Dutch SEA Case Study: West Netherlands Spatial Plan

by Rob Verheem

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I would like to tell you about two case studies in the Netherlands, SEA case studies.However, before I do that, I would like to use just a little bit of time to give you the main lines of the SEA approach in the Netherlands. And I think the first thing I would like to say about that is that the main objective of SEA in the Netherlands is to safeguard good governance, to improve the quality of strategic planning in such a way that people will realize this as good governance. And there are many things you can say about good governance. You can make it very complex. But I would like to simplify it a little bit and say that, to me, good governance means three things.

One of them is that all relevant stakeholders, all groups, all authorities, all members of civil society that will be affected by a plan are involved in this planning process throughout the process. So to involve all relevant stakeholders is one of the main objectives of SEA in the Netherlands.

A second main objective is that the planning process should be transparent so that everybody knows what's going on, why it's going on, and when they can be involved, so that all groups and civil society, local authorities, national authorities, can prepare themselves to be involved.

And, finally, a very important objective of SEA, and this is actually the traditional objective of SEA, is to have the best information possible in the planning process. Typically, this is environmental information, but more and more in Dutch SEA the aim is to get integrated information, to get information about environmental issues but also about social and economic issues. So important in the Netherlands it is that SEA is not just meant to improve the information in planning, but also the planning process itself.

A second thing that is very important in the Netherlands--and this is really something we have learned over the 15 years that we have SEA--is that SEA should not be regarded as a separate process, because if SEA is a separate process, it probably will mean that the planners will not feel that it's their process. So they'll leave it to the environmental people, will not use the results of the SEA process, and that means it's actually useless in planning.

So SEA is not a separate process but, rather, it is a tool to improve planning. It brings in at several stages of the planning process certain requirements to make sure the planning is of good quality.

Now, of course, the next question then is: What kind of requirements should SEA bring into planning? And in the Netherlands, we feel now that you could say that there are six key requirements that SEA should bring into the planning process. The first requirement is about the involvement of stakeholders, and we feel that as a minimum in the Netherlands--and, therefore, this is part of Dutch SEA regulation--all relevant stakeholders should be involved at least in the early stage in scoping. That's problem analysis, objective setting, alternatives design--that's where stakeholders should be involved. Plus they should also be involved in the later stage of SEA, which is the assessment of the quality of the SEA report and how this information in this report is used in planning.

Then there are requirements to make the planning process transparent, and there are three, what I would consider as key requirements. The first is that the start of the planning process is made public, because everybody in society that has an interest in this plan should know that something is going on; otherwise, how can they participate?

A second key requirement is that in the SEA report, the alternative options for the plan or program or policy are laid out very clear and are compared in a very objective way.

The third requirement that is very crucial to get transparent planning is that the decisions that are made in the final plan are clearly motivated and explained. So how was the information in the SEA report used to get to the decisions in the final plan?

And then there is the third set of information requirements. How can we ensure that the best information is available during this planning process? And I feel that in the Dutch SEA process there are two key requirements. One of them is that the quality of the information used in scoping and the quality of the SEA report itself is controlled by an independent quality controller. Actually, this is the Dutch EIA Commission where I work.

The second key requirement is that once the final plan is adopted and it is implemented in practice, it is monitored and evaluated what the impacts of the actual plan are. How is the plan implemented? What are the impacts? And did we estimate these impacts correctly in the SEA? And, if not, what should we do?

So basically, if you look at these six key requirements and you look at the points in time in which they integrate into planning, I would say the SEA process looks a little bit like this. The start of the planning process is made public. Then there is a first round of public debate, involvement of all relevant stakeholders, independent advice on what should be the alternatives, what should be the impacts to be assessed. Then the SEA report compares the alternatives. Then there's a second round of public debate on whether this information is correct and how it should be used in planning. Then the plan is finally adopted, and then it is motivated in writing in the plan itself how the SEA was taken into account, and then during the implementation phase of the plan, it is evaluated and monitored, how is it implemented, what are the impacts in real life. And that's about what I would like to say about the Dutch SEA process.

At this point, I would like to take a look at my first case study, so this is an example of how this process that I just described actually was used in reality.

My first case is the West Netherlands Spatial Plan. This was a spatial plan for the West of the Netherlands. Now, the West of the Netherlands is the area in the Netherlands where all the major economic development takes place. For example, the Rotterdam harbor is in that area. Amsterdam, the capital of the Netherlands, is in that area. The Hague, the government capital, is in that area.

This part of the Netherlands is most important for economic development in the Netherlands, and it's the objective of government through this plan to make sure that this economic development can continue in the future. And the way that this plan tries to do that is to mold the four existing cities into one big metropolitan area, into an area that, economically speaking, could act as one. And this is necessary because the competitors of the Netherlands--London, Frankfurt, Paris--these are all metropolitan areas on a much bigger scale than, for example, Rotterdam and Amsterdam. So we try to mold four cities into one, and the way that this plan tries to do that is by linking the four major cities in the West with new infrastructure and by having urban development in such a way that actually the area then can act as one.

Now, let's take a look at what the existing situation is. Now, clearly, what you see here is a very schematic overview. This is not how it looks on a real map. But for the purpose of this presentation, this is quite okay. We have four cities, and from an environmental perspective, it is important that in the midst of these cities there is an area that we refer to in the Netherlands as a valuable landscape. It's green and it is open, and it's this kind of area that we don't have a lot of in the Netherlands.

The main elements of the plan are to make choices on three issues.

First of all, what should be the type and the location of the new high-speed railway system that should connect these cities in a more effective way than takes place right now?

The second choice that this plan has to make is what are the best locations of new urban and industrial areas?

And, finally, what should be the location of water and green areas in this part of the Netherlands? And then how do these three issues fit together?

The purpose of SEA is quite clearly to show to government, to show to the public, to show to NGOs, the range of potential options and then to compare these potential options on their environmental, their social, and their economic consequences.

Now, alternative options. What alternatives in this case have been developed? The methodology to develop the alternatives in this case was that these were developed in three steps. At first, a choice was made in where the water and the green areas should be in the West of the Netherlands. Then once that was known, the next step was the design of infrastructure that protected these water and green areas as much as possible. Of course, then you had two grids

overlaying, the water, the green areas, the infrastructure on top of them, and then in this grid there was the design of where the new housing and the new industrial areas should be created. And this led to the following five alternatives that were assessed in the SEA.

Let's go back to the existing situation: four major cities with valuable landscape in between.

The first alternative looked at the option of creating a new high-speed train system connecting the centers of the four cities. And then, carefully, new urban areas were selected that connected to this train system.

Of course, it's quite clear that in alternative one, the new urban areas are quite far away from the new high-speed train system. And, therefore, a second alternative was assessed in the SEA in which some of these urban areas, as much as possible, were located closer to the new ring of the high-speed train system. Of course, this has advantages because it's much easier to get from the new housing areas to the high-speed train. But, of course, it has disadvantages because you get closer to the valuable area, or indeed, you get into the green belts separating the cities. And these green belts are, of course, very important from a recreational perspective. It's very important for people in big cities that they have clear access to recreational areas in the vicinity of the cities.

Alternative three actually came out of public participation. When local authorities got involved into this discussion about what the alternative should look like, they said, well, okay, we like this idea of this high-speed train system, but we have different ideas about where the new urban areas should be located. So alternative three really is the preference of the local authorities as to where the housing and industrial area should take place.

The fourth alternative was quite different because here the incentive was not to create a high-speed train system, but to do something that was a little bit more innovative. It's the creation of a magnetic monorail system. Now, magnetic monorail systems, they are very quick, they are very quiet, but they have one big problem: they are very expensive. So in this case, you tried to keep the length of this monorail as small as possible. So, therefore, the monorail system was not to connect the centers of the cities but, rather, to connect the outer parts.

Now, because of a monorail system being very expensive, there should be some way the government could actually gain some money back. And this could take place by actually creating the new urban industrial areas around the new stations of the magnetic monorail, because from a financial viewpoint, people really like to live and work close to those kind of stations. And, therefore, you can actually sell these areas for a very high price in the commercial market. So this is what alternative four looked like.

But as you already can see, this meant that the new urban and industrial areas were located very close or indeed into the valuable area, and the purpose of the SEA was to show how bad that was and whether the disadvantages actually balanced against the advantages.

Alternative five--and this was the last alternative that was assessed--is really a combination of a magnetic monorail, but connecting the centers of the cities rather than the outer parts, and, again, in addition to that, new urban and housing areas that made sense.

So these were the five alternatives.

Okay. So we have the alternatives. How do we assess the impacts of these five alternatives? Methodology.

Step one in the assessment methodology was that the issues to be examined in the SEA were identified, and in this case, eight issues were identified. What are the effects of alternatives on spatial diversity in the West of the Netherlands? What are the effects on economic and social efficiency of this part of the Netherlands? What is the effect on the cultural diversity of this part of the Netherlands? What is the effect on social justice, on sustainability issues, on attractiveness, human scale of the area?

What is the flexibility of new business of the alternatives? For example, if the future would look like quite different from what we expect it to be now, which alternative still makes sense? And, finally, of course, the costs and the transport effects. So these were the issues that were examined in the assessment.

And in the next step, for each of these issues, the appropriate indicators were identified. Now, most of these indicators were extracted from existing policies because in the existing policies it is very clearly outlined what are the important issues at the political level. And you can use these important political issues as indicators of the impacts of the alternatives. And this set of indicators then was complemented by indicators that were suggested by NGOs, for example, or the business community. So these were indicators that came out of the public involvement, as well as indicators that were suggested by experts.

Let me just give you an example because I don't have time enough for all the issues to show you all the indicators. But this case study is very well documented, and if you're interested in it, you can actually look at the original case studies and you will get all the indicators.

But in this case, this is an example. Five indicators were used to get a clue about how alternatives would influence spatial quality. The first indicator was the amount of urban and rural areas in each of the alternatives. How was the balance?

The second indicator was the surface area of open landscape, because open landscape is something we don't have a lot of in our very densely populated country.

Then the surface area of valuable landscape, landscape that is appreciated by people.

Then the surface area of historical valuable area, areas that we want to preserve because of their historical value.

And, finally, how did it influence the green belts between the four major cities? This is an example, but these were the indicators for spatial quality.

Now, what methods were used here for impact assessment? I'm not going to mention all methods because many were used, but I will give you the most important ones in my view.

The main tool in this case used to assess impacts was geographic information system. So the alternatives were actually put on a digital map, and then from this digital map it was calculated how much area was created and how much area was lost in each of the indicators.

Of course, the transport effects were done by the use of the transport model, but, quite surprisingly, we found that you can use the transport models also to look at social issues. For example, if in a certain alternative excess of poorer groups of society to, for example, recreational areas or, for example, the places where they worked, if access would be considerably worse, then, of course, this is a very negative effect. So you can use transport models to look at the excess of different groups in society to the places where they want to go and from that extract the social impact.

Economic impacts were actually assessed by using monetarization techniques and a cost/benefit analysis. And, finally--and I think this is very important--expert judgment was used a lot in this SEA. So a whole range of expert workshops was organized to discuss the alternatives that should be designed, to discuss the impacts that should be assessed, to discuss the methodology that should be used. So the use of expert workshops was a method in itself.

Now I get to what I think is a very important point, because what do you do if you have the alternatives and you have assessed all the indicators? How do you translate all this knowledge in such a way to decisionmakers and the public so that they can make up their mind of what they think?

We have found out in this SEA that using one method will not be sufficient for that, because each of these groups--decisionmakers, the public, and experts--want to see the information in another form. For example, experts typically want to see the quantitative scores for each of the indicators. That may mean a huge matrix, but experts are not afraid of that. They want to see the quantitative scores because then they can check if it was done in a correct way, the assessment.

But, of course, for the public that's not a very sensible way to go. What they simply would like to see, perhaps for each of the indicators, is which alternative scores the best on that indicator and which alternative scores the worst? So that was the second methodology used, ranking.

And, of course, you can put that in one matrix so that on one page you can actually see on each of the different indicators which alternative is the best one, which alternative is the worst one.

But for politicians, another kind of information is important because they have their objectives, their policy objectives, and they want to see how each of these alternatives score on their

objectives. So this was a fourth methodology applied in the SEA to show how the alternatives compared.

Of course, the economists would like to see a cost/benefit analysis, so for them one was prepared.

And, finally--and this probably is the most important methodology in any SEA--there was a qualitative description of the end results, a story told, if you want. It simply said, okay, if you find that's important, then you should probably take that alternative, but please keep in mind that then on those issues you score less. So you could solve it by LIDAT (**?--not in slide--JS**), a qualitative discussion of the end results. All in all, six methodologies used.

I told you that the involvement of stakeholders, or public participation, if you want, is very important in the Dutch SEA process. So let's just take a very short look at the methodology applied here.

Overall, I would say four kinds of methodologies were used: Information meetings were used to inform the general public. Discussion meetings were used for selected NGOs and for experts. Then individual citizens could send in written comments, and a website was created to continuously throughout the process inform the public, experts, and decisionmakers. And, of course, you could also send in your comments to the website.

Now, was this a good SEA? Let me approach that question by giving you the final conclusions of the independent EIA Commission that checked the quality of this SEA. And overall they said that they thought this was a good SEA and also that it was carried out in a surprisingly short amount of time because this was a really complex plan with a complex SEA, and still they could do it in five or six months.

There were two negative comments. First of all, you might remember that I said that one of the objectives of the SEA was to look at alternatives for green and water areas, but there were no alternatives on that in the alternatives assessed.

When discussed with the decisionmakers and the people who prepared the SEA, they said, yeah, it's true, they didn't do it. The reason for that was that they didn't have enough time, plus they assumed that there would be no conflict between green and water areas and urban areas or transport infrastructure. And this was something that the Dutch EIA Commission heavily doubted. So in the next round of planning on this part of the Netherlands, this is something that should be looked at in more detail, and it will.

A second negative conclusion was that the SEA and the plan indeed itself only focused on improving transport options between the cities. But if you looked at the alternatives, it was quite clear that many new urban areas were actually outside the ring of cities. So how were people to get from their new houses and working places to the high-speed train system or the monorail? So regional transport alternatives were not assessed in sufficient detail.

And, finally, on one point, the EIA Commission said, well, we have a lot of criticism really on the assessment of social and economic issues, but we think that the people who prepared the SEA cannot be blamed for that, because in the current state of the art in social and economic impact assessment at this scale--I mean, we are talking about like one-third of the country--the science simply is not yet good enough. So was it good? No. Was it good enough? Yes.

The results of the SEA, for those of you that are interested in that, it showed that the original alternative endorsed by government, which was the train alternative, the number one, with a certain set of urban areas, scored quite good from an environmental perspective. But it was very inflexible and also very, very costly.

The other alternative, the monorail, that was endorsed by a number of politicians as being the most advanced option, scored bad at almost all issues: very expensive, very bad from a social viewpoint, very bad from an environmental viewpoint.

All in all, the high-speed train alternative number three--so this is the combination of a train connecting the centers of the cities with new urban areas, preferred by local authorities--proved to be the best one. But even this alternative that was the best one proved negative from an economic viewpoint. In other words, the cost/benefit analysis showed that all five alternatives actually had higher costs than benefits. And, of course, this was a significant problem.

Now, how was this SEA used by the decisionmakers? What did they decide on the basis of this assessment? Government decided for alternative three because this alternative scored the best. However, in order to get a positive cost/benefit ratio, they decided that more attention should be paid to regional transport, more money should go to regional transport. In other words, not all money should be spent on the high-speed train system between the cities. So in the new plan, there is a high-speed train between the cities, but there is also a new metro system between medium-sized cities and new bus and light rail systems for small towns.

So was the SEA useful? Yes, it was.

Lessons learned. I'm not going to mention all of them, but some of the important lessons learned.

First of all, is this a good case study? Is the methodology in it appropriate? Is the information in this SEA useful? Yes, it was. So there was a lesson learned. This is one way to do it.

Was it time- and cost-effective? Well, government thinks it is, although they say that one of the reasons why they could do it in a very time- and cost-effective way was that this is the third SEA of its kind. So this makes very clear that there is a learning curve in SEA. Your first SEA will probably cost you a lot of time and money. Your second SEA will be a lot better. And maybe your third SEA will be cost- and time-effective, as was this one.

But it was also a negative remark, because in this case almost all indicators were assessed quantitatively, taking a lot of time and effort. Looking at it with hindsight, that was not necessary in all cases. On a number of indicators, it was that clear how the alternatives

compared that that was sufficient. In other words, it could have been assessed much more qualitatively, thereby saving a lot of time and money.

And, finally--and this is probably the most important lessons learned--in this case the SEA definitely started too late, because when the SEA started, the first two alternatives--the train alternative and the monorail alternative--had already been developed. And it would have been a lot more effective if public discussion actually would have been on objectives and problems, and then from that together into the alternatives. So next time the SEA has to start a lot earlier, which in this case concludes this case study.