The success of SEA in the Dutch planning practice

Arwin van Buuren

Sibout Nooteboom

2009

How formal assessments can contribute to collaborative governance

1. Collaborative governance and strategic environmental assessments

In our complex and fragmented society the relevant resources for realizing collective action are widely dispersed among various actors with various interests, ambitions, perceptions and value systems (Koppenjan & Klijn, 2004). That makes the realization of collective action far from easy. One of the resources that are fragmented and dispersed is knowledge. That makes realizing effective and legitimate collective action only more difficult. Knowledge not only is dispersed and fragmented, but also often controversial (because of different normative interpretations) and strategically mobilized and applied (Van Buuren & Edelenbos, 2004; Collingridge & Reeve, 1986). Controversial policy issues are not seldom surrounded by colliding reports and quarrelling experts. In addition but seemingly contradictory, there is also the problem of information overload. Much information – not always relevant or sound – fills the piles of public knowledge managers. To assess which knowledge is relevant and which is not, is a difficult job and requires careful boundary judgments about what constitutes the relevant systems (Gerrits, 2008). Managing knowledge in governance processes means thus not only bringing together different sources of knowledge out of different disciplines and sectors, but also managing agreement about knowledge and filtering out of the information overload the policy-relevant elements. Doing this in a context of strategic actors with conflicting interests, different world views and perceptions, seems to be an unfeasible job.

With regard to spatial programs and projects there are standardized procedures for the production of knowledge. We all know cost-benefit analysis and Environmental Impact Assessment. More recently the European Commission implemented the Directive 2001/42/EC on the Strategic Environmental Assessment. These instruments are often applied in the context of controversial

and complex spatial and infrastructural projects with a high chance on knowledge conflicts and report wars.

At first sight these formal knowledge production procedures aimed at delivering "usable knowledge" seems to fit uneasily into goal-seeking, dynamic and non-linear processes of collaborative problem-solving. Knowledge production structured by formal procedures might be expected to have difficulties to incorporate the non-linear dynamics of a collective process of will-formation and the various needs and wishes of stakeholders. And, moreover, it is the question whether these procedures (with their emphasis upon the scientific precision, procedural purity, transparency and timeliness and legal validity) are able to facilitate processes of joint fact-finding and collaborative analysis in which stakeholders find each other in shared interpretations of reality. Successful collaborative planning puts very different demands on the production of policy-relevant knowledge such as impact assessments. Important criteria for usable knowledge in governance processes are its interactive production, its flexible character to cope with the dynamics of collaborative processes, its openness to stakeholder involvement, its focus on close interplay between policy considerations and the interests of stakeholders and its facilitative function with regard to policy-oriented learning (Sabatier, 1988).

In this article, we address the question how Strategic Environmental Assessment can be used to facilitate a collaborative policy process. Therefore we analyze the application of two SEAs in the context of collaborative processes in the Netherlands. First we evaluate the Strategic Environmental Assessment of the Southern Sea Line, a proposed high speed rail connection between Amsterdam and the Northern provinces of the Netherlands. In an evaluation conducted for the Dutch Ministry of Transport and Public Works (Van Buuren & Nooteboom, 2006) we concluded that SEA had fulfilled an important role in the process of decision-making and of frame reflection. These findings are supported by another case study, the SEA carried out for the deepening of the Schelde Estuary to safeguard the accessibility of the Port of Antwerp (carried out as part of a Ph.D. thesis: Van Buuren et al. 2004; Van Buuren, 2006). Their comparison gives more in-depth insight into the way in which and under which conditions SEA – as a formal procedure of knowledge production – can support and facilitate a process of collaborative decision-making.

These case studies were conducted in a somewhat different way in which the authors had different roles. The evaluation study of the Southern Sea Line was an ex post evaluation in which

we relied on interviews with key players and document analysis. We discussed our findings during an expert meeting with a sample of key representatives from the project organization and their peers to check their validity. In addition we spoke several times with the SEA project director to further refine our findings. The case study of the Scheldt Estuary was conducted in the same period as in which the SEA was carried out. We thus here were able to complement our interviews and document analysis with observations of meetings in which we could get a direct insight in what happens and how this impacts on the process and the way in which consensus was realized. In both cases, the authors have been involved as independent scientific assessors with no personal stake in either the process or in SEA in general, and both are no practitioners of SEA in The Netherlands. The conclusions drawn in this paper are their interpretations of the cases.

In this article, we first describe SEA as created by the European Directive, its aims, procedure, content and the way in which it has to be carried out. Then we describe the Dutch context in which SEA is implemented. Third, we analyze the demands for knowledge production in collaborative policy processes which are characterized by many stakeholders with diverse interests, perceptions and strategies. After this we present our case studies which show how SEA is implemented in the Dutch context. From these two rather controversial cases we learn how SEA is applied in more or less successful collaborative governance processes. We conclude that SEA can facilitate collaborative governance processes if the users translate its principles in accordance to the general principles of successful collaborative governance and joint fact finding. Finally, we formulate some general principles for knowledge development and arrangements that contribute to successful collaborative governance.

2. Purpose and structure of SEA

The EU Strategic Environmental Assessment (SEA) Directive (2001/42/EC) complements the EIA Directive (85/337/EEC). The EIA Directive requires assessing major construction projects likely to have an impact on the environment on these possible impacts. However, to deliver the required detailed assessment, an EIA needs to take place at a stage when options for significant change of the proposed project are often limited. Decisions about the site of a project, or on the choice of alternatives, may already have been taken earlier, for example in plans for a whole sector or geographical area. In European EIA jargon, government decisions that set a framework

for project decisions which require an EIA, limiting the scope for projects, but which are not these decisions themselves, are called PPPs (policies, plans and programmes). PPPs (can) have significant environmental impacts because they foreclose possibly environmentally better project alternatives, but an EIA is not required at this stage of planning and thus these impacts were not assessed.

The SEA Directive plugs this gap by requiring the environmental effects of a broad range of plans and programmes to be assessed, so that they can be taken into account while plans are actually being developed, and in due course adopted (Commission's Guidance on the implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment, undated, http://ec.europa.eu/environment/eia/sea-support.htm; Nooteboom 2000, see box 1).

Please insert box 1 about here

EIA and SEA define largely similar processes that must be followed. The public must be consulted on the draft plans and on the environmental assessment and competent authorities must take their views into account when a decision is made. The difference is mainly in the type of decision to which the assessment is linked: project level or strategic level. Often concrete project decisions take previous strategic decisions into consideration, which is called tiering (see box 2). The SEA Directive is therefore successful if different projects are proposed due to different previous strategic decisions, and if that difference has been created by an SEA.

Please insert box 2 about here

Before the SEA Directive was adopted in 2001, there have been discussions about its added value. Is the real problem that strategic decisions are not environmentally sound, and if so does it help to assess their impacts? Would it not create bureaucracy if a project is assessed at several stages of it planning process? Several empirical studies contributed to taking away doubts (e.g. Therivel & Partidario 1996, Nooteboom 1994, Lee & Hughes 1995, Sadler & Verheem 1996, Dom 1997, Nooteboom 2000). Nowadays, the usefulness of SEA's mechanism is widely

accepted, but it seems to remain difficult to clearly show the benefits of SEA (e.g. Jones et al 2005; Wallington e.a. 2007).

The SEA Directive, adopted in 2001, should have been implemented into national legislation by 2004, but in the Netherlands it was only done in 2006. The Environmental Management Act and its subsidiary EIA Decree have been amended to introduce the 'plan-EIA' as it is now called in the Netherlands (Ministry of VROM 2006). It was anticipated that tiering of SEA and EIA would frequently occur. The mandated procedure was almost the same as minimally required by the SEA Directive, and it was applicable to dozens of formal types of plans and programs, based on laws from spatial planning, water management, drinking water management, environmental (waste) management, transport management, and nature conservation. Certain development projects may require over 4 SEAs and an EIA before they could be built. Yet, this was not seen as causing delays, since these SEAs were linked to planning decision procedures that cost an equal amount of time and could run parallel. In certain cases even parallel running of different planning processes with associated SEAs / EIAs would be an option.

The formal steps of SEA are (Ministry of VROM 2006):
1) Public announcement of the start of the procedure;
2) Consulting administrative bodies that would be involved in the implementation of the plan, about the scope and detail of the environmental statement;
3) Writing the environmental statement (termed 'plan-EIA');
4) Environmental statement and draft plan: display in public places, advice by the public, in certain cases transboundary consultation and consultation of Netherlands Commission on the EIA;
5) Final draft plan, motivated on the basis of the environmental impacts and consultations;
6) Publication of the plan;
7) Evaluation of impacts after implementation.

Except the announcement at the start and the involvement of the NCEIA under certain conditions, this is equal to the requirements of the SEA Directive. An implication of the public announcement is that a planning process should stick to the problem description in the

announcement. If, in the process, new alternatives are introduced that affect future development projects, the procedure has to start over with a new announcement. In several respects, the procedure is simpler than the EIA procedures (in particular with regard to public scoping, where the public is invited to make suggestions about the scope for impacts and alternatives and a formal decision about the scope is made, is not required). VROM (2006) indicates that generally in SEA the impacts should be described with less detail, since detailed decisions and EIAs will follow.

The SEA thus can be seen as a relatively open procedure meant to enhance the quality of spatial decision-making. It functions as a procedural guarantee for making an environmental assessment in the early phases of a planning process. As a procedure it has to be interwoven with the process of decision-making, either government-centered or collaborative oriented.

3. Context of application in Dutch planning practice

To understand how SEA is applied in the Dutch context, it is important to have some insight about that context itself. Elements of SEA have been used for decades where politicians would not approve a plan without consideration of wider impacts, or under the regime of EIA (which often was applied in tiers). The Dutch planning and assessment practice has been shaped by that.

As citizens are concerned about adverse impacts, their voice has been heard in the democratic debate at least since the 1970s (e.g. Nooteboom 2007). Ever since, the government has to organize a decision-making process which is open for stakeholders to participate to some degree before it allows a large project in order to convince parliament (or at lower scale an elected council) that this option would get enough societal support. This approach fits in what can be called the consensus-oriented governance style of the Netherlands (Kickert, 2005). Often, parliament requires appropriate economic argumentation that an infrastructure will generate returns for the country (especially after the influential report of the Temporary Parliamentary Committee Infrastructural Projects, 2005), as well as that adverse impacts are adequately mitigated or compensated.

The synonyms 'appropriate' and 'adequate' are intrinsically political, and have crystallized in a process of learning-by-doing, where some custom or culture of planning, decision-making and best practices emerged. If the government follows these procedures, appropriate plans are

supposed to develop. However, another problem is created. Each planning situation is different, and procedures have no clear criteria for 'appropriateness' based on measurable characteristics of all plans. Appropriateness of the content (the design, cost, direct and indirect impacts), still has to be determined in a process of negotiation and consensus-building, and the second best option the law makers turned to, is to regulate that process and to formulate procedural criteria which have to be satisfied. Again, more and more detailed procedures emerged through jurisprudence and 'unofficial manuals' and other interpretation aids, to cope with different situations and to safeguard the soundness of this process. Sometimes, like in the case of air pollution, generic standards of content could be used, but in most cases the debate was related to more subjectively evaluated impacts. In circles of Dutch environmental assessment professionals, the tendency that a choice once made sets a new 'law' for other, uncomparable, situations as well is often referred to as 'juridification' ('legalization') of EIA, and 'juridification' of SEA is often seen as a real threat. This would mean that it would not be enough to do ones best to develop and assess alternative plans, but a judge would decide which quality is required, and this would occur in hindsight during appeals. No judge will informally indicate in advance how he will apply the law, and this gives rise to a fear of judges (in practice the Council of State), who might declare plans unvalid, forcing to restart planning procedures. Such issues are frequently discussed in meetings organized by the Dutch environmental assessment group of the European Federation of Associations of Environmental Professionals (EFAEP) (see www.vvm.info and papers in their Dutch magazine Milieu.).

As indicated above, the practice in the Netherlands requires a process where reasonable alternatives are carefully reviewed, taking account of mitigation and compensation. Democratic support for this process of design and assessment is dominated by a limited number of influential NGOs. These are involved in most of these processes, and observe how other, often more local or extreme groups are involved in individual planning processes. They usually have no interest in frustrating the process unless they want to make a case that a certain design and assessment practice is insufficient. Once in a while they show their teeth, but they are open for negotiations, whilst the more extreme NGOs have less political influence and resort to legal appeals. Such patterns have been described by Van Eeten (1999) and under the name 'green polder model' by Weggeman (2003).

Within this context civil servants and governing politicians seem to make different estimates about the appropriate timing of a formal SEA. Where a proposed strategic decision (a plan or programme) may require an SEA, politicians try to wait as long as possible with conducting a SEA. Only when the planning process is in a fairly advanced stage, politicians ask for a SEA because it is obliged before implementing the decisions. In such a case, the SEA is not primarily intended to develop broad support but only to comply with the legal requirements for spatial planning decisions. It is only executed when politicians are convinced about the necessity of the proposed solution and that there is enough political and societal support for approval. The SEA is not intended to improve the quality of the deliberation and the ultimate decision. Normally such an SEA only results in minor adjustments of the original proposal or in the total refusal of it.

However, a long process may precede this stage, where different governments are looking, with NGOs (so-called polder model) and citizens involved, for appropriate courses of action. Elements of SEA will often be applied at these preceding stages, but authorities usually fear to suggest they would undertake a formal SEA since that might have legal implications for them, whilst they often prefer to keep their hands free as long as possible. However, the arenas in which these plans are developed are well aware of formal procedures that still must follow, and generally they are aware of the possible reactions of citizens. The SEA and EIA procedures therefore have a 'preventive effect': they work before they start (De Jong & Nooteboom 2002). The precise moment for starting official procedures is always difficult to choose, and sometimes the proponents are too optimistic about the support they can mobilize, and the procedure reaches no decision.

Civil servants, on the other hand, more often prefer the earlier start of formal SEA to develop a widely supported decision and to structure the public decision about possible actions before a single one is selected and subjected to a SEA. Then the reason to apply a SEA is to create a widely supported and therefore 'implementable' strategy. In that case an SEA is started up before the developer knows what kind of decision should result, and then they intend to use the SEA to develop a widely supported decision and to structure the public discussion about possible actions before a single one is selected and subjected to an SEA. In that case the procedure is used to activate the population and to see if a plan would solve any problems.

It may be concluded that the planning procedures in general, and (the timing and way of implementing) environmental procedures in particular are subject of debate. SEA is applied in a context of controversial planning processes in which actors with different interests and different frames try to influence its outcomes and the way these outcomes are used in the decision-making process.

In general, policy processes are highly dynamic and erratic (Teisman et.al. 2008). Due to unexpected but highly impacting change events, fast changing preferences, interfering policy processes and institutional changes decision-making processes about infrastructure shows unpredictable dynamics and often end in totally other outcomes then at the beginning expected. These dynamics seem to be difficult to combine with the tightness and predictability of legal procedures. When new actors enter the policy arena and bring new ideas to the table or when actors reach a bright deal between diverging ambitions (although totally different from the policy alternatives as defined at the start of a process) research questions can lose their relevance and procedures may become obsolete in the eyes of these actors. However, in legal terms, a sound underpinning of these deals is still required, and there will usually be outsiders who do not profit, and would appeal in court.

In this context, SEA (as any other procedure) may seem to be a troublesome obstacle to realize the necessary flexibility. A procedure is inherently focused on values as predictability, equality, legal security, procedural purity and preventing deviations. On the other hand, this is just the way the SEA procedure is implemented. It may start with a wide problem description, and if that problem description still does not suffice where planning processes stray in unexpected directions, it may be adapted in an official act by governing politicians. Where other environmental regulations are rigid (most notably in The Netherlands, regulations for air quality and nature conservation), SEA in theory offers flexibility as long as arguments for choices are made transparent. In this article we therefore analyze two cases in which the procedure seemed to fulfill a valuable function in realizing a successful collaborative governance process which was both highly complex and controversial.

4. Collaborative decision-making and demands on knowledge production

What can SEA potentially contribute to successful collaborative planning and policy-learning? To know this we have to describe the essence of collaborative planning. Collaborative planning

or policy-learning is aimed at realizing consensus between actors with diverging points of view. When we look closer at these points of view we can distinguish three elements which constitute the fundamental differences in these points of view (Van Buuren, 2006; Van Buuren & Gerrits, 2008). First of all they contain specific ambitions based upon their interests (Scharpf, 1997). Second they contain a deeper level of world views, value systems, interpretation schemes (Sabatier, 1993; Fischer, 2003). But finally, this divergence is also reflected in the facts they accept, mobilize or ask for. So, collaborative planning has to do with realizing consensus:

- on the level of the ambitions, the interests of stakeholders;
- on the level of their frames, their interpretation schemes and (core) beliefs;
- on the level of the factual knowledge they mobilize, accept and want to take into account (Van Buuren, 2006; Van Buuren & Gerrits, 2008).

When consensus about ambitions is realized, new factual insights or uncertainties easily can give rise to new questions and controversies. Consensus about frames and beliefs oftentimes easily evaporates when the concrete translation has to be made with regard to the question 'what are we going to do' and thus a selection of ambitions has to be made. And of course, consensus about facts is neither enough to realize a compromise between conflicting ambitions, nor to realize consensus about interpretations and frames.

For knowledge production in general and knowledge procedures as SEA in particular this means that it has to fulfil different functions. It has to facilitate the negotiations between protagonists of different spatial ambitions. It also has to stimulate a process of frame reflection and policy-oriented learning in which stakeholders are invited to reflect upon their policy beliefs and problem definitions and to adjust their frames. And thirdly, it has to enable a rational choice between different policy alternatives based upon a credible factual underpinning which is able to increase the legitimacy of the ultimate policy choice.

For collaborative decision-making these knowledge functions are essential. Knowledge which is widely contested or discredited cannot serve to underpin a policy decision. Knowledge which remains colliding with the dominant problem perceptions of stakeholders can become contra-

productive and makes policy decisions only more controversial. And knowledge which is not able to help by making a choice between alternative options is ultimately useless.

So, knowledge production for collaborative policy processes has to fulfil certain requirements, with regard to these different levels of discrepancy. The most important are:
- it has to be independent, credible and univocal (Sarewitz, 2004; Twaalfhoven, 1999; Clark & Majone, 1985);
- its production process has to be open to stakeholders, inclusive, democratic and transparent (Van Buuren, 2008; Woodhouse & Nieusma, 2001; Guston, 2004);
- it has to be serviceable (Jasanoff, 1990) and has to concentrate on the available options in order to facilitate a deliberate policy choice (Cross et al. 2000; Mills & Clark, 2001).

These requirements can be translated into a set of concrete indicators that can be used to assess the usefulness of policy-relevant knowledge (and the process in which it is produced) for solving controversial policy problems (Van Buuren, 2006).

With regard to agreement about ambitions the following indicators can be formulated:
1. the produced knowledge enables an integral weighting between a broad set of options valued as relevant by the stakeholders;
2. the produced knowledge respects the core interests of participating actors.

With regard to consensus about interpretations, indicators for useable knowledge are:
3. knowledge provokes frame reflection and policy-oriented learning;
4. knowledge integrates various problem perceptions and definitions.

With regard to the acceptance of the facts, indicators for acceptable knowledge are:
5. its quality is proven by an external quality check;
6. its validity and credibility is accepted by the stakeholders.

The extent to which it is necessary that all these criteria are met with the produced SEA can differ. Generally we can say that the more controversial the proposed decision is, the more important it is that all criteria are met.

Performance on most of these indicators cannot be enforced by means of formal procedures, since there is no given criterion that may be applied. The SEA Directive seems to guarantee 1 and 5, but seems to neglect the other indicators which are aimed at the more process-oriented functions of knowledge (De Bruijn & Ten Heuvelhof, 1999). These criteria have to be fulfilled in the process and a procedure may either enable this or hinder it.

In the following cases we want to analyze the function SEA fulfils in realizing collaborative decision-making on highly controversial spatial programs. After a short introduction of the case we look after the way in which the SEA in these cases is used to realize agreement about ambitions, frame convergence and undisputed facts.

5. The Scheldt Estuary: a controversial deepening

The Western Scheldt is the last remaining open connection of the Western Delta to the Northern Sea and forms the access for the Port of Antwerp, the second largest port of Europe. The first part of the estuary is located in the Netherlands. To facilitate the growth of the port, the fairway needs to have sufficient depth to enable the access of the ever growing containerships. In 1997 the Port of Antwerp received permission to deepen the fairway as a result of a fifteen years lasting stalemate negotiation process between Flanders and the Netherlands. In 1998 they made a new request for a further deepening. To prevent a second time consuming and paralyzing process, both governments decided to invest in a collaborative process in which a Long Term Vision for 2010 was prepared. This Vision included three ambitions:
- to guarantee the accessibility of the Port of Antwerp;
- to improve the ecological quality of the estuary;
- to safeguard the safety against floods in the estuary.

The Vision itself was not a binding spatial plan, and therefore it did not have a force of law (and it did not require formal assessment). It was decided that before implementation, it was to be elaborated into three detailed Development Plans (one for 2010, one for 2020 and one for 2030) which has to be laid down in bilateral treaties and implemented with national spatial procedures e.g. in the Netherlands the Route Law.

In the first Development Plan the deepening of the fairway got an important position. Because of the nature of the decision both governments decided to carry out a Strategic Environmental Assessment which however was not obliged at the time, to study the effects of different possible packages of measures to enlarge the fairway capacity, to improve nature and to safeguard the safety against floods (see for an extensive case description: Van Buuren, 2006; Gerrits, 2008).

Important conditions for the SEA were its budget and time frame. However, there was also the need for unequivocal research outputs about the feasibility of the ambitions of the Long Term Vision (which lacked serious factual underpinning). A difficult search to optimize within these conditions started. The Vision can be seen as an exercise to see if the two governments could agree. When they discovered that this was possible, they wanted to continue by involving both parliaments and the public. Since the three envisaged development plans have the status of a spatial plan, they needed to undergo an SEA. This was used to enhance the transparency of the overall planning and assessment process, where knowledge was used in many other ways than only to produce a formal environmental statement.

First of all a carefully designed process was organized in which the Problem Outline was formulated. This Outline had to fit in the Long Term Vision and served as starting point for the SEA and Social Cost-Benefit Analysis (which are different requirements in The Netherlands). Both public and private stakeholders were asked to give their input to the Problem Outline. In mutual interaction with that process, the Public Announcement of the SEA was prepared. The involved governmental agencies (the ministries of both countries and the regional implementation and management agencies) worked together with stakeholder representatives to realize a broadly shared document. Only the agricultural interest groups were not involved, which ultimately appeared to be an important shortcoming.

The process of negotiation about the measures which will be part of the Development Plan was carried out parallel to the research activities. There were well-organized links between both: when important negotiation steps were taken about, for example, nature compensation areas, these steps were reflected in the research. However, to prevent the discussion to become more politicized (nature development is very controversial in the Zeeland province due to the collective sentiment that it would decrease the safety against floods), in the SEA only 'example projects' were researched: a couple of possible locations without making an ultimate choice between them. (In this way, EIA was postponed to a later decision phase).

The SEA played an important role in solving the stalemate controversies with regard to the deepening and the ecological state of the estuary. By incorporating the suggestions of the Port of Antwerp Expert team about 'morphological dredging' (an idea to artificially develop intertidal areas by dumping dredged materials on specific locations in the estuary) the SEA successfully bridged the gap between the Port Authorities and the Dutch management authorities. The latter were very critical about this suggestion but when the SEA concluded that it could be a valuable idea they became willing to explore it further by way of an in situ experiment.

To further enhance the reflective role of the SEA, the whole research process was accompanied by working groups (composed of expert representatives of the various stakeholders, both governmental as societal). Draft reports were presented to the OAP [Board of Advising Parties] which was authorized to write an influential advice to both ministers about the Development Plan. This Board was composed of regional authorities and representatives of interest groups. It was regularly informed about the progress of the research. Special sessions were organized about key decisions in the research process to involve all stakeholders.

Much effort was invested to prevent discussions about the facts. The SEA was subject to a critical review of a committee with members from the NCEIA and Flemish EIA experts. During the research process, an Expert Group (composed of independent experts and expert representatives of public and private stakeholders) was involved and was asked to discuss about its course and content. The SEA itself was prepared by a multidisciplinary consortium of morphologists, ecologists, and hydrologists, and their work was integrated by a consultancy firm experienced in integrating disciplinary results into coherent multidisciplinary research reports. This firm organized its own quality checks, as did the various subcontractors.

Analysis

Agreement about ambitions
The SEA contributed in an important way to agreement about ambitions. It made visible which combinations of measures were both feasible and effective in the light of the Long Term Vision. It showed that a further deepening was possible without seriously harming the estuary, but that investments in nature development were necessary, regardless the decision about deepening. In combination with the Social Cost-Benefit Analysis it became clear that a broad package of

measures was beneficial to the socio-economic development of the whole region but that nature compensation was necessary to safeguard the long-term viability of the estuary.

Due to the strong interconnections between the negotiation track and the research track the involved actors recognized their interests and goals in the research questions. They were heard in the Public Announcements (and in the parallel running Problem Outline) and were able to express their desires and formulate their core values during the research process because they had representatives in the working groups. An important note however has to be made. During the whole process the agricultural organizations were only involved to a limited degree. They thus could not express their core values in such a way that they were taken into account in the scientific search towards feasible policy options for nature development. This became a major problem when the Development Plan had to be worked out in concrete projects, especially with regard to the giving agricultural land back to the sea. Afterwards it may have been better if the agricultural representatives had been included in the participative process.

Consensus about interpretations

Due to the close involvement of stakeholders in the process of drawing the SEA they were provoked to reflect upon their own frames. They were able to influence the choices made in the research process but this also entails the informal 'obligation' to take the results seriously, because these results were more or less their own results. This was an important contribution to the process of policy-learning.

A second important contribution of the SEA to realize such policy-learning has to do with the research approach. Both the sceptical interpretation about the impact of human interventions and the more optimistic interpretation about the possibility to influence the development of the estuary in a positive way were integrated in the research approach: a mathematical approach (used by the sceptics) and an empirical approach (used by the optimists) were combined. Thus various problem perceptions were included in the SEA.

By doing so it became possible that the deeply rooted controversies between the different frames were more or less bridged by the outcomes of the SEA. The strongly negative feelings about a deepening were weakened due to the insights that a deepening was not as harmful as assumed by actors before. At the same time the necessity of nature projects was acknowledged by almost all actors because of the convincing research findings about the deterioration of the estuary. These

results were accepted due to both the close involvement of stakeholders and the external quality checks.

Again we have to made an important comment: the agricultural interest groups and the inhabitants of the Dutch province of Zeeland were not involved in this research process and after the determination of the Development Plan their resistance became public. Their absence in the process makes the implementation of the Plan very difficult and necessitates a recurrent confirmation of the quality of the research results.

Acceptable facts

After the intensive research process a SEA resulted which was not subject to intensive discussions. This was an important objective of the project organization. The quality of the research had to be totally unchallenged not to frustrate the cross bordering discussion about the ambitions enormously. Departing from generally accepted facts, the policy discussion about the implementation of the Development Plan could be continued. This was especially realised thanks to the various external quality checks. Besides the quality provisions as mentioned in the case description the project organization organized an international peer review of the SEA to organize an extra guarantee for its quality (besides the evaluation of the Flemish-Dutch EIA Commission). This external peer review reconfirmed the quality of the research results. In the OAP none of the governmental actors and stakeholders disputed the research results. Due to the transparency and proven quality they accept the SEA as valid and credible

However, here again we witness the importance of involving all actors in the process. After the decision to work out the Development Plan into concrete projects the agricultural sector (and with them the citizens of Zeeland) started to protest against the nature compensation projects. They also cast doubt on the research results about the necessity of these projects. Although these doubts were not taken seriously by the authorities they were important causes of a lack of legitimacy for the nature development projects and complicate the implementation considerably.

6. The Southern Sea Line: a disputed railway

The Southern Sea has been a large bay inside the Netherlands. It became Lake IJsselmeer after its damming in the early 20th century. After that, a significant part of it has been reclaimed. Today, it has given its name to a high speed rail connection (under the Dutch abbreviation: ZZL) that was

envisaged to connect the Western Netherlands with the north. The ZZL was an outcome of negotiations between the north and the national government about investments needed to boost the lagging economy of the north. It was supposed that the ZZL would lead to such a turn. The government reserved a significant budget, and in the mid 2000s the Cabinet, headed by the Minister of Transport and Waterworks, assigned a project study to prepare a draft "structure vision". This is a formal strategic spatial decision, in this case about a large project. For this decision, an SEA was required, which became one of the first in The Netherlands which followed the EU procedure for SEA. In 2006 the Ministry assigned an evaluation of that SEA (Van Buuren & Nooteboom, 2007), which delivered the raw material on which this case study is based.

A project bureau, composed from different ministries, started off with the official assignment to develop an investment to "improve the attainability of the north from the Western Netherlands by means of a fast public transport connection". All formal SEA steps could be intertwined with steps that belonged to the formal procedure to develop a structure vision. Where environmental impacts normally already would be investigated and reported as part of the documentation of the structure vision, the SEA procedure created higher expectations about the way environmental impacts would be assessed and integrated in to vision development. This was triggered by the requirements to announce an SEA at the start of the planning process, and to produce a report explicitly about environmental impacts.

The project bureau decided to ask the Commission on EIA to advise about the scope of the EIA, and later about the quality of the report, which was, and still is, not a legal requirement. Within this context, a document was circulated among authorities and in public, stating the intentions of the project bureau, and inviting feedback as regards the desirable scope of the SEA report, including alternatives to reach the project's objectives, and relevant impacts. Dozens of meetings were organized and hundreds attended as part of this consultation. Based on this feedback, a scoping document was prepared and circulated, and the actual SEA was written on that basis. Next to the SEA, also a social cost-benefit analysis was prepared, as well as a spatial analysis, and stakeholders in the north were asked to participate in the financing, since the national contribution would not be sufficient. These parallel processes were all run by public and private consultancies, whilst the project bureau coordinated the alternatives and impacts to be assessed. Several alternative technologies and routes for the rail line were developed, assessed, and compared. SEA specialists met with municipalities along all of these routes. A nearly final SEA

and draft structure vision were circulated among stakeholders, and results were taken into consideration. When the SEA was ready, a year after the start of the project bureau, it was submitted to Cabinet which chose in April 2006 an alternative that had not yet been elaborated in detail: the so-called "transition alternative". This alternative did not entail any major new infrastructure, but rather a package of other investments in the north. Cabinet believed that it had been shown that a high speed rail line was not economically efficient, taking environmental impact into consideration. This draft structure vision was published along with the SEA and stakeholders and the public were asked for feedback. Public hearings were organized in all relevant provinces, and hundreds of written reactions were received. All of these steps, the envisaged process, and all relevant documents, were circulated amongst interested groups and published on the internet.

Strikingly, millions of euros had been spent on developing and assessing alternatives, in consultation with many stakeholders, for a project that had not been selected. Such detail apparently had been necessary to decide if the project would solve any problems (and not create too much new problems), or not. Interviewed professionals representing many stakeholders indicated in general that this money had been well-spent, once Cabinet had decided to investigate the Southern Sea Line. The SEA had in their eyes significantly contributed to that learning process, as had the social cost-benefit analysis. It remains difficult to differentiate between the effect of the SCBA and the SEA on Cabinet's choice to refrain from building an infrastructure. It might be speculated that economic arguments were dominant, and incorporating monetary valuations of environmental impact did not change the balance. In its Structure Vision ZZL (Dutch Cabinet, 2006) does not refer specifically to environmental impacts are reason for not choosing a rail line, but its does indicate it has adverse impacts in the areas crossed, whereas non infrastructure option have benefits for climate change. An argument of rail being less energy intensive than road transport did not play any visible role (it was not widely believed anymore that its lesser contribution to CO_2 emission is a valid argument in favour of rail transport). In terms of the political process, some regional authorities and NGOs (often in favour of a ZZL because trains bring sustainable mobility and growth) probably started to doubt its sustainability, since any available track causes severance of sensitive areas. Pressure on Cabinet to pursue that option therefore diminished. The substantive argumentation plus the changed social pressures made Cabinet shift.

Analysis

Agreement about ambitions

Our findings suggest that the SEA has contributed to more alignment between the ambitions of stakeholders. In the first place the SEA was focused, as is usual in the Dutch tradition of EIA, on integral weighting of a set of options. First of all the alternative options had been developed in a number of parallel processes, most of which in several consultation rounds, but the project bureau ensured consistency among alternatives, which all were developed to optimize for specific objectives. The SEA itself produced tables for different impacts of the different options which were consistent with the weighting of environmental impact in the social cost-benefit analysis (SCBA), which estimated environmental impacts in monetary terms where possible. There was a mutual influence between the SEA team and the SCBA team, and in hindsight it is difficult to tell what kind of different SCBA would have turned out, had the SEA not been made. What is clear, however, is that these outcomes were wider supported since they had been coproduced between regional stakeholders and the project's SEA team. Our respondents speculate that some regional authorities may have changed their ambitions for a ZZL to some extent, and changed their lobby to Cabinet.

The core values of the various actors involved in the research trajectory were respected to a certain extent. Parliament demanded insight in the added value of the various solutions in the economic development of the Netherlands as a whole. The Northern provinces asked for information about travel times, employment growth and economic growth in their region. Nature organizations asked for certainty about the impact on the ecology. The project organization managed the research process in such a way that all these core values were taken into account.

Consensus about interpretations

The SEA contributed to extensive consultation where stakeholders felt taken serious, which was an incentive to reflect on their frames ("option so-and-so is good or bad"; the implicit criteria were stretched to oversee the interests of others). The public discussion about possible options for the Rail Line extended into many hearings and arenas where stakeholders and experts met. The project bureau actively tried to stimulate dialogue about these options between these groups. It

may have helped that there were many alternative routes, since at this stage residents knew the alternative "in their backyard" was only one of many, which made it easier to take part in discussions without getting emotional – there was a good chance that cooperation would contribute to the selection of another alternative.

The key to the Cabinet decision was not the comparison of rail line options, but their understanding that not any legally and politically feasible alignment or design, e.g. with a view to for example not affecting protected areas, would create enough economic growth in the north to justify this investment. A coalition had emerged many years ago and had successfully advocated a high speed line, but key members of this coalition apparently had shifted as a result of the activities of the project bureau, including the SEA. The dominant frame that the distance between the North and the Randstad Holland (the main economic area of the Netherlands) was the cause of the backlog of the Northern provinces was challenged by the research findings that shortening this distance by a high speed rail implies only a very marginal improvement of their economy.

It probably became clear to many that the true impediment of northern growth is not that it is isolated from the Western Netherlands. Their value system became more abstract, shifting from "we need high speed connections" to "we need a different kind of economic growth, depending less on passenger transport", due to the empirical findings that a 'transition alternative' would contribute much more to their economic growth. Insiders have indicated that it is likely that the SEA has contributed to this shift, despite the fact that its influence cannot be separated from other assessment activities that were not carried out under the SEA-regime (most notably the cost-benefit analysis).

Acceptable facts

The project organization invested much in the acceptability of the research and its results. By organizing wide-scale consultation about the research approach and the findings they were successful in taking into account the opinions of stakeholders in both the scoping of the overall research and the elaboration of the different alternatives to the routing and design. Nicely following the NIMBY-law, most citizens near the different alignments would have more nuisance than benefit from it. However, this was extensively addressed in the SEA, without going into the detail of every household, but providing just enough detail to derive a reliable cumulative impact along the whole line. The presented effects took standard mitigation measures and (in case of

effects on nature reserves) extra compensation into consideration. Since this is normal practice in infrastructure development, there was no disagreement about the relevance of such impacts.

Methods for SEA were generally based on EIA practices, but data were presented more cumulative to enable a strategic decision about the rail line. The EIA Commission is well known to have a stabilizing role on EIA data acceptance: the larger environmental NGOs have no interest in attacking the EIA Commission in one specific case, because they need it again in other cases. The same goes for the social cost-benefit analysis, where methods had evolved in a participative process between all main research institutes (Geerlings & De Jong, 2003). It became difficult for opportunistic parties to find institutes prepared to contest the SEA or the SCBA, in particular because both had been overseen by independent steering committees connected to many stakeholder groups. The second opinion of the independent Critical Review Team composed of high-qualified and generally accepted 'wise men' also became an important contribution to the status of the SEA.

7. Case comparison

Both cases show us how the SEA functioned as process facilitator, contributing to a collaborative governance process in which knowledge is produced not only for the sake of legal obligations but also to facilitate a process of frame reflection, consensus-building and joint fact-finding.

In our view SEA fulfilled invaluable roles in realizing more agreement about ambitions, more convergence between frames and facts which are more or less out of discussion. In the case of the Westerscheldt, SEA helped to give knowledge a self-standing position next to deep-rooted ambitions, and in that way it could influence the interactions which led to widely supported outcomes about a very sensitive decision. The research process provoked frame reflection and even reframing of deeply anchored frames between highly different actors. A small but highly affected group stakeholders (farmers) does not agree, and the question is whether a closer involvement of that group might have led to other outcomes or more support from their side.

In the case of the Zuiderzeelijn, ambitions and frames evolved throughout the SEA, next to the social cost-benefit analysis. It enabled the interactions that created better understanding of mutual perspectives and interests. The dominant problem definition (about the distance between the western Randstad area and the Northern provinces) was replaced by a much more balanced problem definition, due to the outcomes of the cost-benefit analysis but underlined by the SEA.

In both cases we saw how the rather broad research questions (in which the multiple ambitions of the various stakeholders were taken into account) contributed to the perceived usefulness of the research and enabled the integral weighting of alternatives. The provisions for stakeholder involvement in the research process contributed to a process of frame reflection and enforced them to take the research results serious (because of their own involvement in their accomplishment). The external quality checks contributed to the external trustworthiness of the research and prevented for difficult discussions about its validity.

8. Conclusion

From these two case studies we conclude that SEA can contribute to the success of collaborative governance processes. In both cases an SEA provided convincing insights which stimulated both a process of frame reflection and facilitated the process of selecting ambitions.

The condition which has to be fulfilled if SEA has to play this role, can be summarized in the six conditions mentioned in section 3. However, there are a couple of conditions which are also relevant to realize useful knowledge. These have to do with:

1. organizing flexibility to adjust the research questions when necessary;
2. organizing a fruitful interaction between processes of fact-finding and will-forming;
3. developing new roles for researchers;
4. formulating new requirements for the research process.

Regarding the first condition we can see in both our cases that the research was adjusted to new insights and new questions of stakeholders (for example the principle of morphological dredging or the transition alternative). This flexibility is necessary to maintain the relevance of the research to evolving problem perceptions and to facilitate the decision-making with help of applicable research data.

That implies that there has to be a fruitful interaction between the processes of fact-finding and will-forming. People within these two tracks have to meet each other and work together on joint products or even do things in the other track to safeguard the optimal interaction between both tracks. Only then the track of fact-finding can deliver usable knowledge and the track of will-forming will be really 'evidence-based'.

Some SEAs are initiated before the process of will-formation is started. Then the SEA functions as a point of reference for the discussion. However, the SEA is not able to serve the dynamic (often non-linear) process of will-forming and consensus building because its results are definitive. In other cases the SEA is used to prevent legal risks, and follow rather than influence the process of will-formation. In our view, this is a lost opportunity, since if the SEA serves as reference point more actors may easier agree on knowledge rather than contest it. Also, a legal process appears to attract more opponents than an informal process.

If an SEA follows or precedes the political process, it forecloses interaction between experts and stakeholders. The tuning of research and decision-making cannot be optimal when both processes are organized after each other without the possibility for reciprocal influencing each other.

Not only is the timing of the SEA important. Also the way in which it is carried out alongside the processes of collaborative and political decision-making is crucial for its success. The SEA may enable funnelling the search towards policy options by continuously and iteratively refining alternatives. This process is not only a research process but also a political process. An SEA can only achieve that if politicians and stakeholders are willing to confirm the selection steps made in the SEA process. On the other hand the SEA can be carried out in a dynamic way if it is open to adjustments to the original problem definition and if it is adaptive to new insights, political ambitions or societal wishes. In the past, the Dutch EIA Decree required that a scoping document would fix that at the start of the process, after which an adjustment would required starting a new procedure with considerable paper work and loss of time. It was often said that this is the implication of not using the SEA as reference point from the start of the process. Presently, most strategic decisions, where politicians might be willing to consider alternatives, are subject to SEA which doesn't require a scoping document, and most projects that still require an EIA, are enabled by plans that require an SEA. Interestingly, in these SEAs politically endorsed scoping documents are usually prepared and later adjusted voluntarily, which seems to create a lesser risk of delay. This illustrates the changing role of researchers. Dynamics and openness may be difficult for researchers to handle, but are also crucial for realizing a real collaborative governance process. Researchers should resist making detailed research projects that take long implementation periods. Rather, there should be frequent interaction between researchers and the planning team.

Collaborative governance thus puts extra requirements on the organization of the research and thus the SEA procedure. Following the exact letters of the procedure and grown customs of effects forecasting, as perhaps laid down in manuals, is not enough. The process must also invite deliberation and consensus, since otherwise there is a risk that the stakeholders feel abandoned, without much interaction between different stakeholders or quality checks and without clear connections to a process of negotiation about the planning ambitions. Unsatisfied stakeholder groups might turn against the plan. A more inclusive approach makes the procedure more resources-consuming and maybe more open for external influences. But by doing so the procedure is also more able to incorporate insights from stakeholders, is more open for peer review and is also more interconnected with the process of will-formation. Competent authorities have the opportunity to define the desired outcomes in a less specific way, and yet at the end of the day have more political gain by an unforeseeable plan that has more support.

Selecting the stakeholders who get the opportunity to participate is a critical activity. In both cases the stakeholder selection was done by the project organization. Especially in the Scheldt case we saw that neglecting the agricultural interest groups did have important influence on the societal support for the proposals out of this governance process. Making the stakeholder analysis and deciding which stakeholders are allowed to participate (on a regular basis, not only in open, general sessions in which all sort of interested people can participate) is a crucial variable for the success of a collaborative process.

9. But why do we need a procedure?

In this paper, we have answered the question whether the SEA as a formal procedure can be used to facilitate a process of collaborative decision-making. The answer is yes, depending on the way it is done.

However, the question remains whether it is possible to realize the same outcome without a legal obligation? What is the added value of such an obligation which in essence is less flexible and adaptable than a voluntary research process organized in close alignment with the collaborative process?

There seem to be three possible answers to this question. First, in The Netherlands many SEA practitioners believe that political decision-makers underestimate the resistance they (or their successors) otherwise will meet when decisions are made and implemented that have been taken

without an SEA. The obliged character of the SEA functions as guarantee for stakeholders that the environmental impacts of policy options will be assessed, regardless of the willingness of competent authority to require so.

Secondly, the legal character of the SEA gives the instrument the necessary status to stimulate actors to become involved in the process. It raises the expectations about the quality of the interactive process, because this quality ultimately should be defendable before an administrative court. Without this status it can be much more difficult to mobilize stakeholders.

Third, a legal procedure can also help to organize the process of fact-finding and deliberation: by formulating the conditions for such a process a procedure can prevent a process from becoming too erratic, indeterminate and subject to alteration.

We do not think it is impossible to achieve these benefits without legal procedure, but we do believe that on the whole a procedure will improve practices, since in many cases it will otherwise not be done, whilst in the cases where an SEA does not bring additional benefits its cost will be relatively low.

References

Bruijn, J.A. de & Heuvelhof, E.F. ten, 1999. *Management in netwerken*, Utrecht, Lemma (tweede geheel herziene druk).

Buuren, M.W. van, 2006. *Competente besluitvorming; het management van meervoudige kennis in ruimtelijke ontwikkelingsprocessen*, Den Haag, Lemma.

Buuren, M.W. van, 2008. Knowledge for governance, governance of knowledge. Inclusive knowledge management in collaborative governance processes. *International Public Management Journal. Submitted paper.*

Buuren, M.W. van, Edelenbos, J., Klijn, E-H. 2006. Interactive governance in the Netherlands: the case of the Scheldt Estuary. In: M. Marcussen & J. Torfing (2006) *Democratic Network Governance in Europe.* Palgrave MacMillan, pp. 150-173.

Buuren, M.W. van, & Edelenbos, J. 2004. Conflicting knowledge; why is knowledge production such a problem, *Science and Public Policy*, 31(4), 289-299.

Buuren, M.W. van & Gerrits, L. 2008. Decisions as dynamic equilibriums in erratic policy processes. Positive and negative feedback as drivers of non-linear policy dynamics. *Public Management Review*. 10 (3), 381-399.

Buuren, M.W. van & Nooteboom, B. 2006. *Evaluatie SMB Zuiderzeelijn; managementrapport*, EUR/RWS-TMC, Delft, unpublished.

CEEC (undated) *Commission's Guidance on the implementation of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment*, online http://ec.europa.eu/environment/eia/sea-support.htm .

Clark, W.C. & Majone, G. 1985. The critical appraisal of scientific inquiries with policy implications, *Science, Technology & Human Values*, 10 (3), 6-19.

Collingridge, D. & Reeve, C. 1986. *Science speaks to power; the role of experts in policy-making*, London, Frances Pinter Publications.

Cross, M., Henke, R., Oberknezev, P. and Pouliasi, K. 2000. *Building bridges. Towards effective means of linking scientific research and public policy; migrants in European cities*, Research Papers/ Netherlands School for Social and Economic Policy Research.

De Jong, D & S. Nooteboom, 2002. Verdwalen we in een woud van beleidstoetsen? In: *Openbaar Bestuur*, 2002 (9): 16-18

Dom 1997. *Case studies on SEA*, online http://ec.europa.eu/environment/eia/sea-studies-and-reports/sea-case-studies.htm

Dutch Cabinet, 2006. *Structuurvisie Zuiderzeelijn. Onderzoek naar Nut en Noodzaak.* Ministry of Transport and Waterways, April 2006 (www.zuiderzeelijn.nl).

Fischer, F. 2003. *Reframing public policy; discursive politics and deliberative practices*, Oxford, Oxford University Press.

Gerrits, L.M. 2008. *The gentle art of co-evolution; managing and developing estuaries in Germany, Belgium and the Netherlands*. Rotterdam.

Guston, D.H. 2004. Forget politicizing science; let's democratize science, *Issues in Science & Technology*, Fall 2004: 25-28.

Jasanoff, S. 1990. *The fifth branch; advisers as policy makers*, Harvard, Harvard University Press.

De Jong, M. & Geerlings, H. 2003. The remarkable return of comprehensive policy analysis for transport infrastructure to the centre of administrative practice; how the success of

O(E)EI exposes weaknesses in public participation in the Netherlands, *Impact Assessment and Project Appraisal*, 21(4), 281-291.

Jones, C. Baker, M., Carter, J., Jay, S., Short, M. and Wood, C. 2005. (eds) *Strategic environmental assessment and land use planning; an international evaluation*, London: Earthscan.

Koppenjan, J.F.M. & Klijn, E.H. 2004. *Managing uncertainties in networks*, London, Routledge.

Lee, N. & Hughes, J. 1995. *Strategic Environmental Assessment Legislation and Procedures in the Community*, EIA Centre Manchester / European Commission DGXI.

Mills, T.J. & Clark, R.N. 2001. Roles of research scientists in natural resource decision-making, *Forest Ecology and Management*, 153: 189-198.

Ministry VROM .2006. *Handreiking milieueffectrapportage van plannen (planmer). Europese richtlijn milieubeoordeling van plannen Implementatie in Wet milieubeheer & Besluit m.e.r. (1994)*, online

http://www.vrom.nl/get.asp?file=docs/publicaties/6161.pdf&dn=6161&b=vrom

Nooteboom, S. 1994. *SEA existing methodology*, EC, online

http://ec.europa.eu/environment/eia/sea-support.htm

Nooteboom S. 2000. Environmental assessments of strategic decisions and project decisions: interactions and benefits, *Impact Assessment and Project Appraisal*, 18(2), 151-160.

Nooteboom, S. 2007. Impact Assessment procedures and complexity theories, *EIA Review* 27: 645–665.

Sabatier, P.A. 1988. Sabatier, P.A. 1988. An Advocacy Coalition Framework of Policy Change and the Role of Policy oriented Learning therein. *Policy Sciences.* 21, 129-168.

Sabatier, P.A. 1993. Policy Change over a Decade or More, in: Sabatier, P.A. & H.C. Jenkins-Smith (red.), *Policy Change and Learning: An Advocacy Coalition Approach*, Boulder, Westview Press, pp. 13-40.

Sadler, B. & Verheem, R. 1996. *SEA, Status, challenges and future directions*, Ministry of Housing, Spatial Planning and the Environment / International Study of Effectiveness of Environmental Assessment / EIA Commission of The Netherlands

Sarewitz, D. 2004. How science makes environmental controversies worse, *Environmental Science & Policy*, 7, 385-403.

Scharpf, F. 1997. *Games real actors play; actor-centred institutionalism in policy research,* Boulder, Westview Press.

Teisman, G.R., Buuren, M.W. van, Gerrits, L.M. 2008. *Managing complex governance processes*. Routledge, London (to appear).

Thérivel, R. & Rosário Partidário, M. 1996. *The Practice of Strategic Environmental Assessment*, London, Earthscan.

Twaalfhoven, P. 1999. *The success of policy analysis studies; an actor perspective*, Delft, Eburon.

Van Eeten, M.J.G. 1999. *Dialogues of the deaf. Defining new agendas for environmental deadlocks.* Eburon, Delft.

Wallington T, Bina, O. & Thissen, W. 2007. Theorising strategic environmental assessment: Fresh perspectives and future challenges, *Environmental Impact Assessment Review*, 27, 569–584.

Weggeman, J. 2003. *Controverisal decision-making. Rise and finnctioning of green polder consultation.* Lemma, Delft (In Dutch with English summary).

Woodhouse, E.J. & Nieusma, D.A. 2001. Democratic expertise; integrating knowledge, power, and participation, Hisschemöller, M., Hoppe, R., Dunn, W.N. & Ravetz, J.R. (eds) *Knowledge, power, and participation in environmental policy analysis*, Policy Studies Annual Volume 12, New Brunswick, Transaction Publishers, pp. 73-96.