

ISSA Proceedings 1998 - Practical Guidelines For Justifying Decisions About Major Projects



1. Introduction

Quite a few American inventions have become a worldwide success: Environmental Impact Assessment (EIA) is one of them. This policy instrument was introduced in 1970 by President Nixon, through the National Environmental Policy Act. Today, EIAs are

applied in almost every country in the world.

An EIA is carried out before work is started on a major project, such as the construction of a railroad, highway or airport. The purpose of an EIA is to rationalize the decision-making process involved with such a project. In order to achieve that purpose, the parties involved are obliged to follow certain rules when exchanging information. These rules can be seen as a code of conduct: they specify the rights and obligations of the project proponent, the competent authority that has to decide on the project, and the citizens and interest groups that make use of the possibility of public participation (Wood 1995, Robinson 1992).

What Environmental Impact Assessment comes down to is that the decision-making process is divided into two successive discussions.

In the first discussion, the main role is played by the project proponent, who has to draft a public document - an Environmental Impact Statement (EIS). An example of an EIS that was written in the United States is the one about a controversial plan to transform the top of Mount Graham, Arizona, into a so-called astrophysical area studded with telescopes (United States Department of Agriculture, Forest Service 1988). A Dutch EIS about a very controversial project is that concerning the extension of Schiphol Airport by means of adding an extra runway (Project Mainport en Milieu Schiphol, 1993a). In documents such as these, the project proponent has to explain his plans and indicate any reasonable alternative options for the proposed activity. Furthermore, he has to forecast and evaluate the effects of the project and of the alternative options. The project proponent's forecasts and value judgements are not taken for granted: they have

to be substantiated by arguments which support the accuracy of the predictions and the acceptability of the value judgements.

The EIS serves as the input for the second discussion, in which the competent authority takes the lead. The competent authority has to decide whether or not the project may be carried out and, if so, in what way. This means that the competent authority has to choose between the alternative options described in the EIS. The final decision is then made public in a so-called Record of Decision (ROD), which has to be supported by argumentation showing that the information provided by the EIS played an important role in the decision-making process. This argumentation is also required so that opponents of the project may challenge the decision in a court of law; to be able to criticize a decision successfully, it is necessary to know the grounds for the decision (Wood 1995: 183).

2. This paper

The pragma-dialectical argumentation theory developed by van Eemeren and Grootendorst (van Eemeren & Grootendorst 1992) provides an instrument for analysing and evaluating discussions. This instrument consists of an ideal model for a critical discussion, that indicates which moves have to be made by participants who are trying to resolve a difference of opinion in a reasonable way. The ideal model may serve as a framework for the analysis and evaluation of real-life discussions.

As we will demonstrate in this paper, there is a striking resemblance between this pragma-dialectical ideal model and the first discussion in the procedure of Environmental Impact Assessment, dealing with alternatives and their consequences. However, the second discussion, in which the competent authority justifies the decision, clearly deviates from the model. The difference between these discussions is already evident from the size of the documents: the output of the first discussion - the EIS - is usually much more voluminous than that of the second discussion - the ROD. But, of course, size as such is not the issue. The issue is that the competent authority's obligations in the second discussion are poorly defined, which is not very beneficial to the rationality of the decision-making process about major projects. This observation is not just a theoretical one. The analysis of Dutch RODs shows that the argumentation in these documents often has important shortcomings. This means that there is a need for guidelines for improving the quality of the argumentation in an ROD. That is what we focus on in this paper.

3. Evaluating argumentation systematically and critically

The pragma-dialectical ideal model makes clear that parties who want to resolve a difference of opinion as reasonably as possible have to pass through four stages (van Eemeren & Grootendorst 1992: 35):

1. the confrontation stage, in which it becomes clear that there is a difference of opinion;
2. the opening stage, in which the parties agree on certain rules for the discussion they are about to undertake; for instance, agreement has to be reached on the criteria that will be used for evaluating the argumentation put forward;
3. the argumentation stage, in which argumentation is put forward *and* evaluated, not on an ad hoc basis but using the mutually agreed criteria from the opening stage as starting point;
4. the concluding stage, in which the parties jointly establish the result of the discussion.

In the case of an Environmental Impact Assessment, the first discussion focuses on the questions: what does the plan amount to? What are the alternative options? And what about the effects of the plan and of the alternative options?

The way in which this discussion is organized has striking similarities with the ideal model. The most convincing example is that the argumentation the project proponent puts forward in support of his factual claims and value judgements is not evaluated ad hoc: it is *systematically* tested, using criteria agreed upon at an earlier stage of the discussion. What is the case? The procedure of Environmental Impact Assessment includes a stage in which so-called guidelines for the Environmental Impact Statement are laid down (in EIS jargon, 'the scoping stage') before the writing of the EIS has actually started. It is these guidelines that are indicative for the evaluation of the information presented in an EIS. So, the evaluation of an EIS can be called 'systematic', just like the evaluation of argumentation in a critical discussion, since it is based on criteria that the parties have agreed on beforehand.

The evaluation of an EIS is also *critical*. In *Reconstructing Argumentative Discourse*, van Eemeren, Grootendorst, Jacob's and Jackson have clearly and convincingly outlined that the pragma-dialectical ideal model presupposes all kinds of conditions that are not always met in practice (van Eemeren et al. 1993: 30-34); for instance, the condition that the parties involved have no interest in a specific outcome of the discussion, that they are open-minded and (e.g.) that a

proponent who defends a standpoint is absolutely willing to be open to any criticism of his argumentation.

In the case of an EIA, one cannot make the assumption that the parties involved are open-minded: the project proponent wants to have it his way and very often the competent authority also has an interest in the implementation of the project. So, in the case of an EIA, important conditions for a rational procedure are usually not met.

However - as van Eemeren, Grootendorst, Jacobs and Jackson have pointed out - the very purpose of institutionalized rules is to deal with such unfavourable circumstances. And that is what happens in the procedure of EIA, at least in the Dutch and the Canadian procedure. To guarantee that the EIS is not only systematically but also critically tested, in these countries the evaluation of this document is left to a committee of independent experts, who have no interest at all in the implementation of the project (Commission for Environmental Impact Assessment 1998, Ross 1987).

All in all, reaching agreement about the relevant evaluation criteria beforehand, together with a systematic and critical testing afterwards, results in a rational development of the first discussion in a procedure of EIA. It also justifies a certain confidence in the accuracy and acceptability of the forecasts and evaluations of effects presented in the concluding chapter of an EIS. In this chapter, the effects are usually presented in a matrix, with the alternative options on one axis and the relevant criteria on the other axis, and the criteria scores in the cells of the matrix.

4. Record of Decision

In the second discussion, the competent authority has, as already mentioned, the duty to make a decision and to justify this decision in a so-called Record of Decision. In almost every country that applies Environmental Impact Assessment, the obligation to justify the decision is laid down by law. However, concrete requirements for the ROD have not been formulated in any of these countries. The American regulations, for instance, only mention the requirement that an ROD should contain the following elements (Wood 1995: 185):

1. a statement explaining the decision;
2. an explanation of the alternatives considered;
3. the social, economic and environmental factors considered by the agency in making its decision.

So, it is obvious that the decision on a project has to be justified, but it is not clear how that should be done. Contrary to the project proponent who writes the EIS, the competent authority is not committed to any rules. Freedom in itself is of great value, of course, but in the case of decision-making on major projects that same freedom results in RODs that vary considerably from case to case and often raise many questions.

What lies at the heart of the problem? As to an ROD, one could say: something goes in, and something comes out. The matrix in the EIS can be seen as the input, and the outcome is the final decision; that is, the choice of one of the alternatives described in the EIS (among which is the no-action alternative, which means that the project will not be implemented at all). If we take a close look at Dutch RODs, it appears that in general the input as well as the outcome are quite clearly presented. However, the problem does not concern input or output, but the 'missing link' in between: the process of balancing, of weighing the effects of the options. In this respect, the ROD about the expansion of Schiphol Airport is a clear example.

In this ROD, the Dutch government justifies its choice to expand Schiphol Airport by building a fifth runway. This option is compared with "a more environmentally friendly alternative". Including such an alternative in an EIS is a legal obligation in the Netherlands. The expansion of the airport has a twofold objective: firstly, it should enable the airport to develop into a so-called mainport; secondly, it should improve the environmental quality of the surroundings, which means for example that it has to lead to noise reduction and a reduction of the safety risks posed by plane crashes. The ROD refers to this twofold objective as "the core of the balancing process"; however, it adds that "criteria in terms of spatial quality and costs" are also part of the balancing process (Project Mainport en Milieu Schiphol, 1993b: 9).

Both the fifth runway and the 'environmental alternative' turn out to meet the mainport objective, which means that the choice depends on the environmental effects and on the - apparently also relevant - spatial and financial effects of the options. The striking thing here is that the government's preferred option fails to meet the safety standard: instead of reducing safety risks, it will increase them. According to the government, this requires "supplementary policy"; however, the government does not clarify what it means by that. Moreover, it is explicitly stated that the environmental alternative is better for the environmental quality than the preferred alternative.

Then why not choose the environmental alternative? The justification is extraordinarily short: “The government considers the spatial and financial consequences to be not acceptable” (Project Mainport en Milieu Schiphol, 1993b: 9-10). Criteria that do not belong to the “core of the balancing process” have apparently been decisive. But why? What part have the spatial and financial consequences played in the decision-making process? And where exactly can one draw the line between acceptable and unacceptable? These questions remain unanswered.

5. *What to do?*

We confine ourselves here to providing only one example illustrating the problems in Dutch RODs: as a rule, the input (facts and values with regard to alternative options) and the output (the decision) are crystal clear; the balancing process in between, however, is a black box. All in all, there is a remarkable discrepancy between the project proponent’s obligation to provide full and fair disclosure in the first discussion and the competent authority’s freedom in dealing with a crucial step in the second discussion.

The final question is: is there a way to justify a decision more rationally? The answer to this is yes, and inspiration can be drawn from the pragma-dialectical ideal model for a critical discussion. As explained before, the first discussion (about alternatives and effects) is rational because the evaluation of the argumentation presented by the project proponent in an EIS is not ad hoc, but based on criteria the parties have mutually agreed upon beforehand. This concept could also be applied to enhance the rationality of RODs in the second discussion.

In 1990 a Dutch quality newspaper published an interview with the Canadian philosopher and fallacy expert John Woods about fallacies (*NRC Handelsblad*, 19 June 1990). The title of the article was taken from a remark Woods made about his sister: Women are bad drivers. Look at my sister.

The first part serves as a standpoint; this standpoint is supported by the second part, the argumentation. The connection between the two is made by the unexpressed premise, that in everyday conversation is usually left implicit. The missing premise here is: what goes for my sister, goes for women in general. This premise makes clear what argumentation scheme has been applied; in this case the scheme of ‘reasoning by example’.

If one wants to evaluate the argumentation, it is not enough to evaluate the standpoint and the argument separately; the unexpressed premise also has to be

evaluated (van Eemeren & Grootendorst 1992: 94-102). For the evaluation of this premise, two questions are relevant:

1. Is it acceptable to justify a general statement with an example?
2. If so, is the example used in this specific case an appropriate one?

In other words, for the evaluation of the argumentation here, two questions are relevant:

1. Is it acceptable to apply this argumentation scheme?
2. If so, has the scheme been applied correctly?

For the argumentation to be valid, the applied argumentation scheme must be acceptable and have been applied correctly in this specific argumentation. Whether or not this is the case can be tested by the commitments the participants made at the opening stage of the discussion.

Argumentation in an ROD could be evaluated in a similar way. The decision functions as a standpoint, and this standpoint is supported by the facts and values from the matrix, serving as arguments. The connection can be made through the method that is used in the decision-making process and is left implicit here. In decision theories, this method is referred to as a 'decision rule'. The missing link here, i.e. the decision rule, has much in common with the unexpressed premise in a single argumentation. So, for the evaluation of the support of the decision and the missing link here, similar questions could be asked:

1. Is it acceptable to apply decision rule X?
2. If so, has decision rule X been applied correctly?

The first question suggests that decision makers may choose from a whole set of decision rules. And that in fact is the case. Much research on decision rules has been done by researchers in such disciplines as psychology, economics and sociology. Descriptive as well as normative research has provided insight into a number of issues: what decision rules are available? How do people use them? And how should they be used in specific situations? There are also researchers - for instance, the Dutch sociologists Gallhofer and Saris - who, through textual analysis, made a reconstruction of decision rules that were applied in specific political situations.

Two examples of rules that are often applied in decision-making about major projects are the following.

First of all: the conjunctive rule, or as Gallhofer and Saris – with reference to Herbert Simon – call it: ‘Simon’s rule’ (Gallhofer & Saris 1996: 36-38). This rule entails that for certain effects or aspects minimum requirements or critical values are set. The strategy that leads only to satisfactory outcomes, will be selected. In the Schiphol case this rule was intended to be applied: the chosen measure would have to meet two requirements, i.e. that of the mainport and that of the environment.

The second example is a rule known as ‘maximizing number of attributes with greater attractiveness’. Montgomery and Svenson provide the following definition: “This rule implies that the alternative with the greater number of favorable attributes is chosen. That is, if one alternative is more attractive than another alternative on a greater number of attributes, then the former alternative should be chosen” (Montgomery & Svenson 1976: 286).

Decision makers have several decision rules at their disposal, but they usually fail to make clear in their RODs which rule they have applied. This is problematic, because if the decision rule itself remains unclear, it will not be possible to evaluate the acceptability of the rule or to check its application. In other words: the balancing process remains a black box. A solution would be to select one rule and make it compulsory for all major projects, but that is not a very realistic idea. The best thing to do is to demand that it is clearly explained in an ROD what decision rule has been taken as a starting point and why. That is what readers need to know and what decision makers should pay attention to.

6. Concluding remarks

Environmental Impact Assessment is supposed to rationalize the decision-making process. As we have seen, this policy instrument achieves this purpose as far as the input of the decision-making is concerned. But at the same time, the instrument is remarkably ‘liberal’ with regard to the discussion in which the competent authority has to justify its decision. Further improvement of the rationality of decision-making processes requires that more attention be paid to these RODs, and especially to ‘the missing link’, the bridge between input and outcome.

This can be achieved by obliging a competent authority to divide its ROD into three parts:

1. input (with reference to the main conclusions of the EIS)
2. balancing

- 2.1 explanation and justification of the decision rule that is applied
- 2.2 application of the chosen decision rule to the case at hand
3. decision: given 1 and 2, what is the best alternative?

RODs that are structured in this way create better opportunities for a critical evaluation, because two crucial choices of a competent authority are made explicit: the selection of the appropriate decision rule and its application. This makes it easier to debate the final decision in an orderly fashion - which, in the end, is what RODs are all about.

On top of that, a starting point for rationality is that arguments and criteria for evaluating those arguments precede a conclusion. In the case of major projects, one often suspects that it is the other way around: the conclusion comes first - "We want that fifth runway, period" - and the arguments are 'collected' afterwards. This is possible because there are no prior commitments a competent authority has to deal with while justifying a decision. Decisions about major projects may, however, result in private citizens and the environment suffering significant damage. Therefore, at an early stage of the second discussion agreement should preferably be reached on how to balance the pros and cons of alternative options. The opening stage of the ideal model for a critical discussion is obviously present when the project proponent writes the EIS. It would definitely be beneficial to a systematic and critical evaluation of the argumentation in an ROD to oblige the competent authority to make certain commitments in advance. It should at least commit itself at an early stage to the use of a particular decision rule. Together with the application of the three-part structure we have provided, this commitment would certainly improve the quality of Records of Decision.

REFERENCES

Eemeren, F.H. van and R. Grootendorst (1992). *Argumentation, Communication and Fallacies; A Pragma-Dialectical Perspective*. Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers.

Eemeren, F.H. van, R. Grootendorst, S. Jackson and S. Jacobs (1993). *Reconstructing Argumentative Discourse*. Tuscaloosa and London: The University of Alabama Press.

Commission for Environmental Impact Assessment (1998). *New Experiences on EIA in The Netherlands; Process, Methodology, Case Studies*. Utrecht: Commission for EIA.

- Gallhofer, I.N. and W.E. Saris (1996). *Foreign Policy Decision-making; A Qualitative and Quantitative Analysis of Political Argumentation*. Westport, Connecticut and London: Praeger.
- Montgomery, H. and O. Svenson (1976). On decision rules and information processing strategies for choices among multiattribute alternatives. *Scandinavian Journal of Psychology* 17, 283-291.
- Project Mainport en Milieu Schiphol* (1993a). Planologische Kernbeslissing Schiphol en omgeving, deel 1, Ontwerp Planologische Kernbeslissing. Den Haag: SDU-DOP.
- Project Mainport en Milieu Schiphol* (1993b). Integraal Milieu-effectrapport Schiphol en Omgeving. Den Haag: Ministerie van Verkeer en Waterstaat.
- Robinson, N.A. (1992). International Trends in Environmental Impact Assessment. *Boston College Environmental Affairs Law Review* 19, 3, 591-621.
- Ross, W.A. (1987). Evaluating Environmental Impact Statements. *Journal of Environmental Management* 25, 137-147.
- United States Department of Agriculture, Forest Service* (1988). Final Environmental Impact Statement, Proposed Mt. Graham Astrophysical Area, Pinaleno Mountains, Coronado National Forest. Tucson.
- Wood, C. (1995). *Environmental Impact Assessment; A Comparative Review*. London: Longman Scientific & Technical.