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Large projects, decision making and EIA

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> *In the meantime, nobody should feel guilty if they recognise the script laid out above. There is no escape from manipulating fronts, seeking membership of communities, protecting fragile egos, manoeuvring for advantage and power, seeking to assert one's ethics over others, deploying discourse and establishing spiked rules to dominate others, disputing methodology and therefore professional or disciplinary competence. This is all normal behaviour. Our task is to be aware of how such normal behaviour intrudes into the myths about rational policy processes and continually threatens to confront fiction with a subverting reality.*
>
> (Wood 1998)

The previous chapters and their descriptions and analysis of the role of EIA in the planning and decision process of five Nordic large development projects has given us a plethora of examples of factors that have impact on the performance of the EIA process. Two projects led to substantial environmental impacts when they were implemented, two were never started and one is on the run. Four of the projects were planned under great political pressure and public debate. One seems to be a textbook case of good EIA and project planning practice. In three of the cases the EIA process seem to have had limited influence on planning and decision-making. In one case the EIA process clearly had an impact and in one the role is unclear.

Which over all final conclusions can then be made, on the basis of these cases, on the role of EIA in planning and decision making of large projects? The first point to be made here is that the five cases presented and the analysis made by Sager are good and beneficial inputs to one of the emerging areas of interest for EIA researchers and evaluators – the relation between EIA and decision-making. The second point to be made is that there seem not to be a wealth of

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empirical studies in this field and there is not yet indicators developed for the EIA performance of this issue as has been done for other EIA performance issues. The third point to be made is that studies in the field of EIA and the relation to planning and decision-making processes clearly demands links to for example planning, decision and policy theory.

Before going into these points a summary is provided of the conclusions presented in the case studies.

Overview of conclusions from cases

The following section gives a rough summary of conclusions. These are put together from statements and conclusions presented by the respective case authors.

National airport at Gardermoen

- The Gardermoen EIA process was probably the most extensive EIA process undertaken in Norway at the time.

- There were systematic weaknesses in the EIA process and document due to :
  - time constraints existed concerning EIA work
  - that the EIS was below average quality but the work was done according the state-of –the art in the Norwegian EIA arena at that time
  - lack of knowledge - major impacts were not foreseen, like water leakage and lowering of ground water table
  - that the analysis of environmental impacts were split into three separate EIAs causing poor over all assessment of impacts
  - high political pressure to finally make this project happen

- The EIA work was approved according to the Norwegian EIA legislation but the Mydske commission pointed out clear weaknesses in the EIA which makes it an open question if the EIA actually did comply with the regulations.

The over all planning process was tied together, through the EIA process but there seem to have been reduced impact and feed back from the EIA process on the over all planning process probably due to:

- Mismatch between the focus of the EIA work and the focus of the actual decision.
- High political pressure to finally make this project happen
- Unclear roles of actors in the over all process especially the role of the government.

Railway tunnel through Hallandsåsen

- The Hallandsås railway tunnel was seen as an environmentally beneficial project from the beginning.

- There were weaknesses in the first, second and third EIA process and documents:
  - No over all EIA was done giving the over all picture of recognised impacts (no legal demands on this existed). EIA was either done only according to the Water Act (before Government permission to expropriation right) or according to the Planning and building Act (for a working tunnel after the project had been started)./var det så?/
  - Some important technical and chemical methods were changed during the construction process which made the EIA analysis obsolete.
  - The objectivity, of the environmental monitoring team put up for the project, can be questioned, since it was put up by the developer/proponent.
  - The scope of the first EIA document was narrow and was not considered to be good enough by EIA competent authorities in Sweden.
  - The analysis in the second EIA was questioned by the Water Court being the EIA competent authority according to the Water Act.
  - The identified weaknesses in both the EIA documents resulted in minor changes in the EIA documents. But the first was considered enough by the Government to take its expropriation rights decision and the second enough for the approval of the project according to the Water Act. Both the Government and the Water Court did decide on an environmental monitoring programme to be conducted during the construction phase.
  - The proponent, developer, responsible for the EIA process and economic investigations was the same body – NRA – and they were also responsible for conducting the environmental monitoring program.

- Poor legislative support for good practice EIA process.

Despite the weaknesses described the work and planning procedures were conducted according to the legislative environmental and planning demands existing at that time (1990-1996). The fourth EIA document however, was broader in scope than the earlier ones, did result in NRA not getting a permit for lowering the ground water level further. At this instance wells had already dried up on the ridge because of the lowering of the ground water table.

There seem to have been reduced impact and feed back from the EIA process on the over all planning process probably due to:

- High political pressure to finally make this project happen and when it had started to get in finalised.
- A questionable mix of different roles for the Government and National Rail Administration (NRA).
- The technical and geological difficulties of building a tunnel through the ridge were pointed out before the location of the tunnel was decided and later several times in the process but not taken into consideration by the NRA.
- The decision on Government approval of the project was taken prior to start of EIA processes.

Final disposal of Nuclear Waste

- No great conflicts occurred during the EIA process. The conflicts that did occur concern the role of the developer Posiva Oy, the competent authority and the Vuojoki agreement.

- The developer, Posiva Oy, became a too dominant actor throughout the process. Many actors, mainly opponents of the plan, felt that a legitimate EIA process was impossible to achieve because of Posivas dominant role. Their dominant role did also probably steer the design of the EIA process towards Posivas needs of getting local acceptability for the plan.

- The competent authority for the EIA process of final disposal of nuclear waste in Finland is the Ministry of Trade and Industry. Their competence and neutrality was questioned by other actors, because of the Ministry's sectoral identity as productionists. This fact also contributed to diminish the legitimacy of the EIA process.

- Financial compensation was promised by the developer Posiva Oy to the municipality Eurajoki if they would get a positive result to the localisation from the public participation. This extra "process", called the Vuojoki agreement, caused much bitterness in the other three municipalities. Many actors felt that this agreement was not in line with the "EIA rules of the game".

- No analysis of more basic final disposal alternatives have been made, partly because of the legislation. This led to distrust and critical attitudes towards the plan and the EIA process.

- The EIA process and the political process concerning the decision in principle were operating at the same time. The public was confused by the different planning arenas in connection with the disposal process. The EIA arena was just one of many where there were possibilities to put forward ones opinions. This led to much confusion and to a decrease in public participation in the EIA process.

- People experienced a lack of transparency of the process and also that there were too long distances between the input from participation and the actual impact on the EIA process.

- There were insufficient time available to familiarise oneself with the research results presented in the EIA process. They were often to complicated for lay persons to understand. Not much pedagogic effort was taken to make the results easier to understand. The EIA programme and the EIA report were each the focus for public hearing during two months.

- The EIA of final disposal of nuclear waste in Finland was done in accordance with legal demands but the EIA process seem to have had minimal impact on decision making. Economic reasons for accepting the facility seem to have played the most important role for the municipality Eurajoki to accept.

- Over all conclusions of the EIA process for final disposal of nuclear waste in Finland are: The EIA process was in many parts well performed and was a success in the sense that is identified, predicted and evaluated the likely environmental impacts. There were problems though with EIA as a tool for policy making. For

Posiva, the developer, the EIA process was a success. They got acceptance for the project in the municipality wished for. The EIA did provide a useful mechanism for controlling and alleviating the worries, hopes and fears of the citizens and an efficient route for disclosing them to the authorities and the developer. The usefulness of the EIA process for decision makers is unclear since the process seem to have had little impact on decision making. For citizens and civil movements in general the EIA presented only one of several means of participation. For the general public EIA offered a way to exert influence, albeit at a very late stage in the process.

Rail link between Horsens and Skanderborg

- The project in question was never advanced to the decision making phase because the zero-alternative was chosen after the initial hearings in the scooping phase of the EIA process.

- The proposal for scooping of the EIS played a dominant role in the decision making process since it became one of the ultimate influences in decision making.

- There was full synchronization between the EIA procedure and the overall planning and decision making procedure. This synchronization is partly borne out by the fact that the proponent and the decision-maker are two separate actors in the constitutional power balance, and also by the fact that the sequential approach to decision-making, inherent in the national infrastructure decision-making procedure was undertaken by way of specific legislation.

- The effort committed to the preparation of the proposal for scooping of the EIA did reflect the size and severity of the possible impacts from the proposed project.

- The decisions on the project were taken after the proposal for the scooping of the EIS and public hearings were performed.

- The public was included in the scooping phase. This seems to be a stronghold in Danish EIA procedures.

- The EIA procedure can be characterized as a success since:

- The public succeeded in convincing the decision makers that the project should not be implemented,
- The EIA procedure provided for alternatives to be developed by which the proposed project could be assessed,
- The EIA procedure revealed that the project rested on a commitment in technological terms to specific developments in high speed train technology that no longer seemed as beneficial as five years earlier, when the proposed project was outlined.

An aluminium smelter in Reidarfjördur

- The actual project was never carried out.

- There were no formal requirements on the scoping phase at the time in Iceland. The formal EIA process started when the developer handed in a final EIS to the competent authority.

- A positive EIA decision is needed in order to get building and development permits.

- The EIS was in conformity with the legal requirements and in the guide line requirements.

- Timeframes of the project did put constraints on data collection and analysis.

- Critisism raised by the consultees and the public during the review of the EIS demonstrates lack of consultation during EIS preparation.

- Comments from consultees and the public came relatively late in the EIA process but had anyhow significant importance for the evaluation of the quality of the EIS done by the competent authority.

- On the whole the EIA process led to a comprehensive understanding of the main environmental impacts.

The performance of EIA processes and EIA systems

EIA processes

> *However, whilst the EIA process has brought tangible benefits in those cases where it has operated reasonably effectively, the full potential benefits have not been realised because, in a significant number of other cases, deficiencies in over all environmental effectiveness, cost effectiveness and decision-making have still occurred.*

(Lee, Walsh and Reeder 1994)

In three of the five Nordic cases, presented in this report, there clearly seem to have been minor influence from EIA on the over all planning and decision-making process. This result seems to be in line with results from evaluations of EIA processes and systems world wide. The link between EIA and decision-making seems to be one of the main deficiencies of EIA performance in most national EIA systems (see statements in for example Lee, Walsh and Reeder 1994, Sager 1995, Wood 1999, Barker and Wood 1999).

Several attempts have been made to develop indicators for the performance of individual EIA processes and for the performance of national EIA systems. In 1988 the Canadian Environmental Assessment Research Council advanced the below set of criteria, mainly suitable for individual EIA processes and the evaluation of their effectiveness, efficiency and fairness (Wood 1999):

An EIA may be considered effective if, for example:

- information generated in the EIA contributed to decision-making;
- predictions of the effectiveness of impact management measures were accurate; and
- proposed mitigatory and compensatory measures achieved approved management objectives.

Efficiency criteria are satisfied if, for example:

- EIA decisions are timely relative to economic and other factors that determine project decisions; and
- costs of conducting EIA and managing inputs during project implementation can be determined and are reasonable.

Fairness criteria are satisfied if, for example:

- all interested parties (stakeholders) have equal opportunity to influence the decision before it is made; and
- people directly affected by projects have equal access to compensation.

Judging from these criteria the two Nordic development cases that did get implemented i.e. Gardermoen and Hallandsåsen did not have EIA processes that can be considered either fully effective, fully efficient or fair. In both the concerned countries, Norway and Sweden, EIA legislation has however been changed later on which may lead to another judgement if EIA procedures were to be implemented on similar projects today. But the question here is if the Canadian criteria are accurate for assessing Nordic EIA processes? Developing criteria for the performance of EIA processes in a Nordic context was not the focus of this current Nordic comparative project. Therefore further evaluation of the cases based on the Canadian criteria will not be done in this context. But the task to develop relevant criteria has to be considered an important future research and development issue. In this context the case studies presented above do provide a good starting point for exploring the different facets of the performance of EIA processes in a Nordic context.

One special issue in the performance of EIA systems is the quality of EIA documents. Numerous indicators and methods have been developed for the evaluation of quality of EIA documents. But the question is how important the quality of the EIA document is for the influence of the EIA process on the over all project planning and decision process? In the case of Hallandsåsen it was clearly pointed out that a well done EIA document would not have made any difference since the EIA results were neglected anyhow. A similar observation has been made by Lee, Walsh and Reeder (1994). They conclude from their evaluation study: *the influence of the Environmental Assessment process, both on the final decision and on project modifications, seems to be no greater in the case of satisfactory, than of unsatisfactory, Environmental Statements*.

EIA systems

All of the five Nordic development cases had EIA processes conducted in accordance with their respective national EIA legislations. In the Nordic countries there is an over all tradition of comprehensive laws giving room for interpretations and good or bad practice to

develop. It is therefore interesting to ask if the performance in these cases were representative of the over all functioning of the national EIA systems. The authors of the case studies have touch upon this. The Gardermoen EIA process was considered to be below average. The Horsens-Skanderborg EIA process was considered to be representative as a process but not the outcome i.e. that the project was abandoned. In the Hallandsås case the EIA document was considered to be of an ordinary level compared to other EIA documents at that time. In the Aluminium smelter case there is no comment on this issue besides that there were previous experiences of EIA concerning aluminium smelters. And finally the final disposal of nuclear waste was a quite special case because of the nature of the development issue and may therefore not be very representative. The issue of representativity was not commented on by the author.

The task of developing performance criteria does also include developing criteria for performance of whole national EIA systems. Conclusions from a comparative study of eight different EIA systems concluded that the main weaknesses were found to be (Wood 1999):

- coverage;
- EIA report quality;
- integrating EIA into decision-making;
- impact monitoring and enforcement;
- mitigation;
- public participation;
- system monitoring;
- SEA

The above conclusions were based on an evaluation done according to 14 different criteria. National EIA systems included in the evaluation were these of California, USA, the UK, Canada, Australia and New Zealand, the Netherlands and Western Australia. The evaluation criteria were as follows:

1. Is the EIA system based on clear and specific legal provisions?
2. Must the relevant environmental impacts of all significant actions be assessed?
3. Must evidence of the consideration, by the proponent, of the environmental impacts of reasonable alternative actions be demonstrated in the EIA process?
4. Must screening of actions for environmental significance take

place?
5. Must scooping of the environmental impacts of actions take place and specific guidelines be produced?
6. Must EIA reports meet prescribed content requirements and do checks to prevent the release of inadequate EIA reports exist?
7. Must EIA reports be publicly reviewed and the proponent respond to the points raised?
8. Must the findings of the EIA report and the review be a central determinant of the decision on the action?
9. Must monitoring of action impacts be undertaken and is it linked to the earlier stages of the EIA process?
10. Must the mitigation of action impacts be considered at the various stages of the EIA process?
11. Must consultation and participation take place prior to, and following EIA report publication?
12. Must the EIA system be monitored and, if necessary, be amended to incorporate feedback from experience?
13. Are the financial costs and time requirements of the EIA systems acceptable to those involved and are they believed to be outweighed by discernable environmental benefits?
14. Does the EIA system apply to significant programmes, plans and policies, as well as to projects?

EIA and the influence on over all project planning and decision-making

> *However, in practice, it is still possible for decision-makers effectively to ignore the EIA,..*
>
> (Wood 1999)

The above quote is one of the conclusions from a comparative evaluation of the EIA systems in California, USA, the UK, Canada, Australia and New Zealand. The Netherlands and Western Australia was also included in the study but for these the conclusion was that the EIA systems are designed to secure that the results from EIA are taken into consideration in decision-making. The weak link between EIA and the over all planning of projects and the link to decision making has clearly been pointed out by for example Lee, Walsh and Reeder 1994, Sager 1995 and Barker and Wood 1999.

Studies on the contribution of EIA on the over all project planning have been concerned with for example the amount and importance of project modifications as a result of the EIA process. The

conclusion from an evaluation in the eight EU countries - Denmark, Germany, Portugal, Spain, UK, Belgium; Ireland and Greece - is that: *There is no doubt that the EIA process is bringing about modifications to the projects assessed, although many of the mitigation measures proposed are of minor significance* (Barker and Wood 1999). Lee, Walsh and Reeder (1994) concludes from their evaluation study of environmental assessment and project modification in UK that in about half of the cases investigated there were project modifications leading to environmental improvements of varying levels of significance.

There seem clearly to be an impact from EIA processes on project modification in a fair portion of cases, even of there is a variation in the environmental significance in the modifications, taking into consideration the results presented above. From the Nordic cases the influence of EIA on project modification can obviously be said to have been of minor importance for the Gardermoen and Hallandsås cases. In the case of final disposal of nuclear waste this was not really touched upon in the case description. And the project between Horsens-Skanderborg and the Aluminium smelter were never realized so no conclusions can be made for these on the project modification issue.

Evaluations of the actual influence of EIA on decision-making seems not to have been done so far in any great detail. There seems clearly to be a need to develop performance criteria for this issue (Lee, Walsh and Reeder 1994). There seems also to be a clear need to both empirically and theoretically explore this issue in more detail. Especially considering statements referred to earlier here highlighting the link between EIA and decision-making as being one of the main weaknesses in EIA implementation and practice. This must be considered not as one of many weaknesses of EIA but one being of major importance in the further development of EIA and in further research on EIA performance.

One important comment in connection with developing criteria for the performance of the EIA process and the link to decision-making is to take into consideration both the formal decisions (like project authorisation) as the many informal decisions that are made during the project planning process. The informal decisions may be of huge importance especially in major development cases where project planning takes place over a number of years including many actors and with high political stakes at hand. In the Nordic cases there is at least two clear examples, Horsens-Skanderborg and the Aluminium

smelter where the EIA process played a significant role for the formal project authorisation process. The outcome of these processes was a rejection of the proposed projects.

The current national EIA legislations (which in several of the cases presented is different today from the ones that were in force at the time of the cases) in the five Nordic countries do all have provisions concerning the relation between EIA and decision-making. From the description in Bjarndóttir (2001) it seems that Denmark, Finland, Iceland and Norway have provisions demanding that the grounds and reasons for the decision and how the EIA results have been taken into account must be stated in writing and also in most cases made public. In Sweden it seems not necessary to make clear the grounds and reasons for the decision or to make a written statement concerning this issue. What is asked for in the Swedish Environmental Code is that the competent authority shall take into consideration the results of the EIS. This must also be done according to the legislations in the other Nordic countries. It seems therefore that the Swedish legislation is quite weak on the regulation of the link between EIA and decision-making.

Large projects as communities and arenas

The quotation used at the start of this chapter may seem cryptic taken out from its context. It is taken from an article on the ethnography of consultant behaviour in projects (Wood 1998). The point I want to make by using the quotation here is that the enhancement of understanding EIA and its relation to project planning, decision making and authorisation is on one side dependent on legislation, impact assessment methods, quality of EIA documents etc but is also heavily dependent on the understanding of the role of different actors and their perspectives, division of power (implicit and explicit) and human behaviour in general. The point Wood (ibid.) makes is that a project can be seen as an arena, being the: *site of struggle among competing ideas and interests. We also have the activity of legitimating the arena itself, the reification of procedure to secure status for its outcomes, otherwise none if its participant actors has an interest in pursuing power within the arena*. All types of processes where people participate can be looked upon as meeting points, arenas, where different actors meet with their different perspectives (Asplund and Hilding-Rydevik 2001). Another point that Wood makes is that we should take into account normal driving forces of humans in understanding the nature of projects. And if we want to

get a more thorough understanding of EIA and its links to project planning and decision-making then it is the nature of project planning as a policy process and as an arena for humans that we need to explore.

The quotation from Wood (1998) also high-lights the often expected instrumental rationality, which ignores the involvement of humans, of planning processes of any kind. Understanding EIA in relation to planning processes needs to take into account the empirical findings and theories developed in relation to planning processes. The empirical research and theories developed do contribute to the understanding of EIA and its link to planning processes (Lawrence 2000). In not doing so the EIA research and practice community will "re-invent the wheel again" (Hilding-Rydevik 1996b). The connection to planning theory is especially relevant going into the role of Strategic Environmental Assessment (SEA) and planning processes. The relevance of planning theory for the EIA field has also been demonstrated by Sager in this report. As Lawrence (2000) points out there might also be interesting empirical material to be found in the EIA field of relevance for the planning field.

Most of the Nordic cases presented in this report do represent, in a project context, special cases. Most of them have been concerned with developments where the political "game" and political and economic stakes have been high. Therefore the description of the cases concerning final disposal of nuclear waste, Hallandsåsen and Gardermoen do lay out an interesting "chart" of human behaviour in the context of project planning and implementation of EIA. The development of criteria for EIA and its role in relation to the over all planning and decision-making process needs to be done from a multitude of perspectives. In the Nordic case of final disposal of nuclear waste, the benefits, or success, seen from the perspective of different actors was described. And if we do want to create an understanding of the nature of projects and the implementation of EIA we also need to recognise the different expectations that different actors have on the project planning arena.

Evaluation and effectiveness studies in the Nordic countries

Evaluations, effectiveness-studies etc. are not yet a main issue in the Nordic countries judging from an over view of Nordic research and development publications from 1996 to 1999 (Hilding-Rydevik and Heydenreich 2000). Before 1996 publications in this field was

even scarcer (as can be judged from the contents of Hilding-Rydevik 1996). There seem to be few attempts to have a closer look at and analyse the performance of national EA systems. Norway, especially, and to some extent Finland, seem to be the exceptions to this rule so far. The picture seems to support the opinion expressed in Emmelin (1998) on an overall paucity of evaluation in the Nordic countries, especially when compared to other environmental management and planning tools. There seem however to be a growing interest in this field in the Nordic countries. In Sweden for example a first attempt to develop criteria to follow up and assess the new Swedish EIA legislation included in the Environmental Code was published in 2001 (Naturvårdsverket 2001). And Nordregio will during 2001/2002 make an overview of quality assurance work in the Nordic countries in connection with the national EIA systems as a ground for developing the discussion on EIA and quality (financed by the Nordic Council of Ministers). This effort was derived from a mutual desire of a group of Nordic national officials, central to the field of EIA, to enhance the development in this field.

Conclusions

The results from the five Nordic cases presented in this report, together with the analysis of Sager and the results from international evaluation studies presented here do clearly highlight the need for further understanding of the link between EIA and the over all planning and decision making process of projects – especially large development projects. The development of performance criteria of this link must be considered a highly relevant research and development issue providing a ground for further development of EIA processes in the Nordic countries. The Nordic cases have provided a first "chart" of factors that have influence on the link between EIA and decision-making.

It could be argued that EIA systems should function especially well for large development projects since environmental impacts can be expected to occur in many of these cases. But when high political and economic stakes are at hand planning and EIA processes seem to become "distorted" thus, in some instances, creating even under average EIA processes and documents. The understanding of the nature of policy processes and human behaviour becomes especially important in these politically sensitive cases. This of course implies a need for the social sciences – policy analysis, planning theory,

organisational theory etc – to contribute to the field of EIA and decision making for example in relation to large development projects.

It can also be stated that the Nordic countries still do not have extensive years of experience of EIA legislation and implementation seen from an international perspective. But now, after roughly 5-10 years implementation of legislation there should be enough experiences to build upon in order to make evaluation studies and related research projects fruitful.

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