Geo Press.

Arts, J., J. Boelhouwers, R. Cuperus and E. Jurakic (2001). *Handreiking Ontwerpen en Milieu 2001.* Delft, The Netherlands: Rijkswaterstaat DWW.

Arts, J. (2004). Environmental Impact Assessment for transport infrastructure projects. In: G. Linden and H. Voogd (eds.). *Environmental and Infrastructure Planning.* 231-276. Urban and Regional Studies Institute, Faculty of Spatial Sciences, University of Groningen. Groningen, The Netherlands: Geo Press.

Arts, J. and A. Morrison-Saunders (eds.) (2004). *Assessing impact; handbook of EIA and SEA follow-up.* London: Earthscan.

Arts, J. en A. Morrison-Saunders (2004b). Theoretical perspectives on EIA and follow-up. In: J. Arts and A. Morrison-Saunders (eds.). *Assessing impact; handbook of EIA and SEA follow-up.* London: Earthscan.

Arts, J. and F. van Lamoen (2005). Before EIA: Defining the scope of infrastructure projects in the Netherlands. In: *Journal of Environmental Assessment Policy and Management* 7(1) 51-80.

Asselt, M.B.A. van (2000). *Perspectives on uncertainties and risks; the PRIMA approach to decision support*. Thesis Maastricht University. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Asselt, M.B.A. and J. Rotmans (2002). Uncertainty in integrated assessment modelling; from positivism to pluralism. In: *Climate change* 54(1/2) 75-105.

Asselt, M.B.A. van and A. Petersen (eds.) (2003). *Niet bang voor onzekerheid*. RMNO essay series. The Hague, The Netherlands: Lemma.

Asselt, M.B.A. van, S.A. van 't Klooster and P.W.F. van Notten (2003). Verkennen in onzekerheid. In: *Beleid en maatschappij* 30(4) 230-241.

Asselt, M.B.A. van (2004). Toekomstverkennen en de kunst van onzekerheidscommunicatie. In: *Beleidswetenschap* 18(2) 137-168.

Asselt, M.B.A. van (2004b). Onzekere risico's en riskante onzekerheden. In: G. van Calster and E. Vos (eds.). *Risico en voorzorg in de rechtsmaatschappij*. IUS commune Europaeum reeks. Antwerp, Belgium: Intersentia.

Asselt, M.B.A. van (ed.) (2004c). *Nieuwe risico's in het visier?* RMNO essay series. The Hague, The Netherlands: Lemma.

Asselt, M.B.A. van (2005). The complex significance of uncertainty in a risk era; logics, manners and strategies in use. In: *International journal for risk assessment and management* 5(2/3/4) 125-158.

Asselt, M.B.A. and E. Vos (2006). The precautionary principle and the uncertainty paradox. In: *Journal of risk research* 9(4) 313-336.

Barrett, S. and C. Fudge (eds.) (1981). *Policy and action; essays on the implementation of public policy*. London and New York: Methuen.

Benson, J.F. (2003). What is the alternative? Impact assessment tools and sustainable planning. In: *Impact Assessment and Project Appraisal* 21(4) 261-266.

Berg, J. van den (2002). Naar een integraler en flexibeler milieueffectrapportage. In: *ArenA* 8(3) 14-15.

Berkenbosch, R. (2002). Jules Scholten blikt terug: 'Verdraaid goed systeem'. In: *Kenmerken* 9(5-6) 10-13.

Berkenbosch, R. (2005). M.e.r. ontmoet MKBA; goede voornemens tijdens praktijkseminar. In: *Kenmerken* 12(3) 22-25.

Berkenbosch, R. (2005b). SMB: de regels; juridische risico's niet erg groot. In: *Kenmerken* 12(4) 14-17.

Bertilsson, T.M. (2004). The elementary forms of practice; on different types of abduction. In: *European Journal of Social Theory* 7(3) 371-389.

Besselink, H.J.M. (2002). Watertoets en de aanwijzing van noodoverloopgebieden. De nieuwe waterinstrumenten en de milieueffectrapportage. In: *Tijdschrift voor Omgevingsrecht* 2(6) 217-221.

Boer, J.J. de (2002). Herontwerp van de Europese m.e.r.-richtlijn biedt kansen; alles kan anders! In: *Kenmerken* 9(5-6) 18-20.

Boersema, J.J., J.W. Copius Peereboom and W.T. de Groot (1991). *Basisboek milieukunde.* Meppel, The Netherlands: Boom.

Boeve, M.N., F.M. Fleurke, M.A. Wiering, N.S.J. Koeman and P. Leroy (2003). *Het brede begrip 'milieu' in de Wet milieubeheer.* Eindrapportage. Onderzoeksproject in opdracht van de Evaluatiecommissie Wet Milieubeheer. Leerstoelgroep Milieu en Beleid, Faculteit der Managementwetenschappen, Katholieke Universiteit Nijmegen and Centrum voor Milieurecht, Faculteit der Rechtsgeleerdheid, Universiteit van Amsterdam. ECWM 2003/15. The Hague, The Netherlands: ECWM.

Bonte, R. (1996). De actoren en hun belangen. In: R. Bonte, P. Leroy and R. Mooren (eds.). *Milieu-effectrapportage; methoden, effecten en resultaten.* 95-110. Best, The Netherlands: Aeneas.

Bonte, R., P. Leroy and R. Mooren (eds.) (1996). *Milieu-effectrapportage; methoden, effecten en resultaten.* Best, The Netherlands: Aeneas.

Booher, D.E. and J.E. Innes (2002). Network power in collaborative planning. In: *Journal of planning education and research* 21(3) 221-236.

Boonman, P. and A. Paulussen (2007). *Plan-m.e.r. in de praktijk; tips en ervaringen vanuit de Zuiderzeelijn.* DWW-2007-008. Delft, The Netherlands: Rijkswaterstaat TMC/DWW.

Bosch, A. and W. van der Ham (1998). *Twee eeuwen Rijkswaterstaat 1798-1998.* Zaltbommel, The Netherlands: Europese bibliotheek.

Bosma, J.J. and J.M. van Dijk (2003). Stroomgebiedsvisies en waterkansenkaarten; nieuwe instrumenten in het waterbeleid. In: M.C. Hidding and M.J. van der Vlist (eds.). *Ruimte en water; planningsopgaven voor een rode delta.* 85-97. The Hague, The Netherlands: Sdu.

Bots, A.M.M.M. (2007). Bestuursrecht. In: *Inleiding tot het Nederlandse recht.* ErasmusLaw introduction to national legal systems <http://www.luiss.it/erasmuslaw/olanda/index.htm> last accessed 15 March 2007. Nijmegen, The Netherlands: Katholieke Universiteit Nijmegen.

Brand, P. van den (2002). Gezakt voor de watertoets. In: *Binnenlands Bestuur.nl* 2002(48) 28-29.

Brand, P. van den (2005). Goed samenspel is heuse smeerolie; projectdossier Bijlmer en de watertoets. In: *ROmagazine* 23(5) 38-39.

Broodbakker, N. (2003). *Handleiding Watertoets en vergunningverlening; Deel I: Algemeen; Informeren, adviseren en toetsen van ruimtelijke plannen met effecten op (grond)water en waterkeringen in het beheersgebied van hoogheemraadschap Amstel, Gooi en Vecht (AGV).* Vastgesteld door het managementteam van de sector waterbeheer op 3 juni 2003.

Bröring, H.E. (1993). *Richtlijnen; over de juridische betekenis van circulaires, leidraden, aanbevelingen, brochures, plannen.* Thesis Groningen University. Deventer, The Netherlands: Kluwer.

Bruijn, J.A. de and E.F. ten Heuvelhof (2002). Policy analysis and decision making in a network. In: *Impact Assessment and Project Appraisal* 20(4) 232-242.

Brundtland, G.H. (1987). *Our common future.* World Commission on Environment and Development. Oxford: Oxford University Press.

Bryson, J.M., F. Ackermann and C. Eden (2004). Contributions of Planning under pressure. In: *Planning Theory* 3(3) 201-220.

Burg, A. van der and M. Hidding (2006). Nationale ruimtelijke ordening als scharnier tussen Europa en de regio's. In: L. Janssen-Jansen and B. Waterhout (eds.). *Grenzeloze ruimte; regionale gebiedsgerichte ontwikkelingsplanologie in Europees perspectief*. 189-201. The Hague, The Netherlands: Sdu.

Burns, T. (2004). A practical theory of public planning: the Tavistock tradition and John Friend's strategic choice approach. In: *Planning Theory* 3(3) 211-223.

Buunk, W.W. (2003). *Discovering the locus of European integration; the contribution of planning to European governance in the cases of structural fund programmes, Trans-European Networks, Natura 2000 and agri-environmental measures*. Thesis Katholieke Universiteit Nijmegen. Delft, The Netherlands: Eburon.

BZK: Ministry of the Interior and Kingdom Relations (2002). *The Constitution of the Kingdom of the Netherlands 2002*. The Hague, The Netherlands: Ministry of the Interior and Kingdom Relations, Constitutional Affairs and Legislation Department, in collaboration with the Translation Department of the Ministry of Foreign Affairs.

BZK: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (2006). *Grondwet voor het Koninkrijk der Nederlanden 2006*. Zesde gewijzigde druk: Tekst, zoals deze luidt na de laatstelijk bij de wet van 16 maart 2006 (Stb. 170 en de wet van 20 januari 2005 (Stb. 52) daarin aangebrachte veranderingen. De tekst van de herziene Grondwet is bekendgemaakt in Stb. 2006, 240. The Hague, The Netherlands: Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, directie constitutionele zaken en wetgeving.

Campbell, S. and S.S. Fainstain (eds.) (1996). *Readings in planning theory*. Cambridge: Blackwell.

Cashmore, M. (2004). The role of science in environmental impact assessment: process and procedure versus purpose in developing theory. In: *Environmental Impact Assessment Review* 24(4) 403-426.

Cashmore, M., R. Gwillam, R. Morgan, D. Cobb and A. Bond (2004). The interminable issues of effectiveness: substantive purposes, outcomes and research challenges in the advancement of environmental impact assessment theory. In: *Impact Assessment and Project Appraisal* 22(4) 295-310.

CAW: Commissie van Advies inzake Waterstaatswetgeving (2004). *Zicht op grondwater*. CAW-advies 23 augustus 2004. The Hague, The Netherlands: CAW.

Clark, R. (2000). Making EIA count in decision-making. In: M.R. Partidário and R. Clark (eds.). *Perspectives on Strategic Environmental Assessment*. Boca Raton: Lewis Publishers.

Coalitieakkoord (2007). *Coalitieakkoord tussen de Tweede Kamerfracties van CDA, PvdA en ChristenUnie*. 7 February 2007.

Cohen, M., A. Fermin and H. Hufen (2003). *Implementatie Watertoets Bijlmer; eindrapportage*. The Hague, The Netherlands: QA+ in opdracht van Rijkswaterstaat-RIZA.

Commissie m.e.r. (1995). *Jaarverslag van de Commissie voor de Milieueffectrapportage over het jaar 1994*. The Hague, The Netherlands: Staatsuitgeverij.

Commissie m.e.r. (1998). *Jaarverslag van de Commissie voor de Milieueffectrapportage over het jaar 1997*. The Hague, The Netherlands: Staatsuitgeverij.

Commissie m.e.r. (2000). *Jaarverslag van de Commissie voor de Milieueffectrapportage over het jaar 1999*. The Hague, The Netherlands: Staatsuitgeverij.

Commissie m.e.r. (2002) *Geactualiseerde notitie over multicriteria-analyse in milieueffectrapportage*. Utrecht, The Netherlands: Commissie m.e.r.

Commissie m.e.r. (2005). *Brief van de Commissie voor de Milieueffectrapportage aan de leden van de Vaste Kamercommissie VROM van de Tweede Kamer*. 1 March 2005. Utrecht, The Netherlands: Commissie m.e.r.

Commissie Waterbeheer 21e eeuw (2000). *Waterbeleid voor de 21e eeuw; geef water de ruimte en aandacht die het verdient*. Advies van de Commissie Waterbeheer 21e eeuw, uitgebracht op 31 augustus 2000 aan de staatssecretaris van Verkeer en Waterstaat en de voorzitter van de Unie van Waterschappen. The Hague, The Netherlands: Commissie Waterbeheer 21e eeuw.

Covey, S.R. (2004). *The 7 habits of highly effective people; powerful lessons in personal change; restoring the character ethic*. First edition 1989. New York: Free Press.

Dahl, R.A. and C.E. Lindblom (1953). *Politics, economics and welfare*. New York: Harper and Brothers.

Davoudi, S. (2006). Evidence-based planning; rhetoric and reality. In: *disP* 165(2) 14-24.

De Smedt, P. (2004). De watertoets: breekijzer van de watersector?; enkele beschouwingen bij een revolutionair instrument van het Vlaams Decreet van 18 juli 2003 betreffende het integraal waterbeleid. In: F.C.M.A. Michiels and L. Lavrysen (eds.). *Milieurecht in de lage landen; rechtsvergelijkende studies over milieuvergunning, emissiehandel, de watertoets, natuurbescherming en bestuurlijke handhaving in Vlaanderen en Nederland*. 179-201. The Hague, The Netherlands: Boom Juridische Uitgevers.

Deelstra, Y., S.G. Nooteboom, H.R. Kohlmann, J. van den Berg and S. Innanen (2003). Using knowledge for decision-making purposes in the context of large projects in The Netherlands. In: *Environmental Impact Assessment Review* 23(5) 517-541.

Dekker, M. (2003). Kansen en bedreigingen voor water en ruimtelijke ordening: houd het hoofd koel en de voeten droog. In: *Bouwrecht* 40(5) 371-381.

Dijk, J.M. van (2001). *Waterkansenkaarten; inventarisatie en analyse van waterkansenkaarten in Nederland*. Lelystad, The Netherlands: Rijkswaterstaat RIZA.

Dijk, J.M. van (2006). Water assessment in the Netherlands. In: *Impact Assessment and Project Appraisal* 24(3) 199-209.

Dijk, J.M. and R. van Ark (2006). Resultaten van eerste landelijke evaluatie van de watertoets. In: *H20* 39(25/26) 4-6.

Dijk, J.M. and P. Jansen (2007). Watertoets naar een hoger plan. In: *ROmagazine* 25(1/2) 28-29.

Dijkstra, T. (2006). Linderveld: een politieke keuze; betwiste locaties. In: *ROmagazine* 24(3) 10-11.

Doelle, M. and A.J. Sinclair (2006). Time for a new approach to public participation in EA: promoting cooperation and consensus for sustainability. In: *Environmental Impact Assessment Review* 26(2) 185-205.

Douma, W.Th., K. Pieters, K. Feenstra and R. Koch-Hartmanová (2007). *Pilot-monitor EU invloed; een onderzoek naar de realiseerbaarheid van een permanente monitor voor het meten van de invloed van Europese regelgeving op in Nederland geldende wet- en regelgeving.* Uitgevoerd door het T.M.C. Asser Instituut in opdracht van het ministerie van Buitenlandse Zaken en het ministerie van Justitie.

Driesprong, A. (2001). De watertoets van de Commissie WB21; een nieuw instrument voor het meewegen van water in de ruimtelijke ordening? In: *Tijdschrift voor Omgevingsrecht* 1(2) 55-59.

Dryzek, J.S. (1997). *The politics of the earth; environmental discourses.* Oxford: Oxford University Press.

Duenk, F. and K. Roelofsma (2005). *Evaluatie Watertoets; tussenrapportage over de telefonische interviewronde.* Nijmegen, The Netherlands: Royal Haskoning.

Duenk, F. and P. Jansen (2005). *Evaluatie Watertoets; tussenrapportage over de case studies.* Nijmegen, The Netherlands: Royal Haskoning.

Dunne, J. (1994). *Back to the rough ground; 'phronesis' and 'techne' in modern philosophy and in Aristotle.* London: University of Notre Dame Press.

EC: European Commission (1999). *The EU compendium of spatial planning systems and policies; the Netherlands.* Regional development studies. Luxembourg: Office for official publication of the European Communities.

Eck, M. van (1998). Locatiekeuze-MER: state of the art. M.e.r. en ruimtelijke ordening, deel 2. In: *Kenmerken* 5(3) 8-11.

Eco, U. (1983). Horns, hooves, insteps; some hypotheses on three types of abduction. In: U. Eco and T.A. Sebeok (eds.). *The sign of three; Dupin, Holmes, Peirce.* Bloomington: Indiana University Press.

Eco, U. and T.A. Sebeok (eds.) (1983). *The sign of three; Dupin, Holmes, Peirce.* Bloomington: Indiana University Press.

ECWM: Evaluatiecommissie Wet Milieubeheer (1996). *Naar een duurzame milieu-effectrapportage; tweede advies over de regeling milieu-effectrapportage.* Advies nr. 9. The Hague, The Netherlands: ECWM.

ECWM: Evaluatiecommissie Wet Milieubeheer (2003). *Het brede begrip milieu.* Advies van de Evaluatiecommissie Wet Milieubeheer over de reikwijdte van het begrip 'milieu' in de Wet milieubeheer. ECWM 2003/15. The Hague, The Netherlands: ECWM.

Edelenbos, J. (2005). Processuele en procedurele benadering van ruimtelijke ontwikkeling. In: G.M.A. van der Heijden and A.F.L. Slob (eds.) (2005). *Meervoudig ruimtegebruik, enkelvoudig recht; de spanningsvolle relatie tussen recht en innovatie.* Delft, The Netherlands: Eburon.

Eijk, P. van, H. Groenewoud, S. Tjallingii and H. Goosen (2005). Gebruik SMB als ontwikkelingsinstrument; overheden moeten meer investeren in andere werkwijze. In: *Kenmerken* 12(6) 16-21.

EK: Eerste Kamer der Staten Generaal (2006). *Nieuwe regels omtrent de ruimtelijke ordening (Wet ruimtelijke ordening).* Gewijzigd voorstel van wet. 23 February 2006. Vergaderjaar 2005-2006, 28916, A. The Hague, The Netherlands: Sdu.

EK: Eerste Kamer der Staten Generaal (2006). *Wijziging van de Wet Milieubeheer in verband met de uitvoering van richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen).* Nader voorlopig verslag van de vaste commissie voor milieu. Vastgesteld 7 maart 2006. Vergaderjaar 2005-2006, 29811, D. The Hague, The Netherlands: Sdu.

EK: Eerste Kamer der Staten Generaal (2006). *Wijziging van de Wet Milieubeheer in verband met de uitvoering van richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen).* Verslag van een schriftelijk overleg. Vastgesteld 4 mei 2006. Vergaderjaar 2005-2006, 29811, G. The Hague, The Netherlands: Sdu.

EK: Eerste Kamer der Staten Generaal (2006). *Wijziging van de Wet milieubeheer in verband met de uitvoering van richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen).* Verslag schriftelijk overleg over o.a. onafhankelijkheid commissie MER bij vrijwillige inschakeling door het bevoegd gezag. Vergaderjaar 2005-2006, 29811, H herdruk. The Hague, The Netherlands: Sdu.

EK: Eerste Kamer der Staten Generaal (2007). *Wijziging van de Wet milieubeheer in verband met de uitvoering van richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen).* Brief van de Staatssecretaris van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer aan de Voorzitter van de Eerste Kamer der Staten-Generaal. 16 januari 2007. Vergaderjaar 2005-2006, 29811, I. The Hague, The Netherlands: Sdu.

Elling, B. (2004). Modernity and communicative reflection in Environmental Assessment. In: T. Hilding-Rydevik, and A.H. Theodórsdóttir (eds.). *Planning for sustainable development; the practice and potential of Environmental Assessment.* Proceedings from the 5th Nordic Environmental Assessment Conference. Reykjavik, Iceland, 25-26 August 2003. Stockholm, Sweden: Nordregio.

EU: European Union (1979). *Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds.* Official Journal L 103. Published 25 April 1979. Luxembourg: Council of the European Communities.

EU: European Union (1985). *Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment.* Official Journal L 175. Published 5 July 1985. Amended by Directive 97/11/EC. Luxembourg: Council of the European Communities.

EU: European Union (1992). *Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.* Official Journal L 206. Published 22 July 1992. Luxembourg: Council of the European Communities.

EU: European Union (1997). *Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment.* Official Journal L 073. Published 14 March 1997. Luxembourg: EU.

EU: European Union (2000). *Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.* Official Journal L 327. Published 22 December 2000. Luxembourg: EU.

EU: European Union (2001). *Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.* Official Journal L 197. Published 21 July 2007. Luxembourg: EU.

EU: European Union (2001b). *European Governance; a White Paper.* COM(2001), 428 final, 25 July 2001. Brussels: Commission of the European Communities.

EU: European Union (2006). *Consolidated versions of the treaties on European Union and of the treaty establishing the European Community.* Official Journal C 321. Published 29 December 2006. Luxembourg: EU.

EU: European Union (2006b). *Proposal for a Directive of the European Parliament and of the Council on the assessment and management of floods.* COM(2006) 15 final, 18 January 2006. Brussels: Commission of the European Communities.

EU: European Union (2007). *The Amsterdam Treaty: a comprehensive guide.* <http://europa.eu/scadplus/leg/en/lvb/a15000.htm> last accessed 31 January 2007.

Faludi, A. (1980). *Implementation: planning or the implementation of plans? Effectiveness as a methodological problem.* Werkstukken van het planologisch en demografisch instituut. Amsterdam, The Netherlands: Universiteit van Amsterdam.

Faludi, A. (1982). Drie planningsbenaderingen. In: *Platform, Wetenschappelijk tijdschrift in boekvorm op het gebied van planningtheorie, planologie, sociologie en bestuurskunde* 1(1) 13-60.

Faludi, A. (1984). *Planning theory.* Original 1973. Oxford: Pergamon.

Faludi, A. (1987). *A decision centred view of environmental planning.* Oxford: Pergamon.

Faludi, A. (1988). *Two forms of evaluation.* Paper written for the 1st Conference of the European Chapter of the International Association for Impact Assessment on 'Impact forecasting, methods, results, experiences' held at Leiden and Delft, The Netherlands, on June 16-17, 1988. Werkstukken van de vakgroep planologie en demografie Universiteit van Amsterdam, nr. 101. Amsterdam, The Netherlands: Het Zwaartepunt.

Faludi, A. (1996). Rationality, critical rationalism and planning doctrine. In: S.J. Mandelbaum, L. Mazza and R.W. Burchell (eds.). *Explorations in planning theory.* New Jersey: Center for urban policy research.

Faludi, A. (2004). The impact of planning philosophy. In: *Planning Theory* 3(3) 225-236.

Faludi, A.K.F. and A.J.J. van der Valk (1994). *Rule and order: Dutch planning doctrine in the twentieth century.* Dordrecht, The Netherlands: Kluwer Academic Publishers.

Faludi, A. and A. van der Valk (2001). Rationality and power: an unreconstructed rationalist's echo. In: *International Planning Studies* 6(3) 271-278.

Faludi, A. and B. Waterhout (2006). Introducing evidence-based planning. In: *disP* 165(2) 4-13.

Feldmann, A., M. Vanderhaegen and C. Pirotte (2001). The EU SEA Directive: status and links to integration and sustainable development. In: *Environmental Impact Assessment Review* 21(3) 203-222.

Fikken, W.J. (1999). *Naar een verbeterde afstemming van milieu-effectrapportage en ruimtelijke ordening.* Rotterdam, The Netherlands: Gemeentewerken Rotterdam, Ingenieursbureau in opdracht van Ministerie van VROM.

Fischer, T.B. (2003). Strategic environmental assessment in post-modern times. In: *Environmental Impact Assessment Review* 23(2) 155-170.

Fischer, T.B. and K. Seaton (2002). Strategic Environmental Assessment: effective planning instrument or lost concept? In: *Planning practice & research* 17(1) 31-44.

Fischler, R. (2000). Communicative planning: a Foucauldian assessment. In: *Journal of planning education and research* 19(4) 358-368.

Fleurke, F. and J.R. Hulst (2003). *Europees ruimtelijk beleid en het Nederlands bestuurlijk stelsel voor de ruimtelijke ordening.* Amsterdam, The Netherlands: Vrije Universiteit.

Flyvbjerg, B. (1998). *Rationality and power: democracy in practice.* Chicago: University of Chicago Press.

Flyvbjerg, B. (2001). *Making social science matter; why social inquiry fails and how it can succeed again.* Cambridge: Cambridge University Press.

Flyvbjerg, B. (2004a). A perestroikan straw man answers back: David Laitin and phronetic political science. In: *Politics & Society* 32(3) 389-416.

Flyvbjerg, B. (2004b). Five misunderstandings about case-study research. In: C. Seale, G. Gobo, J.F. Gubrium and D. Silverman (eds.). *Qualitative research practice.* London and Thousand Oaks, CA: Sage.

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

Forester, J. (1989). *Planning in the face of power.* Berkeley: University of California Press.

Forester, J. (1993). *Critical theory, public policy and planning practice; towards a critical pragmatism.* Albany, New York: State University of New York Press.

Friedmann, J. (1987). *Planning in the public domain: from knowledge to action.* Princeton: Princeton University Press.

Friedmann, J. (1996). Two centuries of planning theory: an overview. In: S.J. Mandelbaum, L. Mazza and R.W. Burchell (eds.). *Explorations in planning theory.* New Jersey: Centre for urban policy research.

Friend, J.K. and W.N. Jessop (1977). *Local government and strategic choice: an operational research approach to the processes of public planning.* 2nd edition, original 1969. Oxford, New York: Pergamon.

Friend, J.K. (2004). Response from John Friend: a future for non-academic planning theorist? In: *Planning Theory* 3(3) 249-262.

Geel, P.L.B.A. van (2007). *Ontwikkelingen op Europees milieugebied in de afgelopen 12,5 jaar.* Speech van staatssecretaris Van Geel op het symposium 'Ontwikkelingen op Eu-

ropees milieugebied in de afgelopen 12,5 jaar' op 19 januari 2007 in Rotterdam. The Hague, The Netherlands: Ministerie van VROM.

Geest, I. van der, and P. Delleman (1996). De procedure. In: R. Bonte, P. Leroy and R. Mooren (eds.). *Milieu-effectrapportage; methoden, effecten en resultaten.* 19-30. Best, The Netherlands: Aeneas.

Gemeente Delft (2006). *Toelichting behorende bij de gedeeltelijke herziening bestemmingsplan Schieoevers Noord en Zuid – omgeving station Delft Zuid.* 19 May 2006. Decided on by the municipal council 29 June 2006. Delft, The Netherlands: Gemeente Delft.

Gemeente Deventer (2007). *Linderveld; Raad van State onthoudt goedkeuring aan Linderveld.* <http://www.deventer.nl/Economie/Vestigingslocaties/Linderveld> last accessed 2 August 2007.

Gerard, R. and H. Meek (2003). De sparteljaren van de watertoets. In: *Het Waterschap* 88(9) 286.

Gibson, R.B., S. Hassan, S. Holtz, J. Tansey and G. Whitelaw (2005). *Sustainability Assessment: criteria, processes and applications.* London / Sterling VA, USA: Earthscan.

Gilhuis, P.C. (2002). De Watertoets. In: *Tijdschrift voor Milieu en Recht* 29(6) 161.

Gilhuis, P.C. and J.M. Verschuuren (eds.) (2003). *Is er nog verschil tussen Europees en Nederlands milieurecht?* The Hague, The Netherlands: Boom juridische uitgevers.

Glasson, J., R. Therivel and A. Chadwick (1999). *Introduction to Environmental Impact Assessment; principles and procedures, process, practice and prospects.* 2nd edition. London: UCL Press.

Glynos, J. and D. Howarth (2007). *Logics of critical explanation in social and political theory.* London: Routledge.

Griggs, S. and D. Howarth (2002). An alliance of interest and identity? Explaining the campaign against Manchester Airport's second runway. In: *Mobilization* 7(1) 43-58.

Gronden, E.D. van de, J.J.F.M. van Haeren and E. Roos (1994). *Kwaliteit milieu-effectrapport; meten, maken en bewaken.* Bureau voor ContractResearch BV and DHV Milieu en Infrastructuur BV. Reeks milieu-effectrapportage, nr. 46. The Hague, The Netherlands: Ministry of VROM.

Groothuijse, F.A.G. (2005). Verwateren de watersysteembelangen in de nieuwe Wro? In: *Tijdschrift voor Milieu en Recht* 32(7) 420-427.

Groothuijse, F.A.G. and H.F.M.W. van Rijswick (2005). Water en ruimtelijke ordening: méér dan de watertoets! (I). In: *Bouwrecht* 42(3) 193-210.

Gunningham, N. and P. Grabosky (eds.) (1998). *Smart regulation; designing environmental policy.* Oxford: Oxford University Press.

Haan, M. (ed.) (2001). *Integrale Keur van het hoogheemraadschap Amstel Gooi en Vecht.* Vastgesteld door het Algemeen Bestuur van AGV op 20 december 2001.

Habermas, J. (1984). *The theory of communicative action.* Boston: Beacon Press.

Habermas, J. (2001). *The postnational constellation; political essays.* Cambridge: Polity press.

Hajer, M. and W. Zonneveld (2000). Spatial planning in the network society; rethinking the principles of planning in the Netherlands. In: *European Planning Studies* 8(3) 337-355.

Hall, A. van (2003). Kaderstellende watersystemen; over duurzaam omgaan met land- en watersystemen. In: *Tijdschrift voor Milieu en Recht* 30(11) 324-331.

Hall, A. van (2004). De watertoets naar Nederlands model. In: F.C.M.A. Michiels and L. Lavrysen (eds.). *Milieurecht in de lage landen; rechtsvergelijkende studies over milieuvergunning, emissiehandel, de watertoets, natuurbescherming en bestuurlijke handhaving in Vlaanderen en Nederland.* 163-178. The Hague, The Netherlands: Boom Juridische Uitgevers.

Hanson, N.R. (1969a). Retroduction: scientists are not confined to the H-D method. In: L.I. Krimerman (ed.). *The nature and scope of social science.* 69-72. New York: Appleton-Century-Crofts.

Hanson, N.R. (1969b). Retroduction and the logic of scientific discovery. In: L.I. Krimerman (ed.). *The nature and scope of social science.* 73-83. New York: Appleton-Century-Crofts.

Hanson, N.R. (1975). *Patterns of discovery; an inquiry into the conceptual foundations of science.* 1st printing 1958. Cambridge: Cambridge University Press.

Havekes, H., F. Koemans, R. Lazaroms, D. Poos and R. Uijterlinde (2004). *Water governance; the Dutch water board model.* The Hague, The Netherlands: Dutch Association of Water Boards and Nederlandse Waterschapsbank N.V.

Hayek, F. von (1991). Spontaneous ('grown') order and organized ('made') order. In: G. Thompson, J. Frances, R. Levačić and J. Mitchell (eds.). *Markets, hierarchies and networks; the coordination of social life.* 293-301. London: Sage.

Healey, P. (1992). A planner's day: knowledge and action in communicative practice. In: *Journal of the American planning association* 58(1) 9-20.

Healey, P. (1996). Planning through debate; the communicative turn in planning theory. In: S. Campbell and S.S. Fainstain (eds.). *Readings in planning theory.* Cambridge: Blackwell.

Healey, P. (ed.) (1997). *Planning theory, political economy and the interpretative turn: the debate continues.* Planning theory 17. Milano: FrancoAngeli.

Healey, P. (2003). Collaborative planning in perspective. In: *Planning Theory* 2(2) 101-123.

Heijden, G.M.A. van der (2001). *Een filosofie van behoorlijk bestuur; een verklaring voor de juridische en maatschappelijke functie van de beginselen van behoorlijk bestuur.* Thesis University of Amsterdam. Amsterdam, The Netherlands: Universiteit van Amsterdam.

Heijden, G.M.A. van der (2005). Meervoudig ruimtegebruik als eis van recht. In: *Nova Terra* 5(4) 42-44.

Heijden, G.M.A. van der (ed.) (2005). *Recombinatie van overheid en samenleving; denken over innovatieve beleidsvorming.* Delft, The Netherlands: Eburon.

Heijden, G.M.A. van der and A.F.L. Slob (eds.) (2005). *Meervoudig ruimtegebruik enkelvoudig recht; de spanningsvolle relatie tussen recht en innovatie.* XPIN-reeks. Delft, The Netherlands: Eburon.

Hendriks, F. and Th. A. J. Toonen (eds.) (2001). *Polder politics; the re-invention of consensus democracy in the Netherlands.* Aldershot: Ashgate.

Heuvelhof, E.F. ten (1993). Gebruik m.e.r. kan effectiever: besluitvorming over grote woningbouwlocaties. In: *Stedebouw en Volkshuisvesting* 74(5) 26-31.

Heuvelhof, E.F. ten and C.M. Nauta (1996). *M(erkenning); onderzoek naar de doorwerking van m.e.r.* Achtergrondstudie nr. 28. The Hague, The Netherlands: Evaluatiecommissie Wet Milieubeheer.

Heuvelhof, E.F. ten and C.M. Nauta (1997). The effects of environmental impact assessment in the Netherlands. In: *Project Appraisal* 12(1) 25-30.

Hidding, M.C., A. van den Brink, J. Heinen and J. Kragting (2002). *Planning voor stad en land.* Bussum, The Netherlands: Coutinho.

Hidding, M.C. (2006). *Planning voor stad en land.* Derde, herziene druk. Bussum, The Netherlands: Coutinho.

Hidding, M.C. and M.J. van der Vlist (eds.) (2003). *Ruimte en water; planningsopgaven voor een rode delta.* The Hague, The Netherlands: Sdu.

Hilding-Rydevik, T. and A.H. Theodórsdóttir (eds.) (2004). *Planning for sustainable development; the practice and potential of Environmental Assessment.* Proceedings from the 5th Nordic Environmental Assessment Conference. Reykjavik, Iceland, 25-26 August 2003. Stockholm, Sweden: Nordregio.

Hillier, J. (2002). *Shadows of power: an allegory of prudence in land-use planning.* RTPI library series. London: Routledge.

Holder, V. ten and R. Verheem (1996). Strategic EIA in the Netherlands. In: NCEIA: Netherlands Commission for Environmental Impact Assessment. *EIA in The Netherlands – experiences and views presented by and to the Commission for EIA.* 17-31. Utrecht, The Netherlands.

Holling, C.S. (ed.) (1978). *Adaptive environmental assessment and management.* IIASA international series on applied systems analysis 3. Chichester: Wiley.

Holling, C.S. (1979). Myths of ecological stability. In: G. Smart and W. Stansbury (eds.). *Studies in crisis management.* Montreal: Butterworth.

Holling, C.S. (1986). The resilience of terrestrial ecosystems; local surprise and global change. In: W. Clark and R.E. Munn (eds.). *Sustainable development of the biosphere*. 292-317. Cambridge: Cambridge University Press.

Hoogheemraadschap De Stichtse Rijnlanden (2004). *Handboek Watertoets.* Vastgesteld door het Dagelijks Bestuur op 13 januari 2004. Houten, The Netherlands: Hoogeheemraadschap De Stichtse Rijnlanden.

Hoogheemraadschap van Schieland en de Krimpenerwaard (2006). *Waterkansenkaart Krimpenerwaard.* The Netherlands: Grontmij Midwest.

Howarth, D.R. (2000). *Discourse; concepts in the social sciences.* Buckingham, Philadelphia: Open University Press.

Howarth, D.R. (2005). Applying discourse theory: the method of articulation. In: D.R. Howarth and J. Torfing (eds.). *Discourse theory in European politics; identity, policy and governance.* Houndmills: Palgrave Macmillan.

Howarth, D.R. and J. Torfing (eds.) (2005). *Discourse theory in European politics; identity, policy and governance.* Houndmills: Palgrave Macmillan.

Hufen, J.A.M. and J.F.M. Koppenjan (2004). Is dit een passend instrument? Bestuurskundige theorievorming en praktische sturings- en instrumentatievragen. In: *Bestuurskunde* 13(8) 347-357.

Huxley, M. (2000). The limits to communicative planning. In: *Journal of planning education and research* 19(4) 369-377.

Iedema, R.A., M.A. Elbers, M.E. Wingelaar, H.J. Haagsma and C.E.G.E. Nijssen (1999). *Hoe eerder, hoe beter? Advies over strategische toetsing.* Eindrapport 21 september 1999. Arcadis Heidemij advies in opdracht van Ministerie van VROM. In het kader van Programma m.e.r. 2000+. The Hague, The Netherlands: Ministerie van VROM.

Infomil (2007). *Herziene handleiding milieueffectrapportage.* <http://www.infomil.nl> last accessed 28 March 2007. The Hague, The Netherlands: Ministry of VROM.

Innes, J.E. (1995). Planning theory's emerging paradigm; communicative action and interactive practice. In: *Journal of planning education and research* 14(3) 183-189.

Innes, J.E. (1996). Planning through consensus building; a new view of the comprehensive planning ideal. In: *Journal of the American planning association* 62(4) 460-472.

Innes, J.E. (1998). Information in communicative planning. In: *Journal of the American planning association* 64(1) 52-63.

Innes, J.E. (2004). Consensus building: clarifications for the critics. In: *Planning Theory* 3(1) 5-20.

Innes, J.E. and D.E. Booher (2004). Reframing public participation: strategies for the 21st century. In: *Planning Theory and Practice* 5(4) 419-436.

Janse, P. and M. Breukels (2006). Lessen van de SMB Zuiderzeelijn; SMB flexibeler dan m.e.r. bij scope-wijzigingen. In: *Toets* 13(3) 24-27.

Jessop, B. (1999). *The governance of complexity and the complexity of governance; preliminary remarks on some problems and limits of economic guidance.* <http://www.comp.lancs.ac.uk/sociology/papers/jessop-governance-of-complexity.pdf> last accessed 22 February 2007. Lancaster: Lancester University, department of sociology.

Jessop, B. (2000). Governance failure. In: G. Stoker (ed.). *The new politics of British local government.* 11-32. Basingstoke: Macmillan.

Jessop, B. (2003). Governance and metagovernance; on reflexivity, requisite variety, and requisite irony. In: H. Bang (ed.). *Governance, governmentality, and democracy.* Manchester: Manchester University Press.

Jong, M. de, K. Lalenis and V. Mamadouh (eds.) (2002). *The theory and practice of institutional transplantation; experiences with the transfer of policy institutions.* Dordrecht, The Netherlands: Kluwer Academic Publishers.

Jong, M. de and H. Geerlings (eds.) (2005). *A roadmap for infrastructure appraisal.* TRAIL studies in transportation science S2005/1. Delft, The Netherlands: Delft University Press.

Jong, M. de and H. Geerling (2005b). Exposing weaknesses in interactive planning: the remarkable return of comprehensive policy analysis in the Netherlands. In: M. de Jong and H. Geerlings (eds.). *A roadmap for infrastructure appraisal.* 3-18.

TRAIL studies in transportation science S2005/1. Delft, The Netherlands: Delft University Press.

Jong, P. de (2004). De watertoets: een juridisch verankerd beleidsinstrument. In: *De Gemeentestem* 154(7199) 1-8.

Kabinet (2003a). *Meedoen, meer werk, minder regels; hoofdlijnenakkoord voor het Kabinet CDA, VVD, D66*. 16 May 2003. The Hague, The Netherlands.

Kabinet (2003b). *Kabinetsvisie 'Andere Overheid'*. The Hague, The Netherlands.

Kabinet (2003c). *Actieprogramma 'Andere Overheid'*. The Hague, The Netherlands.

Kessel, H.J.B.A. van, T.J. Boer, B.G.M. Roelofs and K.A. Klein Koerkamp (2003). *Evaluatie m.e.r. 2003*. In opdracht van de ministeries VROM, LNV and OCW. Nijmegen, The Netherlands: NovioConsult.

Kjaer, A.M. (2004). *Governance*. Cambridge/Malden: Polity press.

Kleefmann, F. (1984). *Planning als zoekinstrument; ruimtelijke planning als instrument bij het richtingzoeken*. Planologische verkenningen deel 5. The Hague, The Netherlands: VUGA.

Kleefmann, F. and M.J. van der Vlist (1989). Vijf beleidsdocumenten bezien vanuit twee gezichtspunten. In: M.J. van der Vlist and W. Brussaard (eds.). *Ruimte, water, milieu: relaties in planning en beleid*. Congresbijdragen. Wageningse Ruimtelijke Studies 4a. Wageningen, The Netherlands: Landbouwuniversiteit Wageningen.

Knoke, D. and J.H. Kuklinsky (1991). Network analysis: basic concepts. In: G. Thompson, J. Frances, R. Levačić and J. Mitchell (eds.). *Markets, hierarchies and networks; the coordination of social life*. 173-182. London: Sage.

Kooiman, J. (2003). *Governing as governance*. London: Sage.

Kornov, L. (1998). *Strategic environmental assessment and the limits to rationality in decision making processes*. Paper presented to the 18th annual conference of IAIA. Christchurch: IAIA, 1998.

Kornov, L. and W.A.H. Thissen (2000). Rationality in decision- and policy-making: implications for strategic environmental assessment. In: *Impact Assessment and Project Appraisal* 18(3) 191-200.

Kortman, C.A.J.M. (2007). Staatsrecht. In: *Inleiding tot het Nederlandse recht*. ErasmusLaw introduction to national legal systems. <http://www.luiss.it/erasmuslaw/olanda/index.htm> last accessed 15 March 2007. Nijmegen, The Netherlands: Katholieke Universiteit Nijmegen.

Lange, M.A. de (1995). *Besluitvorming rond strategisch ruimtelijk beleid; verkenning en toepassing van doorwerking als beleidswetenschappelijk begrip*. Thesis Katholieke Universiteit Nijmegen. Amsterdam, The Netherlands: Thesis Publishers.

Lawrence, D.P. (2000). Planning theories and environmental impact assessment. In: *Environmental Impact Assessment Review* 20(6) 607-625.

Leroy, P. (1996). De effecten van m.e.r.: een evaluatie. In: R. Bonte, P. Leroy and R. Mooren (eds.). *Milieu-effectrapportage; methoden, effecten en resultaten*. 127-138. Best, The Netherlands: Aeneas.

Lessig, L. (1999). *Code and other laws of cyberspace*. New York: Basic Books.

Levačić, R. (2001). Markets; introduction. In: G. Thompson, J. Frances, R. Levačić and J. Mitchell (eds.). *Markets, hierarchies and networks; the coordination of social life.* 243-245. London: Sage.

Lindblom, C.E. (1977). *Politics and markets; the world's political-economic systems.* New York: Basic Books.

Linden, G. and H. Voogd (eds.) (2004). *Environmental and Infrastructure Planning.* Urban and Regional Studies Institute, Faculty of Spatial Sciences, University of Groningen. Groningen, The Netherlands: Geo Press.

Mandelbaum, S.J., L. Mazza and R.W. Burchell (eds.) (1996). *Explorations in planning theory.* New Jersey: Centre for urban policy research.

Marin, B. and R. Mayntz (eds.) (1991). *Policy networks; empirical evidence and theoretical considerations.* Boulder, Colorado: Westview Press.

Meadows, D.L. (1972). *The limits to growth: a report of the Club of Rome's project on the predicament of mankind.* Club of Rome. New York: Universe Books.

Meijerink, S., R. Hoekstra, B. Needham and H. Goverde (2005). *Is het middel erger dan de kwaal? De ontwikkeling van een beoordelingskader voor planverplichtingen die het Rijk oplegt aan de decentrale overheden.* Chapter 5: Case studie Watertoets. In opdracht van het Ministerie van Binnenlandse Zaken en Koninkrijksrelaties. Nijmegen, The Netherlands: Radboud Universiteit Nijmegen.

Meyerson, M. and E.C. Banfield (1955). *Politics, planning and the public interest: the case of public housing in Chicago.* New York: Free Press.

Michiels, F.C.M.A. and L. Lavrysen (eds.) (2004). *Milieurecht in de lage landen; rechtsvergelijkende studies over milieuvergunning, emissiehandel, de watertoets, natuurbescherming en bestuurlijke handhaving in Vlaanderen en Nederland.* The Hague, The Netherlands: Boom Juridische Uitgevers.

Ministerie van Justitie (2007). *Tekst van de algemene wet bestuursrecht zoals deze luidt per 1 maart 2007 inclusief wetsvoorstellen, voorontwerpen en conceptwetsvoorstellen.* The Hague, The Netherlands: Ministerie van Justitie, directie wetgeving, sector staats- en bestuursrecht.

Ministry of Justice (1998). *General Administrative Law Act.* Non-official English text. <http://www.justitie.nl/onderwerpen/wetgeving/awb/Wettekst%5Fawb/> last accessed 15 March 2007.

Mitchell, J. (1991). Hierarchies; introduction. In: G. Thompson, J. Frances, R. Levačić and J. Mitchell (eds.). *Markets, hierarchies and networks, the coordination of social life.* 105-107. London: Sage.

Mooren, R.H.J. (1996). Appels en peren, alternatieven vergelijken. In: R. Bonte, P. Leroy and R. Mooren (eds.). *Milieu-effectrapportage; methoden, effecten en resultaten.* 59-78. Best, The Netherlands: Aeneas.

Mooren, R.H.J., G. Kroon and A.I.G. Roijackers (1995). *Praktijkboek milieueffectrapportage en ruimtelijke ordening.* In opdracht van de Rijksplanologische Dienst en Directoraat-Generaal Milieubeheer, Ministerie van VROM. The Hague, The Netherlands: Ministerie van VROM.

Morel, S.A.A., R.A.M. Post and J.J. Scholten (2001). Integrated Environmental Impact Assessment, a step towards integrated impact assessment. Paper presented at the

Annual Meeting of the International Association for Impact Assessment in Cartagena, May 2001. In: NCEIA: Netherlands Commission for Environmental Impact Assessment (2001). *Further experiences on EIA in The Netherlands: process, methodology, case studies*. Utrecht, The Netherlands.

Mostert, E. (1995). *Commissions for Environmental Impact Assessment; their contribution to the effectiveness of Environmental Impact Assessment*. Thesis Delft University. Delft, The Netherlands: Delft University Press.

Murray, A. and C. Scott (2002). Controlling the new media: hybrid responses to new forms of power. In: *Modern Law Review* 65(4) 491-516.

National Spatial Planning Agency (1999). *Dutch Spatial Planning Act*. Non-official English text. <http://international.vrom.nl> last accessed 21 March 2007. The Hague, The Netherlands.

NBW: Nationaal Bestuursakkoord Water (2003). *Nationaal Bestuursakkoord Water*. Signed by the Prime Minister, The State Secretary of Transport, Public Works and Water Management, the Association of Provincial Authorities, the Association of Netherlands Municipalities and the Association of Water Boards on 2 July 2003. Niet-dossierstuk 2002-2003, vw03000480, Tweede Kamer, 4 July 2003. the Hague, The Netherlands: Sdu.

NCEIA: Netherlands Commission for Environmental Impact Assessment (1998). *New experiences on EIA in The Netherlands: process, methodology, case studies*. Utrecht, The Netherlands.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2001). *Further experiences on EIA in The Netherlands: process, methodology, case studies*. Utrecht, The Netherlands.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2002). *Annual report 2001*. Boxtel, The Netherlands: Aeneas.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2002b). *Environmental Impact Assessment in the Netherlands; views from the Commission for EIA in 2002*. Utrecht, The Netherlands.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2003). *Annual report 2002*. Boxtel, The Netherlands: Aeneas.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2004). *Annual report 2003*. Boxtel, The Netherlands: Aeneas.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2005). *Annual report 2004*. Boxtel, The Netherlands: Aeneas.

NCEIA: Netherlands Commission for Environmental Impact Assessment (2007). *Netherlands Commission for EIA*. <http://www.eia.nl/eia/commission/index.htm> last accessed 26 March 2007.

Needham, B. and G. de Kam (2004). Understanding how land is exchanged: co-ordination mechanisms and transaction costs. In: *Urban studies* 41(10) 2061-2076.

Niekerk, F. (2000). *Het effect gerapporteerd; de gebruikswaarde van effectrapportages voor de planning van infrastructuur*. Thesis University of Groningen. Groningen, The Netherlands: Geo Press.

NIROV (2005). *Alle zeilen bijzetten; kort verslag van het NIROV symposium Alle zeilen bijzetten op 19 augustus 2005 in Amsterdam.* <http://www.nirov.nl/nirov/docs/programmas /AZB.pdf> last accessed 7 December 2005.

Nitz, T. and A.L. Brown (2001). SEA must learn how policy making works. In: *Journal of Environmental Assessment Policy and Management* 3(3) 329 -342.

Noble, B.F. (2000). Strategic Environmental Assessment: what is it and what makes it strategic? In: *Journal of Environmental Assessment Policy and Management* 2(2) 203-224.

Noble, B.F. and K. Storey (2001). Towards a structured approach to strategic environmental assessment. In: *Journal of Environmental Assessment Policy and Management* 3(4) 483-508.

Nooteboom, S. and G. R. Teisman (2003). Sustainable development; impact assessment in the age of networking. In: *Journal of Environmental Policy and Planning* 5(3) 285-309.

Nooteboom, S. (2007). Impact assessment procedures for sustainable development: a complexity theory perspective. In: *Environmental Impact Assessment Review 27(7) 645-665.*

Olsen, J.P. (2006). Maybe it is time to rediscover bureaucracy. In: *Journal of public administration, research and theory* 16(1) 1-24.

Oosten, W-J. and J. van der Heijden (2005). Pluriforme sturing van ruimtegebruik. In: G.M.A. van der Heijden and A.F.L. Slob (eds.). *Meervoudig ruimtegebruik enkelvoudig recht; de spanningsvolle relatie tussen recht en innovatie.* XPIN-reeks. Delft, the Netherlands: Eburon.

Partidário, M.R. (1996). SEA regulations and guidelines worldwide. In: R. Thérivel and M.R. Partidário (eds.). *The practice of Strategic Environmental Assessment.* London: Earthscan.

Partidário, M.R. (1996b). Strategic environmental assessment: key issues emerging from recent practice. In: *Environmental Impact Assessment Review* 16(1) 31-55.

Partidário, M.R. (2000). Elements of a SEA framework – improving the added-value of SEA. In: *Environmental Impact Assessment Review* 20(6) 647-663.

Partidário, M.R. and R. Clark (eds.) (2000). *Perspectives on Strategic Environmental Assessment.* Boca Raton: Lewis Publishers.

Pierre, J. and B.G. Peters (2000). *Governance, politics and the state.* New York: St. Martin's press.

Pieters, S. (2001). Drie centrale thema's in: M.e.r.-jurisprudentie 1987-2000. In: *Kenmerken* 8(1) 14-17.

Pieters, S. (2006). Linderveld: m.e.r.-slagveld? In: *Toets* 13(1) 15.

Pokorný-Versteeg, W.H. (2003). *Milieu-effectrapportage in Nederland en de direct aangrenzende EU-lidstaten; een rechtsvergelijkend onderzoek.* Thesis Leiden University. Deventer, The Netherlands: Kluwer.

Pool, E. and C. Maka (2006). *Waterkoers 2; de visie van DG Water op het waterbeleid in Nederland.* Ministerie van Verkeer en Waterstaat, Directoraat-Generaal Water. June 2006. The Hague, The Netherlands: Ministerie van Verkeer en Waterstaat.

Powell, W.W. (1991). Neither market, nor hierarchy: network forms of organization. In: G. Thompson, J. Frances, R. Levačić and J. Mitchell (eds.). *Markets, hierarchies and networks; the coordination of social life.* 265-276. London: Sage.

Pratt, V., J. Howarth and E. Brady (2000). *Environment and philosophy.* London: Routledge.

Projectgroep Watertoets (2001). *Bestuurlijke notitie watertoets; waarborg voor water in ruimtelijke plannen en besluiten.* The Hague, The Netherlands: Ministry of Transport, Public Works and Water Management.

Projectgroep Watertoets (2001b). *Handreiking watertoets; waarborg voor water in ruimtelijke plannen en besluiten.* The Hague, The Netherlands: Ministry of Transport, Public Works and Water Management.

Projectgroep Watertoets (2003). *Handreiking Watertoets 2; samen werken aan water in ruimtelijke plannen.* The Hague, The Netherlands: Ministry of Transport, Public Works and Water Management.

Provincie Utrecht (2005). *Provincie keurt bestemmingsplan Tabaksteeg af.* Press release 15 February 2005. Utrecht, The Netherlands: Provincie Utrecht.

Provincie Zeeland (2006). *Kustplan Zuidwest Walcheren; uitwerking van het omgevingsplan.* Vastgesteld door Gedeputeerde Staten van Zeeland op 17 oktober 2006.

Raad van State (2007). *Council of State; advisory body and administrative court.* <http://www.raadvanstate.nl> last accessed 18 March 2007.

Raad voor Verkeer en Waterstaat (2005). *De EU: nu en straks; dé sturende factor voor Nederland.* The Hague, The Netherlands: Raad voor V&W.

Ravesteyn, N., D. Evers and N. Pieterse (2004). *Unseen Europe; a survey of EU politics and its impact on spatial developments in the Netherlands.* Ruimtelijk Planbureau. Rotterdam, The Netherlands: NAi Uitgevers.

Richardson, T. (2005). Environmental assessment and planning theory: four short stories about power, multiple rationality, and ethics. In: *Environmental Impact Assessment Review* 25(4) 341-365.

Rijksplanologische Dienst (2000). *De waterparagraaf: handreiking water in bestemmingsplannen.* The Hague, The Netherlands: Ministry of VROM.

Rijswick, H. van, A. Freriks, C. Backes and R. Widdershoven (2003). *EG-recht en de praktijk van het waterbeheer.* Utrecht, The Netherlands: STOWA.

Rijswick, H.F.M.W. van (2003). Gevraagd: Europees én nationaal waterrecht! Actuele ontwikkelingen op het gebied van het Europese en Nederlandse waterrecht. In: P.C. Gilhuis and J.M. Verschuuren (eds.). *Is er nog verschil tussen Europees en Nederlands milieurecht?* 79-98. The Hague, The Netherlands: Boom juridische uitgevers.

Rijswick, H.F.M.W. van (2004). De watertoets in Vlaanderen en Nederland: een geschikt instrument voor integratie? In: F.C.M.A. Michiels and L. Lavrysen (eds.). *Milieurecht in de lage landen; rechtsvergelijkende studies over milieuvergunning, emissiehandel, de watertoets, natuurbescherming en bestuurlijke handhaving in Vlaanderen en Nederland.* 203-213. The Hague, The Netherlands: Boom Juridische Uitgevers.

RIVM: Rijksinstituut voor Volksgezondheid en Milieu (2002). *Milieubalans 2002; het Nederlandse milieu verklaard.* Bilthoven, The Netherlands: RIVM.

Robles, M. (2003). Koudwater(toets)vrees; bestuurders en ambtenaren kunnen straks niet meer om de watertoets heen. In: *ROmagazine* 21(12) 8-9.

RPB: Ruimtelijk Planbureau (2003). *Ruimtelijke ordening als het afwegen van belangen.* Notitie geschreven op verzoek van de minister van VROM. 15 September 2003.

Ruijgrok, E.C.M., R. Brouwer and H. Verbruggen (2004). *Waardering van Natuur, Water en Bodem in Maatschappelijke Kosten-batenanalyse.* Aanvulling op de Leidraad OEI. In opdracht van het Ministerie van LNV in samenwerking met de Ministeries van V&W, EZ, Financiën en VROM. The Hague, The Netherlands.

Ruijter, P. de (1987). *Voor volkshuisvesting en stedebouw; voorgeschiedenis oprichting en programma van het Nederlands Instituut voor Volkshuisvesting en Stedebouw 1850-1940.* Utrecht, The Netherlands: Matrijs.

Sadler, B. (2004). On evaluating the success of EIA and SEA. In: J. Arts and A. Morrison-Saunders (eds.). *Assessing impact; handbook of EIA and SEA follow-up.* London: Earthscan.

Sager, T. (2002). *Democratic planning and social choice dilemmas; prelude to institutional planning theory.* Aldershot: Ashgate.

Sannen, A., H. Helder and L. Dekker (2006). Kustplan Zuidwest Walcheren; SMB bij een complex plan in een complex proces. In: *Toets* 13(3) 16-20.

Scharpf, F.W. (1994). Games real actors could play; positive and negative coordination in embedded negotiations. In: *Journal of theoretical politics* 6(1) 27-53.

Schwartz, M.J.C. (2004). *Water en ruimtelijke besluitvorming; het functioneren van waterschappen in het openbaar bestuur en hun invloed op ruimtelijke besluitvorming op gemeentelijk schaalniveau.* Thesis Groningen University. Groningen, The Netherlands: Geo Pers.

Schwarz, M. and M. Thompson (1990). *Divided we stand; redefining politics, technology and social choice.* New York: Harvester Wheatsheaf.

Scrase, J.I. and W.R. Sheate (2002). Integration and integrated approaches to assessment: what do they mean for the environment? In: *Journal of Environmental Policy and Planning* 4(4) 275-294.

SER: Sociaal-Economische Raad (2006). *Nederland en EU-milieurichtlijnen.* Advies uitgebracht aan de staatssecretaris van Europese Zaken, de minister en staatssecretaris van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, de minister en staatssecretaris van Verkeer en Waterstaat, de minister van Landbouw, Natuur en Voedselkwaliteit, de minister en staatssecretaris van Economische Zaken. The Hague, The Netherlands: SER.

Simon, H.A. (1957). *Models of man: social and rational; mathematical essays on rational human behaviour in a social setting.* New York: Wiley and Son.

Simon, H.A. (1976). *Administrative behavior; a study of decision-making processes in administrative organization.* 3rd edition, original 1945. New York: The Free Press.

Simonis, J.B.D. (1983). *Uitvoering van beleid als probleem.* Amsterdam, The Netherlands: Uitgeverij Kobra.

Siraa, H.T., A.J.J. van der Valk and W.L. Wissink (1995). *Met het oog op de omgeving; een geschiedenis van de zorg voor de kwaliteit van de leefomgeving; het ministerie van Volksgezondheid, Ruimtelijke Ordening en Milieu (1965-1995).* The Hague, The Netherlands: Sdu.

Slob, M. (2006). Marjolein van Asselt – Liever een politieke discussie dan zo'n typisch Nederlandse rapportenoorlog (interview). In: Slob, M. (2006). *Zeker weten; in gesprek met politici, bestuurders en wetenschappers over omgaan met onzekerheid.* The Hague, The Netherlands: Rathenau Instituut.

Slobbe, E. van, J. Jiggens and N. Röling (2003). Communicatie met de burger: van informeren naar coproductie. In: M.C. Hidding and M.J. van der Vlist (eds.). *Ruimte en water; planningsopgaven voor een rode delta.* 209-218. The Hague, The Netherlands: Sdu.

Soppe, M. and S. Pieters (2002). The Dutch courts and EIA: trouble shooter or troublemaker? In: NCEIA: Netherlands Commission for Environmental Impact Assessment. *Environmental Impact Assessment in the Netherlands; views from the commission for EIA in 2002.* 31-34. Utrecht, The Netherlands.

Soppe, M.A.A. (2005). *Milieueffectrapportage en ruimtelijke ordening; een juridische beschouwing over het (dis)functioneren van het instrument milieueffectrapportage in de ruimtelijke ordening.* Thesis University Utrecht. Reeks Bouwrecht monografieën van de Stichting Instituut voor Bouwrecht nr. 27. Deventer, The Netherlands: Kluwer.

Soppe, M.A.A. (2005b). Implementatie smb-richtlijn: smb-wetsvoorstel en het ontwerp-Besluit m.e.r. 2005. In: *Milieu & Recht* 32(6) 330-341.

Soppe, M.A.A. (2005c). Jurisprudentie milieueffectrapportage. In: *Tijdschrift voor omgevingsrecht* 5(3) 98-105.

Staatsblad van het Koninkrijk der Nederlanden (1993). *Regeling startnotitie milieueffectrapportage.* Staatsblad 1993(229). Published 4 November 1993. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (1994). *Besluit van 4 juli 1994, houdende uitvoering van het hoofdstuk milieueffectrapportage van de Wet milieubeheer.* Staatsblad 1994(540). Published 26 July 1994. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (2000). *Besluit van 22 mei 2000 houdende wijziging van het Besluit op de ruimtelijke ordening 1985 (overlegverplichting).* Staatsblad 2000(234). Published 13 June 2000. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (2003). *Besluit van 3 juli 2003 tot wijziging van het Besluit op de ruimtelijke ordening 1985 in verband met gevolgen van ruimtelijke plannen voor de waterhuishouding (watertoets).* Staatsblad 2003(294). Published 17 July 2003. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (2005). *Wet van 7 april 2005, houdende wijziging van de Wet op de waterhuishouding en de Wet milieubeheer ten behoeve van de implementatie van richtlijn nr. 2000/60/EG van het Europees Parlement en de Raad van de Europese Unie van 23 oktober 2000 tot vaststelling van een kader voor communautaire maatregelen betreffende het waterbeleid (PbEG L 327) (Implementatiewet EG-kaderrichtlijn water).* Staatsblad 2005(303). Published 21 June 2005. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (2005). *Wet van 15 september 2005 tot wijziging van de Wet Milieubeheer (verdere aanpassing aan de Europse richtlijnen inzake milieu-effectrapportage).* Staatsblad 2005(477). Published 11 October 2005. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (2006). *Wet van 5 juli 2006 tot wijziging van de Wet milieubeheer in verband met de uitvoering van richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen).* Staatsblad 2006(336). Published 18 July 2006. The Hague, The Netherlands: Sdu.

Staatsblad van het Koninkrijk der Nederlanden (2006). *Besluit van 16 augustus 2006 tot wijziging van het Besluit milieu-effectrapportage 1994 (uitvoering richtlijnen nrs. 2001/42/EG en 2003/35/EG).* Staatsblad 2006(388). Published 31 August 2006. The Hague, The Netherlands: Sdu.

Staatscourant (2001). *Startovereenkomst Waterbeleid 21e eeuw.* Signed by the Prime Minister, the State Secretary of Transport, Public Works and Water Management, the Association of Provincial Authorities, the Association of Netherlands Municipalities and the Association of Water Boards on 14 February 2001. In: Staatscourant 2001(36) 8. Published 20 February 2001. The Hague, The Netherlands: Sdu.

Staatscourant (2007). *Ontwerp-besluit ruimtelijke ordening.* In: Staatscourant 2007(85) 14. Published 4 May 2007. The Hague, The Netherlands: Sdu.

Tatenhove, J.P.M. (1993). *Milieubeleid onder dak? Beleidsvoeringsprocessen in het Nederlandse milieubeleid in de jaren 1970-1990; nader uitgewerkt voor de Gelderse Vallei.* Thesis Wageningen University. Wageningen, The Netherlands.

Taylor, S. (1984), *Making bureaucracies think: Environmental Impact Assessment, strategy of administrative reform.* Stanford Ca: Stanford University Press.

Thérivel, R., E. Wilson, S. Thompson, D. Heaney and D. Pritchard (1992). *Strategic environmental assessment.* London: Earthscan.

Thérivel, R. and M.R. Partidário (eds.) (1996). *The practice of Strategic Environmental Assessment.* London: Earthscan.

Therivel, R. and M.R. Partidário (2000). The future of SEA. In: M. Partidário and R. Clark (eds.). *Perspectives on strategic environmental assessment.* 271-280. Boca Raton: CRC Lewis.

Thompson, G., J. Frances, R. Levačić and J. Mitchell (eds.) (1991). *Markets, hierarchies and networks; the coordination of social life.* London: Sage.

Thompson, G.F. (2003). *Between hierarchies and markets; the logic and limits of network forms of organization.* Oxford: Oxford University Press.

Timmerman P. (1986). Mythology and surprise in the sustainable development of the biosphere. In: W.C. Clark and R.E. Munn (eds.). *Sustainable development of the biosphere.* 292-317. Cambridge: Cambridge Press.

TK: Tweede Kamer der Staten Generaal (1999). *Vierde Nota waterhuishouding; motie van het lid Van den Berg c.s., voorgesteld in het Nota-overleg van 14 juni 1999.* Vergaderjaar 1998-1999, 26401, nr. 9. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (1999). *Stemmingen over vijf moties, ingediend tijdens de behandeling van de Vierde nota waterhuishouding (26401), te weten: - de motie-Herrebrugh c.s. over de sanering van waterbodems (26401, nr. 5); - de motie-Klein Molekamp c.s. over het beleid inzake riolering buitengebied (26401, nr. 6); - de motie-Augusteijn-Esser c.s. over tussendoelen m.b.t. de normstelling van waterkwaliteitswaarden (26401, nr. 7) en twee*

andere moties. 26 June 1999. Handelingen 1998-1999, nr. 94-5401. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2001). *Waterbeleid; motie van het lid Augusteijn-Esser, voorgesteld in het Nota-overleg van 25 juni 2001*. Vergaderjaar 2000-2001, 27625, nr. 5. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2001). *Waterbeleid; motie van het lid Van den Berg, voorgesteld in het Nota-overleg van 25 juni 2001*. Vergaderjaar 2000-2001, 27625, nr. 8. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2001). *Stemmingen over moties, ingediend in het notaoverleg over de nota Waterbeleid in de 21e eeuw, Ruimte voor de rivier en de Derde Kustnota (27625, nr. 1), te weten: - de motie-Herrebrugh over een voorstel voor een watertoets (27625, nr. 3); - de motie-Herrebrugh over een quick scan van alle bestaande bouwplannen (27625, nr. 4); - en vijf andere moties ((27625, nrs. 5 t/m 9)*. 5 July 2001. Handelingen 2000-2001, nr. 96-6055. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2002). *Planologische Kernbeslissing Vijfde Nota ruimtelijke ordening; verslag van een notaoverleg, vastgesteld 28 maart 2002*. Vergaderjaar 2001-2002, 27578, nr. 14. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2002). *Planologische Kernbeslissing Vijfde Nota ruimtelijke ordening; motie van de leden Ravestein en Van Gent, voorgesteld in het Nota-overleg van 15 april 2002*. Vergaderjaar 2001-2002, 27578, nr. 68. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2002). *Planologische Kernbeslissing Vijfde Nota ruimtelijke ordening; motie van het lid Ravestein c.s., voorgesteld in het Nota-overleg van 15 april 2002*. Vergaderjaar 2001-2002, 27578, nr. 69. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2002). *Planologische Kernbeslissing Vijfde Nota ruimtelijke ordening; verslag van een notaoverleg, vastgesteld 19 april 2002*. Vergaderjaar 2001-2002, 27578, nr. 103. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2004). *Vaststelling van de begrotingsstaat van het Infrastructuurfonds voor het jaar 2005*. Brief van de Minister van Verkeer en Waterstaat aan de Voorzitter van de Tweede Kamer der Staten Generaal. Den Haag, 23 december 2004. Vergaderjaar 2004-2005, 29800 A, nr. 42. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2004). *Wijziging van de Wet Milieubeheer in verband met de uitvoering van de richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen)*. Memorie van toelichting. Vergaderjaar 2004-2005, 29811, nr. 3. The Hague, The Netherlands: Sdu

TK: Tweede Kamer der Staten Generaal (2005). *Meerjarenprogramma herijking van de VROM-regelgeving*. Brief van de Staatssecretaris van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer aan de voorzitter van de Tweede Kamer der Staten Generaal. 28 January 2005. Vergaderjaar 2004-2005, 29383, nr. 25. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2005). *Nota Ruimte; motie van het lid Van Bochove c.s., voorgesteld tijdens het Nota-overleg van 17 januari 2005*. Vergaderjaar 2004-2004, 29435, nr. 40. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2005). *Nota Ruimte; brief van de minister van Volkshuisvesting, Ruimtelijke Ordening en Milieu, aan de voorzitter van de Tweede Kamer der Staten Generaal, 4 februari 2005*. Vergaderjaar 2004-2004, 29435, nr. 104. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2005). *Wijziging van de Wet milieubeheer (verdere aanpassing aan de Europese richtlijnen inzake milieu-effectrapportage)*. Memorie van toelichting. Vergaderjaar 2004-2005, 30046, nr. 3. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2005). *Wijziging van de Wet milieubeheer in verband met de uitvoering van richtlijn nr. 2001/42/EG van het Europees Parlement en de Raad van de Europese Unie van 27 juni 2001 betreffende de beoordeling van de gevolgen voor het milieu van bepaalde plannen en programma's (PbEG L 197) (milieu-effectrapportage plannen)*. Nota naar aanleiding van het verslag. Ontvangen 5 augustus 2005. Vergaderjaar 2004-2005, 29811, nr. 7. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2006). *Aanleg en de aanpassing van hoofdinfrastructuur; Brief minister over het advies 'Inspraak nieuwe stijl: maatwerk'*. 12 May 2006. Vergaderjaar 2005-2006, 29385, nr. 7. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2006). *Meerjarenprogramma herijking van de VROM-regelgeving*. Brief van de Staatssecretaris van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer. Aan de Voorzitter van de Tweede Kamer der Staten Generaal. 1 September 2006. Vergaderjaar 2005-2006, 29383, nr. 62. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2006). *Meerjarenprogramma herijking van de VROM-regelgeving; Brief staatssecretaris met de faciliteringsafspraken milieu-effectrapportage*. Vergaderjaar 2006-2007, 29383, nr. 68. 15 November 2006. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2006). *Regels met betrekking tot het beheer en gebruik van watersystemen (Waterwet)*. Voorstel van wet. Vergaderjaar 2006-2007, 30818, nr. 2. The Hague, The Netherlands: Sdu.

TK: Tweede Kamer der Staten Generaal (2006). *Regels met betrekking tot het beheer en gebruik van watersystemen (Waterwet)*. Memorie van toelichting. Vergaderjaar 2006-2007, 30818, nr. 3. The Hague, The Netherlands: Sdu.

Underwood, P.B. and C.C. Alton (2003). Could the SEA-directive succeed within the United States? In: *Environmental Impact Assessment Review* 23(3) 259-261.

Unie van Waterschappen (2007). *Unie van Waterschappen*. <http://www.uvw.nl> last accessed 16 March 2007.

V&W: Ministerie van Verkeer en Waterstaat (1985). *Omgaan met Water; naar een integraal waterbeleid*. The Hague, The Netherlands: Ministerie van Verkeer en Waterstaat.

V&W: Ministerie van Verkeer en Waterstaat (1989). *Derde Nota Waterhuishouding; water voor nu en later*. The Hague, The Netherlands: Sdu.

V&W: Ministerie van Verkeer en Waterstaat (1998). *Vierde Nota Waterhuishouding; regeringsbeslissing*. The Hague, The Netherlands: Ministerie van Verkeer en Waterstaat.

V&W: Ministerie van Verkeer en Waterstaat (2000). *Anders omgaan met water; waterbeleid in de 21e eeuw*. The Hague, The Netherlands: Ministerie van Verkeer en Waterstaat.

V&W: Ministerie van Verkeer en Waterstaat (2004). *OEI in het besluitvormingsproces; aanvulling op de Leidraad OEI*. Opgesteld door het Ministerie van V&W, het DG Personenvervoer en de Dienst Weg- en Waterbouwkunde in opdracht van het Ministerie van V&W en het Ministerie van EZ in samenwerking met de Ministeries van Financiën, LNV en VROM. The Hague, The Netherlands.

V&W: Ministerie van Verkeer en Waterstaat (2006). *Decembernota KRW/WB21 2006; beleidsbrief*. The Hague, The Netherlands: Sdu.

Valk, A.J.J. van der (1989). *Amsterdam in aanleg: planvorming en dagelijks handelen 1850-1900*. Thesis University of Amsterdam. Amsterdam, The Netherlands: Planologisch en demografisch instituut van de Universiteit van Amsterdam.

Valk, A.J.J. van der (1998). Het voorland van de planningtheorie. In: *Rooilijn* 31(10) 492-497.

Valk, A.J.J. van der and A. Faludi (1998). Kiezen voor kwaliteit: planning voor een duurzame omgeving door een beslissingsgerichte bril bezien. In: A. van der Valk and S. Musterd (eds.). *Leefbare steden en een duurzame omgeving*. Selectie van de papers voorgedragen op de 'Stadsdag' van de Netherlands Graduate School of Housing and Urban Research (NETHUR) op 22 november 1996. 18-33. The Netherlands, Assen: Van Gorcum.

Valk, D., P.J. Hofman and S. van Klaveren (2005). Watertoets in de gewijzigde beleidscontext. In: *Rooilijn* 38(9) 450-454.

Valk, Th. W. de (1997). *Het milieu tot besluit; een evaluatie van de Nederlandse regeling milieueffectrapportage*. Thesis Vrije Universiteit Amsterdam. Amsterdam, The Netherlands: Vrije Universiteit.

Valk, Th. W. de (1998). De resultaten van milieueffectrapportage: twee onderzoeken geïntegreerd. In: *Beleidswetenschap* 12(1) 66-83.

Veatch, H.B. (1974). *Aristotle; a contemporary appreciation*. Bloomington and London: Indiana University Press.

Ven, G.P. van de (ed.) (2004). *Man-made lowlands; history of water management and land reclamation in the Netherlands*. Utrecht, The Netherlands: Matrijs.

Verheem, R.A.A, M. Odijk and J.J. Scholten (1998). The environment: from add-on to guiding principle. In: NCEIA: Netherlands Commission for Environmental Impact Assessment. *New experiences on EIA in The Netherlands: process, methodology, case studies*. 16-20. Utrecht, The Netherlands.

Verheem, R.A.A. and J.A.M.N. Tonk (1998). *Strategic Environmental Assessment (SEA): one concept, multiple forms*. Paper presented at the Annual Meeting of the International Association for Impact Assessment in Christ Church.

Verheem, R.A.A. (2002). Recommendations for sustainability assessment in The Netherlands. In: NCEIA: Netherlands Commission for Environmental Impact Assessment (2002b). *Environmental Impact Assessment in the Netherlands; views from the Commission for EIA in 2002*. 9-14. Utrecht, The Netherlands: NCEIA.

Verheem, R.A.A. and G. Draaijers (2006). *Experiences on Sustainability Assessment in the Netherlands.* Paper presented at IAIA '06 in Stavanger. Utrecht, The Netherlands: Netherlands Commission for Environmental Assessment.

Vermeulen, W.J., J.F.M. van der Waals, H. Ernste and P. Glasbergen (1997). *Duurzaamheid als uitdaging: de afweging van ecologische en maatschappelijke risico's in confrontatie en dialoog.* WRR voorstudie 101. The Hague, The Netherlands: Sdu.

Vermicelli, A. (1995). From soft uncertainty to hard environmental uncertainty. In: *Economie appliqué* 48(2) 251-269.

Verschuuren, J. (2000). *De laatste hamster in Nederland en het Europees en international milieurecht.* Oratie voor de Katholieke Universiteit Brabant in Tilburg. Deventer, The Netherlands: Reeks Centrum voor wetgevingsvraagstukken.

Verschuuren, J. (2003). *Principles of environmental law: the ideal of sustainable development and the role of principles of international, European and national environmental law.* Umweltrechtliche Studien. Baden-Baden: Nomos.

Verwijmeren, J. (2001). De doorwerking van milieueffectrapportages in bestemmingsplannen: een toepassing van de beleidsarenatheorie. In: *Beleidswetenschap* 15(4) 291-312.

Vlist, M.J. and W. Brussaard (eds.) (1989). *Ruimte, water, milieu: relaties in planning en beleid.* Congresbijdragen. Wageningse Ruimtelijke Studies 4a. Wageningen, The Netherlands: Landbouwuniversiteit Wageningen.

Vlist, M.J. van der (1998). *Duurzaamheid als planningsopgave voor het landelijk gebied; gebiedsgerichte afstemming tussen de ruimtelijke ordening, het milieubeleid en het waterhuishoudkundig beleid.* Thesis Wageningen University. Wageningen, The Netherlands.

Vlist, M.J. van der, F. Wagemaker and M. Holtman (2002). De watertoets, voortuig voor externe integratie. In: *Het Waterschap* 87(1) 24-31.

Vlist, M.J. van der and F. Wagemaker (2003). De watertoets als nieuwe arena: een eerste evaluatie. In: *Stedebouw & Ruimtelijke Ordening* 84(4) 34-37.

Vlist, M.J. van der (2006). Europa als noodzaak: stroomgebiedsplanning. In: L. Janssen-Jansen and B. Waterhout (eds.). *Grenzeloze ruimte; regionale gebiedsgerichte ontwikkelingsplanologie in Europees perspectief.* 101-119. The Hague, The Netherlands: Sdu.

VNG and UvW: Vereniging van Nederlandse Gemeenten and Unie van Waterschappen (2005). *Handreiking uitwerking kostenveroorzakingsbeginsel ex Nationaal Bestuursakkoord Water.* The Hague, The Netherlands.

VNG: Vereniging van Nederlandse Gemeenten (2007). *Vereniging van Nederlandse Gemeenten.* <http://www.vng.nl> last accessed 16 March 2007.

VNG: Vereniging van Nederlandse Gemeenten (2007b). *Notitie knelpunten en oplossingen bij het maken van ruimte voor water.* Published 7 March 2007. <http://www.vng.nl/smartsite.dws?id=63824&ch=DEF> last accessed 15 May 2007.

Voogd, J.H. (1995). *Methodologie van ruimtelijke planning.* Bussum, The Netherlands: Coutinho.

VROM: Ministry of Housing, Spatial Planning and the Environment (1997). *Environmental policy of the Netherlands; a general overview.* The Hague, The Netherlands: Ministry of VROM.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (1998). *Nationaal Milieubeleidsplan 3*. The Hague, The Netherlands: Ministerie van VROM.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (1999). *De spijker op zijn kop geslagen! Leidraad scoping voor milieueffectrapportage*. Gebaseerd op onderzoek verricht door Holland Railconsult, Advies & Ontwerpgroep Ruimtelijke Planvorming. In het kader van het project m.e.r. 2000+. The Hague, The Netherlands: Ministry of VROM.

VROM: Ministry of Housing, Spatial Planning and the Environment (2000). *The texts of the regulations on environmental impact assessment in the Netherlands*. The Hague, The Netherlands: Ministry of VROM.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (2001). *Nationaal Milieubeleidsplan 4; een wereld en een wil, werken aan duurzaamheid*. The Hague, The Netherlands: Ministerie van VROM.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (2001b). *Met recht verantwoordelijk! Discussienota over de toekomst van een op duurzame ontwikkeling gerichte milieuwetgeving in een verantwoordelijke samenleving*. The Hague, The Netherlands: Ministerie van VROM.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (2002). *Nationale strategie voor duurzame ontwikkeling*. The Hague, The Netherlands: Ministerie van VROM.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (2002b). *Vaste waarden, nieuwe vormen; milieubeleid 2002-2006*. The Hague, The Netherlands.

VROM: Ministry of Housing, Spatial Planning and the Environment (2004). *Environmental management act; text of the Environmental management act dated 1 May 2004*. The Hague, The Netherlands: Ministry of VROM, Directorate-General for the Environment, Strategy and Policy Affairs Directorate.

VROM et al.: Ministeries van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer, Landbouw, Natuur en Voedselkwaliteit, Verkeer en Waterstaat en Economische Zaken (2006). *Nota Ruimte; ruimte voor ontwikkeling*. Deel 4: definitieve versie. <http://www2.vrom.nl/notaruimte/> last accessed 14 May 2007.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (2006). *Toekomstagenda Milieu: schoon, slim, sterk*. The Hague, The Netherlands: Ministerie van VROM.

VROM: Ministry of Housing, Spatial Planning and the Environment (2006b). *National Spatial Strategy; creating space for development*. Part IV endorsed by parliament. Summary. The Hague, The Netherlands: Ministry of Housing, Spatial Planning and the Environment, Ministry of Agriculture, Nature and Food Quality, Ministry of Transport, Public Works and Water Management, Ministry of Economic Affairs.

VROM: Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (2006c). *Handreiking milieueffectrapportage van plannen (planmer)*. Europese richtlijn milieubeoordeling van plannen. Implementatie in Wet milieubeheer en Besluit m.e.r. 1994. The Hague, The Netherlands: Ministerie van VROM.

VROM: Ministry of Housing, Spatial Planning and the Environment (2006d). *The new Spatial Planning Act gives space.* November 2006. <http://www.vrom.nl/pagina.html?id=2706&sp=2&dn=6250> last accessed 21 March 2007.

VROM: Ministry of Housing, Spatial Planning and the Environment (2007). *Revision of the Spatial Planning Act.* <http://international.vrom.nl> last accessed 21 March 2007.

VROM-raad (2002). *Minder blauw op straat; advies over regionaal waterbeheer en ruimtelijke ordening in de 21 eeuw.* Advies 34. The Hague, The Netherlands: VROM-raad.

VROM-raad (2002b). *Milieu en economie; ontkoppeling door innovatie.* Advies 36. The Hague, The Netherlands: VROM-raad.

VROM-raad (2006). *Ruimte geven, ruimte nemen; voorstellen ter verbetering van de uitvoering van het ruimtelijk beleid.* Advies 51. The Hague, The Netherlands: VROM-raad.

Wagemaker, F., M. van der Vlist and L. de Jong (2001). De watertoets; waarborg voor water in ruimtelijke plannen en besluiten. In: *H2O* 34(25/26) 23-26.

Wals, A.E.J. (ed.) (2007). *Social learning towards a sustainable world; principles, perspectives, and praxis.* Wageningen, The Netherlands: Wageningen Academic Publishers.

Waterschap Regge en Dinkel (2007). *Persbericht Twents Waternet.* 16 May 2007. <http://www.wrd.nl/algemene_onderdelen/zoeken?ActItmIdt=26049> last accessed 1 August 2007.

Weiland, J.S. (1999). *De mens in de filosofie van de twintigste eeuw.* Amsterdam, The Netherlands: Meulenhoff.

Wel, K. van der, P. Weijers and R. Berkenbosch (2004). Aan de slag met SMB. Aandachtspunten voor inhoud, proces en de juridische kant van de zaak. In: *Kenmerken* 11(5) 14-17.

Werkgroep Evaluatie Watertoets (2006). *Watertoetsproces op weg naar bestemming; landelijke evaluatie watertoets 2006.* Onder auspiciën van LBOW-Cluster MRE en in opdracht van het Ministerie van Verkeer en Waterstaat. Lelystad/The Hague, The Netherlands.

Werkgroep Inspraak (2006). *Inspraak nieuwe stijl; advies Werkgroep Inspraak.* In opdracht van het Ministerie van Verkeer en Waterstaat. Inspraakpunt V&W.

Werkgroep Linderveld (2007). *Werkgroep Linderveld.* <http://www.werkgroeplinderveld.nl> last accessed 2 August 2007.

Werkgroep Watertoets (2005). *Notitie Maatstaf Effectiviteit Watertoets; doelstelling van de watertoets SMART geïnterpreteerd voor de Evaluatie Watertoets.* Advies van de Werkgroep Watertoets aan de Werkgroep Evaluatie Watertoets. 19 May 2005. The Hague, The Netherlands.

Werkgroep Watertoets (2006). *Aanvulling Handreiking Watertoets 2; implementatie van de opgave (Nota Ruimte) om bij locatiekeuze en herinrichting van stedelijk gebied een analyse te maken van de risico's en kosten wat betreft verdroging, overstroming en overlast alsmede de kosten om deze risico's te beperken.* <http://www.watertoets.net/pdf/aanvulling_handreiking_rka.pdf> last accessed 14 May 2007.

Weston, J. (2004). EIA in a risk society. In: *Journal of Environmental Planning and Management* 47(2) 313-325.

Wiering, M. and P. de Rooij (2004). De watertoets: nieuwe spelregels voor water en ruimte. In: *Bestuurswetenschappen* 58(5) 391-405.

Wiklund, H. (2005). In search of arenas for democratic deliberation: a Habermasian review of environmental assessment. In: *Impact Assessment and Project Appraisal* 23(4) 281-292.

Williams, W. (1971). *Social policy research and analysis*. New York: Elsevier.

Williamson, O.E. (2005). The economics of governance. Richard T. Ely lecture. In: *American Economic Review* 95(2) 1-18.

Wissink, B. (2000). *Ontworpen en ontstaan; een praktijktheoretische analyse van het debat over het provinciale omgevingsbeleid*. Thesis University of Amsterdam. The Hague, The Netherlands: Sdu.

Woltjer, J. (2000). *Consensus planning; the relevance of communicative planning theory in Dutch infrastructure development*. Thesis University Groningen. Aldershot: Ashgate.

Wood, C. (2003). *Environmental Impact Assessment; a comparative review*. Second edition. Harlow, England: Pearson Education Limited.

Wood, C. and C. Jones (2002). The case for formal processes; editorial. In: *Impact Assessment and Project Appraisal* 20(3) 150.

WRR: Netherlands Scientific Council for Government Policy (1995). *Sustained risks: a lasting phenomenon*. The Hague, The Netherlands: Sdu.

WRR: Wetenschappelijk Raad voor het Regeringsbeleid (1998). *Ruimtelijke ontwikkelingspolitiek*. The Hague, The Netherlands: Sdu.

WRR: Wetenschappelijk Raad voor het Regeringsbeleid (2002). *Duurzame ontwikkeling; bestuurlijke voorwaarden voor een mobiliserend beleid*. The Hague, The Netherlands: Sdu.

WRR: Wetenschappelijke Raad voor het Regeringsbeleid (2003). *Nieuwe wegen in het milieubeleid*. The Hague, The Netherlands: Sdu.

Zonneveld, W. and A. Faludi (1998). *Europese integratie en de Nederlandse ruimtelijke ordening*. Rapport van de Wetenschappelijke Raad voor het Regeringsbeleid. The Hague, The Netherlands: Sdu.

Zweers, W. (1994). Radicalism or historical consciousness: on breaks and continuity in the discussion of basic attitudes. In: W. Zweers, and J.J. Boersema (eds.). *Ecology, technology and culture; essays in environmental philosophy*. Cambridge: The White Horse Press.

Zweers, W. and J.J. Boersema (eds.) (1994). *Ecology, technology and culture; essays in environmental philosophy*. Cambridge: The White Horse Press.

Summary

In this thesis, we explored the similarities and differences among Water Assessment (WA), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) in the Netherlands. The principal aim of these three policy instruments is to give their subject focus — water and the environment — a fully valued place in decision-making. WA, EIA and SEA facilitate decision-makers to anticipate the water-related and environmental impacts of societal initiatives, *ex-ante*. The overall aim of this comparative research was formulated in order to explain the character and effectiveness of WA, EIA and SEA, and compare each of them with the others, also in relation to their broader policy context. Using the insights from this explanation, contributions are offered to improve the effectiveness of these policy instruments in practice. In Chapter 1, the overall research aim is divided into three specific aims and research questions, namely: (1) the character of the instruments; (2) the effectiveness of the instruments; (3) the context of the instruments within policy.

This summary focuses first on the methodology used in this research. It is followed by a systematic overview of the answers found to the research questions. The theoretical concepts used (see Chapters 5 and 9) have been integrated into the explanations of the research questions. We conclude by summarising the contributions to practice resulting from this thesis.

Philosophy and method

The method that has been used in this thesis is underpinned, philosophically, in Aristotle's *phronesis* and *apagoge*. Unlike the research approach of the natural sciences, in the social sciences a *phronetic* approach to research is needed, one which is context-dependent, requiring experience and reflective analysis that contributes to ongoing practical situations. That social science is strong in *phronesis*, is because it is a science centred on self-reflecting human beings whose behaviours and judgements are context-dependent. A method based on *phronesis* mediates concepts at a general level with particular phenomena. It is a method that is neither deductive, nor inductive. Instead, it is retroductive. Retroduction can be traced back to Aristotle's *apagoge*. This type of inference allows a tentative explanation of why something is as it is; and leads to a probable explanation based on insight and an understanding of the phenomena investigated. Retroduction is more open than deduction and more insightful than induction, and thereby has the potential for dealing with the problem of applying theory in the social sciences.

Based on these philosophical underpinnings, we explored the work of Howarth, because his 'method of articulation' is, *par excellence,* a method at the intersection of the general and the concrete. It is in between theory and practice. This method allows heterogeneous concepts from theory to be linked with each other, and with the practical phenomena that are being studied. 'Theory' is therefore a constitutive theory,

which consists of a framework of consistently related concepts that is intimately connected to the practice it describes and interprets. In the research process, the general concepts are iteratively articulated to suit particular circumstances. This means that the concepts should not only have patterning strength, but, at the same time, a context-sensitive open-endedness.

In Chapter 4, we describe the relevance, within the context of this research, of the philosophy and method outlined above. We compare WA, EIA and SEA as national-level instruments. We do this within the context of national and European policy, taking into account the possibilities for applying an instrument contingently, in a variety of specific decision-making situations. We acquired experience in WA, EIA and SEA operating practices at the instrument level (in the case of WA, from working within its operating practice), and analysed literature (especially with respect to EIA and SEA). Comparative research is useful, because a phenomenon can be understood better by comparing it to others. We used the same set of concepts for EIA and SEA as we did to explain WA. This means that a concept that explains one instrument well is also used to explain the other instruments, even though its use, in those cases, may be less obvious. In this way, we can detect similarities and differences in the underlying notions of the instruments, and de-sediment and de-familiarise existing understandings. A good understanding of EIA and SEA casts new light on WA, and *vice versa*. This helps to gain new insights, and we have indeed experienced this in conducting this research.

The character of WA, EIA and SEA

The first aim of this comparative research is to explain the character of WA, EIA and SEA in a meaningful way. We gained insight into the character of the instruments through clarifying their conceptual bases (see Chapters 5 to 9, inclusive). These insights are summarised in this section. In the first subsection, we draw conclusions regarding the character of the instruments from a content perspective. The second subsection deals with the steering perspective, and the third subsection with the planning perspective.

Content: trade-offs

The central question within the content perspective is: How is the relationship between societal initiatives and their environmental impacts perceived in WA, EIA and SEA?

Theoretical concepts: We conceptualised the relationship between societal initiatives and their environmental impacts as trade-off decisions. A 'trade-off' refers to political, value-based decision-making in which decision-makers balance the relevant interests. Decisions cannot be based on clear-cut facts, because uncertainty and ambiguity are inherent to the decision-making processes that WA, EIA and SEA aim to facilitate. Dealing explicitly with uncertainty and ambiguity are challenges for the assessment

instruments, because overemphasising certainties and mono-thinking from one perception are problematic. Therefore, good quality decision-making means exposing the facts *and* uncertainties of trade-off consequences, as well as dealing explicitly with the multiplicity of perceptions. In this subsection, we will first draw conclusions about how adequate the design of WA, EIA and SEA is to do this. Then, we will answer the question of whether the assessment instruments are neutral with respect to the content of the decision outcomes, or whether they themselves include a certain perception of trade-off.

To what extent, and in what way, do WA, EIA and SEA identify and bring to the fore the facts and uncertainties of the impacts of trade-offs? WA aims to clarify the water-related aspects of trade-off decisions. It deals with a broad scope of water-related aspects, and includes negative as well as positive impacts on the water system. The opportunities are stressed. WA does not deal transparently with uncertainties. The recently introduced risk analysis in WA views risk as a function of probability and damage and defines it from an objectivist, technical angle. The manual on risk analysis mentions that certain *and* uncertain impacts should be included, but does not provide guidance on how to deal with uncertainty. EIA and SEA both aim at making environmental impacts broadly transparent. They stress negative impacts, but positive impacts for the environment also have to be included. In the field of EIA and SEA, there is a tendency towards including socio-economic impacts as well, by making integrated assessments. However, it is debatable whether this tendency will contribute to the transparency of trade-off decisions. EIA and SEA aim to deal explicitly with uncertainties that are significant for decision making. The main product of EIA and SEA is an Environmental Impact Statement (EIS). A statutory requirement is that this has to include a review of any omissions that are due to lack of knowledge and information. The EIA manual provides some further guidance on this, but the SEA manual does not, although the follow-up requirement (ex-post evaluation) provides feedback on dealing with uncertainties.

In relation to the ambiguity of trade-offs, to what extent, and in what way, do WA, EIA and SEA deal explicitly with the multiplicity of perceptions? WA adds the perception of water authorities to trade-off decisions in spatial planning. Water authorities give recommendations to spatial planners on the water-related aspects of plans, and they gain their input from policy documents on water management. However, WA does not pay much attention to perceptions other than those of the water authority and the spatial planning authority. EIA and SEA potentially add multiple perceptions of environmental impacts onto decision-making. These instruments empower citizens, NGOs and other actors to express their views on the environment. There is great potential for EIA and SEA to make multiplicity and ambiguity explicit to decision-makers in the political arena. However, there is also a danger that the multiplicity of perceptions will lose their impact in a separate, 'neutral' Environmental Impact Statement. Should that happen, then value-laden questions will be removed from political decision-making, and confined to deliberation by experts.

Are WA, EIA and SEA neutral towards decision outcomes or do they include a specific trade-off perception? If the instruments are normative towards decision outcomes, which trade-off per-

ceptions do they favour? The answers prove to be rather similar for all three instruments, and in all of them, there is tension between the immediate aim and functioning on the one hand, and the ultimate, underlying aim, on the other. Both the immediate aim and the functioning of the instruments are neutral with respect to decision outcomes. The decision-maker only needs to take the Water Recommendation or the Environmental Impact Statement into account. Such instruments in no way restrict the autonomy to decide on the balance between water/environment and socio-economic interests. However, their ultimate, underlying aim is to increase the share of water/environmental interests in the outcomes of decision-making. In fact, this was the reason for having assessment instruments in the first place. In practice, the neutral and advocative roles of these instruments have become mixed up.

WA, EIA and SEA all promote a win–win attitude towards trade-offs. With this underlying perception, the interests of water and the environment can be united innovatively with socio-economic interests: the water system and the environment are not longer exploited, while economic development progresses. This is the dominant overall perception in governmental policy. How strong the guiding strength of water in spatial planning should be, and how strong sustainability should be is debatable within this perception. Defining such notions further remains a value-laden choice that can only be made within a situation in which a specific decision has to be made. In WA, such normative perceptions are strongly linked to the policy context, but that is not in the case of EIA and SEA, which are more information and knowledge-based.

Steering: metagovernance

The central question in the steering perspective is: How do WA, EIA and SEA coordinate relationships between actors to give water or environment a fully valued place in decision-making?

Theoretical concepts: 'Metagovernance' is the conceptual basis for the steering question on the coordination of relationships between actors. Metagovernance is the umbrella for three modes of coordination: markets, hierarchy and networks. Each mode functions ideal-typically through a coordination mechanism — price, rules and trust, respectively — and each mode is prey to failures and costs. The essence of metagovernance is that smart, successful steering requires a judicious mix of the modes of coordination. The actual balance between them is dependent on the specific situation. On the level of the instruments this means that the national government has to ensure an adequate repertoire of compatible modes of coordination, while retaining the flexibility for contingent steering. The actors involved in a specific situation in which the instrument is being applied should use this repertoire reflectively. They have to be able to switch to other modes if needed. In this subsection, we will first summarise the extents to which WA, EIA and SEA use the three modes of coordination. Then, we will reflect on the balance between these modes in the instruments and on the possibilities for a situation-dependent, flexible and reflective use in practice.

To what extent do WA, EIA and SEA use the market to coordinate, by means of the price mechanism? In none of the instruments, is the market the core mode of coordination. It

is at most an additional mode for instruments such as these that function in government spheres, representing public interests with regard to water and the environment. The price mechanism is used as follows in WA, EIA and SEA: first, the water-related and environmental impacts are made as transparent as possible from the information available. In some cases and to a certain extent, these impacts are quantified in comparable (monetary) units, for example in a cost–benefit analysis. Internalisation of the environmental costs (often benefits are not mentioned) takes place through mitigation and compensation. In WA, this is linked to the cost-instigating principle, which is comparable to the polluter-pays principle in environmental policy. However, there are many difficulties in making a cost–benefit analysis and in internalising environmental costs. Compared with the ideal of the invisible hand — of an extremely decentralised market — the price mechanism in the instruments are applied more hierarchically.

To what extent do WA, EIA and SEA coordinate hierarchically, through rules? EIA and SEA operate more through hierarchical coordination than WA does. There are relatively detailed rules for EIA and SEA within European and national legislation, but only light statutory requirements for WA. SEA is less heavily regulated than EIA, which allows more flexibility, especially in the initial phases. To reduce procedural costs and increase flexibility, the national government is working on the de-regulation of EIA. Another difference between WA and EIA is the extent of control and sanctioning by court rulings. The main decision-making procedures, to which the assessments are linked, often include possibilities for legal protection, such as court appeals. Compliance to EIA regulations is controlled by the public through court rulings, which results in much jurisprudence. Proponents fear procedural delays and costs, and try to escape these sanctions by producing voluminous EISs, overloaded with information rather than being tailored to the case in hand. WA, EIA and SEA are all embedded in the existing institutional framework, and all three instruments are linked to governmental responsibilities, vertical relationships between governments, principles of good administration, the formalities of the main decision-making procedure, policy documents and other governmental instruments. It is in applying the assessment instruments that hierarchical elements of this linked framework may come into force. This is important for the rightfulness, democracy and accountability of the decisions made.

To what extent do WA, EIA and SEA use network coordination, by building up trust and cooperation? WA uses network coordination to a large extent, especially in the initial phases of a process. Improving trust relationships and cooperation between water managers and spatial planners is one of WA's core tasks. These actors interact in informal, horizontal networks to exchange tacit knowledge and to attune their perceptions. It is unclear to what extent EIA and SEA use network coordination, because informality in the process remains hidden behind the formalities of the procedure. Cooperating in an EIA and SEA can take the form of internal cooperation between the team working on the assessment and the team working on the main decision-making process. It can also take the form of external cooperation with the public, NGOs, governments and other relevant actors during an early phase, before formal consultation takes place.

What is the balance between the three modes of coordinations in WA, EIA and SEA? What is said about this balance by those who reflect on these instruments on the national level? Network coordination is the dominant mode in WA, whereas in EIA and SEA hierarchical coordination is dominant. Hierarchy, especially within the linked framework, is used in WA to reduce the failures of networks; for instance, to reduce their lack of democratic accountability. Network coordination is probably used in actually carrying out EIA and SEA, but it remains hidden in the shadow of hierarchy. Market coordination is an addition in WA as well as in EIA and SEA. The literature on WA reveals discussion on the complementarity of and the tensions between networks and hierarchy. This discussion, on which opinions differ, centres around two topics. The first of these concerns the statutory requirements for WA. The second topic is about the disappearance of provincial approval in WA in the new Spatial Planning Act. The possibility and desirability of stronger statutory requirements are currently being explored. Regarding EIA, the discussion is centred on rules, and on having fewer rules. The basic line of thought in this discussion is that hierarchy is too dominant, too prone to failure and too expensive. However, even within the context of the current de-regulation of EIA, apart from some peer-reviewed articles, reflection on other modes of coordination is not part of the debate.

Can practitioners use the modes of coordination reflectively and flexibly to adapt to the situation at hand? Though networks are dominant in WA, elements of hierarchical and market coordination are available, as explained in the WA manual. Such elements can be integrated into the assessment process as required. This makes WA a smart instrument. It is also smart to start the process by building up trust and cooperation. This is in line with management theory that maintains that this is the most effective way of benefiting from opportunities and win–win trade-offs. However, the pitfall for WA is to focus too much on informal cooperation, and ignore the use of the regulatory safety nets. The actors involved, especially the water authorities, should remain open to other ways of steering, should network coordination appear to be ineffective for a certain situation. Like WA, EIA and SEA are hybrid instruments, at least potentially. However, it is often impossible to use this potential flexibly, because the hierarchy is too dominant. This is not a smart way of steering, because it fosters defensive decision-making or, at best, respectful compromises. For EIA and SEA, it is a pitfall that actors only act out of fear, and put all their efforts into following procedural and analytical rules, which then becomes an aim in itself.

Planning approaches and power

The central question in the planning perspective is: How do WA, EIA and SEA link knowledge to public decision-making?

Theoretical concepts: There are different ideas within rational and communicative planning circles about how to link knowledge to public decision-making. The rational approach stresses that a decision should emanate from an explicit evaluation of alternatives and their consequences for the goals that have been set. The formal moment of decision-making and the explicit justification of that decision to the public are im-

portant. The ideal is to have complete and neutral knowledge. The communicative approach stresses the quality of communication in an ideal speech situation. The ideal in this approach is to gain full mutual understanding and consensus. In an open, interactive process, knowledge should be meaningful to all the actors involved. We have shown that the planning approaches are more nuanced than their ideals suggest and that the differences between them are less distinct. Effective planning acknowledges the complementarities of rational and communicative planning, and also the political reality of power. We defined power as agenda-setting and manipulation. Agenda-setting is useful in planning processes, but manipulation distorts the ideals of the planning approaches. Therefore, power cannot be ignored. In this subsection, we will first summarise the extents to which WA, EIA and SEA function according to the rational and communicative planning approaches. Then, we will reflect on the importance of each approach in all three instruments. We end this subsection by answering the question: to what extent is coping with power included in the designs of each of the instruments?.

To what extent do WA, EIA and SEA function according to the rational planning approach? WA functions partly through rational planning, whereas EIA and SEA are very strongly designed around the rational decision-making model. What WA, EIA and SEA have in common, with each other and with rational planning, is that all three operate on the importance of an explicitly justified decision, because such justifications are required for maintaining accountability and transparency. The environmental impacts are assessed prior to the moment of decision-making. This results in a Water Recommendation in case of WA and an Environmental Impact Statement in case of EIA and SEA. In the written statement of the grounds on which the decision is based (in WA, referred to as the Water Paragraph), the decision-maker is required to justify, clearly, how he accounts for this knowledge. Just as developing and evaluating alternatives is at the core of rational planning, so is it central to operating both EIA and SEA, but this is not the case with WA. Another significant difference is that EIA and SEA strive for complete and neutral knowledge, but this is not so evident in WA. It is very important for EIA and SEA that both the decision-makers and the public are provided with good, unbiased, information. At the same time, it is recognised that knowledge can never be complete and that rationality is bounded. Defining the decision-making situation by scoping is therefore selective and unavoidably value-laden. A Water Recommendation, by contrast, is not supposed to be neutral and the water authorities are not unbiased experts. Neither is it an explicit and formalized aim to use the Water Recommendation to inform and consult the public, which is the case with the EIS.

To what extent do WA, EIA and SEA function according to the communicative planning approach? WA functions partly by means of communicative planning, especially in the initial phases of a process. WA aims to connect the different frames of reference of spatial planners and water managers in an interactive process. By communicating in a comprehensible way, in an ideal situation, these actors would reach a shared understanding and consensus about water in the spatial plan. WA incorporates the ideals of communicative planning very pragmatically. It nests the communicative process in an

institutional framework. This is also supposed to make the invisible visible; to make the intangible knowledge in the informal process transparent. However, a WA is not necessarily as 'face-to-face' and 'in-depth', as in the ideal situation in communicative planning, and should full consensus not be achieved, then the remaining disagreement is accepted and put in writing in the Water Recommendation and the Water Paragraph. In EIA and SEA, communicative planning is hardly visible, but as shown by this research, there is potential for these instruments to become more communicative in that within the statutory requirements, public participation can be made more dialogue-based. It is possible, within an earlier phase of the process, to take different perceptions into account, proactively and interactively.

What is the balance between the two planning approaches in the three instruments? What is said about this balance by those who reflect on these instruments on the national level? For WA, communicative planning is dominant in the initial informal phases, and rational planning in the later formal phases of a process. A combination of the two planning approaches was considered to be the most effective by those who developed WA. They nested the informal communicative arena in the governmental framework, because, in this way, the informal process does not undermine legitimate, democratic decision-making. There is no debate about the balance between these planning approaches in WA. EIA and SEA function mainly through rational planning, and this has prompted debate. To find a way of increasing the effectiveness, people are reflecting on the strengths and limitations of this rational approach and other planning approaches. The positions in this debate range from sticking to the fundamentals of rational planning to a complete rethink of the approach. Proponents of the rational character of EIA and SEA stress the advantages of their structured procedures, the systematic analysis that takes place and democratic accountability of the outcomes. Opponents argue that EIA and SEA are too technocratic: the systematic, expert-based character, which suggests objectivity, functions more as a smokescreen to decision-making. They suggest a value-based approach in which different perceptions are taken into account. We concluded that it is necessary to investigate the hidden communicative potential of EIA and SEA, yet without rejecting rational planning ideals. A promising strategy for doing this, could be to use the two planning approaches in a nuanced, complementary and reflective way.

To what extent do WA, EIA and SEA cope with power in their design? WA, EIA and SEA can all be understood as agenda-setting. This is not a bad thing in planning. These instruments exist to draw the attention of decision-makers to water and the environment. Their functioning can also be understood in this way. In WA, the input of water authorities in spatial planning is, in fact, agenda-setting. They mobilise the attention of spatial planners to water interests, through organisational and policy-based goals. The knowledge expressed in the Water Recommendation should be seen in this light. We have shown that the EIA/SEA procedure can also be understood in terms of agenda-setting. For example, scoping is all about agenda-setting. Involving the public and thereby the media is a smart mechanism in EIA and SEA, which acts as an incentive for decision-makers to take the environment into account. This mechanism is not evident in WA. The input of the water authorities is not checked and

gauged against other perceptions — perhaps rather naïvely, in view of the inherent uncertainties and ambiguities. EIA and SEA also differ from WA in that they include more checks to anticipate power play. In addition to putting the assessment under public scrutiny, the EIA Commission checks the quality of the environmental information. It does this to ensure that the proponent, whose main interest is to be granted the activity they propose, does not manipulate the information in the EIS. A number of bodies, including the Netherlands Council of VROM, think that environmental assessment procedures include too many checks-and-balances. In their opinion, such checks are too restrictive and detract many potential proponents. The government is therefore actively trying to reduce assessment regulations of this kind. One such measure will be to limit the obligatory involvement of the EIA Commission.

The effectiveness of WA and EIA

The second aim of the comparative research is to gain insight into the effectiveness of WA and EIA, explained in terms of their strengths and weaknesses. Their effectiveness is evaluated against the aims of these instruments. What we want to find out is: to what extent have WA and EIA been successful in placing water and environmental interests in the main stream of decision-making? Even then, effectiveness can still be defined and evaluated in different ways. In a classical conformity evaluation, effectiveness is a measure of how closely decision outcomes visibly conform with policy objectives. The decision-making process remains a black-box. Performance evaluations are about the process and/or the results. There are different types of performance evaluation. There is a somewhat looser conformance evaluation in which decision outcomes should be more or less 'in line with' policy objectives. A second type focuses on the quality of decision-making, instead of on the normative content of decision outcomes. This type is neutral with respect to decision outcomes. What matters, is that policy objectives and information about the impacts of the decision are 'used' well in decision-making. In formal documents, this use value is not necessarily directly visible. It may also be the case that actors use water-related or environmental arguments in their discussions, that 'invisibly' change their perceptions.

In this section, we first draw conclusions about the degree of effectiveness of WA and EIA, and the sense in which that effectiveness has been evaluated. Then, we summarise the strengths and weaknesses of the instruments related to this effectiveness. We end the section by relating these strengths and weaknesses to the theoretical concepts. The conclusions in this section are based on four evaluation studies: the evaluation of Water Assessment (2006); the evaluation of EIA by Ten Heuvelhof and Nauta (1996); the evaluation of EIA by NovioConsult (2003); and the evaluation of EIA by De Valk (1997). No evaluation study is available for SEA as yet.

To what degree, and in what sense are WA and EIA effective? Remarkably, WA and EIA are effective to about the same degree and in about the same way. Both instruments perform very well in that they have a high use value in decision-making, but it is invisible. The water-related and environmental impacts are taken into account, which

makes for better decision-making. The actors use WA and EIA in their discussions and this causes their perceptions to change. This use value is however not sufficiently visible in the formal documents on decision-making. The results that have been achieved in the opinions of the actors involved are not written down clearly enough for those who are not involved in the process. If we then look at how closely aligned the decision outcomes are with the water-related and environmental interests, a difference in effectiveness can be distinguished between the operational and strategic level of decision-making. WA and EIA perform well on the operational level of decision-making, but their performance at the strategic level is insufficient. According to the actors involved, on the operational level, the negative impacts of a strategic-level choice of location are being mitigated. None of these four evaluations are strictly conformance evaluations, although De Valk's evaluation of the EIA comes very close to it. This evaluation is solely based on a quantitative analysis of formal documents. It shows that, due to EIA, the visible decision outcomes conform significantly more with environmental interests, though the improvement effect is not very marked.

What are the strengths and weaknesses of WA and EIA? The evaluations show that an early start of the assessment, integrated flexibly into the main planning process, is very important for the effectiveness of both WA and EIA. The main strength is to have cooperation and communication in the informal, early phases, when perceptions can be adjusted relatively easily. Informal dialogue is a hidden strength in EIA, and there are possibilities within the current regulations to develop it further. The formal requirements for WA and EIA are the secondary strength in the design of these instruments. The obligation to conduct an assessment at all is necessary as a 'stick' for unwilling actors, and the formal phases in the procedure are needed as 'safety-nets', should the results of the informal interactive process be unsatisfactory. However, in practice, these safety-nets do not function effectively. For WA, the actors do not use the safety-nets sufficiently. For EIA, the problem is the other way around. There, the actors focus far too much on the statutory requirements and juridical sanctioning. This hinders an early start, flexible integration in the planning process and good scoping, which in turn limits effectiveness.

Effectiveness does not directly depend on the quality of either the Water Recommendation or the EIS. This is remarkable, because there are assumptions in the design of the instruments that the quality of these written products is important, especially for EIA. On the other hand, none of the evaluations state that the quality of the Water Recommendation and the EIS are of no importance, so apparently, these written documents are functional in the overall assessment process, although not directly. Moreover, the Water Recommendation and the EIS are important for transparency and democratic accountability. On these criteria, the EIS scores much better than the Water Recommendation. The availability and quality of this recommendation are problematic in practice. EIA provides more checks for the availability and quality of environmental information. Developing and comparing alternatives in an EIS is also considered to be a strong element, but the knowledge concept of the EIS appears to be too narrow. Environmental information cannot be fully neutral. Not only are the Water Recommendation and the EIS important for transparency and democratic ac-

countability, but also explicitly justified decisions. In practice, however, the results of a WA and EIA are not clearly visible in the decision. It appears hard for decision-makers to describe explicitly how they took the water-related and environmental impacts into account.

How do these strong and weak elements relate to the theoretical concepts, as used in this thesis? The main strengths of WA and EIA are related to the concepts of networking and communicative planning in the early phases of assessment. For EIA, this is a remarkable conclusion, because these are not central to its conceptual basis. Its main strength is a hidden one. The secondary strength of both assessment instruments is that they are potentially in a position to be able to use hierarchical elements smartly. However, using hierarchy in practice can be a pitfall for both WA and EIA, as it is not favourably positioned — it is too much in the background in WA, and too much in the forefront in EIA. The formal moment of decision-making and the explicit justification of that decision are important stages in legitimate decision-making, because they make the decision transparent and democratically accountable. This rational element nests the communicative process in the institutional framework. In practice, though, it appears to be difficult to do this, especially for WA, because it is so inwardly focused. For EIA, it appears to be difficult to deal with the communicative knowledge concept, though this would make information in the EIS more meaningful to actors. The rational knowledge concept alone is too narrow. In practice, the EIS is not only a product of rational analysis, but also of intersubjective communication and strategic action.

The policy context of WA, EIA and SEA

The third aim of the research is to explain the character of the instruments from the broader policy context of which they are part. The related research question that we will answer in this subsection is: Why are WA, EIA and SEA as they are, and why are they similar or different on certain points, when viewed from the context of historical policy? WA, EIA and SEA were developed at different times and in different policy contexts. In Chapter 11, policy developments in the Netherlands in the fields of water management, environment and spatial planning are described, and also policy developments in the European Union. We then positioned the instruments of our research within these policy contexts.

Why is WA as it is, viewed from the context of historical policy? WA came into being around the turn to the 21st century. It is a tool on the front line of implementing a new approach to water management policy; an approach in which water is considered to be a guiding principle in spatial planning. This is a turn around from a technical 'water follows function' approach to the more socialised 'function follows water'. For a very long time, water authorities were technical bodies, operationally. They took concrete measures to manage water. From a historical point of view, a major challenge for water authorities is to influence strategic spatial decisions, proactively. From 1985 onwards, water management began to become 'socialised', to a certain extent. This grew into an internally and externally integrated policy field, with a broad scope. The new,

recently introduced, policy approach focuses more on renovating the external integration of water management in spatial planning. In the National Spatial Strategy, WA is the most important tool for considering spatial decisions explicitly through the characteristics of the water system, and for weighing up water interests against other (economic) interests. We came to the conclusion that WA functions strongly by coordination in an informal network, nested in a hierarchical framework. This fits in well with how the new policy approach is being implemented, namely: it is based on intergovernmental cooperation, but the formal institutional framework remains unchanged. WA also fits into the tendencies towards de-regulation and de-centralisation. The strength of the communicative elements in WA can be explained by the communicative turn in planning that began in the 1980s. It has made decision-making more communicative, open and interactive. However, WA is primarily a governmental process from which citizens and interest groups are distanced, and this is the overall picture of water management in the Netherlands. The policy field has not yet been fully socialised, even though it has been acknowledged that the dialogue with societal actors ought to be intensified.

Why are EIA and SEA as they are, viewed from the context of historical policy? EIA came into being in the 1970s. These were the days of an unprecedented rise in environmental concern. The public became aware of the seriousness of the environmental impacts of welfare growth, and national environmental policy came into being in the Netherlands, with EIA as a forerunner. From its early start, there are already many elements of EIA that promote sustainability in an integrative way. EIA was also a forerunner in its way of steering. It does not regulate in a traditional way, but gives decentralised governments and proponents the autonomy and responsibility. However, the EIA procedure is heavily regulated. This can be explained from its origins in the environmental policy of the 1970s, directed towards providing legislation to fight the environmental problems. Since the 1980s, however, there has been a lot of criticism about detailed statutory requirements, and the strong tendency to de-regulate is still highly relevant for EIA today. In its planning approach, EIA is definitely a product of the heydays of rational planning. In the US, where EIA was first developed, and in the Netherlands, there was a strong believe that a systematic, objective assessment would improve decision-making. However, in planning, questions have been raised ever since the1980s about the wisdom of focusing exclusively on a rationalist model. In this new planning period, although the rational base of EIA has been retained, there is now a debate on the use of communicative planning in EIA. SEA came into being in the wake of EIA and is strongly based on EIA notions, both in the EU and in the Netherlands. One aspect in which they differ is that the SEA procedure is more flexible. This fits in better with current ideas about steering, as well as the higher levels of decision-making to which SEA is linked.

Dutch environmental policy, including both EIA and SEA, is strongly influenced by the European Union. This influence will increase further. The Ministry of VROM wants to revise its legislation to allow EIA and SEA Directives to be implemented without national add-ons (de-regulation). These Directives are linked to EU environmental policy, in which sustainable development and external integration are impor-

tant principles, and to the EU culture of steering and planning. EU Directives are binding and regulative, although the EU aims to introduce more flexible regulation. In the area of planning, the EU stresses the importance of scientific knowledge, transparency and public accountability, and it aims to strengthen an early dialogue with relevant actors.

Why are the instruments similar or different on certain points, viewed from the context of historical policy? WA, EIA and SEA are all instruments for internal and external integration. This was aligned to the broader policies introduced in the 1980s with respect to water management and the environment. In recent years, the emphasis has been more on the external integration of water management in spatial planning. WA, EIA and SEA are also similar in their win–win attitude, in relation to the concept of sustainability. Dutch policy aims at breaking the dichotomy and battle between the environment and the economy. The policy instruments are geared towards helping to overcome conflicts between different interests in spatial planning. Concepts such as sustainability need to be vague to allow decentralised government to make decisions that fit specific circumstances. All three instruments are again similar in that they do not reduce the autonomy of lower-tier governments to engage in substantive decision-making. They merely facilitate decision-making processes, by giving decision-makers recommendations or information about water and the environment. This is compatible with the Dutch institutional context and the decision-making procedures in which the instruments are embedded.

It is in their steering and planning perspectives that differences in WA, EIA and SEA become evident. This can be explained by looking at when they were set up. WA is a recent introduction and so it reflects current ideas on steering and planning, particularly in its network coordination and communicative planning. EIA came into being while there was still a strong belief in rules and rational planning. This explains the dominance of hierarchy and rationalism in the design of EIA. It also explains the conceptual basis of SEA, which mainly arose in the wake of EIA. However, the development of ideas on steering and planning, and the way this is reflected in the instruments, cannot be described in 'black-and-white'. Neither can the 'turn around' from rational to communicative planning. Informal ways of coordination must be linked to formal decision-making structures, because of the checks-and-balances required. Nuances are thus inevitable in practice.

Conclusion and contributions to practice

In the concluding chapter, the answers to the research questions reveal six threads, which are then discussed. In general, what appears to be potentially the most effective in an instrument is a combination of different steering and planning concepts. At the same time, this creates tensions. We also see a bias towards providing certainty by using assessment instruments. This contradicts what is known about good quality decision-making, namely that it can deal well with uncertainty and ambiguity. There also appears to be no clear-cut way of gauging the effectiveness of the instruments.

The instruments perform well already, so we do not propose radical changes in their design. Of course, improvement is always possible. The most suitable areas for improving these instruments are described in Sections 12.2 and 12.3. However, improving an element of an instrument may adversely affect another element that until then had been functioning well. Similarly, giving more attention to one element may reduce the attention given to another element, due to actors' limited resources (e.g. time). Tensions of this type in an instrument will cause dilemmas. Another type of dilemma that we encountered in formulating the recommendations relates to the tension between what is advisable and what is likely to be feasible in practice.

In summary, the recommendations and related dilemmas, tensions and difficulties for WA are as follows:

- Open up the WA process to actors: to catalyse public debate and third-party pressure, make it more transparent. By doing this, WA can contribute to the further socialisation of water management in the Netherlands. In practice, this means in the first instance that water authorities become more transparent by being more forthcoming in disclosing their Water Recommendations. In practice, however, actors may experience this as trying to make the invisible visible, or, they may also not feel the need to spend time writing their arguments down clearly. We must also strongly keep in mind that the 'sting' in WA is the position of the water authority. This aspect of the instrument's design should not be changed.
- The water authorities should sharpen their way of steering with WA should a specific situation require it. They should carefully monitor what they achieve with their cooperative and communicative efforts, and if they are not satisfied with the results, they should think seriously about stronger intervention. The water authorities already have several possibilities for doing this, but they do not use these available safety nets sufficiently. At the same time, it is important that WA does not lose its core strength of informal networking and communication.
- It is advisable to scale up the application of WA to the strategic level of decision-making. Debate on this level can show what water as a guiding principle implies for the strategic spatial development of the Netherlands. However, we are not sure whether, in practice, water authorities will be capable of acting effectively in such complex decision-making situations.

Regarding EIA and SEA, the recommendations and the related dilemmas, tensions and difficulties are:

- It is advisable to make more use of potential trust and dialogue. Informal cooperation and communication in the early phases of a process are very important for the effectiveness of the assessment. At the same time, the current strengths of the formal and rational procedure must be retained, such as the transparency and democratic control. The increased reflectiveness on the part of the national government towards the strengths of informal ways of steering

and planning, and providing guidance to inexperienced actors, can be implemented within the current formal requirements. Both developments are recommended.

- It is important to give a clear picture to the decision-maker of the multiplicity of perceptions regarding the environmental impacts of trade-offs. There is great potential within EIA and SEA for doing this, but at the same time a major pitfall is that ambiguity is hidden. It is a theory–practice dilemma. In practice, there is a tendency to present more certainty than actually exists and to reduce the complexity of the decision. In theory, we know that good quality decision-making fully acknowledges the value-laden and political character of the decisions that have to be made. Experts should not replace politicians in making value-laden choices.
- In de-regulating these instruments, the national government should take care not to become too naïve about power. Serious account must be taken of the use of power, because this is a political reality. Although the design of a planning instrument cannot be based fully on the concept of power, it is important that it includes checks-and-balances that anticipate power play.

Samenvatting (Summary in Dutch)

Water en milieu in besluitvorming; een vergelijking van de watertoets, milieueffectrapportage en strategische milieubeoordeling in de Nederlandse planning.

Leeswijzer

Deze samenvatting begint met een korte inleiding op de watertoets, milieueffectrapportage en strategische milieubeoordeling en met het doel van het vergelijkende onderzoek naar deze instrumenten. Vervolgens beschrijven we de methodologie en de concepten uit de theorie die in dit promotieonderzoek worden gebruikt. De conclusies en de bijdragen aan de praktijk beschrijven we in deze samenvatting relatief uitgebreid. De conclusies zijn zes rode draden door de resultaten van het proefschrift. Als bijdrage aan de praktijk geven we eerst drie aanbevelingen voor de ontwikkeling van de watertoets, en tot slot drie aanbevelingen voor de ontwikkeling van de milieueffectrapportage en de strategische milieubeoordeling.

Voor de mensen die actief zijn in de praktijk van de watertoets zijn de drie aanbevelingen onder het kopje 'bijdrage aan de ontwikkeling van de watertoets' het belangrijkste om te lezen. De mensen in de hoek van de milieueffectrapportage en strategische milieubeoordeling kunnen direct doorbladeren naar het kopje 'bijdrage aan de ontwikkeling van de m.e.r. en SMB'. Voor beide doelgroepen zijn daarnaast de conclusies relevant om te lezen. De betekenis van de theoretische begrippen die in de conclusies gebruikt worden kan opgezocht worden in de tekst onder het kopje 'concepten'.

De meer theoretisch geïnteresseerde lezers raden we aan om de teksten onder de kopjes 'filosofie en methode' en 'concepten' te lezen. Dit geldt zowel voor mensen uit de onderzoekswereld als voor mensen uit de praktijk die behoefte hebben aan een gedegen reflectie op de praktijk.

Inleiding

Zonder de bescherming van duinen en dijken zou het grootste deel van Nederland regelmatig onder water staan. Het omgaan met de wateropgave is een uitdaging in Nederland, zeker gezien het intensieve landgebruik. De dichtheid van mensen, dieren, infrastructuur en economische activiteiten is hoog, en Nederland heeft grote ambities voor economische groei. Dit resulteert in hoge druk op het watersysteem en het milieu. In zo'n verstedelijkte delta is het van groot belang om bij de besluitvorming over maatschappelijke initiatieven, veelal met sociaaleconomische doelstellingen, goed rekening te houden met water en milieu. De watertoets, de milieueffectrapportage (m.e.r.) en de strategische milieubeoordeling (SMB) zijn drie beleidsinstrumenten die

dit moeten faciliteren. De laatste twee worden in Nederland ook wel 'projectmer' respectievelijk 'planmer' genoemd.

De watertoets is in 2001 geïntroduceerd in de context van een nieuwe benadering op het raakvlak van waterbeheer en ruimtelijke ordening. In deze benadering wordt meer rekening gehouden met de natuurlijke dynamiek van het watersysteem. Water moet meer de ruimte krijgen en een belangrijk structurerend element zijn in de ruimtelijke ordening, is de centrale boodschap. Het doel van de watertoets is te waarborgen dat waterhuishoudkundige doelstellingen expliciet en op evenwichtige wijze in beschouwing worden genomen bij ruimtelijke plannen.

De m.e.r. bestaat al veel langer dan de watertoets. In 1969 werd m.e.r. geïntroduceerd in de Verenigde Staten als reactie op grote zorgen over het milieu. Inmiddels wordt m.e.r. wereldwijd toegepast in meer dan honderd landen. Sinds 1985 verplicht de Europese Unie de lidstaten tot toepassing van m.e.r. op het operationele niveau van projecten. Sinds 2001 is er tevens een Europese richtlijn voor SMB. De SMB is van toepassing op het strategische niveau van plannen, en is gebaseerd op dezelfde principes als m.e.r.. Het doel van m.e.r. en SMB is het milieubelang een volwaardige plaats te geven in de besluitvorming.

Doel van het onderzoek

De watertoets, m.e.r. en SMB hebben dus vergelijkbare doelen. Het karakter van deze instrumenten verschilt echter. Dit maakt een vergelijkend onderzoek interessant. Het doel van het onderzoek is om het karakter en de effectiviteit van de watertoets, m.e.r. en SMB in Nederland te verklaren, in vergelijking tot elkaar en in relatie tot de bredere beleidscontext. Vanuit dit inzicht willen we een bijdrage leveren aan de verdere ontwikkeling van de beleidsinstrumenten. Kort gezegd gaat het dus om drie dingen: het karakter, de effectiviteit en de beleidscontext. Wat betreft het karakter gaan we op zoek naar de onderliggende noties van de instrumenten, op basis van concepten uit bestuurskunde en planning. Dit beslaat het grootste deel van het proefschrift. Wat betreft de effectiviteit willen we weten hoe effectief de instrumenten zijn, wat hun sterke en zwakke elementen zijn, en hoe die te relateren zijn aan de concepten uit de theorie. Hiertoe gaan we eerst in op de verschillende manieren waarop je effectiviteit kunt definiëren. Vervolgens analyseren we vier evaluaties van watertoets en m.e.r.. Aan het eind van het proefschrift plaatsen we de beleidsinstrumenten in de context van waterbeleid, milieubeleid en ruimtelijke ordeningsbeleid van Nederland en de Europese Unie. Dit helpt ons om de overeenkomsten en de verschillen tussen de instrumenten beter te begrijpen, vanuit het beleidsveld en de tijd waarin ze zijn ontwikkeld. Daarnaast is de beleidscontext van belang bij het formuleren van aanbevelingen. Wat goed werkt in de ene praktijk, werkt immers niet per definitie ook goed in een andere praktijk.

Filosofie en methode

In dit proefschrift zijn we op zoek gegaan naar een methode die theorie en praktijk, het algemene en het concrete, met elkaar verbindt. De filosofische basis voor zo'n methode vonden we in het werk van Aristoteles, in zijn begrippen *phronesis* en *apagoge*. *Phronesis* refereert aan een praktische vorm van kennis: wat te doen in een bepaalde situatie? Het antwoord op deze vraag kan niet gegeven worden op basis van universele waarheden en exacte voorspellingen. Afhankelijk van de omstandigheden van de situatie bepaal je wat te doen, waarbij ervaringen en waarden een rol spelen. Harde theorieën zijn niet mogelijk, vanwege de afhankelijkheid van de specifieke context. Hierin verschillen de sociale wetenschappen van de natuurwetenschappen. Sociale wetenschappers staan methodologisch sterker wanneer zij werken vanuit *phronesis*, dan wanneer zij de natuurwetenschappen proberen te imiteren.

Apagoge is het tweede filosofisch fundament voor de methode in dit onderzoek, en kan vertaald worden als retroductie of abductie. Retroductie is een betere manier van gevolgtrekking voor de sociale wetenschappen dan deductie of inductie. Deductie blijft te algemeen, en inductie te concreet, terwijl retroductie de potentie heeft om het algemene en het concrete te verbinden. Retroductie resulteert in een redelijke of waarschijnlijke verklaring voor fenomenen in de praktijk, en vraagt om inzicht en oordeelsvorming. De onderzoeker start met het observeren van de concrete fenomenen, in ons geval de drie beleidsinstrumenten. Tegelijk heeft hij een conceptueel referentiekader nodig. In het begin zijn die concepten vaag. In interactie met de praktijk selecteert en definieert de onderzoeker de concepten op zo'n manier, dat ze de praktijk het beste verklaren. De onderzoeker weet nooit zeker of zijn verklaring echt de beste is; zijn inzicht is nooit de absolute waarheid.

De 'methode van articulatie', gebaseerd op het werk van David Howarth, sluit goed aan op *phronesis* en *apagoge*. Het gebruik van de methode resulteert in een verklaring die bestaat uit theoretische en praktische elementen. Articulatie betekent het combineren van verschillende elementen, waardoor die elementen veranderen. Enerzijds gaat het hierbij om het combineren van verschillende concepten uit de theorie, waarbij de grenzen tussen wetenschappelijke velden geen belemmering zijn. Om deze concepten gezamenlijk in een raamwerk te kunnen gebruiken, zullen ze gearticuleerd moeten worden. Anderzijds gaat articulatie ook om het articuleren van concepten in relatie tot de praktijk. Algemene concepten worden in het onderzoek concreter ingevuld, op een manier die past bij het empirische object. Het raamwerk met concepten wordt gedurende het onderzoek verfijnd en zonodig uitgebreid, om uiteindelijk de best mogelijke verklaring te kunnen geven van de praktijk.

We hebben deze methode concreter ingevuld met vergelijkend onderzoek als strategie. We vergelijken de watertoets, m.e.r. en SMB als instrumenten op nationaal niveau, met oog voor de bredere beleidscontext, en met oog voor de contextafhankelijke toepassing van de instrumenten in concrete situaties van besluitvorming. Vergelijkend onderzoek is nuttig, omdat fenomenen beter begrepen kunnen worden door ze te vergelijken met andere. Dit helpt om een fenomeen in de praktijk met andere ogen

te bekijken, en daarmee tot nieuwe inzichten te komen. Hierbij mogen de historische context en de concrete omstandigheden niet uit het oog worden verloren.

In dit onderzoek hebben we de drie beleidsinstrumenten met dezelfde set concepten bekeken. Vanuit elk instrument op zich hebben we eerst gekeken welke concepten het meest voor de hand zouden liggen. In het planningsperspectief was dit voor de m.e.r. en de SMB bijvoorbeeld de rationele planningsbenadering. Voor de watertoets leek de communicatieve benadering in eerste instantie een logische keuze. Door de m.e.r. en de SMB toch ook vanuit de communicatieve benadering te bekijken, zagen we een verborgen potentieel oplichten: informele samenwerking en een open dialoog vroegtijdig in het proces. Ook wat betreft de watertoets kregen we een genuanceerder beeld en nieuwe inzichten door het instrument mede te bekijken vanuit concepten die in eerste instantie vooral voor de m.e.r. en SMB relevant leken. De watertoets blijkt dan wel degelijk voor een deel gebaseerd op de rationele benadering, en niet alleen op de communicatieve benadering, wat bijvoorbeeld van belang is voor de transparantie van het proces. Op deze manier werpen concepten een nieuw licht op de praktijk, in plaats van bestaand inzicht te bevestigen.

Concepten

We bekijken de beleidsinstrumenten vanuit drie perspectieven, waarbinnen we verschillende concepten ontwikkelen. De drie perspectieven en de centrale vragen hierbij zijn:

- *Inhoud:* Hoe wordt in de watertoets, m.e.r. en SMB omgegaan met de relatie tussen het maatschappelijk initiatief en de milieugevolgen daarvan?
- *Sturing:* Hoe worden met de watertoets, m.e.r. en SMB relaties tussen actoren gecoördineerd om water en milieu een volwaardige plaats in de besluitvorming te geven?
- *Planning:* Hoe wordt in de watertoets, m.e.r. en SMB kennis gerelateerd aan besluitvorming in het publieke domein?

Inhoudelijk perspectief

In het inhoudelijk perspectief conceptualiseren we besluitvorming als '*trade-off*' waarin verschillende belangen worden afgewogen. In het geval van de watertoets, m.e.r. en SMB gaat het daarbij om de sociaaleconomische belangen aan de ene kant, en de water- en milieubelangen aan de andere kant. De beleidsinstrumenten moeten voorkomen dat besluitvormers zich alleen richten op de sociaaleconomisch aspecten van het besluit, en de andere kant van de *trade-off* niet in beschouwing nemen.

Trade-off besluiten hebben een politiek en waardegeladen karakter. De gevolgen van een besluit kunnen van tevoren niet met zekerheid voorspeld worden. Daarnaast hebben mensen verschillende percepties ten aanzien van de gevolgen en de aanvaardbaarheid daarvan. Kortom, onzekerheid en ambiguïteit zijn inherent aan besluitvor-

ming. Voor een goede ondersteuning van besluitvorming zouden de watertoets, m.e.r. en SMB daarom idealiter twee uitdagingen moeten oppakken. Ten eerste om naast de milieugevolgen ook de onzekerheden transparant te maken. Onzekerheid mag niet verborgen worden. De aannames die in het licht van onzekerheid worden gedaan zijn immers subjectief. Ze moeten daarom expliciet onderdeel zijn van de politieke besluitvormingsprocessen. De tweede uitdaging is om de pluraliteit aan percepties zichtbaar te maken. Verschillende normatieve denkbeelden zijn legitiem in het licht van onzekerheid en ambiguïteit. Deze diversiteit aan verschillende percepties draagt bij aan de kwaliteit van besluitvorming. We bekijken in hoeverre deze twee uitdagingen opgepakt worden in de watertoets, m.e.r. en SMB. Daarnaast vragen we ons af of de instrumenten het besluitvormingsproces 'neutraal' faciliteren, of dat ze zelf normatief zijn ten aanzien van de uitkomst van het besluitvormingsproces.

Sturingsperspectief

In het sturingsperspectief is '*metagovernance*' het paraplubegrip voor drie manieren van coördinatie: markt, hiërarchie en netwerk. Ze hebben elk een centraal coördinatiemechanisme, respectievelijk prijs, regels en vertrouwen. In de praktijk werken de mechanismen echter nooit op de ideale wijze, in zekere zin falen ze altijd in meer of mindere mate. Daarnaast brengt de toepassing van een mechanisme transactiekosten met zich mee. Daarom komen in de praktijk vaak combinaties voor van de manieren van coördinatie. Dit is ook het geval binnen een beleidsinstrument. In dit proefschrift gebruiken we de drie ideaaltypische concepten als lichtbundels om de watertoets, m.e.r. en SMB te belichten. Op die manier verklaren we de sturingswijze van de instrumenten.

De theorie van *metagovernance* heeft niet alleen analytische waarde. Zij geeft ook ideeën voor de meest effectieve wijze van sturing. In de praktijk is steeds reflectie nodig op de effectiviteit, het falen en de kosten van elk sturingsmechanisme. Op basis daarvan wordt vervolgens afhankelijk van de specifieke situatie op dat moment de balans tussen de sturingsmechanismen bijgesteld. Dit betekent dat actoren in de praktijk de beschikking moeten hebben over een flexibel repertoire aan sturingsmechanismen en deze reflectief en contingent moeten kunnen inzetten.

Metagovernance, een concept uit de institutionele economie dat is opgepakt in de bestuurskunde, heeft parallellen met 'slimme sturing' in het recht. Dit levert aanvullende inzichten op. Wat goed werkt en wat niet is niet alleen een kwestie van effectiviteit (in enge zin) en efficiency, maar ook van legitimiteit en rechtmatigheid. We moeten effectiviteit dus breed opvatten. Ten tweede krijgen we vanuit ' slimme sturing' ideeën voor succesvolle combinaties van sturingsmechanismen. In de rechtswetenschap bestaat bijvoorbeeld het inzicht dat het vaak slim is om te starten met informele, vrijwillige vormen van sturing, en pas als dit niet werkt het niveau van interventie op te schroeven. Uitgaan van vertrouwen en goede samenwerking is tevens een idee dat we terugzien in managementtheorie, gerelateerd aan het denken in termen van kansen en synergie (win-win). Een andere vorm van slimme sturing is dat de overheid niet zelf de controle uitoefent, maar derden (burgers, maatschappelijke organisaties, bedrijven) in staat stelt dat te doen.

Planningsperspectief

Een planningsbenadering geeft aan hoe kennis te relateren aan handelen in het publieke domein. De onderliggende vraag daarbij is wat kennis eigenlijk is. Een planningsbenadering heeft altijd een ideaal aan de horizon, en is dus een ideaaltypisch concept. Wij gebruiken twee planningsbenaderingen om de watertoets, m.e.r. en SMB mee te verklaren: de rationele en de communicatieve benadering. Beide zijn bekritiseerd, vaak vanuit een karikatuur van hun gedachtegoed. De benaderingen zijn echter genuanceerder en minder naïef dan hun idealen suggereren. We beschrijven daarom niet alleen de ideaaltypische kenmerken in dit proefschrift, maar ook de praktische beperkingen en manieren om daarmee om te gaan. Het onderscheid tussen de twee benaderingen wordt hiermee minder zwart-wit dan vaak verondersteld wordt. We benadrukken in dit proefschrift vooral de complementariteit van de twee benaderingen.

Het rationele model is sterk gericht op de kwaliteit van informatie. Alternatieven en de gevolgen daarvan worden in het licht van doelstellingen *ex-ante* geëvalueerd. Op basis daarvan verantwoorden besluitvormers dat zij het beste alternatief kiezen. Deze expliciete verantwoording van het formele besluit is cruciaal voor de democratische verantwoording en maakt kritiek mogelijk. Rationele planners erkennen dat de informatie nooit compleet kan zijn. Besluitvormers kunnen niet alle alternatieven en alle gevolgen in beschouwing nemen. Bij het definiëren van de keuzesituatie spelen waarden en belangen een rol. Daarom kunnen informatie en kennis niet objectief zijn, maar experts kunnen er wel naar streven om deze zo compleet en neutraal mogelijk aan besluitvormers ter beschikking te stellen.

Het communicatieve model is sterk gericht op de kwaliteit van communicatie. In de ideale situatie zitten alle vertegenwoordigers van belangen aan tafel, zijn zij volledig geïnformeerd, hebben zij evenveel macht, en voeren zij de discussie op basis van goede argumenten. In dialoog zoeken zij samen naar gedeeld begrip en volledige consensus. Daarbij zijn referentiekaders en percepties aan verandering onderhevig. Kennis moet vooral betekenis hebben voor de betrokken actoren; het moet bediscussieerd en geaccepteerd worden in het communicatieve proces. 'Besluiten' worden genomen in het informele proces, en niet op een formeel besluitvormingsmoment. Communicatieve planners erkennen dat in de praktijk niet voldaan kan worden aan de ideale communicatiesituatie. Zij proberen verstoringen van het ideaal wel zoveel mogelijk te voorkomen.

Alhoewel macht in beide planningsbenaderingen wel in beschouwing wordt genomen, kregen we gedurende het onderzoek toch de behoefte om macht beter te definiëren. Rekening houdend met de karakteristiek van de beleidsinstrumenten waarop we reflecteren, hebben we macht opgevat in termen van agendavorming en (bewuste en onbewuste) manipulatie. Agendavorming gaat om het mobiliseren van aandacht voor een bepaald issue, in ons geval water en milieu. Agendavorming is inherent aan besluitvorming in onzekerheid en ambiguïteit. In het geval van manipulatie maken actoren eerst een keuze, vanuit hun eigen belang, en gaan dat achteraf rationaliseren. Op de voorgrond presenteren ze hun besluit als rationeel, in plaats van gerationaliseerd.

Conclusies

In de conclusies trekken we zes rode draden door de resultaten van dit proefschrift, onder de volgende kopjes:

- instrumenten voor integrale besluitvorming in de context van win-win beleid;
- de spanning tussen het neutrale en normatieve doel;
- de valkuilen van het suggereren van zekerheid en het denken vanuit één perspectief;
- slim sturen met een hybride instrument;
- het belang en de moeilijkheid van de expliciete verantwoording van het besluit;
- instrumenten als kinderen van hun tijd.

Instrumenten voor integrale besluitvorming in de context van win-win beleid

De watertoets, m.e.r. en SMB zijn exponenten en voorlopers van interne en externe integratie in beleid. Interne integratie houdt in dat alle relevante water- en milieuaspecten moeten worden meegenomen in het wateradvies dan wel het milieueffectrapport. Externe integratie betekent dat die water- en milieuaspecten volwaardig in beschouwing moeten worden genomen in besluitvorming over maatschappelijke initiatieven met veelal sociaaleconomische doelen. De instrumenten zijn bedoeld om te voorkomen dat besluitvormers zich eenzijdig richten op één kant van de *trade-off*. Hierbij moet worden bedacht dat het geloof in win-win uitkomsten van deze *trade-offs* vrij groot is in de Nederlandse beleidscontext. De zorg voor water en milieu en de ambities voor welvaart en economische groei kunnen in deze perceptie goed samengaan, en kunnen elkaar zelfs versterken door innovatie en integratie.

In de praktijk blijkt dit vooral op het strategische niveau van besluitvorming een moeilijke uitdaging. Uit evaluaties blijkt dat de watertoets en m.e.r. onvoldoende werken op dit niveau, bijvoorbeeld in het geval van locatiekeuzen. Op het operationele niveau van inrichtingskeuzen is de effectiviteit wel voldoende. In de huidige praktijk, ook bij de waterbeheerders, overheerst de perceptie dat de gevolgen van een locatiekeuze voor het milieu en het watersysteem op inrichtingsniveau gecompenseerd en gemitigeerd kunnen worden. Of dit echt zo is of een illusie, blijft de vraag. Het is wel van groot belang om open te staan voor andere percepties, en op het strategische niveau het debat echt aan te gaan. In de sterk verstedelijkte Nederlandse delta is het onderschatten van de watergerelateerde risico's kostbaar en zelfs gevaarlijk.

De spanning tussen het neutrale en normatieve doel

Het uiteindelijke doel van de watertoets, m.e.r. en SMB is om het water- en milieubelang een sterkere positie te geven. In die zin hebben de instrumenten een agenderende

werking met een normatief doel ten aanzien van de uitkomsten van besluitvorming. Aan de andere kant is het formele, directe doel en het ontwerp van de instrumenten gericht op het 'neutraal' faciliteren van de besluitvorming. De besluitvormer moet rekening houden met het water- en milieubelang, maar zijn afwegingsruimte wordt niet ingeperkt. Met een goede motivatie mag de besluitvormer afwijken van het wateradvies dan wel het meest milieuvriendelijke alternatief uit het milieueffectrapport.

Door deze spanning tussen het neutrale en normatieve doel, kunnen de verwachtingen ten aanzien van de instrumenten uiteenlopen. Effectiviteit wordt dan op verschillende manieren gedefinieerd. Vanuit het neutrale doel wordt effectiviteit gedefinieerd als doorwerking, waarbij de gebruikswaarde van de instrumenten en de kwaliteit van de besluitvorming voorop staan. Vanuit een normatieve opvatting van het doel wordt effectiviteit gedefinieerd als conformiteit. Voor de watertoets, m.e.r. en SMB houdt dat in het meest extreme geval in dat de uitkomst van besluitvorming inhoudelijk volledig conform het wateradvies dan wel het meest milieuvriendelijke alternatief moet zijn, welke op hun beurt weer volledig conform de beleidsdoelstellingen moeten zijn. In de evaluaties die wij hebben geanalyseerd is de opvatting van doorwerking dominant. De evaluaties laten zien dat watertoets en m.e.r. de kwaliteit van de besluitvorming verbeteren. Volgens de betrokken actoren worden water- en milieuaspecten expliciet in beschouwing genomen in de besluitvorming.

Het beeld dat de instrumenten zelf normatieve criteria bevatten op basis waarvan maatschappelijke initiatieven simpelweg 'getoetst' worden is hardnekkig, vooral bij mensen die zelf niet direct bij de watertoets betrokken zijn. Dit is niet het geval en zou ook niet werken. Op nationaal niveau is het niet mogelijk om harde en specifieke criteria te definiëren die van toepassing zijn op alle besluitvormingssituaties. De gevarieerde praktijk vraagt om maatwerk. Tevens zouden specifieke criteria de autonomie van de provincies en gemeenten teveel beperken, wat niet wenselijk is in de Nederlandse situatie. De watertoets, m.e.r. en SMB beperken de autonomie van decentrale besluitvormers dan ook niet, maar sturen de decentrale overheden op een andere manier aan. Bij de watertoets gaat dat via het wateradvies als standpunt vanuit de laag van de functionele democratie, als resultaat van een interactief proces. Bij de m.e.r. en de SMB via procedurele en analytische eisen gericht op de kwaliteit van milieuinformatie.

De valkuilen van het suggereren van zekerheid en het denken vanuit één perspectief

In theorie weten we dat onzekerheid en ambiguïteit inherent zijn aan besluitvorming, en dat we recht moeten doen aan het waardegeladen en politieke karakter van besluitvorming. In de praktijk blijken het suggereren van zekerheid en het denken vanuit één perspectief toch op de loer te liggen. Dat is ook bij de watertoets, m.e.r. en SMB het geval.

Bij de watertoets is de sterke focus op de perceptie van de waterbeheerder de angel in het instrument en tegelijk een valkuil. Op zich is er helemaal niets mis met de positie van de waterbeheerder in de watertoets. Het is een heldere en sterke construc-

tie. Het advies is een gelegitimeerde vorm van agendering vanuit waterhuishoudkundige beleidsdoelen, en wordt niet als neutrale inbreng gepresenteerd. De valkuil is echter dat de watertoets teveel een overheidsintern proces blijft, en te weinig transparant naar derden. Burgers, maatschappelijke organisaties en bedrijven hebben dan onvoldoende informatie om hun eigen perceptie te ontwikkelen en in te brengen in de besluitvorming. Vanuit het ontwerp van de watertoets zouden de waterparagraaf en het wateradvies deze transparantie moeten geven. Uit de evaluatie van de watertoets blijkt echter dat de kwaliteit van deze producten onvoldoende is om deze functie te vervullen. Daarnaast wordt er in de watertoets nauwelijks aandacht besteed aan onzekerheden.

In de m.e.r. en de SMB is het verplicht om leemtes in kennis transparant te maken in het milieueffectrapport. Of er in de praktijk inderdaad voldoende aandacht is voor onzekerheid is niet duidelijk geworden. Ten aanzien van de pluraliteit van percepties hebben de m.e.r. en SMB grote potentie en tegelijk een grote valkuil. Aan de ene kant is er veel aandacht voor transparantie en publieke betrokkenheid. Ook vanuit sturing is dat slim, want derden kunnen zo druk uitoefenen op besluitvormers. De valkuil is dat de ambiguïteit verborgen wordt in een milieueffectrapport dat als neutrale informatie gepresenteerd wordt. Waardegeladen vragen komen dan bij experts terecht, met de suggestie van objectiviteit.

Slim sturen met een hybride instrument

Overheidsinstrumenten worden al snel geassocieerd met regels, procedures en controle. Uit evaluaties van watertoets en m.e.r. blijkt echter dat informele samenwerking en communicatie vroegtijdig in het planproces van groot belang zijn voor de effectiviteit. Er is dan sprake van flexibiliteit en uitwisseling van impliciete kennis, en percepties zijn nog relatief open. Deze primaire kracht van de instrumenten, hun sterkste punt, kan gerelateerd worden aan netwerkcoördinatie gebaseerd op vertrouwen en samenwerking, en aan de communicatieve planningsbenadering. Dit bevestigt de onderliggende noties in het ontwerp van de watertoets. Voor de m.e.r. is dit opmerkelijk, omdat hiërarchische coördinatie op basis van regels en de rationele planningsbenadering behoorlijk dominant zijn in het ontwerp van het instrument. In de praktijk zijn blijkbaar meer informele manieren van sturing en planning aan het werk.

De formele verplichtingen zijn wel van belang als vangnet. In die zin vormen hiërarchie en regelgeving wel een sterk punt als secundaire kracht van de instrumenten. Ze stellen actoren in staat om over te stappen naar sterkere interventie, wanneer de resultaten van het informele proces niet bevredigend zijn in een specifieke situatie. In de praktijk wordt hier echter niet slim genoeg mee omgegaan. Bij de watertoets zijn de waterbeheerders onvoldoende reflectief ten aanzien van het benutten van de beschikbare vangnetten, zo blijkt uit de landelijke evaluatie. Bij de m.e.r. en de SMB is het juist andersom. Daar is de valkuil dat actoren zich teveel richten op de juridische procedure.

Als de onzichtbare hand van de markt wat betreft water en milieu goed zou werken, zouden we geen overheidsinstrumenten nodig hebben. Water- en milieuaspecten zijn echter bekende externe kosten en baten, en met instrumenten kan de overheid die

proberen te internaliseren. In de watertoets, m.e.r. en SMB zien we dit bijvoorbeeld terug in de vereisten voor compensatie en mitigatie, en bij de watertoets expliciet in het kostenveroorzakingsbeginsel. Op die manier kan het prijsmechanisme bijdragen aan de effectiviteit. Dit is echter een combinatie van hiërarchie en markt, in plaats van de ideaaltypische markt die extreem decentraal functioneert.

Het belang en de moeilijkheid van de expliciete verantwoording van het besluit

De expliciete verantwoording van het besluit is belangrijk voor de democratische verantwoording en de legitimiteit en rechtmatigheid. De besluitvormer moet transparant zijn over de argumenten voor zijn keuze. In het ontwerp van de watertoets, m.e.r. en SMB is dit ingebouwd via de wettelijke verplichting tot een motivatie bij het besluit (de waterparagraaf bij de watertoets). Het wateradvies en het milieueffectrapport maken de kennisbasis voor het besluit transparant. Deze rationele elementen zijn ook van belang om informele processen in te bedden in het institutioneel kader met formele procedures.

In de praktijk hebben de instrumenten een gebruikswaarde, die echter onvoldoende zichtbaar is voor niet direct betrokkenen. Dit is een centraal thema in de evaluatie van de watertoets. De betrokken actoren zijn zelf erg tevreden over de doorwerking van de watertoets, maar in de formele documenten is hier weinig van terug te zien. Het ontbreekt dan dus aan een expliciete verantwoording van het besluit. Het is blijkbaar lastig om het informele en communicatieve proces transparant te maken, of actoren voelen geen noodzaak daartoe. In het ontwerp van de watertoets compenseren de hiërarchische en rationele elementen de beperkingen van netwerkcoördinatie en de communicatieve benadering. In de praktijk komt dit nog niet tot wasdom.

Instrumenten als kinderen van hun tijd

De m.e.r. is in de jaren ’70 ontstaan, in de hoogtijdagen van rationele planning. Het was ook de periode waarin de ernstige milieuproblemen met wetgeving werden aangepakt. Vanaf midden jaren ’80 kwam er kritiek op het rationele en hiërarchische gedachtegoed, en meer aandacht voor de communicatieve planningsbenadering en andere vormen van sturing. In deze veranderende context heeft m.e.r. grotendeels zijn conceptuele basis behouden. En ook SMB, alhoewel wat flexibeler, is op diezelfde basis gefundeerd.

De watertoets is een kind uit de huidige tijd, waarin netwerken en communicatie meer op de voorgrond staan. Dit kenmerkt ook de wijze waarop de nieuwe benadering in het waterbeleid als geheel is geïmplementeerd. Binnen het bestaande formele institutionele kader zijn nieuwe vormen van samenwerking ontstaan, zoals de samenwerking tussen overheden in het kader van het Nationaal Bestuursakkoord Water. Echter, tot nu toe blijft het vooral een proces tussen overheden. Burgers, maatschappelijke organisaties en bedrijven staan op afstand. Dat is een beperkte interpretatie van

waar het bij netwerkcoördinatie en de communicatieve planningsbenadering eigenlijk om gaat. De vroegtijdige, proactieve betrokkenheid van waterbeheerders in de ruimtelijke planvorming is een belangrijke stap, maar er moet meer gebeuren om van een volledige vermaatschappelijking van het waterbeheer te kunnen spreken.

Bijdrage aan de ontwikkeling van de watertoets

Het proefschrift wordt afgerond met de belangrijkste punten voor de verdere ontwikkeling van de instrumenten, drie voor de watertoets, en drie voor de m.e.r. en SMB. Het betreft aanbevelingen die gerelateerd worden aan dilemma's en moeilijkheden. De verbetering van het ene element in een instrument kan namelijk leiden tot het minder functioneren van een ander element. Of meer aandacht voor het één kan leiden tot minder aandacht voor het ander, omdat de beschikbare tijd en aandacht van actoren beperkt is. Er kan ook spanning zijn tussen aanbevelingen vanuit de theorie en haalbaarheid in de praktijk.

De drie belangrijkste aanbevelingen voor de ontwikkeling van de watertoets, en de gerelateerde dilemma's en moeilijkheden, bespreken we onder de volgende kopjes:

- meer transparantie naar derden;
- schakelen naar sterkere interventie indien nodig;
- watertoets naar een hoger plan.

Meer transparantie naar derden

Water zou een maatschappelijk issue moeten zijn, en niet vooral een zaak van overheden en experts. De watertoets kan bijdragen aan de vermaatschappelijking van het waterbeheer door meer transparantie te bieden naar derden, zoals burgers, maatschappelijke organisaties en bedrijven. Hiermee wordt het publieke debat gestimuleerd over wat het algemene beleidsprincipe van water als structurerend element in de ruimtelijke ordening daadwerkelijk betekent in concrete situaties van besluitvorming. Dit betekent dat de kwaliteit en de toegankelijkheid van het wateradvies en de waterparagraaf moeten verbeteren. Op die manier worden andere actoren uitgenodigd om mee te denken en hun ideeën in te brengen in de besluitvorming. Dit bevordert de kwaliteit van de besluitvorming en het vinden van innovatieve win-win oplossingen.

In de praktijk blijkt het voor de betrokken actoren nog niet zo makkelijk te zijn om het informele proces van samenwerking en communicatie transparant te maken. Het kan ook zijn dat de betrokken actoren daartoe geen noodzaak voelen, omdat zij de watertoets beschouwen als proces tussen overheden. Dit is niet vreemd, omdat het instrument tot nu toe altijd zo gepresenteerd is. Daarnaast is het bij de implementatie van deze aanbeveling van belang te voorkomen dat de watertoets zelf een proces van publieke participatie wordt. Dat is niet de bedoeling. Door transparantie willen we het publieke debat op basis van de watertoets bevorderen, en niet binnen het proces van

de watertoets zelf. De huidige constructie, met de positie van de waterbeheerder als de crux van het instrument, moet behouden worden.

De praktische implementatie van deze aanbeveling is heel simpel en makkelijk uitvoerbaar, maar kan veel in gang zetten. We stellen voor dat de waterbeheerders hun wateradviezen beter openbaar maken. Daar kunnen ze nu mee beginnen. Als waterbeheerders weten dat hun advies toegankelijk moet zijn voor een breed publiek, met het achterliggende doel voor ogen, zullen zij waarschijnlijk meer aandacht besteden aan de kwaliteit van het advies. Met een duidelijk gemotiveerd wateradvies zal ook de kwaliteit van de waterparagraaf waarschijnlijk verbeteren. Het voorgaande stelt derden in staat om hun eigen mening in te brengen over water in het ruimtelijk plan, bijvoorbeeld in interactieve processen of inspraakprocedures. Uiteindelijk zouden burgers, bedrijven en maatschappelijke organisaties zelfs druk kunnen gaan uitoefenen op besluitvormers om het waterbelang goed mee nemen, via de media en via rechtszaken. We verwachten dat dit vooral zal gebeuren bij de grotere en controversiële ruimtelijke plannen. We kunnen niet met zekerheid zeggen dat dit in de praktijk zo zal werken, maar het is tenminste de moeite van het proberen waard.

Schakelen naar sterkere interventie indien nodig

Met het ontwerp van de watertoets kunnen actoren slim schakelen tussen verschillende manieren van sturing. In de praktijk wordt deze mogelijkheid echter niet goed genoeg benut. Vertrouwen en samenwerking in het informele en vroegtijdige stadium van planprocessen is een goed uitgangspunt. Maar waterbeheerders moeten wel in de gaten houden of dit informele proces inderdaad voldoende effect sorteert in de besluitvorming. Zo niet, dan zouden ze serieus moeten overwegen om gebruik te maken van de formele vangnetten later in de procedure. Eerst een kritisch wateradvies, en daarna zonodig gebruik maken van de wettelijke mogelijkheden voor inspraak, bezwaar en beroep in de ruimtelijke planprocedure. Waterbeheerders kunnen de resultaten van de watertoets ook, voor zover juridisch mogelijk, koppelen aan het al dan niet verstrekken van een vergunning. Of ze kunnen in hun argumentatie sterker inzetten op het kostenveroorzakingsbeginsel in relatie tot compensatie. Al deze mogelijkheden voor sterkere interventie zijn al beschikbaar.

Bij de implementatie van deze aanbeveling is het van groot belang om voor ogen te houden dat vertrouwen, samenwerking en communicatie de effectieve kern van de watertoets zijn en blijven. Hier willen we niet op inleveren. Dit is echter wel een risico bij een sterkere inzet op hiërarchische vormen van interventie. Het is onwenselijk dat er een situatie van wantrouwen ontstaat, waarin initiatiefnemers vooral handelen vanuit angst voor juridische sancties. Dit leidt tot defensieve uitkomsten van besluitvorming, in plaats van synergie en win-win oplossingen. Aan de andere kant kan een weloverwogen gebruik van hiërarchische sturing, afhankelijk van de concrete situatie, initiatiefnemers juist stimuleren om waterbeheerders vroegtijdiger en beter te betrekken in de ruimtelijke planvorming. Initiatiefnemers zullen water dan beter in beschouwing nemen, om interventie aan het eind van de procedure te voorkomen. Het is dus zoeken naar de juiste balans.

Watertoets naar een hoger plan

Het verdient aanbeveling om de toepassing van de watertoets op het hogere, meer strategische niveau van ruimtelijke planvorming te verbeteren. Op dit niveau van locatiekeuzen en hoofdstructuren kan een goede discussie echt het verschil maken voor de ruimtelijke ontwikkeling van Nederland. Het blijft natuurlijk ook van belang om de watertoets toe te passen op het inrichtingsniveau van bestemmingsplannen.

Het kan lastig zijn om water op het strategisch niveau goed op de agenda te krijgen. Voor vertegenwoordigers van sociaaleconomische belangen is het gemakkelijker om vast te houden aan het idee dat locatiekeuzen wel gemitigeerd en gecompenseerd kunnen worden op inrichtingsniveau. We zijn er niet zeker van dat de waterbeheerders in staat zullen zijn om in zulke situaties effectief de ruimtelijke besluitvorming te beïnvloeden. Waterbeheerders hebben de afgelopen jaren hun proactieve rol op inrichtingsniveau goed opgepakt. Vanuit hun traditie van technisch en reactief omgaan met ruimtelijke ordening is dat een grote stap voorwaarts. Aan de ene kant stemt dit hoopvol dat ze de slag op strategisch niveau kunnen gaan maken. Aan de andere kant kunnen de tradities en de cultuur van de operationele beheersorganisaties te beperkend blijken, en zullen we naar andere alternatieven moeten kijken. Bijvoorbeeld naar de rol die Rijk en provincies kunnen spelen.

Zonder een uitweg te bieden voor dit dilemma, hebben we twee suggesties om de watertoets op een hoger plan te brengen. Ten eerste kan de watertoets sterker gekoppeld worden aan beleidsdoelen die vanuit hun inhoud al om een meer strategisch niveau van inzet vragen. In de huidige beleidscontext zijn dat bijvoorbeeld het nieuwe denken over waterveiligheid in de 21e eeuw (WV21) en het adaptatieprogramma ruimte en klimaat (ARK). Deze nieuwe ontwikkelingen in het beleid vragen om waterhuishoudkundige criteria van een meer strategisch karakter. Ten tweede kunnen de waterbeheerders, zo mogelijk samen met de initiatiefnemer, in de watertoets een meest watervriendelijk alternatief ontwikkelen voor ruimtelijke initiatieven, waaronder alternatieve locaties.

Bijdrage aan de ontwikkeling van de m.e.r. en SMB

De drie belangrijkste aanbevelingen voor de ontwikkeling van de m.e.r. en SMB, en de gerelateerde dilemma's en moeilijkheden, bespreken we onder de volgende kopjes:

- benutten van de mogelijkheden van vertrouwen en dialoog;
- ambiguïteit laten zien;
- bewust omgaan met het gebruik van macht.

Benutten van de mogelijkheden van vertrouwen en dialoog

Uit evaluaties blijkt dat samenwerking en communicatie in een vroeg stadium van besluitvormingsprocessen belangrijk zijn om milieu een volwaardige plaats te geven. Hierin ligt de primaire kracht van instrumenten als m.e.r. en SMB. Het informele pro-

ces is in de praktijk cruciaal om synergie en win-win resultaten te creëren en de potentie ervan kan beter worden benut. Dit is in principe mogelijk binnen de flexibiliteit die de huidige regelgeving biedt. Bijvoorbeeld in de vorm van samenwerking tussen het m.e.r./SMB team en het project/planteam, in de vorm van samenwerking tussen overheden, en in de vorm van samenwerking met burgers, bedrijven en maatschappelijke organisaties in een informele, open dialoog vroegtijdig in het proces.

Op dit moment staat de formele, rationele procedure teveel op de voorgrond bij m.e.r. en SMB, ook in discussies over deregulering van de instrumenten. Het is slimmer om ook andere wijzen van sturing en planning in dit soort discussies te betrekken. Het verdient daarom aanbeveling om op het niveau van het instrument (landelijk) meer de nadruk te leggen op de potentie van netwerken en de communicatieve benadering. Dit betekent dat de informele en open dialoog vroegtijdig in het proces het uitgangspunt is, en de formele procedure meer als vangnet wordt beschouwd. Dit helpt te voorkomen dat (vooral onervaren) actoren zich in de praktijk teveel richten op de procedurele eisen van m.e.r. en SMB, en daarbij het uiteindelijke doel uit het oog verliezen.

Aan de andere kant hebben coördinatie met regels en de rationele planningsbenadering zeker ook hun sterke punten die moeten worden behouden. Bijvoorbeeld ten aanzien van transparantie en democratische controle. Het verbreden van de conceptuele basis van m.e.r. en SMB met andere vormen van sturing en planning kan dus heel effectief zijn, maar kan ook spanningen creëren met de huidige sterke punten.

Ambiguïteit laten zien

We hebben geconcludeerd dat de m.e.r. en SMB ten aanzien van de pluraliteit van percepties in besluitvorming potentie en tegelijk een valkuil hebben. De potentie zit in de transparantie en nadruk op publieke betrokkenheid in de instrumenten, de valkuil in het verbergen van ambiguïteit door informatie als 'neutraal' te presenteren. We hebben dit gerelateerd aan een dilemma tussen theorie en praktijk. In theorie weten we dat kennis nooit compleet en neutraal kan zijn, en dat onzekerheid en ambiguïteit inherent zijn aan besluitvorming. In praktijk is het verleidelijk om deze complexiteit te reduceren.

Te weinig aandacht voor de ambiguïteit en de verscheidenheid aan percepties ten aanzien van de milieugevolgen reduceert de kwaliteit van besluitvorming. Bij de m.e.r. en de SMB moeten we er daarom voor waken dat waardegeladen kennis niet gepresenteerd wordt als neutrale of zelfs objectieve kennis. Het tonen van ambiguïteit aan besluitvormers zou in de praktijk als essentieel kwaliteitskenmerk voor de milieuinformatie moeten worden beschouwd. Op die manier wordt recht gedaan aan het waardegeladen en politieke karakter van besluitvorming.

Bewust omgaan met het gebruik van macht

Agendavorming en bewuste of onbewuste manipulatie van informatie treden op in de praktijk van m.e.r. en SMB. Dat is inherent aan besluitvorming in onzekerheid en ambiguïteit. Het afbakenen van alternatieven en relevante milieugevolgen in de scopingsfase is bijvoorbeeld heel duidelijk een vorm van agendavorming. Wat betreft manipulatie is het bijvoorbeeld onwaarschijnlijk dat de initiatiefnemer in zijn milieueffectrapport informatie zal presenteren die zijn initiatief om zeep helpt. Toch wordt in de context van m.e.r. en SMB weinig over macht gesproken. Onder de noemer van de kwaliteit van milieu-informatie wordt met m.e.r. en SMB echter wel degelijk geanticipeerd op het gebruik van macht.

In de huidige situatie bevat vooral de m.e.r. behoorlijk wat '*checks-and-balances*' om te anticiperen op macht, om een '*bias*' vanuit de initiatiefnemer in het milieueffectrapport te voorkomen. Denk bijvoorbeeld aan de toetsing van het milieueffectrapport door de Commissie voor de m.e.r., de acceptatie van het milieueffectrapport door het bevoegd gezag, en het voorleggen van het milieurapport aan het publiek. In de deregulering van de m.e.r. zullen deze *checks-and-balances* aanzienlijk gereduceerd worden. Het verdient aanbeveling om goed in de gaten te houden of de m.e.r. na deze deregulering, en ook de SMB, in de praktijk niet te naïef zijn ten aanzien van macht.

Abstract

In the urbanised delta of the Netherlands, it is important to take water-related and environmental impacts fully into account when deciding on socio-economic activities. This is the aim behind Water Assessment (WA), Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA). This thesis is centred on a comparative research of these policy instruments. The overall research aim is to explain the character and effectiveness of WA, EIA and SEA, and compare each of them with the others, also in relation to their broader policy context.

The method that is used in this thesis is positioned at the intersection of theory and practice. It is a method underpinned, philosophically, in Aristotle's *phronesis* and *apagoge*. *Phronetic* research is a context-dependent and reflective analysis of practice, which leads to contributing to that practice. *Apagoge* refers to retroductive inferences. The method used — the 'method of articulation' — is anchored by these core ideas, which form a base for the research. Articulation is a method that facilitates linking heterogeneous concepts from theory, not only with each other, but also with the practical phenomena that are being studied.

In the content perspective, the decisions in relation to WA, EIA and SEA, in which decision-makers balance the socio-economic interests of societal initiatives with the water-related and environmental interests, are conceptualized as 'trade-offs'. Uncertainty and ambiguity are inherent to such decision-making processes. In the steering perspective, the umbrella concept for three modes of coordination — markets, hierarchy and networks — is 'metagovernance', while in the planning perspective, the core concepts are rational and communicative planning approaches with a power complement.

This set of concepts is used to explain the similarities and differences among WA, EIA and SEA. Second, the effectiveness, strengths and weaknesses of these instruments are shown, based on several evaluations. Third, these instruments are then positioned within the historical context of Dutch and European water management, environmental and spatial planning policies. The thesis ends by offering practical contributions to the further development of WA, EIA and SEA in the Netherlands.

Biography

Judith Marjolein van Dijk was born on 28 March 1979 in Hoorn, the Netherlands. In the period 1997-2002, she studied environmental planning and design at Wageningen University. She graduated with distinction, with a major specialisation in spatial planning and a minor in integrated water management. Since 2002, she has been employed as an advisor at the Directorate-General for Public Works and Water Management [*Rijkswaterstaat*]. As such, she has worked on the implementation of a new, spatial approach to water management in general, and Water Assessment in particular. In the period 2004-2008, she combined her job at *Rijkswaterstaat* with this PhD research at Wageningen University.