



A Gold Medal for Environmental Assessment

Veronica ten Holder

When does an environmental assessment deserve a medal? Based on 25 years' experience of EA and analysing over 2,600 EA reports for projects and strategic plans, NCEA's answer is: Good communication, realistic alternatives, and impact assessment at relevant level of detail deserve a gold medal. That takes care of the top prizes. Of course the quality of EA depends on a host of other factors too, but without the ingredients mentioned above something is undoubtedly wrong. These three aspects are further described and illustrated in this article, - using concrete examples.

Good communication

Environmental assessment (EA) is an aid to decision-making. If it is to fulfil this function, environmental information must be incorporated in the plan development process right from the start. Participants in this process need to be able to think constructively about the decisions being taken, based on good environmental information. And the document that emerges at the end of the process, the EA report, must be accessible. This requires more than just an attractive format; the language must be easy for non-experts to understand. The law rightly demands a summary that is accessible to the public at large. And it is not just the public that needs this: the administrators too need a presentation in clear language of the options available to them, and the environmental impacts they are signing off on.

This article has previously been published (in Dutch) in a special issue of ROMagazine on 25 years of EA, vol. 29, November 2011

Accessibility also means that the successive steps in the decision-making process, from problem analysis to a detailed preferred option, can be followed and traced back. How many degrees of freedom are there at any given point in the process? In what order have the decisions been made? And the importance of good maps and illustrations must also not be underestimated. A table comparing the effects of alternatives with their pros and cons, which may or may not be colour-coded, often provides great clarity, showing the various impacts at a glance. You must, however, ensure that the pros and cons can be traced back to the information on actual impacts, otherwise you can justifiably be criticized for giving an incorrect impression of the effects.

Lastly, accessibility also means carefully selecting the essential points for the summary and the main report, and presenting detailed information in appendices if necessary. In the case of an EA report, the summary, the report itself and the appendices will often be written by different people in practice, and this can result in inconsistencies. It is worthwhile, therefore, to invest in good final editing.

“Alternatives lie at the heart of an EA”

Easy-to-understand language and good illustrations

A few years ago *Nederlandse Aardolie Maatschappij* (NAM - the Dutch petroleum company) wanted to extract gas from a gas field in a small municipality. This required the construction of an installation: over a number of years gas would be extracted and gas and by-products would be processed and transported, after which the installation would be demolished. Simple language, a clear structure and good illustrations resulted in a readable, easy-to-understand EIA report on this fairly technical project. The summary provided a brief but comprehensive and well-illustrated impression of the entire process for the average reader. For those wishing to delve more deeply into the subject there was the full EIA report and background reports, which were very accessible thanks to their clear structure.

Consistent information

The Riverland Water Board carried out very thorough and extensive research into the reinforcement of the so-called Diefdijk dyke system. The EIA report was also detailed and extensive, but because of the structure used for the reports this did not go at the expense of accessibility: the summary was good, clearly putting across the essential points in the EIA report; detailed information could readily be found in the appendices; the alternatives selected for examination were easy to trace back to the clearly formulated vision and problem analysis; and the large amount of high-quality maps made a major contribution to this communicative, consistent and substantively strong EIA report.

Realistic alternatives

The whole point of an EA is to show the options available with their environmental impacts. Alternatives, in other words, lie at the heart of an EA. How can you be sure that you are setting them out correctly?

Do not let yourself be guided entirely by executive preferences. Focus on realistic alternatives that could provide environmental benefits. Experience shows that alternatives put forward at the start by public submissions are often written off as not feasible or too expensive; they then continue to crop up in the debate, sometimes even getting as far as the courts. It is more effective and efficient to include these alternatives in the research. This does not always have to be highly detailed: a

general comparison of impacts may be enough to show how realistic an alternative is. And if a suggested alternative turns out to be less unrealistic than was thought, it makes sense to fully include it among the options. A general comparison can also be useful if there are a large number of realistic alternatives: this can be the first step in a funnelling process (in one or more rounds) to select a limited number of options for detailed examination.

There needs to be a focus on alternatives that provide environmental benefits. An alternative that merely complies with the statutory norms is not enough for an EA report. As environmental benefits can also be achieved within the limits permitted by the norm. This needs no explana-

tion as regards to an aspect such as landscape. Here are no rigid norms, but alternatives based on different landscape approaches may offer environmental benefits. There may also be health benefits from changes in air quality and noise level within the permitted limits. An alternative that reduces health problems is the obvious choice where the authority concerned has set itself the target of improving the quality of the living environment.

In most cases it is unrealistic to ask a private-sector proponent to come up with alternative sites. A private proponent is entitled to expect his site to have been properly considered by the authorities in planning decisions. Asking for siting alternatives is only realistic if a planning decision is absent and the activity does not comply with binding rules, as in the case of the Natura 2000 areas. If the proponent is a government body the scope of the alternatives can and should be different, as a government body has more room to manoeuvre. Siting alternatives should therefore be included as a matter of course.

Good impact assessment

A good impacts assessment is one that:

- is in line with the level of detail of the plan or project.
- allows for uncertainties.

In line with the level of detail of the plan/project

With the implementation of EA for spatial plans, among others, the range of EA procedures has expanded considerably. In this type of EA, quantitative impact descriptions do not generally make sense; qualitative risk analysis and expert judgement are more appropriate to this level of decision-making. A note of caution, however: if a spa-

Funnelling alternatives

A busy through road runs through Voorst, a small municipality in the east of the Netherlands. The traffic, including large numbers of lorries, causes congestion, noise nuisance and road safety problems. The EIA report aims to find a preferred solution by funnelling the alternatives. First 23 potential solutions are identified in consultation with residents and stakeholders. Based on a general problem analysis using GIS, the number of alternatives is reduced from 23 to 5. In the second step the impacts of the five alternatives are assessed in more quantitative terms, leaving two alternatives for detailed examination. This approach – funnelling alternatives with input from stakeholders and local residents – creates public support and prevents the need to explore too many alternatives in detail.

Correct scoping of alternatives

A consortium of private-sector entrepreneurs wishes to build a wind farm of some 90 turbines with a maximum capacity of 450 MW along the dykes of Lake IJssel. As central government wanted to make the wind farm possible under the planning system by means of a government structure plan, an in-depth strategic consideration of sites was needed. The environmental impacts of a number of sites in and around Lake IJssel have been compared. As this involved a plan being promoted by national government, design alternatives alone were not enough; it also needed to be explained why the development should be so large and why it should be sited along the dyke.

tial plan contains highly specific conclusions that are directly reflected in specific final plans, more detail will be needed.

Allowing for uncertainties

The uncertainties in projected impacts can be substantial: the uncertainty factor in traffic forecasts and effects on air quality is at least 20%, and it is even higher in the case of certain effects on nature. Hitherto not much allowance has been made for this in an EA report and decision-making. However, it is only possible to draw correct conclusions on the ranking of alternatives and whether particular alternatives really are different if un-

certainties are taken into account. Modelling provides what appear to be hard figures down to several decimal places. Based on these results, conclusions are drawn as to whether norms are complied with and which mitigating measures are taken.

Given the uncertainty of model results it may therefore be that in reality:

- the impacts are better than expected and consequently too many measures have been taken.
- the impacts are worse than expected and consequently not enough measures have been taken.

Uncertainties can be dealt with sensibly by including a set of ‘fall-back’ measures in the EA in case the effects are worse than expected.

Gold medal for EA

These, then, are the most important ingredients for a successful EA process and a high-quality EA report. And we know for a fact that they are used from the large number of cases, some of which are shown here. These examples serve as inspiration, so that even more EA processes can be awarded a gold medal in the years to come.

Risk analysis for spatial plans

Tilburg, a town in the south of the Netherlands with around 200.000 citizens, would like to allow for the development of an industrial estate in its strategic spatial plan. Precisely how many and what kind of companies will wish to locate there is uncertain as yet, so the SEA sets out two scenarios, a high-development and a low-development scenario with a range of floor areas and company profiles (categories). A risk estimation has been carried out to see whether there are likely to be any bottlenecks in the area regarding noise nuisance, air quality, external safety, landscape and nature, and if so to what extent. Based on this type of information the strategic spatial plan can guide the development scope for the estate. As regards specific planning, the environmental impacts can be specified once more is known about the company profiles.

Dealing with uncertainties

The Port of Rotterdam has drawn up an expansion plan involving reclaiming 2,000 hectares of land from the North Sea. The EIA report for Maasvlakte 2 is an example of how to deal sensibly with uncertainties in projected impacts. Substantial uncertainties in impact predictions are only to be expected, given the size, complexity and long-term nature of the activities concerned. A proper overview of the risks has been provided by setting out worst-case scenarios with appropriate sets of measures, e.g. in the area of air quality and effects on nature. The extensive monitoring and evaluation programme provided for in the EIA report will enable additional measures to be taken if necessary to avoid or minimize effects. Agreements will ensure that these ‘fall-back’ measures are taken where necessary.

“Uncertainties can be dealt with by a set of ‘fall-back’ measures in case the effects are worse than expected “

Contact:
Veronica ten Holder
Director/General Secretary,
NCEA
vholder@eia.nl