Experiences from Norwegian and Nordic case studies on SEA

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1 Introduction

1.1 Nordic studies

Since the mid 1990s the interest for Strategic Environmental Assessment has steadily been increasing in the Nordic countries. This is partly due the fact that all the countries have established formal EIA procedures, and have gathered experiences regarding the potentials and the shortcomings linked to EIA. Furthermore, the Nordic countries have participated in discussions linked to the introduction of the new SEA Directive within EU (Directive 2001/42/EC). On this background, several Nordic initiatives have been taken to study, explore and exchange national experiences with SEA, and the state of the art in the Nordic countries. In this paper we summarise two Nordic projects, covering case studies and synthesis based on environmental assessment for plans and programs in various sectors and planning in Denmark, Finland, Iceland, Norway and Sweden. The first study, here referred to as NI (Tesli et al 1998), was supported by the Nordic Environmental Research Programme. The project explored 11 contemporary cases through the active participation of researchers from Finland, Iceland, Norway and Sweden. The second Nordic study, here called NII (Lerstang et al 1999), was initiated by the Nordic EIA Group with grants from Nordic Council of Ministers. Here, 10 case studies were conducted based on a common Terms of Reference and with the active participation of experts and researchers from five Nordic countries.

Common aims of the two studies:

- To explore the documentation and reporting of Nordic SEA work, and consider options for improved practice
- To examine how the assessments are organised – including the participation of different concerned parties and the need to ensure openness and transparency
- To explore the relationship between SEA and the decision making processes, including the influence on the choice of particular strategic alternatives, as well as the use in downstream tiering processes
- To gather information regarding the application of methods, possible constraints and need for improvements
- To examine options for further development and application of SEA in a Nordic context

The purpose of the examination of these case studies was to analyze whether certain principles commonly recognised from Environmental Impact Assessment (EIA) methodology can be used to integrate environmental concerns into decision making for policies, plans and programmes (PPP) at national, regional or local level. The integration of environmental concern into policies, plans and programmes is commonly referred to as Strategic Environmental Assessment (SEA).

1.2 Central tasks in SEA and the development of a common understanding

In the literature the concept of strategic environmental assessment (SEA) is used more or less synonymously with EIA for policies, plans and programmes. However, when we compare definitions of SEA with the description of EIA, we find, that SEA is not just a direct transfer of EIA procedures to a more strategic level. The methods and procedures for environmental impact assessment of plans, policies and programmes cannot be identical to the methods normally ascribed to a traditional project-related EIA.

A large number of definitions have been introduced for SEA (Partidário 1996:33, Sadler and Verheem 1996). The authors generally agree that SEA relates to policies, plans and programmes that are carried out at more overarching – pre-project – decision making level.

The methodological and procedural aspects of SEA are, in our view, crucial. Our paper addresses some of the common definitions of SEA, and key characteristics linked to this.

When examining SEA, it is important to examine the political and institutional framework for the decision-making (Partidário 1996). To approach this, we discuss how and where strategic decisions are made.

One of the objectives of the projects we refer to was to examine whether central principles from EIA methodology are applicable when making EA for strategic decision making at national, regional or local level, i.e. at the level of policies, plans and programmes.

We argue that in the present stage of development of SEA, it is important not be too strongly linked to a narrow definition of SEA principles. A point of departure is found in EIA – where traditions and principles are rather well established – and it is reasonable to maintain that many of the principles from EIA will be relevant and applicable in strategic environmental assessment studies. This will apply particularly to environmental assessment of plans and programmes which constitutes the major part of the case studies referred to in this paper.

The organisational framework in the Nordic countries

The Nordic countries have several social, economic, cultural traditions and relationships in common. However, the approaches to planning, and the structure of the institutional framework, are, in many respects, different, and constitute an interesting basis for comparison and study.

Environmental Impact Assessment (EIA) is currently established as an important planning tool in the Nordic countries, and during the last decade all the countries have introduced EIA requirements for certain types of projects. The application of EIA at project level has proved to be an efficient way of assessing the potential environmental impacts of development proposals, as well as considering various alternatives and suggestions for mitigation measures. However, one of the main

weaknesses of EIA has been that the individual EIA is often carried out too late – that is; after more overarching decisions (with a lot of implications), have already been made. In such cases, the EIA only provides an opportunity to mitigate certain environmental impacts, but it is not possible to *prevent* them. This experience has resulted in a search for the possibility of integrating EIA principles and methodology into strategic planning and policy making.

International perspectives on SEA

Internationally it is widely agreed that there is a strong need to develop and strengthen SEA, and to have more research about how SEA is applied in practice, and how it is functioning in different countries and contexts (Sadler and Verheem 1996). There is a particular demand for comparative studies describing and analysing the situation in different countries, and with a coherent analytical framework – which will enable a discussion of the benefits and drawbacks of different approaches and strategies. Our studies can also help to define more clearly what strategic environmental assessment (SEA) actually is – and should be. A clearer notion and understanding of what SEA actually amounts to – and what its benefits may be – will also help in choosing routes for further development.

There are clearly different options and routes, from rigidly formalised procedures for revolving and well regulated public planning and decision making processes, to loosely structured obligations that cover a large part of the sectoral planning and decision-making.

Some valuable studies have been carried out on the role and application of SEA (Thérivel and Partidário 1996; Sadler and Verheem 1996; Elling and Nielsen 1996; Sadler and Dalal-Clayton 2003). However, many of the studies tend to look more at SEA´s theoretical, methodological and technical implementations, rather than its societal, practical and political implications.

Strategic environmental assessment (SEA) normally refers to actions at policy, plan or programme level. However, policies, plans and programmes are terms that have a wide range of meanings, and they are also often used interchangeably. There are no unanimously agreed, rigid or unambiguous definitions of what these terms mean. For example Schrader- Frachette (1985, 1991) sees a strict hierarchy with policies directing programmes directing plans and ultimately projects. Lee and Walsh (1992) in contrast note that the terms policy, plan and programme are used differently, and sometimes interchangeably. Elling (1997) identifies several types of plans and programmes, which are not necessarily in any hierarchical relation to one another. He and others (Sippe 1996) argue that there should be made a distinction between SEA when applied to questions of policy as opposed to its application to plans and programmes, which, to a higher degree, may employ EIA principles as for specific projects. At the policy level one will often encounter restrictions in questions relating to alternative evaluation, transparency in the process, involvement of interested parties and how to assess impacts, etc.

Also the (so-called) EU SEA Directive applies only to plans and programmes, and excludes policies from its field of application.

In accordance with Lee and Walsh, we do not consider an exact definition of policies, plans and programmes as essential for our purposes. Rather, we will speak generally about *strategic decisions* (or *strategies*) and will use the terms *plan*, *policy* and *programme* almost interchangeably, in the way that these terms are used in the administrative system that is being examined. For example; strategies for land use are often called plans; regional development strategies are commonly referred to as programmes; and overarching sectoral strategies are interchangeably referred to as policies, programmes and sometimes plans.

Procedures and common principles with respect to EIA

All descriptions of SEA contain certain discussions and criteria linked to the *process or procedure.*

It is widely accepted that SEA should be a systematic process in the sense that it should follow certain procedures, but the procedure does not necessarily need to be formal – or the same – every time. For example, Lee and Walsh (1992) regard SEA as a discrete process, which is, in a way, "injected into" the decision making process at appropriate stages. A similar aspect of SEA is also noted by Partidário (1996). At a practical level, different emphasis have been given to the question of how fixed the procedure should be. For example, should it include a written report, or should public participation be mandatory? Regarding the content, there is general agreement that the environmental assessment should deal with alternatives and a broad concept of environmental impacts.

One conclusion that we can draw from the discussion of the different interpretations of SEA, is that the various authors emphasise that environmental impact assessment for policies, plans or programmes, in certain respects, differ from EIA for projects – both in terms of contents and process.

The system and procedure for strategic environmental impact assessment will vary according to i.a. tradition, culture, legislation, planning systems, government structure. There are, however, some basic principles that should be in place in strategic decision making. Some of the principles are:

i) To generate a **common understanding** of the kind of *policies, plans, programmes* (or projects) that may have significant environmental impacts – **screening**;

ii) Identification of which impacts and concerns that need to be assessed, with what methods and procedures, and how detailed – **scoping**;

iii) Identification, formulation and **assessment of different alternatives**,

iv) Predictable, clear and efficient mechanisms for **consultation and public participation**

v) **Transparent, open and documented decision making**,

vi) Opportunity to **monitor and audit impacts**.

vii) Mechanisms for **tiering between policies/plans/programmes and projects** – that is, connecting assessments done at a strategic level and assessments done at project level, division of assessment tasks and referencing between the two levels.

2 Evaluation of cases in Norway and other Nordic countries

2.1 Two Nordic projects

The 21 cases from the two Nordic studies referred to above are partly from the study by Tesli et al (1998), here referred to as NI, and partly from the study by Lerstang et al (1999), here called NII in the following overview:

Denmark:

- Energi 21. A Danish national energy policy programme designed to integrate environmental considerations with energy policy (NII)

Finland:

- Strategic assessment of the "Nordic Triangle" in Finland – a major transport infrastructure plan for the southern coast (NI);
- The assessment of regional and national waste management planning (NI).
- An analysis of the energy saving programme and associated Environmental Assessment (NI)
- An examination of the Gene Technology Act focusing on issues and choices made during the preparatory stages preceding the Government Bill (NI);
- The reactions of different Administrative branches to draft guidelines on the assessment of the environmental impact of policies, plans and programmes (NI)
- Natura 2000, a nature conservation programme at the national level in Finland, based on nature conservation directives from the EU (NII);
- A local development plan in Kangasala municipality in Finland, where conservation and development interests were analysed (NII)

Iceland:

- A study of how environmental considerations can be efficiently integrated into land use management in Iceland (NI);
- A study of two regional plans in Iceland where SEA is an element in the preparation of plans, all based on new regulations (NII);

Norway:

- A study of county planning processes and impact assessment in two counties (*Hedmark* and *Nordland*) in Norway (NI);
- NVVP (1998-2007), study of the integration of SEA in a national plan for road infrastructure in Norway (NII);
- Ringerike, a local plan for development with integrated SEA-elements (NII);
- A major national coastal highway in Norway with SEA-elements incorporated in planning and decisions (NII);

Sweden:

- A SEA of the final proposal of the Communications Committee for a new national transportation policy in Sweden (NI);,
- A SEA of the study on Stockholm's future drinking water supply (NI);.
- A SEA for mining activities in the county of Västerbotten (NI); A SEA for the EU Interreg II programme for the Sweden/Finland Island region (NI);
- A study of SEA applied to long term municipal planning in two Swedish cities (NII);
- A study of SEA as applied to long term transport infrastructure planning in Sweden (NII);
- A study on experiences with application of SEA incorporated in regional development programmes as part of the EU Structure Fund (NII)

The case studies represent a large variety of plans and programmes at national, regional and local levels of planning and decision-making. The national level is represented by 12cases, while the other 9 have been exercised at the regional level e.g. in counties, or at the local level, most commonly in the municipalities.

In the case studies various approaches to SEA, procedures, methods, data requirements, etc. are discussed. The main purpose has been to present some examples of relevant types of issues and topics related to strategic environmental assessments.

Our studies have revealed that it is important to identify certain policy decisions and strategies, and that the decisions have to be formulated in such a way that it is possible to see whether environmental concerns are taken properly into consideration, and to have ways to document and monitor this. However, the identification of such strategic decisions may be quite complex. Elling and Nielsen (1996), for instance, note that a decision-making process that leads to the passing of a government bill consists, not only of a single decision, but of a series of inter-connected decisions. This can also be illustrated by the case of national road infrastructure planning in Norway, where important input to the final plan was generated through regional strategic processes. Here, concerns and strategic infrastructure alternatives for the region were assessed and prioritised through involvement by regional professional and political bodies.

2.2 The challenge of documentation – in the various phases of the SEA process

The case studies illustrate that actors have very different views regarding the likely impacts of policies, plans and programmes – and their significance. The views are also reflected in how the actors consider impact predictions: those who see potential significant adverse effects, demand more careful examinations and predictions, than those who find effects largely beneficial. The issues are further complicated by particular difficulties in predicting the effects of policies, plans and programmes. Such difficulties will commonly be reflected either in the documentation itself, by discussion on elements of uncertainty or by leaving out possible important concerns from the assessment process.

The case studies indicated various methodological problems that might have implications for SEA-reports and findings:

- The availability of relevant and reliable data, reference points and indicators in strategic planning and assessment is commonly difficult to obtain;
- Work on base line data and indicators starts too late in the planning and assessment process;
- The time available for assessments usually prevents long term studies. This challenge is further strengthened by the fact that it is often necessary to assemble data and carry out analyses over large regions and across sectors;
- Causal relationships are often complex. There is frequently disagreement on the nature of the relationships and on the causal mechanisms;
- For reasons indicated above, to conduct both quantitative and cumulative assessments may prove to be time and resource demanding, and is often unrealistic, leaving much to professional and qualitative judgement
- There is often a tendency not to reveal and document precise and professional reasons for stated qualitative judgements on effects and their significance - whether or not these judgements are based on more precise assessments of a quantitative or qualitative nature.
- Lack of process documentation with respect to scoping, efforts with respect to public participation and opinions expressed regarding concerns, alternatives and impacts.

Scoping

Most of the cases follow general guidelines for the planning processes, but without any specific and detailed guidelines on the documentation of the SEA work and results. Individual case studies have employed different types of planning and SEA schedules as a basis for directing the practical planning and SEA work, following some kind of initial scoping process, involving different

actors and with varying degrees of public participation. In many respects such SEA schedules or programmes (Terms of Reference (ToRs)) can be considered to be crucial elements of the SEA documentation, and provide insight into the decisions made and choices taken with respect to alternatives and interests to be considered, as well as the possible specification of effects to be focused upon in the SEA. Regarding case studies at the national level, e.g. national transport or energy planning, the use of specific SEA study programmes or schedules is not prominent. The Danish case of national energy planning probably provides the closest example, with reporting being made on the general conclusions of a scoping phase.

Among the cases exercised at regional and local level, several have included an active and public scoping phase, comprising a study programme for the SEA and other impact assessments. In particular this emerges in cases concerned with cross-sectoral municipal plans, i.a. the Norwegian municipal plan. As the experiences with such study programmes or schedules have been generally positive, it is reasonable to encourage further development and application of such tools, including the types of national planning represented in the Nordic projects.

However, even though there is some scoping taking place in the regional planning in Norway, the Terms of reference (or the study programme) for the planning process is not always focused enough. The county plans are rich in descriptions of planned and ongoing activities, but rather vague and unfocussed when it comes to: possible impacts, and consequences of the plan and its suggested activities. To a large extent, the plans appear to be lacking clear goals and strategies – particularly goals that it is possible to monitor or measure. More use of quantitative indicators and goals would be very useful in order to check and monitor goal achievements.

Documentation of other phases of the SEA work

Regarding the final *documentation* of the SEA studies, these are linked in various ways to the planning or programme proposals and their presentation. For the cases that are formally linked to national SEA requirements, the process has commonly resulted in a specific SEA report – both in the cases representing national planning as well as the ones at regional or local level. Furthermore, the results of the SEA work have usually been integrated in the planning documents. There are, however, several examples where the environmental studies have been undertaken parallel to an assessment of the plan's social and economic impacts. This has generally resulted in an integrated presentation of all types of impacts, and often at a high level of aggregation, e.g. using ordinal or interval scales of a more or less accurate nature. In several of the cases, there appear to be a need for a supplementary professional environmental assessment report to serve as a basis for public and independent professional review.

The case studies have either documented a complete SEA in a separate document and with a non-technical summary, or as an integrated element in a report containing a plan proposal and various types of environmental, social and economic impacts. We find a need to stress that, either in these documents, or in a

supplementary report, one should state, quite explicitly, the basis for the professional evaluations that are incorporated in the SEA. Even though many of the assessments and evaluations of impact significance are frequently qualitative in character, it is still necessary to provide transparent and available information about the basis for and the practice of the professional judgement – whether it is based on existing sources of information, or based on more detailed analytical work. This could also constitute, a basis for more independent professional reviews. In the Nordic case studies referred to here, such reviews have only occurred in very few cases. In our opinion, there is a strong need to generate a basis for this kind of professional review mechanisms. This is also reflected in the need for a more explicit handling of uncertainty in the assessments.

With respect to the case of county planning in Norway, the County Governor's Environmental Department (MVA) pointed out the lack of precision and priorities as important obstacles to successful plans. For instance, the County Plans may be interpreted in many ways. However, the plan should i.a. be considered on the basis that it is a *political* statement, and many opposing views thus need to find their expression or support in the plan. Furthermore, the strategies that are outlined are quite ambiguous, and the formulated action plans often appear as rather general or as bundles of intentions. The expected results of the county planning may often, to a large extent, lie outside the power or influence sphere of the County Council. This makes it difficult to carry out an analysis of the actual results of a specific county plan.

One must accept that all policy processes take place under uncertainty. The environmental assessment may reduce this uncertainty by highlighting key issues, by providing basic facts in a coherent framework and by displaying different views of reality.

A methodological challenge is to find an adequate level of detail as well as a satisfactory focus and scope for the assessment.

The county plans for Nordland and Hedmark were dealing more with the development and challenges of the economy and production sectors, rather than focusing on environmental challenges, such as: utilisation of land and coastal areas; natural resources; and the inter-relationships between the development in the different sectors. Furthermore, there were only limited assessments of the impacts and consequences that the various sector plans may have on the environment.

As for the National road infrastructure plan in Norway, goals and indicators for environmental assessment were generally predefined in the national guidelines for the regional and central work on various assessments. When regional and national actors focused on the need for assessing emission of greenhouse gases from road traffic, this was commonly regarded too late to influence the assessments.

All the points above underline the need for a wider application of two mechanisms, namely: i) that the SEA documentation addresses how uncertainties may influence the findings and conclusions; and ii) in cases of major uncertainties

or disagreements, independent professional or scientific review should be encouraged.

2.3 The challenge of public participation and transparency

To what extent is public participation ensured in the SEA process? Is the approach chosen in adequate manner taking into account the questions of transparency, openness and public participation in the decision-making and in the monitoring of the development process? This is considered to be a prerequisite for modern planning.

Public participation, openness and transparency

The institution responsible for developing a specific strategy may not always be interested in undertaking an environmental assessment of the strategy. Such an assessment puts new demands on the institution, and may require new procedures and working methods. This is a well-known reason for resistance against new regulations or requirements (March and Olsen 1989). There are also more subtle reasons; institutions are engaged in power struggles and in the development of political strategies.

However, when formulating policies or overarching plans or strategies, openness and participation in the decision making process may sometimes prove to be even more problematic than when relating to ordinary projects. The planning agencies, or other powerful actors, will not always regard participation as desirable before the particular strategy has been prepared and elaborated in more detail.

Transparency and public debate at an early, preparatory stage is not always natural or common, and potentially useful ideas may thus sometimes get lost in the process. The responsible institutions may also feel that early disclosure of preliminary ideas can lead to misunderstandings, or deliberate misuse of information, and can promote the interests of opposing interest groups.

To overcome this basis for resistance, the strategic assessments must thus not only appear to be useful from an environmental point of view, or from the point of view of environmental authorities, the various, responsible sector agencies also need to have sufficient incentives to carry out the assessment.

The motivation for SEA needs to be based on a general environmental awareness and a genuine attitude to foster sustainable development. This kind of incentives are not, however, likely to capture the interest of all relevant institutions and sectors, and it is, therefore, also necessary to enforce strategic environmental assessments through legal acts and regulations.

Transparency, openness and public participation are crucial aspects of project EIA, and are also considered to be essential in SEA. However, this cannot be achieved unless information is available on how the strategy may affect different groups, and with a regard to how the impacts are perceived by the various groups.

This must also be considered as important aspects that need to be taken into account at the various stages of the assessment.

Thus, when discussing SEA procedures it is important to keep an eye on possible trade-offs between *flexibility, predictability and public participation*. The SEA needs to be flexible in order to enhance its integration into policy making. However, flexibility, in the sense of lack of fixed procedures, is problematic, in particular; when it is less clear when, how and to what extent the public can be involved in the policy, plan or programme development.

Public participation at the strategic level poses special challenges. Only a few of the case studies examined, like the Norwegian municipal plan, included extensive public participation or systematic grass root consultations. In some cases, such as the Norwegian county plans, participation was open, and practically all groups that wished to obtain information and express their views regarding the plans had an opportunity to do so. In other cases, various forms of representative consultations and hearings have been used, and in the transport and energy planning in Finland, experts dominated the planning and assessment process. The public, or selected groups of the public, had some opportunities to express their views, but did not have proper opportunity to influence the assessment noteworthy.

In Hedmark and Nordland a large number of individuals and institutions – politicians, organisations, state representatives – participated in the county planning process. The overwhelming majority of participants were governmental actors, either from county, regional sector agencies, or State offices. Both public officers, "administration" and politicians were involved. It was expected that the politicians would keep more to the intentions of the County Plan if they also participated actively in the development and formation of it. Previously it has been difficult for certain offices, such as the County Governor's (Fylkesmannen) environmental department (MVA), to play a central role in the early stage of the county planning process.

Few of the cases we have examined provided innovative examples of how to deal with the results of public participation. Future approaches to public participation should address both *the means* of participation and *the use* and synthesising of the information that the public provides through the participatory processes.

Our case studies illustrate that environmental assessments inevitably deal with conflicting interests. Thus, a key task is to *display the different interpretations* of the implications of the *policy*, *plan* or *programme*. In this way, the assessment can support public discussions by presenting the different points of views of the actors. This could also generate conditions for more active involvement of politicians in the planning process. It was only in the Norwegian county plans that the assessment process can be said to have actively involved the participation of politicians – this being the case, even though also the other assessments dealt with very political issues and topics. In the other studies, the political processes either came subsequent to, or went parallel to, the environmental assessment. A key

question is thus whether, or to what extent, one wishes to see the environmental assessments of policies, plans and programmes as an explicitly political process – as opposed to a process that provides structured input from the public and experts for political decision making.

In the case studies, there has been a tendency to seek *consensus*, thus avoiding to deal with some of the potentially difficult topics or issues that may lead to *controversy* or *conflict*. Many of the possible conflicts are neglected at this strategic phase, and will often have to be dealt with in the concrete implementing stage of a project or a plan.

2.4 The importance of early influence on the choice of strategic alternatives

Are alternatives to the original proposals considered, and are the challenges associated with bringing in, and taking into account, environmental assessment at an early stage in the planning process properly taken care of?

The consideration of different alternatives is regarded as a key feature of project level environmental assessments and it has also been emphasised as essential for strategic assessments (Sadler and Verheem 1996: 173).

One central argument for SEA, is that project EIAs are often unable to discuss and handle relevant and meaningful alternatives. But this can also be problematic in SEA application. Part of the difficulty regarding alternatives appears to be the result of the strategic planning and decision making process itself: It is difficult to identify alternatives because the process generates a multitude of partial alternatives and decisions. Some of these are relevant at different hierarchical levels, whereas others are nested.

Identifying alternatives

The consideration of different alternatives is emphasised as a very important feature of strategic assessments. However, alternatives at the strategic level are not always evident, and it is often difficult to generate adequate treatment of them. The formulation and handling of adequate alternatives appeared to be difficult in virtually all of the case studies – suggesting that we here are touching upon a fundamental challenge for SEA.

It is difficult to identify alternatives because the process of formulating a policy, plan or programme generates a multitude of partial alternatives and decisions. The policy-making processes in the Nordic countries are also characterised by a strong inclination towards political compromise. Under such circumstances clear and explicit alternatives may sometimes be met with suspicion, because they can make the issues seem more extreme than the «middle alternative». In this kind of context, different concrete or clear-cut alternatives may appear as somewhat unrealistic attempts to predetermine the policy process.

It is generally quite difficult to specify alternatives for abstract strategies that lack both direct physical connections as well as clear financial commitments. In such cases, the alternatives may appear to be either relatively unrealistic, too uncertain or too normative. This dilemma may demand a different approach to the consideration of alternatives: the alternatives should be seen as general reference points and not as specific options among which a choice has to be made.

As noted above, some actors may perceive the demand for openness to be a problem. This can also be reflected in the way they want to deal with alternatives. Responsible authorities and politicians may sometimes feel that they give too much away if alternatives are formulated and examined in detail. One can expect this view to be common regarding politically controversial issues, where the tactic often is to claim that only one alternative is feasible, or that there is no point in discussing alternatives because only minor technical adjustments are going to be made.

The influence of SEA on generating alternatives

In our analysis of cases of national planning, we found only weak impulses from the SEA studies for development of new or specific *alternative* actions to enter the assessment process. SEA is here presented and largely understood to be a process of assessing and evaluating environmental impacts of predefined plan alternatives and a contribution to the basis for deciding upon these alternatives. On the other hand, there are several examples of regional and local planning where SEA has worked in a proactive manner and where *scoping* has generated new and relevant planning options.

Among the cases where scoping has generated new and relevant alternatives in the SEA process we find the Finnish and Norwegian case from municipal planning in the NII-study. In this study these and other cases included an active scoping process with various stakeholders and with a specific terms of reference for further assessments. In addition, these two cases also clearly illustrated the influence of the scoping process by the early identification of new alternative strategies to be a part of the further assessment process. In the NI-study, a relevant example stems from the case of county planning in Norway. In Nordland the activity that was carried out by the County Council at the initial phase of the County Plan process can be considered as a kind of scoping. It involved: politicians; administrators; representatives from the municipalities; state agencies; and representatives from other institutions and organisations. There is thus clearly a formal procedure linked to the initiation, carrying out, and approval of the county plans. However, parts of the planning process do not follow clearly formulated procedural steps, but are based more on the approach and model developed by the individual county.

It would not be apt to say that concrete EIA methodology has been much explicitly used in the preparation of the county plans for Hedmark or Nordland. Instead, the different sectors have been asked to come up with their individual statements regarding the environment. However, this tendency appears to be

changing: steps have been taken to have a more structured approach for the assessment of the environmental impacts of the next generation of county plans that are now under preparation.

Our studies demonstrate that alternatives at the strategic level can take many forms. But the alternatives are not always evident, and it may be difficult to generate adequate discussions of them. In the Hedmark county plan alternative development scenarios could have been envisioned, but explicitly formulated alternatives did not materialise. The identification and treatment of adequate alternatives appear to have been difficult in the majority of the case studies, suggesting that we here are touching upon a fundamental challenge for SEA.

2.5 The challenge of linking SEA to the decision-making process

A number of relevant questions occurred during the evaluations of the Nordic cases:

- To what extent has the SEA been a part of the most crucial decision making procedure?
- To what extent does the Nordic cases reveal linkages between SEA and the actual decision-making process?
- To what extent does the case studies indicate any real influence on the decision-making?

A series of variables will determine the conditions and forces that are dominant in preparing and deciding on a new plan, programme or policy. The institutional setting – which includes the organisational structure and history of the individual institution, its relations to other units, as well as its culture, will determine how the institution will act and operate .

The position of SEA in decision making

A common observation found in most of the case studies is that there are few compulsory guidelines for the role and position of SEA, both with respect to the process and the contents of the documents. For example; demands to *document* how important environmental effects of the chosen strategy are to be handled in the decision making are hardly mentioned. This should be considered up against the fact that much of the SEA development work has been undertaken on an *ad hoc* basis.

Furthermore, the role of the SEA in the decision-making process should be considered on the basis of the *timing* of the environmental assessment relative to the time schedule of the planning process itself. When SEA and associated activities commence at a late stage in the planning process, the work is commonly subject to significant time-pressure, and may easily acquire the character of a constrained (or limited) documentation of environmental effects of a few already defined planning alternatives. Problems of this kind were particularly revealed in

the case studies focusing on national planning. Here, we found only weak impulses from SEA to the development of new, specific planning alternatives. A typical example is the Norwegian national infrastructure road plan, where all the strategic plan alternatives had been predefined from the outset. On the other hand, in the cases dealing with regional and local planning we found several examples of SEA work commencing at an early phase, and being coordinated with the progress of the ordinary planning process. This actually applies to examples of municipal as well as regional planning in Norway, Finland, Iceland and Sweden. In several of these cases we found impulses from SEA studies reflected in the development of new and strategic alternatives. This was particularly manifest in the case studies of multi-sectoral municipal planning in Finland and Norway where the key alternatives in the decision making phase were formulated partly on the basis of the environmental assessments. A clear potential for influence was similarly found in case studies in Finland and Iceland.

The role played by SEA in the concluding phase of the decision making is naturally a key issue. In connection with this, it is necessary to document that environmental aspects and considerations have in fact been on the agenda in the decision-making process, either in the form of a separate report or in the planning documents. Regarding the cases dealing with national level plans and programmes, we found that environmental assessments featured prominently in two out of five cases in the NII-study. This occurred in spite of the fact that in the early stages, the planners had demonstrated little eagerness/willingness to initiate the work on environmental assessment. In other NII cases, at the national level, some quite comprehensive environmental assessments were started early and carried out, but without any clear indications that this actually influenced the crucial parts of the decision making. At the regional and local levels in the two Nordic studies, however, there are indications that the comprehensive SEA work to a higher degree actually influenced the decision-making and the outcome of the process. This was the case, both in the abovementioned municipal plans from Finland and Norway, as well asin the case of master planning in a Swedish city (Helsingborg). These case studies indicate that SEA actually constituted an important and integral part of the basis for the crucial decision-making, and provided important premises for the content and follow-up procedures.

In the NI study, the county planning case from Norway (Nordland) also indicates clear links to decision making. Here, the County Council made the decisions regarding the objectives, strategies, structure and content of the new Count Plan, and decided on common requirements for the County Plan. This functioned as a sort of mandate or Terms of Reference for the general planning process. The County Council also agreed that the CP should be a strategic plan. It should not be all-encompassing, but should rather concentrate on the most important and prioritised areas. Some essential topics, such as environment; sustainable development; youth questions; issues related to the situation of women; sami politics; etc. should be integrated into the general planning work. All should be carried out within a cross-sectoral cooperation and approach.

Moreover, in Nordland there is a clear linkage between the County Plan, the operational action plan for the County, the budget, and the concrete monitoring of the results. Furthermore, in the formal process of developing the plan, there has been an *active dialogue* between the political leadership and the administrative leadership of the county. The politicians and the administrative personnel agree that the work with the county plan has contributed to strengthen the communication and dialogue with the municipalities and the State agencies operating at county level.The extensive and wide participation of different groups and organisations in the county planning process, has helped sort out several differences, and to identify central priority areas. It should, however, be discussed whether more of the responsibility and authority for the land use planning and physical planning should fall under the authority of the county level, and there is a need to let the County Plans become more formally binding for other plans that are prepared and implemented in the county.

The influence of SEA on subsequent decision-making

Although it appears to be challenging to present definitions that can accurately differentiate between policies, plans or programmes, we consider it more useful to discuss *certain key characteristics* of the strategies in questions. Such characteristics may be: *the kind and strength of the financial mechanisms or support included in the strategy*; the *degree of direct physical connection* or implications; the *strength of control over future decisions; etc.*

For instance; when examining the degree of financial control and physical connection, we find that what is usually referred to as *policies* often have only relatively weak direct physical, or land-use implications or instructions. On the other hand, some policies may imply strong direct economic implications. Land use planning usually has strong physical implications, and more diffuse, or relatively weak direct financial implications, this even though the financial implications of a land use plan may be substantial.

The degree to which the strategy involves direct financial mechanisms or support thus varies between different strategies. At one end of the continuum, we find subsidy schemes that have been instigated for specific purposes such as, for instance, guaranteeing a certain income for farmers. At the other end, we find plans, policies and programmes that change, for instance, the relations between different actors by setting up new management procedures.

Another important characteristic of plans, policies and programmes is the degree to which they have *direct physical implications or connections.* Land use plans are typically closely linked to specific locations, and their implications can be interpreted in the form of physical change. The other extreme is represented by programmes such as those for energy consumption and saving, which often lack a physical dimension at the strategic level, although they may have indirect physical effects, such as the development of production areas for power-stations, bio-energy, etc.

A third characteristic that can be discussed relative to the degree of physical and financial management, is the level of control exerted on future – more detailed – decisions. In more technical SEA and EIA terms, we refer to the type and strength of possible *tiered* systems of planning or decision making. Land use planning is typically part of a tiered system, and approved general plans may have a strong influence on more concrete future decisions. Similarly, strategies that set clear and strong restrictions such as environmental norms or standards, or which prohibit certain types of activities, may have a strong influence on future decisions. On the other hand, strategies formulated in a more general manner, may have only relatively weak influence on the more detailed planning and decision-making.

Environmental assessments are intended to serve and guide decision-making. From an efficiency point of view, the question is to what extent it is possible to identify the effects of the environmental assessments in the crucial decision-making. Generally it is difficult to document this kind of effects: a particular decision is affected by numerous impulses from various sources.

Our case studies provide examples of both acceptance and neglect of the assessment findings. The Swedish Communications Committee refers to the assessment. Similarly the assessment of the regional plans in Norway can be traced in subsequent decisions. In the Finnish transport infrastructure case, however, subsequent decisions at the level of the state budget have been made without reference to the findings of the assessment. The questions and issues raised in the Finnish national waste management assessment have continued to play a role in the waste management decision-making, but the whole plan was met with severe questioning at the Council of State.

The different positions of environmental assessments are also related to how the initiation of the planning and the environmental assessments were made. In the cases where environmental assessments have been actively used, the need to assess the proposed policy, plan or programme had been a starting point in the planning. Those assessments that were neglected in the subsequent decision-making, had partly been forced upon the responsible authorities by public opinion or by other authorities.

Monitoring and evaluation of actual impacts are important tasks in the policy making process (Vedung 1991). The Norwegian county plans have a built-in system for monitoring of major impacts, it appears that none of the other cases present clear stipulations of what should be monitored and how the monitoring should be organised. Without a proper consideration of what and how to monitor, the environmental management of the policies, plans and programmes will lack an essential part. The absence of adequate monitoring mechanisms will make it difficult to further evaluate the policies, plans and programmes.

Integration and tiering

Given that policies, plans and programmes differ in their characteristics, so would: a) the procedures that will be considered useful and applicable for SEA; b)

the scope, content and the substance of the SEA; as well as c) the criteria for evaluating the SEA. The context-dependent adjustment of the strategic assessment appears to be a necessary condition for its integration with other preparatory aspects of the strategy.

Since most of the cases represent descriptions of a particular planning or policy process, our studies do not provide a basis for an extensive analysis of tiering. The available evidence from e.g. the transport infrastructure plan in Finland do not indicate strong tiering, instead the infrastructure planning is a mixture of top down and bottom up processes. The Swedish Interreg II regional development programme is also a typical mixture of top down and bottom up processes. In Iceland there has been a lack of co-ordination between land use planning and different sectors' plans, and the consistency between different planning levels has been weak.

In the Norwegian county plans some tiering could be observed. In Hedmark the county plan generated a coordinated plan for transport and land use planning that is quite promising. In Iceland tiering is made part of the new Land Use Planning Act, and in the Stockholm water management the strategic assessment is expected to provide general directions for future decisions. Thus the case studies reveal examples of successful tiering and of poor tiering. Even when it exists, the tiering is not, however, very tight, and it leaves considerable option for future action and development.

The issue of tiering is closely related to the implementation of the policy, plan or programme, and especially the relative strength of top down versus bottom up processes (Hill 1993:2-3). Policies, programmes and plans with close connection to land use are in principle more manageable for clear tiering, and in land use planning it is legally institutionalised. There are obvious advantages with tiering in such cases. A lack of tiering in land use planning would in fact lead to a waste of planning resources and potentially also to serious land use conflicts. However, regional development programmes often represent bottom up approaches to planning. In such cases too rigorous tiering may hamper discussions, assessments of key decisions and public participation. Therefore, our studies do not suggest that formal tiering is advantageous in all assessments at strategic level.

The Swedish mineral exploitation case illustrates that environmental assessments can be quite complex and difficult, because there is a lack of formal planning decisions. This can be a basis for disagreement regarding the proper definition of the planning context. Furthermore, several of the case studies also indicate the possible complexity of the planning context in more formalised systems, e.g. the Norwegian national road plan, where regional processes, including impact assessments, preceded and generated input to the final plan and its associated environmental assessment. This is also illustrated by the Norwegian case on municipal planning, where preliminary assessments were conducted as a basis for decisions on the content of a planning and study program.

The willingness to apply SEA in the decision-making process

In our studies we have identified some obstacles to environmental assessments in PPP. This can also serve as an illustration of the difficulties that sometimes face open and transparent planning and decision-making:

- Some ministries and sectors are somewhat reluctant to SEA;
- Some sectors have reservations regarding application of SEA, because it means increasing the involvement of the environmental sector;
- There has been a lack of mechanisms and functions to enforce SEA, as well as a lack of operative requirements for SEA;
- Formalised guidelines and recommendations on how to implement SEA principles have been lacking.

On the other hand we also observed changes that suggest facilitation of the use of environmental assessments as a new and important tool in planning and central decision-making. These include:

– Gradual learning within public institutions, and by the general public, through various examples of ongoing strategic assessments;
– Environmental assessments have involved more professionals actively in land use management;
– The public gets more involved, as project and strategic level environmental assessments have received attention as being new and potentially more efficient approaches to environmental issues than earlier practices.

3 Discussion and perspectives

3.1 Identifying policy processes and their environmental connections

The introduction of environmental considerations into strategic decision-making has been considered to be one of the main advantages of strategic environmental assessments (Sadler and Verheem 1996:169-170). The Nordic experiences indicate that environmental assessments have the potential of becoming efficient environmental policy instruments, although this may not be fully achieved without considerable extra effort.

The studies about energy and transport policy planning in Finland illustrate how the definition of the planning context and policy problems strongly affect how the need and purpose of the environmental assessment will be seen. Similarly, the case on mineral exploitation in Sweden illustrates that it is difficult to incorporate EA because there is a lack of formal planning decisions. Hence disagreements or controversies may occur regarding the proper definition of the planning context. Claims about the context may be used for addressing or avoiding responsibilities

and for making statements about the freedom of action. The controversies regarding the adequate problem definition are related to the actors' differences in background, interests, opinions and awareness – and may in the end be conceived as part of a sort of power struggle. Sometimes the definitions and perceptions made by the ones in powerful positions may be accepted without questioning. The political weight given to environmental issues may in these cases appear to be too weak. The concept of *transparency* and *openness* in EIA and SEA is a way of addressing this problem. Transparency is meant and believed to be a crucial mechanism to counter-balance the uneven distribution of knowledge, information – and power.

The problems of manipulation, or biased interpretations of, policy issues cannot be solved by the development of environmental assessment practices alone. But awareness regarding these issues is, of course, important. In our studies we have observed, and documented, a positive interest for the introduction and use of strategic environmental assessments within several sectors and levels.

3.2 The Nordic case studies – common findings

The problem of screening

It is important to *identify* the *central decisions* that together will constitute the strategy of a policy, a plan or a programme. Furthermore, it is useful to examine certain *key characteristics* of strategies where SEA will be of particular importance or relevance. Such characteristics are:

- the *kind* and *strength* of *financial mechanisms* or implications included in the strategy;
- the degree of *direct physical connection*; and
- the *strength of control over future decisions*.

Our studies have revealed that it is important to identify certain policy decisions and strategies, and where the decisions have to be formulated in such a way that it is possible to see whether environmental concerns are taken properly into consideration, and that this is documented and possible to monitor. However, the identification of such strategic decisions may be quite complex. This is clearly illustrated by the case studies representing various levels of planning and decision-making.

Public participation, openness and transparency

Public participation at the strategic level poses special challenges:

- The responsible institution, or some other powerful actor, will not always regard participation as desirable. Lacking formal procedures, it is not always clear when, how and to what extent, the public can be involved in policy decisions.

- It is important to keep an eye on the possible *trade-offs* between *flexibility*, *predictability* and *public participation*. The SEA needs to be *flexible* in order to enhance its integration into policy making. However, flexibility, in the sense of lack of fixed procedures, is problematic first and foremost for public participation.
- Our cases illustrate that environmental assessments often deal with conflicting interests. Furthermore, in many cases there is an inclination/tendency to seek consensus, thus avoiding having to deal with some of the difficult topics and issues, that may indicate – or lead to – controversies or conflicts. To support public discussions and decision making, a key task is to display the different interpretations of the policy, plan or programme, and to be more explicit with respect to the distributional effects as well as the significance for those affected .

Monitoring of decision-making and impacts

It is often very difficult to document the effects of strategic choices: a particular decision is affected by numerous impulses from different sources, which may or may not match. We can therefore ask to what extent it is it possible to identify the effects of the SEA in the decision-making? The case studies provide examples of both acceptance and neglect of the assessment findings. In the cases where environmental assessments have been actively used, the need to do the assessment had commonly been identified by the responsible authority at the outset of the planning process. Those assessments that were neglected in the subsequent decision-making had partly been forced upon the responsible authorities by public opinion or by other authorities.

The case studies provide examples of both acceptance and neglect of the assessment findings:

- A common problem is associated with a late initiation of SEA relative to the planning process, and the fact that much assessment work has been made on an *ad hoc* basis, and with few working guidelines, both with respect to the process and on how the findings from the SEA are supposed to be taken into account in the subsequent decision making.
- Many cases – especially at the national level – are of a kind constituting a constrained (or limited) documentation of environmental effects of already predefined alternative actions or policies – leaving little room for major changes.
- Other cases, especially at the regional and local level, indicate that SEA has been reflected in the development of new alternatives and in the final decisions.

Tiering

The issue of tiering is closely related to the implementation of the policy, plan or programme and the relative strength of top down versus bottom up processes. The two Nordic studies have not been of a kind that makes it possible to follow the cases through different tiers of planning and decision-making. However, the following observations indicate a potential for future development:

- Policies, programmes and plans with close linkage to land use are in general more manageable for tiering, and in land use planning, it is often institutionalised.
- We found examples of successful tiering and poor tiering. However, most commonly the issue of tiering has not been explicitly addressed.
- Moreover, even when tiering does occur, the tiering is not very tight, and it leaves considerable option for further action and improvement.
- In general, there seems to be a need for further exchange of information regarding successful tiering in various situations, and related to how tiering may improve both the quality and the efficiency of SEA practice.

The consideration of alternatives

The consideration of alternatives is regarded as a key feature of project level environmental assessments, and it has been emphasised as very important for strategic assessments. However, alternatives at the strategic level are not always evident, and it is often difficult to generate adequate discussions of them. For instance, abstract strategies that lack both direct physical implications as well as clear financial commitments are often difficult when it comes to specifying alternatives.

The formulation and treatment of adequate alternatives appeared to be difficult in virtually all of the case studies, suggesting that we here are touching upon a fundamental challenge for SEA.

Policy-making processes in the Nordic countries often unfold through a series of compromises. Under such circumstances explicit alternatives may sometimes be met with suspicion, they may sometimes appear almost as “misplaced concreteness” or as somewhat unrealistic attempts to predetermine the policy process.

Furthermore, the responsible authorities and politicians may sometimes feel that they give too much away if alternatives are formulated and examined in detail at a premature stage.

Impact evaluation: accepting uncertainties

The strategic environmental assessments that we have examined all encountered various methodological challenges: There is often/commonly a lack of data;

reference points and indicators are often missing; methods to deal efficiently and adequately with cumulative effects are inadequate; and the time available for doing an assessment usually prevents long-term studies.

If all details are supposed to be examined and studies are commissioned to clarify «all» impacts the result will be a mass of information that is difficult to comprehend. Furthermore the time and resource demands are likely to be prohibitive. The alternative is to accept that all policy processes have to take place under certain amount of uncertainty. The environmental assessment may reduce this uncertainty by highlighting key issues, by providing basic facts in a coherent framework and by displaying different views of reality. A methodological challenge is thus to find an adequate level of detail as well as a satisfactory focus and scope for the assessment.

3.3 Perspectives on further application

One of the main advantages of strategic environmental assessments has been the introduction of environmental considerations into strategic decision-making. The Nordic experience indicates that SEA can become an efficient environmental policy instruments, but also that further efforts are necessary in order to achieve its full potential. In addition, it seems that the SEA procedures and traditions may in various ways promote to a wider application of strategic planning instruments and decision-making in itself, and pave the way for a more systematic preparation of upper level decision making. Today, the best practices examples are the cases representing regional and local planning and land use management, as well as certain sectors with well-established planning systems and procedures for decision-making.

Some of the obstacles that have been observed, and that indicate some of the difficulties facing open and transparent planning and strategic decision making are twofold: Some sectors and ministries are still somewhat sceptical to SEA - as well as EIA. Second, there seems to be a need for enforcing mechanisms and functions as well as more operational guidelines and recommendations for improved practical application of SEA. This exchange of information and use of guidelines should be based on best practices examples, and address:

- The SEA-process and implications for generating alternatives, public participation and transparency
- The challenges associated with professional assessment at strategic levels of planning and decision-making
- Options and best practices with regard to reporting
- Challenges with respect to tiering

Lastly, we realise that gradual learning takes place within different sectors in the Nordic countries, and that the professional and scientific networks are expanding.

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