



SEA for Water Plans: Experience and Options for the Future

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A large number of Dutch water plans were drawn up or updated in 2008/2009 in response to the introduction of the European Water Framework Directive. For the first time this included the use of SEA procedures. The positive and negative experiences of using SEA for these plans were evaluated, enabling this tool to be even more useful when it comes to the next generation of water plans, which will need to be complete by 2015. This article sums up these experiences and provides tips for the future.

Integrated water management

Water management in the Netherlands dates back to the Middle Ages, when the water boards were set up. Climate change, rising sea levels, land subsidence and increasing pressure on space have meant that more and more attention has been paid to different ways of dealing with water since the end of the 20th century. In recent years various developments have taken place nationally and internationally that have had a major influence on Dutch water management. For example, the 1990s in particular saw several periods of flooding in the Netherlands, resulting in the revision of water safety policy. Also, the European Water Framework Directive (WFD) requires EU Member States to ameliorate and maintain the ecological quality of groundwater and surface water.

Dutch water boards (in Dutch: *waterschappen* or *hoogheemraadschappen*) are regional government bodies charged with managing the water barriers, the waterways, the water levels, water quality and sewage treatment in their region.

The water system is now being approached more as an integrated whole. Water plans at central government, provincial and water board level are based on the principle of integrated water management, focusing on safety (of flood defences), flooding, water shortages, water quality and ecology.

Water plans in the Netherlands

The Dutch Water Act requires water plans to be adopted by various tiers of government:

- The National Water Plan
- The provincial water management plans
- The water management plans of:
 - water boards for regional waters
 - central government for national waters

The WFD additionally calls for 'River Basin Management Plans' incorporating the total set of measures under national and regional water plans for each river basin (Rhine, Meuse, Scheldt and Ems).

These various plans set out short-term and long-term water policy and list specific measures. The National Water Plan and provincial water plans are considered spatial plans as regards planning aspects: in other words, the authors of these plans make choices regarding the spatial planning of the particular area (e.g. by designating sites for water storage areas). Water policy and environmental policy are thus strongly linked.

Because of the implementation of the WFD in the Netherlands, all water plans were simultaneously replaced or revised in 2008/2009 and came into force at the end of December 2009. Previous generations of water plans had been drawn up one by one, with central government policy incorporated in the plans of the provinces and water boards. Drawing up these plans simultaneously constituted a new approach, therefore, requiring the coordination and incorporation of policy to be organized differently.

SEA for water plans

The SEA procedure was adopted for various water plans for the first time in 2008/2009. An SEA is mandatory if a plan sets out a framework on activities for which environmental impact assessment is required or if there could be significant effects on Natura 2000 sites. The competent authorities can also voluntarily opt for an SEA procedure because it could provide added value for decision-making. In some cases a single SEA was drawn up for a number of plans (provincial plans and water management plans). An SEA was also drawn up for the National Water Plan, including consideration of the River Basin Management Plans.

The NCEA has reviewed a total of seven SEA reports on water plans, namely the SEA report for the National Water Plan and six SEA reports for water plans of provincial authorities and/or water boards. From this the NCEA drew a number of general conclusions:

- Many decisions had already been made prior to the SEA procedures. The water plans of the provinces and water boards were the end result of sometimes lengthy spatial planning processes involving various tiers of government and other stakeholders. The interests in these processes were weighed up and support was created for policy decisions and measures. The interests of the environment implicitly figured prominently here: to a large extent the whole purpose of the plans was to solve or prevent environmental problems (flooding, water shortages, drying-out of nature reserves, etc.). In many cases the effects of the measures on the environment were therefore found to be positive (see the example “South Holland” below).
- The SEA procedures only began after the previous step. As a result the scope for alternatives was often limited and the SEA report was used primarily as an ex post analysis. The report was essentially confined to an environmental assessment of the results of the planning processes. Because of that the way in which the interests of the environment were taken into account when deciding on measures was not made explicit (see the examples of “South Holland” and “North Brabant and Limburg”).
- Similarly in the case of the National Water Plan the SEA procedure only began once a draft plan had already been produced and a broad consensus had been reached on the policy decisions required (see the example of “National Waterplan”).
- In general the joint planning approach (cooperation in SEA procedures and simultaneous planning processes) did produce added value, at least procedurally: the joint development of measures, the taking of decisions in mutual consultation and the setting of priorities in the area processes were found particularly worthwhile.
- In most cases the SEA procedures resulted in some amendments to the final water plans, mainly in view of potential consequences for Natura 2000 sites (see the example of “Friesland”).

Water plans for South Holland

In the province of South Holland a large number of decisions had already been made before the start of the SEA procedure. The province and water boards opted to use the SEA to assess the proposed policy for positive and negative environmental impacts and to identify possible alternatives for various aspects. The alternatives provided options for elaborating or fine-tuning the policy based on environmental effects. The conclusion was that the proposed water policy rated predominantly positive as regards environmental impacts. The SEA report resulted in recommendations for the final implementation of the proposed policy.

Water plans for Friesland

In Friesland the provincial authorities and water board decided prior to the SEA procedure to continue with their policy of a fixed water level in the Frisian system of drainage/outlet pools. The Appropriate Assessment (of impacts on protected nature) – which forms part of the SEA report – showed that this fixed water level would have significant negative effects on Natura 2000 sites, especially those dependent on ‘water conditions’, whereas a ‘natural level’ would have few if any effects on those sites. To achieve the targets for the nature reserves a substantial set of measures would be needed (e.g. individual water level management for each area or intensive management). The final water plan therefore included a monitoring programme and prescribed that these and additional measures, if necessary, would be taken if negative effects were found to occur.

Evaluation and points of attention for future water plans and SEA

The planning process for regional water plans, along with the role of the SEA procedures, has been evaluated in various ways, from which both positive and negative experiences emerged that are largely in line with the NCEA's findings as described above. The experiences from the first round can and will be used in the next generation of water plans, preparatory work on which has now started. Some examples of focal points that emerged from both the NCEA's advisory reports and the evaluations are:

- If the SEA begins early on during the planning process it enables environmental information to be collected systematically and objectively. Information on environmental effects, the 'target range' and how policy decisions and alternatives influence one another makes the consequences of decisions clear: as a result, risks and opportunities are identified at an early stage and surprises later on in the process are avoided.
- Starting the SEA and obtaining advice from stakeholders early on in the planning process provides information on the level of support for the plans – or lack thereof.
- A sensitivity analysis of measures whose environmental effects are as yet unclear provides information on potential risks (e.g. the risk of significant negative consequences for Natura 2000 sites) and opportunities (e.g. combining water storage with nature reserves).
- The WFD requires water managers to take steps to meet the water quality targets (chemical and ecological). As well as information on environmental impacts, the SEA report also provides information on the target range for the WFD objectives and water conditions for the Natura 2000 targets, enabling bottlenecks to be identified along with the measures required to deal with them. Any staging or lowering of targets can thus be substantiated in the water plan.

The planning process for the NWP, along with the role of the SEA, was also evaluated, and one of the conclusions was that the SEA procedure can provide substantial added value if it is started earlier on in the process, before policy decisions have been made.

“Obtaining advice from stakeholders early on provides information on the level of support for the plans – or lack thereof.”

Water plans for North Brabant and Limburg

When drawing up the SEA report the provinces and water boards of North Brabant and Limburg came to the conclusion that many decisions had already been made and that there was little scope for alternatives. The SEA report was used to identify the risks of negative impacts, as well as opportunities for environmental benefits when putting the proposed policy into effect. As many of the measures were concerned with the interests of the environment and nature, the risks were found to be limited, occurring mainly during implementation of the measures (e.g. disturbances during excavation work, release of phosphate when raising groundwater levels and the effects of certain measures on the landscape). The approach adopted in North Brabant and Limburg resulted in an overview of focal points for further decision-making and elaboration.



National Water Plan (NWP)

The NWP sets out the main principles of national water policy for the 2009-2015 period and provides a glimpse into the future. An SEA report was drawn up to aid decision-making on the subject, setting out short-term and long-term developments that might have substantial environmental impacts. The purpose of the SEA report differs according to the time frame:

- **The short term (2010-2015):** the draft NWP had already been produced and was available for public inspection when the SEA report and the Appropriate Assessment were being drawn up. In other words, short-term decisions had in effect already been made and the SEA report served mainly as an ex post analysis. In the case of most of the short-term measures the SEA report did not justify revising any decisions in the draft NWP, as the environmental effects would be neutral or even positive, or because they were to be examined in more detail in the follow-up process. One aspect of the NWP was amended, however, as the proposed change of water level in Lake IJssel was soon found to have major consequences for the maintenance targets for Natura 2000 sites. Additional research is therefore needed on this policy.
 - **The long term (up to 2100):** in the long term the NWP offered principle choices on e.g. water safety, freshwater supply and use of space in the North Sea. The SEA report gives a general indication of the environmental effects of possible directions of development. The SEA report is adequate for a strategic exploration of the options, but for specific long-term decisions it does not yet provide the required information, because of the major uncertainties, the potential consequences for Natura 2000 sites and the interconnections between policy decisions.
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The Delta Programme

In view of the issue of climate change (rising sea levels and greater variation in river discharges) a special *Delta Commission* was set up in 2007 to consider the long-term protection of the Dutch coastline and hinterland. This resulted in the introduction of a Delta Act and a Delta Programme. The Programme, which can be regarded as a further elaboration of the NWP, is expected to result in five ‘Delta decisions’ to be laid down in the next NWP: on water safety, freshwater strategy, spatial adaptation, the Rhine-Meuse delta and water level management in the Lake IJssel region.

Central government, provinces, municipalities and water boards are working together here, with input from organized interests and industry. The aim is to protect current and future generations in the Netherlands against high water and to ensure adequate fresh water levels, taking climatic and social trends into account. The Delta Programme has a chronology of logical steps:

- Analysis of tasks (2011)
- Possible strategies (2012)
- Preferred strategies (2013)
- Delta proposals/decisions (2014)



The first step towards the new generation of water plans: better integration of water plans and SEA

Taking experience with the first NWP into account, the NCEA has been involved in the Delta Programme from an early stage, even before an SEA procedure has been started. The Delta Programme is an elaboration of the NWP for the post-2015 period (see box to the left). As a result the NCEA was able as early as in 2011 to draw attention to some specific points, such as:

- Water safety. The policy is based on risk management. Various strategies are possible: should an acceptable level of risk be set first, followed by a decision on the necessary measures? Or should measures be formulated leaving a ‘residual risk’? It is important to explain how risks are determined and uncertainties dealt with.
- Freshwater strategy. The NCEA has particularly requested that attention be paid to the ‘demand side’, as there are various ways of influencing freshwater demand. Here again, uncertainties – both on the demand side and due to climate change – can have a major influence on the strategies to be adopted.
- Spatial adaptation. Water safety and spatial planning are closely linked in the Netherlands. An associated focal point is that different tiers of government are responsible for different aspects (safety policy is mainly a central government concern, spatial planning that of provinces and municipalities), so proper coordination is required along with clear decision-making frameworks, especially in the case of developments in the Delta provinces.

The NCEA’s recommendations will be taken into consideration in the subsequent process. In the next phases SEA can be an important tool in deciding on the Deltaprogramme in general and on the “Delta decisions” specifically.

Conclusions

Initial experience of the SEA procedure for water plans has yielded useful information on various fronts:

- SEA provides added value for decision-making, both procedurally (coordination and collaboration between water managers, helping to build support among decision-makers and others) and substantively (basis of decisions, opportunities to optimize plans from an environmental point of view).
- When the SEA procedure was started the major decisions had already been made in consultation with stakeholders, with the result that the scope for alternatives in the SEA report, and hence its added value, was limited. Using the SEA at an earlier point in the planning process could increase its added value, by reducing the risk of negative environmental impact and creating opportunities for more environmentally friendly decisions.
- The evaluation of the planning process for the water plans and the role of the SEA has already resulted at a national level in an SEA being considered earlier on in the process: the NCEA has been involved from an early stage – even before SEA has started - in the Delta Programme, which will result in a new National Water Plan in 2015.

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