

The use of EIA and SEA relative to the objective of sustainable development

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Dynamic Development in a Sustainable World

Background Paper

The use of EIA and SEA relative to the objective of sustainable development

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Background paper

The use of EIA and SEA relative to the objective of sustainable development

By Arne Tesli

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1. Introduction

1.1. Background

The world is currently going through a series of economic and political changes linked to processes of globalisation, privatisation and deregulation. These international development trends will probably also be dominant in the next decades, and will have strong impacts on environmental development. This puts new and heavy demands and constraints on decision-making linked to environmental management and planning, as well as on the implementation of development strategies and policies in order to achieve sustainable development.

A lot of people tend to talk about *sustainable development* (SD) without defining what they actually mean by this, or how the concept should be operationalised. We will suggest an approach for how SD can be operationalised and made more concrete, where we link it to the central decision-making that has to be done in connection with environmental management and planning at different levels and in different sectors. We will argue that Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) can be important mechanisms in operationalising sustainable development.

As a point of departure, we ask: How can Environmental Impact Assessment and Strategic Environmental Assessments be used as tools and mechanisms to achieve sustainable development? We will describe and assess experiences of EIA and SEA in Europe and other OECD countries, as well as in some developing countries and in countries in transition, and we will discuss to what extent these experiences may be of relevance to, and can provide insight into, the application of EIA and SEA in order to achieve sustainable development.

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1.2. Central development changes

During the last decades, some major policy changes have come to play a significant role in the development of the international economy. The *International Effectiveness Study*¹ identified some central challenges linked to the major economic development tendencies and changes (Sadler 1996):

- *Globalisation*. The globalisation and growing integration of the international market contribute to an increased pressure on natural resources. This also increases the need for strengthened international EIA standards and requirements.
- *Deregulation processes* that reduce the importance of the public sector in economic life constitute a transformation from “management and control” to an approach that puts more emphasis on “monitoring and sample tests”.
- Increased *privatisation* will boost the need for national and international agreements, and will make it necessary to have clearer environmental management standards and regulations.
- *Desentralisation of public management*, and delegation of responsibility for managing the EIA system from the central, national level to the local authorities, can lead to a *fragmentation of responsibilities* regarding the decision-making for projects that may have significant adverse environmental impacts.
- Larger and more complex projects, plans and programmes, that may have correspondingly larger environmental impacts and consequences, are being planned and implemented. The vagueness and uncertainty that often applies to the assessment of potential environmental impacts of proposed projects should be brought to the forefront and discussed more thoroughly.
- Technological developments and changes are taking place very rapidly, and policy-makers may sometimes have problems addressing these changes in advance. This puts particular demands on the system for environmental management and planning and our ability to choose and adapt strategies and procedures that are in accordance with the objectives of sustainable development.

All these processes and trends increase the need for strengthened international EIA standards and requirements.

1.3. Problems and challenges identified by the World Commission on dams

The World Commission on dams has carried out an extensive examination of central problems and challenges linked to large dams and other development projects. The main objectives of the commission’s work were to review the development effectiveness of large dams; assess alternatives for water resources and energy development; and develop internationally acceptable criteria, guidelines and standards for the planning, design, appraisal, construction, operation, monitoring and decommissioning of dams.

¹ In 1993 the International Association for Impact Assessment (IAIA) in cooperation with the Canadian Environmental Assessment Agency (CEAA) took the initiative to the EIA Effectiveness Study. This is one of the most authoritative and comprehensive examinations of the international experiences of EIA.

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The commission was given the task of identifying ways of improving decision-making on utilisation of water and energy resources. However, the findings are not only confined to dams and the energy sector alone, but are also similar to, and can be applied to, many of the problems and challenges linked to large development projects in other sectors. The commission's findings and recommendations regarding decision-making and environmental management and planning thus have a wider relevance and applications than just for dams and energy projects, and a lot can be learned by utilising the commission's experience also in other sectors. The main findings presented in the commission's report are:

- “As experience accumulated and better information on the performance and consequences of dams became available, the full cost of large dams began to emerge as a serious public concern.
- In too many cases an unacceptable and often unnecessary price has been paid
- shortfalls in technical, financial and economic performance have occurred and are compounded by significant social and environmental impacts, the costs of which are often disproportionately born by poor people, indigenous peoples and other vulnerable groups.
- Large dams have demonstrated a marked tendency towards schedule delays and significant cost overruns,
- Large dams have typically fallen short of physical targets, did not recover their costs and have been less profitable in economic terms than expected
- Efforts to counter the ecosystem impacts of large dams have met with limited success owing to the lack of attention to anticipating and avoiding impacts, the poor quality and uncertainty of predictions, the difficulty of coping with all impacts, and the only partial implementation and success of mitigation measures.” (World Commission on Dams 2000).

The commission recommends a planning framework that responds to these faults and problems.

“As the Global Review of dams makes clear, improving development outcomes in the future requires a substantially expanded basis for deciding on proposed water and energy development projects – a basis that reflects a full knowledge and understanding of the benefits, impacts and risks of large dam projects to all parties. It also requires introducing new voices, perspectives and criteria into decision-making, as well as processes that will build consensus around the decisions reached. This will fundamentally alter the way in which decisions are made, and improve the development effectiveness of future decisions.” (ibid.)

The Commission suggests that such a planning framework will need to ensure that the decision-making linked to this kind of large development projects:

- “Reflects a comprehensive approach to integrating social, environmental and economic dimensions of development;
- Creates greater levels of transparency and certainty for all involved; and
- Increases levels of confidence in the ability of nations and communities to meet their future water and energy needs.” (World Commission on Dams 2000).

The Commission's recommendations do, to a large extent, coincide with the experiences and recommendations for carrying out good quality EIA, and I argue that the methods and procedures developed for carrying out EIA, addresses the same kind of questions, and try to meet these

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requirements and needs. The Commission summarises the main values that underpin its understanding of these issues under five principal headings:

- Equity;
- Efficiency;
- participatory decision-making;
- sustainability; and
- accountability.” (World Commission on Dams 2000).

These issues constitute the core values of the Commission’s report and it aligns itself with “the emerging global commitment to sustainable human development and on the equitable distribution of costs and benefits.” (World Commission on Dams 2000). These issues and values also coincide closely with the ones identified by OECD in the discussion of prerequisites for sustainable regional development (OECD 1996).

We will, therefore, relate the discussion of sustainable development to the experiences gained from 30 years experience of applying EIA. This has been summarised in the international study on the effectiveness of EIA as a tool for planning and environmental management (Sadler 1996; and Sadler and Verheem 1996). We will also relate it to the findings and recommendations of other studies and evaluations carried out in the Nordic countries (Husby et.al. 1997, Hilden, et.al.1998, Lerstang and Plathe 1999).

2. Sustainable development

2.1. Definition

The term “sustainable development” has been interpreted and used in very different ways by various actors and institutions, and there is a need to come up with a more concrete notion of what should be meant by it. In *Our Common Future*, the Brundtland Commission stated that *sustainable development* refers to preserving and maintaining the Earth’s natural environment, resources and bio-diversity for future generations (World Commission on Environment and Development 1987). This implies that the natural resource capital must not be exploited more than its capacity and ability to reproduce; the pollution must not be larger than the surroundings’ capacity to absorb; and it is necessary to have a system of production, consumption and distribution that takes due account of other people living locally; in other communities; in other countries; as well as future generations. That is, one continuously has to think and act in terms of a *local, regional, national and global context*.

2.2. Prerequisites for sustainable development

What should sustainable development imply in terms of economic development; in terms of enterprises’ and individual actors’ behaviour and adaptations? OECD has taken the challenge that lies in this question, and has discussed how sustainable regional development can be achieved (OECD 1996). The OECD report presents a discussion of, and an interpretation of the concept sustainable development, and identifies the following fundamental requirements:

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- The need for *public governance*. To ensure that institutions and actors act in ways that are in accordance with desired development. This can not be achieved through the governance or steering by the market forces alone.
- The need for *economic efficiency*. It is necessary to have an allocation of resources, goods and services that are as efficient as possible.
- The need to take into consideration developments and conditions in the *long and medium-long term*. This is also related to the limitations linked to the reproduction of natural, cultural and human resources.
- The need to take into account the *international and global dimensions of environmental questions*. That is, all decision-makers have to consider the impacts and effects that their decisions may have *beyond* their own borders and societies. The various actors and decision-makers must act and behave in a *local, regional, national and global* context and perspective – That is, with *global responsibility and solidarity*.
- The need to develop an *environmental ethics*, that, among other things, should take into account the *insecurity* and irreversible processes that are linked to human actions.
- A need for *solidarity and equality*, both geographically and socially. This refers to distribution of resources and incomes: globally and between generations.

The OECD report points at some clear prerequisites on how to deal with questions related to *equity, solidarity and planned and structured development*. But it also implies that there is a need to incorporate *social and economic impacts into the assessment of environmental impacts*, and that environmental management and planning need to be more influenced by such a *holistic approach*.

Some of the objectives identified by OECD may, to a certain extent, be said to be in opposition to, or contradictory to, each other. There is, perhaps, a particular opposition between *social and geographical equality* on the one side, and *economic efficiency*, on the other – at least when viewed in the short term. Moreover, these requirements and prerequisites are also in opposition to some of the most important and dominant development trends and ideologies linked to current globalisation and international trade. In particular, perhaps, the tendency to give political preference to deregulation and increased privatisation. In order to achieve sustainable development, there is, therefore, a need to both address these issues, and to prioritize between them.

2.3. The need for formal planning and an environmental management system

As indicated in the OECD-report, sustainable development can probably not be achieved without a formal system of environmental management and planning, and with a formal basis in laws and regulations, coupled with clear guidance and guidelines for planning procedures and methods. This implies that the environmental management system and planning system must have a strong *political foundation and support*. Moreover, such a system must rely upon *transparency, openness and public participation* in the *decision-making* and in the monitoring of the development process. It is in this context, that I emphasise the importance of environmental impact assessment and strategic environmental assessments as crucial tools and mechanisms for environmental management and sustainable development.

3. Environmental Impact Assessment – Experiences and challenges

3.1. Experiences with EIA

Today Environmental impact assessment (EIA) is globally recognised as a very important tool for environmental management and planning. Over the last three decades EIA has contributed to the improvement of planning procedures and decision-making in connection with large development projects in most parts of the world.

EIA was originally site- and project oriented. Gradually, however, we encounter larger and more complex projects, plans and programmes that may have quite significant and extensive environmental impacts and consequences. This puts demands on the development of the EIA system and our ability to choose and utilize methods and procedures for the assessments of new situations and development trends. Sadler has pointed out some of the central features of EIA (Sadler 1996; Tesli and Lerstang 1999):

- Internationally we have about 30 years experience of applying EIA;
- The most essential methods and procedures have been identified and are well established;
- Gradually one has got a better grip on handling the most important procedural steps;
- In general EIA results in a better and more informed basis upon which to make decisions;
- EIA contributes to reduction and/or mitigation of environmental destruction and deterioration.

Some of the most crucial challenges for the EIA system today, are the problems linked to the *practical operation and implementation of the EIA system*. This is not only a problem in developing countries, it is also the case in countries where the EIA system has a strong legal footing, as well as an economic basis upon which to conduct the assessments.

3.1.1. Challenges linked to EIA

Today most countries have introduced EIA legislation and regulations, and the international donor agencies require EIAs to be carried out in order for large projects to be approved and supported. However, the EIA regulations and type of formalisation varies a great deal. In some countries the EIA has a strong formal basis in legislation, in others it is based more loosely in recommendations and guidelines. In some states EIA is closely incorporated into the system and procedures for physical planning, while elsewhere it functions very much as a separate planning tool, operating much in parallel with the ordinary system for physical planning and land use planning.

In many instances, a country's EIA system (regulations and guidelines) has been developed and introduced by external, international consultants. This means that it is often based on models of EIA systems established in other countries, that has a different planning tradition and framework, as well as development context. In this way, the EIA-system is often not properly integrated with the overall planning framework; with the institutional and organisational structure, and the distribution of power or responsibilities for the handling of EIA that exist in the individual country. The EIA procedures in many countries thus appear to be somewhat 'foreign' to the established planning and management system. This also means that the EIA does not get a chance to function as efficiently as it could have.

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Even though there is a vast number of large projects in the developing countries and in the OECD countries, the quality of the EIA and the environmental impact statement (EIS) has not been good enough in very many cases. Various problems occur at different stages in the EIA process, and in the subsequent planning and implementation of the project. These examples of poor quality EIA do not contribute to give EIA a positive connotation among the authorities or among the general public, and the result is that there is still a relatively widespread scepticism towards EIA in many countries and sectors.

There is a need to have more examples of “Best practice” EIA that can function as guidelines for how to conduct EIAs for large development projects.

3.1.2. International experiences

Even though a lot has been achieved, in most countries the real potential of EIA has not yet been fully utilised. *The International Effectiveness study* (Sadler 1996) demonstrated that some of the main challenges for successful implementation of EIA are linked to the following aspects:

- *Attitudes*: Some developers and institutions are reluctant to – or opposed to – using EIA, and try to limit its application.
- The *institutional* question: The application of EIA is too narrow, too limited and too inconsistent.
- The *procedural* aspect: The knowledge and understanding of EIA, the guidance and the implementation is not consistent or homogeneous.
- *Structural*: In many countries EIA appears to be a relatively distinct – or separated – planning process, not sufficiently integrated with the rest of the planning system. It is important that EIA becomes integrated with other planning procedures, both on the side of the planning authorities as well as on the side of the main developers.
- The *technical*: The quality of the EIA and the Environmental Impact Statement (EIS) varies a great deal. In many countries the EIA and the EIS barely comply with what should be considered minimum requirements or standards.

Challenges that are linked to the procedural steps and the methods of EIA, and that have been emphasised in the Effectiveness study are (ibid.):

- *Public participation*. There is a need to increase the participation of actors and individuals that are involved in, or should be involved in the EIA process.
- *Conflicts* regarding the costs and benefits of the proposed projects.
- Aspects related to the *reliability* and uncertainty linked to the assessment of the impacts and consequences of the proposed activities.
- The *fragmentation of responsibility* to manage the proposed activities and their impacts.
- Better approaches for *monitoring and follow-up studies*.

3.1.3. Nordic EIA experiences – main weaknesses and challenges

In the Nordic countries the experiences of more than ten years of formal EIA legislation and practice have been relatively good. However, even though a lot of resources have been allocated to strengthen the EIA system in the Nordic countries, and the system has been through major revisions

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since formal regulations were first introduced in the early 1990s, there are still some weaknesses in the EIA system in these countries that can be observed, and which are of relevance for the development of the EIA system also in other countries.

Several reviews and assessments of the EIA system in the Nordic countries have been carried out, and the experiences from these reviews have been summarised in various reports. (Husby et.al.1997; Elling and Nielsen 1996; Balfors 1997; NIBR/Ministry of Environment 1999). However, even though a lot has been achieved, there is still a need to strengthen the EIA procedures and application in these countries.

3.1.4. Complex EIA regulations and lack of capacity to implement EIA

One of the reasons for inefficient implementation of EIA in many countries, is probably that the EIA regulations are too comprehensive and complex. The complexity puts very strong demands on the capacity of the agencies and actors that are set to implement the regulations, and with limited resources and capacity, this is a crucial problem.

In a number of countries lack of resources has been indicated as one of the main obstacles for implementing and monitoring the EIA regulations in a good and efficient way. This indicates that there is a strong need for *clear and simple rules and regulations* for the EIA procedure. One could, of course, hope for more resources and funds to develop capacity, but these are often difficult to get. It also indicates that one should strive to strengthen the opportunity of the general public, environmental interest groups, NGOs and others to be involved in commenting on the EIA, and in monitoring the impacts of the various projects and activities.

Furthermore, *if the regulations are not efficiently implemented or enforced*, this may, in time, also *undermine the legitimacy and acceptance of EIA as an important management and planning tool*. And if started, such a process may be difficult to curb. The EIA regulations should therefore be as simple and easy to implement as possible in order to be sure to achieve implementation and enforcement of, at least, some minimum requirements and standards. On the basis of this kind of minimum standard, one can later gradually develop, strengthen and make the EIA system more complex and comprehensive.

3.1.5. Compilation and weighting

There is now a tendency to have specialised, discipline-oriented sub-analyses as part of the EIA work, especially in connection with large and complex development projects, where you get very thorough analysis of certain topics or sectors. The so-called “Health impact assessment”, “social impact assessment”, economic impact assessment, and so forth (Lee²). These studies are conducted in the name of making deeper and more thorough examinations and analysis, but this can also be perceived of as a tendency among the experts to return to their respective disciplines, to focus upon what is of strongest interest for them: The economist doing what he/she always has been doing, the biologist covering his/her main topic of interest, and so forth. Thus losing one of the most important aspects of EIA: the *integrated* approach: Compiling and comparing different alternatives; different impacts; weighting; and bringing it all together in a considerations of the *total picture*. Furthermore,

² This was discussed and elaborated by Norman Lee in a lecture at the 1999 IAIA-Conference in Glasgow.

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this compiled picture should be something that it should be possible to interpret for the lay-person, as well as for civil servants and policy-makers that have to make the final decisions regarding whether to let the proponent go ahead with the project.

The practice of using *methods and procedures for compiling and weighting* different impacts and alternatives is often not done satisfactorily. Sometimes large and complex EIAs have been carried out, but the compilation and weighting of the different impacts and alternatives appear to be quite limited. This does not help the decision-makers in their job, and it is not informative for the general public.

3.2. Steps towards more efficient EIA regulations and practice

Some of the most important challenges linked to the development of the EIA system are related to the *practical improvement and strengthening* of the different *stages* in the EIA process. The problems that have been observed in connection with the practical implementation of EIA occur at all identified procedural phases of the EIA process. The most important issues linked to the EIA procedures are:

- The *Screening* of projects
- The *Scoping*. That is, the *determining of the Assessment programme*³ for the EIA.
- The *division of, and allocation of, responsibilities* between the different actors involved in handling the EIA. Of particular importance is the role of the *Competent Authority (CA)*. That is, the official agency or institution that approves the EIA work and the Environmental Impact Statement (EIS).
- *Quality Control* of the EIA procedure, as well as the Quality control of the EIS; methods used, alternatives considered, etc.
- Public participation and involvement in the EIA process and in the decision-making.

If the problems linked to the practical operation, functioning and implementation of the EIA system becomes too large, i.e. if the EIA system is not functioning satisfactorily, this may in turn become a strong force to undermine the EIA system. Therefore, it is in the interest of the EIA system to reduce or eliminate the ways in which it appears as inefficient and problematic.

3.2.1. Screening of projects

In some countries the screening means an individual consideration of practically all proposed projects and activities in order to decide whether an EIA should be required or not. This is, of course, a very time-consuming and resource-demanding process. EIA should not apply to all kinds of projects or activities. It is a too complex, too time-consuming and too expensive process to require EIA for all kinds of activities. EIAs should be reserved for the type of projects where it is necessary. Planning and regulations of other ordinary projects should be handled by ordinary planning procedures and regulations. To conduct EIAs for projects that have only minor, or already well-known, impacts or consequences will be a waste of resources, and can only contribute to undermine the legitimacy of the EIA system. At the same time, it is important that EIAs are carried out for large development

³ Also referred to as the Study programme or the ToR for the EIA.

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projects that may have significant impacts on environment, natural resources or society. It is therefore necessary to have a distinct *screening procedure* that is quite clear regarding the type of project for which an EIA is required.

Referring to the EIA regulations in a number of countries, we ask whether the screening mechanisms are appropriate and useful relative to the environmental challenges and the capacity of the authorities responsible for environmental management and protection. In some cases one should ask whether there is a danger of the screening becoming too cumbersome and time-consuming, and how does the application of the EIA regulations relate to the projects and activities where EIA is most strongly needed?

In many cases the screening of projects is not efficient. It may be difficult to develop procedural steps on how to decide for which types of projects an EIA shall be required, and alternatively, for which ones an EIA is *not* required.

EIA should be compulsory for certain types of projects. In several countries lists have been introduced indicating the types of projects for which an EIA will always be required, and there is usually a second list of projects, for which specific criteria and thresholds are used to determine whether an EIA will be required or not (European Commission 1997a). It is important to discuss the *thresholds* and the *criteria* for requiring EIA for the listed activities. What should the criteria be, and are they too wide or too narrow? Thresholds should be further developed and specified to identify the projects that really may cause significant adverse environmental impacts.

In situations where the EIA regulations do not prescribe in detail whether an EIA will be required, one may think that the regulations are more flexible. However, this can also mean that there is no guarantee that an EIA will be carried out, or what kind of EIA that will be conducted. And this should be considered a weakness in the regulations. It does not ensure or provide homogeneity regarding the requirements for EIA between different sectors, and perhaps not even within a specific sector.

3.2.2. Scoping – Determining the Assessment programme for the EIA

There are two underlying principles that should guide all EIA work:

- i. The EIA should *not be superficial*; it should address the necessary questions and topics with adequate methods, resources and time.
- ii. At the same time, the EIA should be *time- and cost-efficient*. It should not take too much time, should not be too resource demanding, and should not address issues and topics that are not of relevance and interest for the decisions that are going to be made.

The main objectives of the scoping procedure is to establish a relevant, adequate and sufficient assessment programme; to carry out an appropriate narrowing down of the topics to be assessed; and at the same time ensure that the EIA goes sufficiently deep into the various topics. A lot of EIAs struggle with these objectives – even in countries where the EIA legislation and procedure are well established, and where a lot of resources are allocated and used in order to have: a) a good EIA process; and b) to produce EIA documents – and particularly Environmental Impact Statements (EIS) – with good quality. It is, therefore, important to have a good process linked to determining which elements should be included in the assessment, what methods should be used, how deeply one should go into the examination of these impacts, etc. – That is, *the scoping*.

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Several reviews and studies have revealed that the quality of the EIA and the EIS depends very much upon the quality of the scoping. In other words, determining the assessment programme for the EIA is of crucial importance (Sadler 1996; Husby et al. 1997). If the scoping is not good enough, the actors may lose the focus regarding what should be the main results of the EIA. Part of the EIA may be unnecessarily detailed, and may be addressing issues that normally should not be a natural part of the EIA. We therefore emphasise the importance of letting actors representing different interests and field of experience to be consulted and to be able to come with their comments, and to influence the outline of the EIA also during the scoping.

It has been observed that sometimes the EIAs tend to lack a clear relevance relative to the main questions that are asked in connection with the essential decision-making. In the cases where the EIAs do not manage to address the questions and topics that are of most relevance and interest to the central decision-makers and the general public, the EIA is not a good decision-making tool, and it will not manage to influence or convince the ones who are going to make the central decisions. One of the main objectives should therefore be to produce an EIA that is of relevance for the central decision-makers. If the EIA does not succeed in this, the quality of the EIA is not good enough. That is, *the relevance for the central decision-makers is one of the main criteria determining the quality of the EIA.*

3.2.3. Treatment of alternatives and cumulative effects

The description and discussion of various alternatives are very important aspects of an EIA. In most countries the treatment of alternatives appear to be one of the major challenges of EIA. Steps should be taken to ensure that alternative locations and alternative technical solutions are discussed and assessed in the EIA, and, at least, the 'no action alternative should always be included and assessed.

Another issue of concern, is that it is important to be able to take into consideration the impacts that are accumulated from a series of smaller development projects and activities.

3.2.4. Innovation and a more differentiated approach to EIA

There is a need to improve the practical implementation of, and the efficiency of, EIA in a number of ways. It is necessary to stimulate innovation and to have new approaches for how to carry out EIA work. On the basis of the experiences gained from the way EIA has been practised, one can say that there is a need for innovation along at least three lines of action:

- The need to have a more differentiated EIA approach;
- The need to have a better EIA approach for projects that generate considerable conflict; and
- To link the EIA to a general Environmental Management Plan (EMP).

First of all, there is a need to have a more differentiated approach to EIA. In order to achieve a more project-related differentiation, two approaches are suggested:

- i. Projects that are *particularly large and complex* should have a more comprehensive and scientifically broader and deeper EIA process and examination than ordinary projects. For this kind of large projects, there should be a considerable and strong element of scientific quality in the assessment and reporting, and one should try to develop new methodological approaches in the different phases of the EIA work. For instance, one could organise a kind of *panel* studies, similar to the ones that have been carried out in Canada. These panel studies were setting a

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standard for a lot of other EIA-work. In many countries, the largest EIA cases have *not* functioned as this kind of “good practice” examples for how to conduct an EIA.

- ii. For the more “ordinary projects”, similar to the ones mentioned, for instance, in the European Commission’s EIA Directive Annex II (European Commission 1997a), and other smaller projects that may appear to have relatively limited impacts, one could suggest an EIA approach similar to the one that was developed in Canada, in what has been termed *Class Assessment*. Here they developed relatively brief guidelines or manuals for how to handle environmental impacts of certain categories of smaller projects. In many countries it would perhaps be a good idea to establish something similar for certain types of projects that need impulses from EIA thinking and methods, and which get a less thorough treatment according to the provisions stated in the established planning regulations. Some relevant types of projects could be quarries, forestry roads, large parking plots, golf courses, windmills, etc. This kind of work, could also be used to develop a stronger motivation and encouragement for how EIA can be applied and used in connection with what is perceived of as “ordinary projects”.

3.2.5. Handling of conflicts

There is considerable disagreement and conflict linked to many large development projects. The handling of these conflicts must be improved, and one needs to develop some arenas for negotiations relating to this kind of projects. As early as possible in the planning process, and in the dialogue in connection with the notification and consultation, one should strive to uncover the different stakeholders’ interests and opinions regarding the proposed project. Negotiations through discussions and exchange of information should be looked upon as a positive opportunity to achieve more understanding and as a step towards establishing consensus about the impacts of the project, or as a basis for finding new solutions or agreements. So far, this kind of approach has not been fully utilized in connection with EIAs both in the OECD countries as well as in the developing countries.

Some of the key principles in negotiation theory are linked to being able to focus on interests rather than on persons; to find creative solutions based on common interests; and to insist on the use of objective criteria (Fisher and Ury 1982). Provisions for negotiations as an optional procedure has been incorporated into Canadian legislation in 1992 (Sadler 1993). Its application is quite flexible, and it is supposed to function complementary to the panel studies. An independent mediator is assigned an important role in the negotiation process. Affected authorities are also supposed to be involved in the negotiations. One should try to see if similar approaches could be developed in other countries. Particular guidelines need to be developed for this kind of negotiations.

A strengthened dialogue like this could contribute to the affected parties and others involved in the process not being left with a feeling of being alienated relative to the proposed project or the EIA system. If the actors are left with a feeling of being powerless, this can contribute to undermine the legitimacy of the EIA system.

3.2.6. Environmental Management Plan – Monitoring and follow-up

The EIA regulations should put emphasis on, and provisions for, setting up an Environmental Management Plan (EMP). This should include the monitoring and management of environmental effects after the activity has received its ‘authorisation’. After the approval of the project, there will normally be a period of concrete planning. The monitoring should be linked to the construction phase as well as the operation phase of the activity. Procedures should be established to report from the

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monitoring and review the activities. This can be used to modify or change projects or activities that are under construction or operation.

In order to determine the accuracy, relevance and adequacy of the EIA, there is also a need to conduct follow-up studies. So far, this has been done only in a limited number of cases.

3.2.7. Integrating EIA with other environmental management and planning tools

In many states there is now an interest to move away from letting the environmental authorities carrying out the direct management of the environmental resources and environment, and instead to have a strengthened mainstreaming and facilitation of the environmental functions within each sector. This, is a sensible strategy, and should be a guiding principle for the design of the EIA procedures and regulations.

In line with this, some countries have considered whether the setting up of environmental sections or divisions within the different sector departments would help improve the implementation of EIA and environmental management in general. However, we are somewhat sceptical to this idea. If one establishes environmental divisions in each sector, it will probably contribute to generate more bureaucracy. In a lot of cases it would probably be better to strengthen the institutions that have been established, and that have the responsibility for monitoring environmental development cross-sectorally. That is, it is important to mainstream environmental considerations and thinking into the general work of the different sectors, but at the same time to have highly specialised environmental departments and agencies (such as the Pollution Control Agency, the Wildlife Department, etc.) that monitor and control the development across sectors. A strengthened support of these specialised institutions gives them a chance to further improve their efficiency and expertise in environmental protection and management.

In general it is a problem that the EIA regulations are often not properly integrated with other planning legislation and tools for environmental protection. In many cases it is necessary to clarify how the EIA relates to and utilises other environmental management regulations and mechanisms, like, for instance, the Pollution Control Act; the Act dealing with protection of cultural heritage; protection of nature and wildlife; and so forth.

3.3. Responsibilities of the different actors involved in the EIA process

The division of, and the application of, the responsibilities vested in the different actors is a matter of crucial importance for the quality of the EIA. Ill-defined allocation of responsibility for the management and approval of the EIA and EIS can have significant impact on the quality of the EIA, and this can be looked upon as a central weakness in the EIA regulations in a number of countries.

3.3.1. The Competent Authority

The role of the Competent Authority – the official agency with the authority to approve the Environmental Impact Statement (EIS) – is of particular concern. There are several questions linked to the role of the CA. First of all: To what extent can the competent authority be said to be “independent” in terms of not having any interest in the proposed activity? What is the relationship between the actor proposing the project and the authority approving it? This is a question of particular concern in cases where the authority to approve the EIS has been delegated or

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decentralised from central authorities to sector-agencies or to regional or local authorities. In such cases, one should be particularly concerned with the question whether the relationship between the proponent and the approving authority may be too close. Is this a good environment for making independent decisions?

3.3.2. Linking responsibility for approving EIA and for land use planning

In many countries EIA is established as a distinct environmental management and planning tool, separated from the activities linked to physical planning and land use planning (LUP). Various studies indicate that a lot could be gained by a closer integration of EIA with land-use planning and physical planning (Bergsjø; Elling 1997). For the efficient functioning of, and legitimation of, the EIA system, it is important to avoid parallel or double processes for public participation, consultation and commenting linked to the EIA and the physical planning.

In the work to develop the EIA system in Norway, one has been particularly concerned with integrating the EIA system with the established procedures for physical planning. In this way one strives to avoid double processes of planning and public participation. On the other hand, this kind of strong integration of the EIA system with physical planning and land use planning may have a negative effect on the *focus* and *concentration* that can be applied in the EIA, and thus also on the quality of it. It may also influence the independence and integrity of the actors doing the analysis, the reporting and the approval of the EIA. For affected parties, and the public in general, participation in this kind of EIA process may sometimes seem futile, and if the EIA system is functioning in this way, it may lead to less motivation to participate in the EIA process, and undermine the legitimacy of it.

3.3.3. Criteria for intervention

It is widely accepted that the department under whose jurisdiction the proposed activity falls, should be the Competent Authority (CA) – the authority responsible for the administration and approval of the EIA. This is expected to generate understanding and legitimacy for the need to incorporate environmental assessments and considerations into the various line agencies and ministries and within the different sectors. However, at the same time, one should ensure that the decision-making also includes the environmental authorities. It is important that the environmental authorities have the opportunity and power to intervene in the authorisation of activities when the sector departments in their decision-making do not give sufficient weight to the environmental questions. The opportunity to intervene should ensure that environmental considerations and assessments are adequately taken into consideration in all relevant cases. In other words, instead of having the environmental authorities *taking over* responsibilities, it may be better to develop procedures and steps to ensure that the interests of the environmental authorities are taken into consideration in the different line agencies and departments.

In connection with this, it is important to have clear and specified criteria for when the environmental authorities should *intervene*, or take action, relative to the responsibilities allocated to the sector-ministries. In some instances records of decisions could be issued jointly by the sector-department and the environmental authorities. The intention of this would be to guarantee a sort of ‘veto’ power vested in the environmental sector. Such an arrangement could help provide for environmentally more sound decisions.

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3.3.4. The role of the project proponent

The EIA regulations in some countries give the project proponent wide responsibilities. For instance, they may be assigned a relatively important role in the organisation of the public participation. One should ask whether it is in line with the objectives of EIA that the proponents are given such a central position and role for this very essential part of the EIA. We would argue that the competent authority should be given a central position and control over the public participation process.

The same applies to the *monitoring* of the activities. We question EIA systems where the developer is given a dominant position in the monitoring of the impacts of the activity. The monitoring of the development project should at least be complemented by monitoring involving government agencies and the general public.

3.3.5. The role of affected parties and the general public

EIA is looked upon as a very important tool in the general dissemination of information about a proposed development project. The EIA is supposed to give the different actors an opportunity to get the relevant information about the proposed project, and to give them a chance to influence the decision-making. In general, however, the public participation of ordinary people appears to be relatively limited in a great number of EIAs, and the EIAs are often criticized for this. Government institutions and public agencies should, and must, play a crucial role in the handling of the environmental assessments and in the decision-making process. However, at the same time, the general public, environmental interest groups, NGOs and others should also be assured access to all relevant information, and should be given ample opportunity to come with their comments and reactions during the environmental assessment process and in the critical stages of the decision-making.

So far, there are relatively few examples of innovative processes for increased public participation, and new ways of consulting and hearing the public should be given more attention.

3.3.6. Quality Control – the importance of consultations and hearing

It is necessary to have some procedures and mechanisms to ensure good quality of the EIA and the EIS. In some countries, like in the Nordic countries, the EIA quality control has, to a large extent, been linked up with the consultations and the hearing-statements made by the central environmental agencies and other hearing bodies. However, one should ask whether this is sufficient in order to have adequate quality control of the EIA.

In Norway, for instance, the problems linked to the quality control of the EIA are accentuated by the fact that much of the responsibility for managing the EIA system has been transferred to regional or local authorities, in accordance with the currently widespread objective of decentralising as many tasks as possible and solving the tasks at the lowest possible administrative level – that is, applying the principle of *subsidiarity*. One of the problems linked to this, is that the local authority (usually the municipality) in a number of cases is, at one and the same time, the *developer*, the *authority responsible for the planning*, as well as the *competent authority*. This means, a municipality may sometimes have the role both as the *actor proposing* the project; being responsible for *preparing the EIA*; as well as the *body that approves it*.

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It is necessary to establish a system of independent assessment and review of EIAs (Lee and Colley 1992). "Reviews must establish a set of quality criteria to be met and the minimum standards for achieving these." (Sadler 1996).

3.3.7. Certification of EIA practitioners

Some countries consider it necessary to provide certification of environmental assessment practitioners. In principle, however, this should not provide an automatic guarantee of approval of the environmental assessment. Each EIA must, in any case, be approved on the basis of its own qualitative merits. In a system of individual assessment and examination of each EIS's quality, it would be a burden for the project proponent if he/she is using a consultant that is producing an EIS that is not good enough to be approved. In other words, given that the environmental assessment has to be examined and approved or denied on its own merits, it should not be necessary to have a separate approval or certification of EIA practitioners.

4. Strategic environment assessments – experiences and challenges

4.1. Objectives of SEA

Strategic environmental assessment (SEA) is a relatively new planning and management tool, with variable application and practice in different countries. The objectives of SEA are:

- To have an up-front, early *preparedness* based on environmental impact assessments of overarching policies, plans or programmes⁴. The intention is to address the decision-making at the level and in the phase where the most important decisions are made. In this way, one will have a better chance of addressing the issues that are most relevant regarding the environmental impacts, and have an opportunity to change plans that otherwise can have significant adverse environmental impacts.
- To have a better handling of cumulative impacts.
- To make the work with project-level EIA more focused and efficient. This can be achieved through a linkage between the SEA and the project-EIA. This is often referred to as *tiering*.
- Through SEA it is also possible to handle more complex and composite projects and investment programmes/packages.
- To have *stronger public involvement in central decision-making and planning*.

In some countries some measures for formal SEA regulations and procedures have been introduced. In Denmark legal requirements for the assessment of the environmental effects of parliamentary bills were introduced in October 1993. In January 1995 an *Administrative Order (AO)* was put into force by the Norwegian government, requiring that assessments are carried out in connection with white papers; ministerial proposals; new acts and budgets; and reports prepared by Government commissions to be discussed in the Parliament. Finland requires EA of certain plans and programmes and policy changes. The European Commission has passed a Council directive setting the framework for requiring environmental assessment for certain plans and programmes (European Commission 1997b). All EU countries must have passed legislation to accommodate for implementation of the directive by July 2004. Some countries have thus introduced formal SEA requirements in certain fields or sectors, but the use of SEA in many respects still appears to be relatively limited, and in many places, it is still being carried out very much on an Ad Hoc basis. Compared with project-level EIA, the practical experiences of SEA are thus quite limited.

Most of the international experiences of SEA are primarily to be found in the transportation sector and the energy sector.

⁴ When we here talk about overarching policies, plans or programmes (PPP), it refers to PPPs that are carried out at national, regional, sectoral or municipal level, involving policies, plans or programmes that cover a larger area and several subordinate projects or activities. This kind of overarching PPP will have some financial implications; include opportunities or restrictions for underlying activities; will carry with it some implications for subsequent physical planning; and carry some limitations and guidance for future decisions. (Lee and Walsh 1992; Hilden, et.al. 1998)

4.2. Experiences linked to SEA

Much of the analysis and discussions on strategic environmental assessments have been relatively abstract or theoretical in scope and approach, focusing on discussing models of how SEA can be established. There are few examples that examine the experiences of trying to apply SEA in practice, that is looking at the *practical implementation of SEA*.

There have been a few attempts at trying to operationalize how SEA can or should be conducted. In Norway the authorities in 1997 initiated a study for how to in practice carry out assessments of regional policy changes. Here one tried to identify methods, criteria and indicators that can be used to conduct impact assessments of regional policy changes that may have significant impacts on regional development (Johansen and Farsund). In Denmark one has similarly tried to develop guidelines for the various steps of the SEA work (Elling and Nielsen).

The experiences linked to concrete SEA cases are still relatively few, but gradually we are gaining more experience. Some of the prerequisites for achieving successful SEA can be summarised to be:

- i. Sufficient political and organisational commitment and support.
- ii. Clear legal requirements and provisions, and good guidelines on how to conduct the SEA;
- iii. A certain predictability and reliability regarding follow-up actions and processes.
- iv. The procedures should be concrete and simple, and they should be harmonised with other planning tasks and procedures.

The Nordic experience indicates that SEA can become an efficient environmental policy instruments, but also that further efforts are necessary in order to achieve the full potential of SEA. For instance the formulation and handling of relevant alternatives appear to be difficult in most case studies - indicating that this is a fundamental challenge for SEA.

In the examples we have of concrete SEA cases, the public participation is also quite limited. Only seldom is extensive public participation or systematic grass root consultations a central part of the SEA. Instead, various forms of representative consultations or hearing have been conducted. It is necessary to establish a more systematic approach to public participation in relation to SEA, and to come up with better approaches and provisions for how to have successful public participation in SEA.

4.2.1. Obstacles and opportunities

In the Nordic countries two studies have focused particularly on the experiences linked to SEA application (Hilden, et.al.1998; Lerstang and Plathe 1999). The obstacles that have been observed, indicate some of the challenges facing strategic environmental assessments:

- Some ministries and sectors have shown scepticism to, or reluctance to, SEA. The reason for this seem to be that it can increase the involvement of, and the influence of, the environmental “sector”.
- There is a lack of enforcing mechanisms and functions, and there is also a lack of operative requirements for SEA.

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- Formalised guidelines and recommendations on how to implement basic SEA principles are lacking. (Although some are starting to be developed).

But there are also some positive experiences:

- The strategic environmental assessments that have been carried out have contributed to improve the insight regarding environmental impacts and relationships among central decision-makers in the administration and responsible authorities.
- These environmental assessments involve more professionals actively in environmental considerations in their planning and decisions-making.
- The environmental assessments have received attention as a new and potentially more efficient approach to treating environmental issues than earlier practices.
- The public gets a better opportunity of being involved in the decision-making.

Several methodological challenges can be linked to the strategic environmental assessments that have been carried out. Often there is not enough data; baseline data and reference points and indicators are often lacking; methods to deal efficiently and adequately with cumulative effects are inadequate; and the time available for doing a proper strategic environmental assessment usually prevents long-term studies.

The handling of *cumulative effects* is one of the weak elements in the practical implementation of the EIA system, and there is a need to learn how to address the cumulative impacts of many small projects – “the tyranny of small decisions”, as Sadler calls it. It is widely agreed that SEA has a good potential for addressing and handling cumulative impacts. However, this has not yet been fully utilised.

It is often difficult to document the effects of strategic choices: A decision will be influenced by a series of impulses from various actions and sources, which may or may not work in the same direction. The Nordic 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 carry out the assessment was usually identified by the responsible authority at the outset of the planning process. In the cases when the assessments were neglected in the subsequent decision-making, they had to a certain extent partly been “forced upon” the responsible authorities by public opinion or by other authorities.

More studies should be conducted to generate further experiences of how SEA can be applied and carried out in practice.

4.3. Improving SEA procedures

The context of, and the content of, decision-making processes linked to policy and plan formulations are in many respects quite different from decision-making linked to individual projects. SEA should therefore not be considered as something that can be based on a direct transformation of EIA methods and procedure from the project level to policy, plan or programme level. Furthermore, it is necessary to develop SEA procedures that are not too complicated. At the same time, the procedures should not be just trivial.

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4.3.1. Screening in connection with SEA

Often it may be difficult to identify the policies, plans or programmes that should be subject to formalised SEA, and it is necessary to have some kind of mechanisms to decide for which policy, plan or programme SEA should be required. However, it is not easy to outline this kind of screening mechanisms. The screening can be quite complex and difficult, and it is important to find mechanisms and selection-criteria that make the screening as easy as possible.

Strategic decision-making usually does not consist only of a single decision, but of a *series of decisions*, and it is important to identify the decisions where the main strategy of a policy, a plan or a programme is most clearly manifested. That is, we need to *identify the central decisions* that together constitute the main strategy of a policy, a plan or a programme. The screening should be linked to the impacts and the importance of the particular policy, plan or programme. In this connection it is necessary to identify the *key characteristics* of the PPPs where SEA will be of particular importance or relevance.

4.3.2. Scoping

One of the most crucial aspects of SEA is to ensure that environmental considerations have been taken into account, and have played a significant role in the most crucial decision-making. There is a need to focus upon and assess this particular aspect of SEA.

The strategic environmental assessment should focus on highlighting key issues, should provide basic facts within a coherent framework, and should display the different alternatives that the decision-makers are facing. A methodological challenge is to find an adequate level of detail, as well as a satisfactory focus and scope, for the strategic environmental assessment.

4.3.3. Consideration of alternatives

Assessment of several alternatives is considered as a key feature of environmental assessments. One must make sure that the assessment of alternatives are adequately handled and taken care of. In particular, one must ensure that the 'no-action' alternative is always considered. However, alternatives at the strategic level are not always evident, and it may often be difficult to see how one can handle and treat this kind of alternatives in an adequate way. In the Nordic countries, for instance, the policy-making processes are characterised by a strong inclination towards *political compromise*. Under such circumstances clear and explicit alternatives may sometimes be met with a certain scepticism, because such alternatives can make the issues seem more concrete or extreme than the consensus-oriented "middle alternatives". In this kind of context, the identification and expression of concrete alternatives may appear as some kind of "misplaced concreteness", or unrealistic attempts at pre-determining the political dialogue and process. The formulation and treatment of clear-cut and adequate alternatives is therefore difficult in this kind of SEA process. This is a fundamental challenge for SEA. This dilemma may demand a different approach to the treatment and consideration of alternatives at strategic level: The alternatives should perhaps be seen as general reference points, and not as specific options among which one choice has to be made.

4.3.4. Public participation, openness and transparency

Public participation and transparency in decision-making is another of the fundamental objectives of environmental assessments. Public participation at the strategic level poses some particular challenges: First of all, the responsible authorities and other powerful actors do not always regard

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public participation as desirable. It is therefore necessary to have legal provisions and regulations that ensure transparency and the participation of the general public in the SEA process. It is also necessary to come up with good and convincing arguments to make the sector authorities and the most powerful actors and institutions see the necessity and the benefits of SEA.

There may perhaps be a possible trade-off between flexibility, predictability and public participation: The SEA needs to be flexible in order to enhance its integration into policy-making processes. However, flexibility, in the sense of lack of fixed procedures, can be problematic in terms of achieving public participation. If there is a lack of formal requirements for public participation in SEA, it will not be clear when, how, and to what extent, the public can be involved in the decision-making process.

4.3.5. Analysis and strategic assessments carried out at regional level

When smaller development projects are considered alone, it is often difficult to get people to accept that it is necessary to have a relatively complex EIA procedure for the individual project. At the same time, we know that the total effect of a large number of small projects may be quite devastating.

In our view, strategic environmental assessments at regional level could be a sensible and beneficial way of addressing cumulative impacts of this kind of project (Moen, Swensen and Tesli). But then the regional plans must also incorporate more the principles of sustainable development, and become more formally binding for other programmes and projects that are to be implemented in the region. The European Union requires environmental assessments to be carried out for the regional development programs that receive financial support under the structural fund schemes.

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5.1. EIA and SEA for Sustainable development

How can EIA and SEA be used relative to the objective of sustainable development? The International Effectiveness Study was focusing on the question of sustainable development, and how EIA and SEA can relate to, and be utilised as mechanisms and tools for this purpose. The reports from this study summarise a wide and complex set of experiences and knowledge that is considered to be of high relevance to the goal of achieving sustainable development (Sadler 1996; og Sadler & Verheem 1996).

Some of the central development tendencies we are observing in the world today are linked to national and international policies becoming more influenced by processes of globalisation, deregulation and privatisation (Sadler 1996). This goes together with the introduction and implementation of very large and complex development projects, plans and programmes, with correspondingly potential larger environmental impacts and consequences. Moreover, the technological developments and changes are taking place so rapidly that policy-makers often have difficulties keeping up with, or staying ahead of, the development changes.

Sustainable development means that we must preserve and maintain the Earth's natural environment and bio-diversity for future generations. This implies that the natural resource capital must not be exploited more than its capacity and ability to reproduce; the pollution must not be larger than the surroundings' capacity to absorb; and it is necessary to have a system of production, consumption and distribution that take due account of people in other communities, in other countries and future generations. That is, one continuously has to think and make choices and decisions in a local, national and global context.

In the way EIA today is being conducted in European countries and also in most other countries around the world, the EIA-regulations give an opportunity to incorporate considerations of *social impacts* into the environmental impact statement by assessing the effects on the environment, natural resources *and the society*. Relative to this, it is somewhat of a paradox, that even though many of the countries have formal provisions that provide an opportunity to discuss the project relative to the question of sustainable development in this respect, the social impacts are usually discussed and incorporated only to a very limited degree. It is, therefore, necessary to strengthen the assessment of the social impacts (SIA) further, and let this become a central part of EIA.

5.1.1. Relationship to other environmental mechanisms and regulations

EIA and SEA do, of course, constitute only a part of the tools and actions that are necessary to achieve sustainable development. However, in order to strengthen EIA and SEA methodology in a direction that is in accordance with the objective of sustainable development, Sadler suggests some necessary steps (Sadler 1996):

- i. Incorporate principles of sustainable development into the way EIA and SEA is conceived and implemented. The *precautionary* principle has to be emphasised more strongly than what has

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been the case until now. The application of the precautionary principle should be *particularly* strict in the cases where there is a chance of *irreversible* environmental impacts.

- ii. Redirect or reformulate the objectives of EIA and SEA: From focusing on minimising environmental impacts, to consideration of “*the source and sink capacity of ecosystems*”. This means that the exploitation of resources must lie within what is considered to be the regenerating capacity, and pollution and waste must be within what the ecosystem is able to absorb. This kind of requirements would imply a change of objectives and management system in most countries.
- iii. In carrying out EIA, one should apply the “*Full cost accounting procedure*” – indicating total collective, natural resource costs and losses that society will have in connection with specific development activities and projects. This will require *micro-oriented environmental accounting* in order to calculate the loss of resources and environmental deterioration, as well as more thorough *micro-economic analyses* in order to see what the real costs of the impacts of the proposed project will be.
- iv. *Full compensation* should be demanded for all procured costs and losses. EIA and SEA should be used to identify a reasonable level of compensation for the environmental costs, rather than functioning as a means to minimize environmental impacts. All losses of natural resources and environmental degradation must be compensated. That is, one must be more strict in applying “*the polluter pays*” or “*the resource-user pays*” principle.
- v. EIA and SEA must be integrated with other tools for managing global and large-scale environmental changes.

5.1.2. SEA established within a framework of formal regulations

As a tool and mechanism for environmental management and planning, SEA is relatively new, and it has been implemented in varying degree in different countries. Some countries (including the European Union) are introducing formal SEA regulations and requirements in certain sectors, but the use of SEA still appears to be relatively limited. Compared with project-level EIAs, the legal provisions and procedural requirements for SEA are still in an early stage of development, and we only have limited experience of how SEA can be implemented, and how it functions in practice. Up till now few attempts have been made at systematically operationalising how strategic environmental assessments can be implemented.

The limited application of environmental assessments in many countries should be taken as an indication that the regulations and procedures may sometimes be too ambitious and complex, and that they therefore may be too difficult to implement and realize, and that it is necessary to make the regulations and procedures more simple and clear. This should also be related to the *capacity* in the agencies and authorities that have been allocated the responsibility of implementing and handling the regulations. The limited implementation of EIA and SEA should also be taken as an indication that the political backing and support for this kind of assessments are not strong enough. This again is linked to public awareness and understanding of the environmental challenges.

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5.1.3. Environmental awareness – common understanding of the need for EIA and SEA

Little can be achieved if the system for EIA and SEA is not firmly established within a system of firm *political support* and with a clear legal basis. In order to achieve this, it is necessary to have popular support and understanding of the need for the regulations and restrictions that are put on development projects. Sadler refers to New Zealand as a country that has established legal provisions that explicitly try to relate to the goal of preserving the environment. In contrast to the situation in most other countries, the burden of documentation and proof regarding the potential environmental impacts of a proposed development project or plan in New Zealand is turned upside-down, and lies with the developer.

It is very important to have a firm public awareness and understanding of the need for environmental precaution and consideration regarding all kinds of development projects. In order to achieve this kind of common understanding, there is a need to focus on the main *objectives*, and the environmental philosophy, that lie behind EIA and SEA. This is not only a challenge linked to the legal provisions, it is also a communicational and *pedagogical* issue. People have to learn about the consequences of poor environmental management and decision-making.

5.1.4. Division of responsibilities and public participation

Sometimes the division of responsibilities between the different authorities for the management of the EIA process is not clear enough. The vagueness or uncertainty regarding the responsibilities for the EIA work and approval need to be sorted out, and the responsibilities and duties of the main actors should be clearly specified in the regulations.

Public participation needs to be strengthened in most phases of the environmental assessments. It may be of particular importance and benefit to utilise public participation more in the scoping of impacts and alternatives in the consultation stage, and in the monitoring of the impacts.

5.1.5. Quality control

We should have in mind, that if the environmental assessment is not taken into consideration by politicians or public servants or other central decision-makers, the EIA or the SEA will be almost void of value. And if environmental concerns are not given a strong enough position in the central decision-making, then the environmental assessment is not fulfilling its most important objective or mission.

It is necessary to establish a system of quality control for the environmental assessment. What should be considered as “good enough” for an EIA? What should the requirements be in terms of data; methods used; documentation; treatment of risk and uncertainty; neutrality and balance in the presentation of the information?

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