

The contribution of Appropriate Assessments and Environmental Assessments to environmental protection in the Netherlands

A comparative analysis of the impact of two policy instruments on decision-making



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A comparative analysis of the impact of two policy instruments on decision-making

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Executive summary

The growth of interest in the environment and sustainable development has resulted in the introduction of much new legislation to steer development in a more environmental friendly way. Environmental Assessment (EA) and Appropriate Assessment (AA) are important tools in this respect. EAs aim to integrate the environment and its concerns into decision-making by providing information for Dutch Environmental Act (DEA) decision-making. AAs on the other hand are important instruments to integrate nature and its concerns into decision-making by supporting Dutch Nature Conservation Act (NCA) decision-making. EAs and AAs can be combined in the Netherlands. This can have some advantages like decreasing costs, avoiding double work and having all information on nature available in one report. However, since EAs and AAs are rather different instruments, also some difficulties can be expected, such as for instance problems in aligning the different instruments. Therefore in this research the impact of EAs, AAs and EA/AA combinations on decision-making in the Netherlands has been researched and explained in order to provide better insights in the implications of combining the two instruments.

The impact of the instruments can be divided into several forms of direct and indirect impacts. The direct impact that 'Elements of the official conclusions of the Environmental Impact Statements (EISs), AA reports and other official documentation can be recognized in the formal decisions' has been the main research topic in this research. This form of direct impact could be explained by several impact influencing factors of which six have been used in this research: the flexibility of the instrument to fit into the decision-making context, stakeholder participation, transparency of the instrumental process and documents, the binding character of the instrument, the quality of the assessment and the openness of decision-makers to environment/nature.

The impact of the three different instruments on decision-making in the Netherlands was determined by analyzing existing empirical researches and by doing helicopter interviews with experts in the EA/AA field. The impact of EA/AA combinations was divided into the impact of AA-parts and EA-parts on both NCA as well as DEA decision-making.

The impact of AAs and AA-parts of EA/AA combinations on NCA decision-making in practice in the Netherlands has turned out to be high. The results of the assessments directly lead to the final NCA decision. However, only in a very small number of the cases this situation occurs, since this only happens when 'significant negative effects on Natura 2000 cannot be excluded for sure', and this is not concluded very often in practice. Therefore, in the majority of the final NCA decisions, the results of AAs and AA-parts are recognizable in the form of extra (more strict) measures.

The impact of EAs and EA-parts of EA/AA combinations on DEA decision-making in the Dutch practice is 'medium'. The results of these assessments do only support DEA decision-making and do not directly lead to the final DEA decision. Instead, in the final decision sometimes even is deviated from the results of these assessments. Hence, EAs and EA-parts are only recognizable in final DEA decisions through the inclusion of additional measures and other alternatives.

The impact of AA-parts of EA/AA combinations on DEA decision-making has turned out to be between 'low' and 'medium'. AA-parts often do provide some information which can be recognized (mainly in measures) in final DEA decisions. However, AA-parts do not lead to negative DEA decisions (e.g. rejections) and moreover, they often are considered to be not suitable for DEA decision-making.

Finally, the impact of EA-parts of EA/AA combinations on NCA decision-making in practice is 'very low'. This is even lower than was expected. The results of EAs hardly ever can be recognized in final NCA decisions, because these assessments do not provide the information needed for NCA decision-making.

Overall, in practice AA-parts of EA/AA combinations are of added value for (and have an impact on) DEA decision-making. While EA-parts of EA/AA combinations hardly have an impact on NCA decision-making and are not of substantial added value for these decision-making procedures. However, EA-parts can be of added value for potential ADC-phases, since the alternatives researched in EAs can provide information for the 'A' and/or 'C' parts of ADC-phases. Nevertheless, only in a very small number of cases an ADC-phase is needed, so the added value of EA/AA combinations for NCA decision-making is very minimal.

List of abbreviations

AA(s)	Appropriate Assessment(s)
ANFQ	(Dutch Ministry of) Agriculture, Nature and Food Quality
DEA	Dutch Environmental Act
EA/AA(s)	Combination(s) of EAs with AAs
EIA(s)	Environmental Impact Assessment(s)
EIA/AA(s)	Combination(s) of EIA(s) with AA(s)
EIS(s)	Environmental Impact Statement(s)
FFA	(Dutch) Flora and Fauna Act
HSPE	(Dutch Ministry of) Housing, Spatial Planning and the Environment
NCA	(Dutch) Nature Conservation Act
NCEA	Netherlands Commission for Environmental Assessment
PPP(P)s	Policies, Plans and Programmes (and projects)
SACs	Special Areas of Conservation
SEA(s)	Strategic Environmental Assessment(s)
SEA/AA(s)	Combination(s) of SEA(s) with AA(s)
SPAs	Special Protection Areas

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Part I - Introduction

1 Introduction

“The environment [...] must be considered an essential factor in the organization and promotion of human progress. It is therefore necessary to evaluate the effects on the quality of life and on the natural environment of any measure that is adopted or contemplated at national or community level and which is liable to affect these factors (Lafferty & Hovden, 2003: 3).

The recognition of the environment as being an essential factor for human progress has led to an enormous growth of interest in environmental issues over the last decades. ‘Sustainable Development’ therefore is widely understood to be a proper way to manage development while taking into account the environment and its interests. Sustainable development implies for instance the integration of environmental objectives in non-environmental fields, such as the economic field, but also maintaining the quality of life, continuing access to natural resources and avoiding (lasting) environmental damage. So, it implies using the profits of the Earth, rather than eroding its resources. In addition sustainable development is understood to value participation, equity and good governance highly, both inter- and intra-generationally (United Nations Commission on Environment and Development, 1987).

The growth of interest in the environment and sustainable development has resulted in the introduction of much new legislation to influence development in a more environmental friendly way (Glasson et al., 2005). Environmental Assessment (EA) and Appropriate Assessment (AA) are important tools in this respect. EAs aim to integrate the environment and its concerns into decision making (Runhaar and Driessen, 2007), while AAs are important instruments to integrate nature and its concerns into decision-making. Together these instruments are contributing to sustainable development.

In this introductory chapter, it first is important to get a proper understanding of the instruments this research is focusing on and their relationship to decision-making. After that, the aim, relevance and outline of the research will shortly be described.

1.1 EAs

EAs can be divided into EIAs (Environmental Impact Assessments) and SEAs (strategic Environmental Assessments). EIAs are focusing on the project level, while SEAs are focusing on the more strategic level of policies, plans and programmes (PPPs).

1.1.1 1.1.1 EIAs

Many definitions of EIA exist, in essence it is *“an assessment of the impact of a planned activity on the environment”* (UNECE, 1991). However, this is a rather poor definition and more comprehensive ones do exist as well. For instance the more operational definition of the United Kingdom Department of the Environment (1989): *“the term environmental assessment’ describes a technique and a process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the planning authority in forming their judgements on whether the development should go ahead.”* Hence, EIA is a systematic process which examines the environmental costs of actions in advance and the emphasis of the instrument is on prevention. The information and estimations of impacts are documented in an Environmental Impact Statement (EIS).

EIA was first introduced in the United States in 1969. In the Netherlands the instrument was introduced in 1981 and by now many countries all over the world have adopted EIA systems. Until 1987 EIA has been applied on a voluntary basis in the Netherlands, but in September 1987 it became mandatory to use the tool for some specified activities. This was done by adopting legislation in a General Administrative Order and the Dutch Environmental Act (DEA) which even now still regulate the use of EIA in the Netherlands. Finally, the European Commission introduced a number of guidelines for EIA procedures in July 1988. The member states were obliged to implement these guidelines in their national legislation and to regulate EIA (and SEA) procedures according to European norms (Wassen, 2007).

Within the decision-making context, EIA provides a systematic examination of the proposed activity, alternatives to this activity and their environmental implications, before any decision is taken. The

EIS is a document (amongst others) which supports decision-makers to come to deliberate decisions. Hence, the EIA process is not a substitute for decision-making, but it is intended to contribute to more rational and structured decision-making, by clarifying some trade-offs of the proposed activity. EIA therefore potentially can be a basis for negotiation between the initiator (proponent), competent authority (decision-maker), advisors and the public. As such, the outcome of the final decision could be a balance between the interests of both the environment and the intended activity (Glasson et al., 2005).

1.1.2 1.1.2 SEAs

In general EIA applies for individual projects. However, also for policies, plans and programmes EIAs need to be done. Since these 'PPPs' have a more strategic angle than individual projects, these EIAs need to be on a strategic level as well, therefore they are called SEAs. Hence, SEA is part of an earlier, higher and more strategic level of decision-making.

The application of SEA for the level of PPPs is only a recent trend in EA. However, especially in the EU (and in the Netherlands) it is getting increasingly important and is perceived to be a very valuable technique for realizing sustainable development. Hence, in July 2004 an EU SEA Directive became operational.

SEA is often referred to as: "*A systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision making on par with economic and social considerations*" (Sadler and Verheem, 1996). This definition underlines the importance of using SEA for decision-making on PPPs. However, it is important to understand that each 'P' in 'PPP' stands for a different tier in decision-making; In theory policies should provide the framework for plans, plans in turn provide the framework for programmes, which then lead to projects. Yet, in practice this is not always the case, since often there are no clear boundaries between the tiers of the different 'Ps' and only one SEA is made (Glasson et al., 2005). Therefore in this research policies, plans and programmes will still jointly be referred to as 'PPPs'.

Within the decision-making context, SEA can ensure a better assessment of alternatives and their cumulative impacts by encompassing all projects and activities of a specific type and in a specific region. Furthermore the public will be better consulted and final decisions on individual projects can be made more proactive instead of reactive. Important in this respect is that the SEA has been carried out as early as possible in the decision-making process, in order to be able to come to a deliberate decision, based on the information of the SEA.

In the Netherlands quite a large number of projects or activities require also an adjustment of any plan (often a local or regional zoning plan). Therefore very often combinations of EIAs and SEAs have been made. In this way the assessments of the environmental effects comply with the strategic level of the plan as well as the more specific level of the project.

1.2 AAs

In the Netherlands at the moment 162 Natura 2000 sites have been designated, which cover about one million hectares (of which about 67% consists of water). Hence, the Natura 2000 network in the Netherlands covers about 24% of the overall Dutch territorial area (Ministry of ANFQ, 2006^a). Natura 2000 is an EU-wide network of sites with habitats and/or species of European importance. It comprises areas protected by the Birds Directive (CEC, 1979), which provides legal protection of wild birds species, and Habitats Directive (CEC, 1992), which provides legal protection for habitats in Europe. The areas within the network are designated by Member states of the EU and are called: 'special areas of conservation' (SACs). Areas solely protected by the Birds Directive are called: 'special protection areas' (SPAs) (Söderman, 2009).

In the 1990s the Birds and Habitats Directives have been implemented in the Netherlands through the Dutch Flora and Fauna Act (FFA)¹ and Dutch Nature Conservancy Act 1998 (NCA)². The NCA follows quite literally Articles 6, subsections 3 and 4 of the Habitats Directive. In this way is ensured

¹ The Dutch Flora and Fauna Act is mainly concerned with the protection of species.

² The Dutch Nature Conservancy Act is mainly concerned with the protection of specific areas and nature in general.

that Natura 2000 sites are protected sufficiently. For this purpose, the NCA obliges a ‘Habitat check’ for plans and projects which can have significant negative effects on Natura 2000 sites. Plans and projects with such effects do not get approval. However, there are some exceptional situations in which approval can be granted (with some restrictions). The first phase of the Habitat Check is the orientational phase, in which is determined what the effects of the project or action are expected to be. There are three possible outcomes:

- 1 There surely will be no negative effects
- 2 There might be negative effects, but these surely will not be significant
- 3 Significant negative effects might occur

In the first situation no NCA license will be needed at all. In the second situation the initiator will have to apply for a NCA-permit through a test of quality deterioration and disturbance of species. When this test concludes that there will be no disturbance or acceptable disturbance of any Natura 2000 site, the permit will be granted (often with some restrictions). But when unacceptable deterioration or disturbance will occur, mitigating measures will have to be taken in order to get a NCA-permit. When no mitigating measures can be taken, the permit will not be granted. In the third situation; when the orientational phase concludes that significant negative effects might occur, the initiator will have to apply for a NCA-permit through an AA. The main principle here is a ‘No, unless’-regime; Plans and projects with significant negative effects do not get approval, unless there are no other alternatives, there are imperative reasons of major public importance and possible compensating measures have been taken, so that the total interconnectedness of the Natura 2000 network remains intact (Cappelle and Stumpel, 2003).

If an AA is required for a plan, it is obliged to follow a SEA procedure as well (for AAs concerning projects, there is no obligation to follow an EIA procedure). Inherently the goal of these instruments is the same to some extent, namely to provide information for decision making about the impact of activities on the environment and nature. So, theoretically they could be combined pretty easily. However, combining these instruments can lead to some difficulties. For instance the scope of assessment of AA is narrower than in EIA or SEA, in which all aspects of the environment (including nature) are considered. Moreover, the approach the instruments use is different, which makes it even more difficult to combine the instruments in practice and still get the required information for decision-making.

1.3 Why focus specifically on EAs and AAs?

EAs always aim at supporting formal DEA decisions. The fact that an EA is needed suggests that a formal decision is needed on the proposed activity or plan, which in most cases has significant environmental impacts (Runhaar and Driessen, 2010). For the purpose of this research only the actual EA documents and procedures themselves have been researched. Preliminary researches in order to determine whether formal procedures should be entered are left out of the analysis, since they are assumed not to be part of the official procedures yet.

The same applies for formal NCA decisions. In orientational phases is determined whether a formal decision will be needed or not. They do not support formal NCA decisions directly, because they determine that (1) no NCA license will be needed at all, (2) a test of quality deterioration and disturbance of species will be needed or (3) an AA will be needed, in order to get a NCA license. In the first situation, the results of the orientational phase will not be recognizable in the formal decision, since the actual decision is that no formal decision has to be taken. In the second and third situation, orientational phases in fact are only occurring prior to the formal decision-making procedures since the formal decision will only be based on the subsequent researches (the test of quality deterioration and disturbance of species or the AA, which overrule the orientational phase). As such, orientational phases will not be analyzed in this research, which involves that only the actual AA part is taken in consideration.

Furthermore, the most important aim of the NCA is to ensure that the Natura 2000 network remains intact. For this purpose each Natura 2000 site has some ‘conservation objectives’. When these are met, the Natura 2000 site is perceived to be of good quality and of added value for the total Natura 2000 network. When significant negative effects on a Natura 2000 site might occur due to a proposed activity, this means that the conservation objectives might not be met due to that activity. As such it may lead to deterioration of the Natura 2000 network. A formal decision (a NCA license) than will be needed, based

on an AA. Therefore AAs in this research are considered to be the instruments in NCA decision-making which are the most similar to EAs in DEA decision-making (this applies to their contents, scope and role in the processes). AAs namely are considering cases with possible *significant negative effects* on nature, while EAs are considering cases with *significant environmental impacts*. Tests of quality deterioration and disturbance of species on the other hand, only consider cases which' effects surely are *not significant* for the Natura 2000 network. And therefore are assumed to be less similar to EAs than AAs are. Moreover, only in AA cases the legal obligation can apply to do an EA (SEA) as well. Therefore the focus in this research will be on the impact of AAs, EAs and the combinations of these two instruments on decision-making in the Netherlands.

1.4 Impact on decision making

Decisions are made at every stage of the decision-making process and therefore at all stages of the assessment processes as well. This means that from the first thoughts about any project or plan, through the screening phase (determining whether the instruments are necessary to use in the first place), through the identification of the impacts of the activity, to the choice of alternatives and measures for mitigations and on to the final decision (and even beyond), decisions are made which all have an impact on the final outcomes of the process. These decisions are made by a variety of people; developers or initiators, consultants, competent authorities, and all other actors within the processes (Weston, 2000). Much has been written about the impacts of EAs on decision-making in professional as well as academic literature, however literature on the impacts of AAs seems to be lacking almost entirely, since this is a relatively new instrument. Therefore literature on EA-AA combinations and their impacts on decision-making does not exist either.

EAs and AAs both aim at improving decision making on proposed activities or PPPs. Ideally these instruments should ensure that the decision-making will be done rationally and environmentally friendly, simply by providing correct and sufficient information. However, in practice decisions are made as a result of interactions between a number of actors with different interests, which makes decision-making a political process. Nevertheless, the assessment tools potentially can improve decisions by affecting the process, contents and actors of decision-making procedures (Wood, 2003). Sometimes instruments will have an impact on actors in the process and the process itself just by putting the environment on the agenda, through awareness raising, stimulating public participation, providing information etcetera (Mostert, 1996).

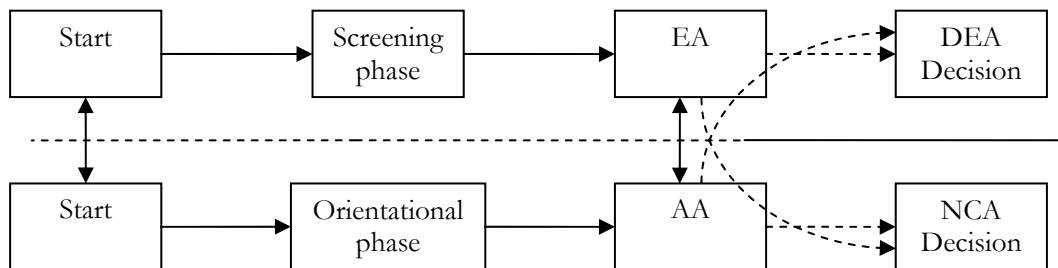


Figure 1: Research Framework: EA and AA procedures and their impact on decision-making

Figure 1 gives a general overview of EA and AA procedures in the Netherlands, as well as their interconnectedness. Each procedure starts with some intention for an activity, project, PPP, etc. which might affect environmental or natural values. Each process ends with a decision (either negative or positive) and the EA and AA procedures are just instruments which aim to support decision-making. There is an arrow between the AA and EA block, which indicates that these instruments can be connected sometimes, but the line between the two procedures indicates that the procedures in fact are different and serve different decisions. Finally there are two curved dotted arrows, one goes from the AA, through the EA block, to the decision at the end of the EA process and the other one goes from the EA, through the AA block, to the decision at the end of the AA process. These arrows indicate that the instruments can have an impact on the final decisions of the process of the other instrument through their connection.

In order to explore opportunities to improve the impact of the instruments on decision-making, more research on practical experiences with the combination of the instruments is needed. This research will only partly provide empirical knowledge on this issue, since there is no proved method to research all the actual impacts of combined EAs and AAs.

1.5 Aim and questions

Both EAs and AAs are supposed to improve decision-making by providing information on potential environmental and natural effects. However, decision-making very often is not done solely based on information; environmental concerns often do not play a major role and above all, decision-making is a political instead of a purely rational process. It therefore is very questionable whether these instruments really are improving decision-making, and whether their impact on final decisions is really visible in practice.

As stated already, EAs and AAs can be combined, SEA/AA combinations sometimes are even mandatory according to article 19f, subsection 2 of the NCA. From this article can be concluded that for plans for which an AA is required, also a SEA procedure should be followed. The AA should be included in the EIS recognizably. For other AAs (not concerning plans) it is not mandatory to follow an EA procedure. However, EAs can be done separately or in a later phase, on a voluntary base. And at this moment there is a discussion going on at the Dutch ministry of Housing, Spatial Planning and the Environment on the possibility to make it mandatory to include an AAs in the EISs of EIAs concerning Natura 2000 as well. Hence, the discussion whether EA/AA combinations should get mandatory for all activities with possible significant negative effects on Natura 2000, is on the political agenda right now.

The instrument AA is created to support NCA-decision-making, and the instrument EA has been created to support DEA-decision-making. As such, these instruments should have an impact on the decision-making procedures they are designed for. However, since these instruments can be combined they potentially can have an impact on the other instruments' processes as well. The aim of this research is to gain better insights in the impact of the combined instruments on decision-making (e.g. on both DEA and NCA decision-making). Reformulating this objective leads to the central question of this research:

What is the impact of EAs, AAs and EA/AA combinations on decision-making in the Netherlands and how can this impact be explained?

The following sub questions will be addressed in order to provide the information needed to answer the central question:

- Which factors influence the impact of EAs, AAs and EA/AA combinations on decision-making?
- What is the impact of EAs, AAs and EA/AA combinations on decision-making?
- How can this impact be explained according to the impact factors distinguished?

It is expected that combining EAs and AAs will affect the impacts of the instruments on final decisions. On the one hand the combination most likely will have positive implications on the impact of the instruments, but on the other hand combining two instruments can turn out negatively as well. This will be explained in the next section.

1.6 Hypotheses

In order to analyze the implications of combining EAs and AAs for their impact on decision-making also the impact of individual AAs and EAs should be analyzed. By doing a comparative analysis of the impacts of the three different instruments, the main question of the research can be answered.

Final DEA decisions are not influenced very extensively by EAs. The several alternatives considered in EISs often only lead to some modifications to the preferred alternative or to the inclusion of some extra (mitigating) measures in the final decision. Therefore, based on existing researches, the expected impact EAs on DEA decision-making approximately 'medium to high' (see for instance: Brockmeyer et al., 2008*; Ten Heuvelhof and Nauta, 1996; Fischer, 2002; Thérival and Minas, 2002).

Researches on the impact of AAs on NCA decision-making in the Netherlands are lacking. However, the NCA legislation states that when in AAs is concluded that significant negative effects cannot be excluded for sure, no NCA license can be granted. This implies that AAs in fact determine whether a project or plan gets a ‘go’ or ‘no-go’. So, the impact of AAs on NCA decision-making is expected to be ‘high’.

In normal (individual) AA procedures no DEA-decision is needed, and in normal (individual) EA procedures no NCA-decision is needed. Therefore in these situations the instruments will not have an impact on the other decision-making procedure which is considered in this research.

Where the instruments are been combined, both EAs and AAs are expected to have an impact on both NCA as well as DEA decision-making. It is expected that the impact of the instruments on the decision-making procedure for which they originally have been designed remains the same in these situations. However, the impact of EAs on NCA decision-making is expected to be ‘low’. As such, some impact is expected, but this will be considerably lower than the impact of AAs on NCA decision-making and the impact of EAs on DEA decision-making. The impact of AAs on DEA decision-making is expected to be ‘medium’. This means that the impact of AAs on DEA decision-making is expected to be lower than the impact of AAs on NCA decision-making, but the same as the impact of EAs on DEA decision-making. But on the other hand, it is expected that AAs will have a higher impact on DEA decision-making than EAs will have on NCA decision-making. These hypotheses are based on some more detailed expectations and assumptions, which are presented hereafter (See table 1 for a overview of these hypotheses).

Procedure		NCA decision-making	DEA decision-making
Instrument			
AA		High	-
EA		-	Medium-High
EA/AA	AA-part	High	Medium
	EA-part	Low	Medium-High

Table 1: Expected impact of AAs, EAs and EA/AA combinations on decision-making in the Netherlands

Final DEA-decisions are expected to get more nature friendly due to the inclusion of an AA in their procedures. Where normal EAs are focused on the environment as a whole and tend to put emphasis on social over natural issues (Broekmeyer et al., 2008), the inclusion of an AA can pull the attention to nature. This can be determined by researching whether the ‘outputs’ of AAs will be recognizable in the EISs and final DEA-decisions of which they are part. So, in the final ‘outcomes’ of the DEA decision-making processes, some contents of the AAs have to be recognizable and something will be mentioned about nature conservation due to the inclusion of the AAs. In the EISs for instance other alternatives can be described due to the information of the AAs. This also has implications for NCA-decisions for which a combination of an AA and an EA was needed; due to the EA a broader vision can be provided which can influence political considerations. Activities which might have significant effects on nature, but do not have a framework for appraisal, can be considered in this way (Broekmeyer et al., 2008^a).

Combining the two instruments is expected to lead to some difficulties as well, which can diminish their impact on decision-making. For instance the approach the instruments use is different, which is expected to make it difficult to combine the instruments in practice and still get the required information for decision-making. NCA procedures use a so called ‘No, unless-approach’, while DEA procedures use a ‘Yes, provided that-approach’. The ‘No, unless’-approach involves that in principle no activities with significant effects are allowed (‘effects’ as starting point), unless there are no other alternatives, there are imperative reasons of major public importance and possible compensating measures have been taken, so that the total interconnectedness of the Natura 2000 network remains intact (‘goal’ as ending point; see figure 2) (Cappelle and Stumpel, 2003). The ‘Yes, provided that’-approach means that the activities’ goals in principle are allowed (‘goal’ as starting point), provided that several alternatives and their effects to reach that goals are considered (‘effects’ as ending point; see figure 2). Hence, the approaches in fact are the reverse of each other. Therefore, including AAs in EAs requires adjustments of one of both approaches in

order to align them. This is expected to lead to negative impacts like delays in procedures or unsuitable instruments for their original purpose.

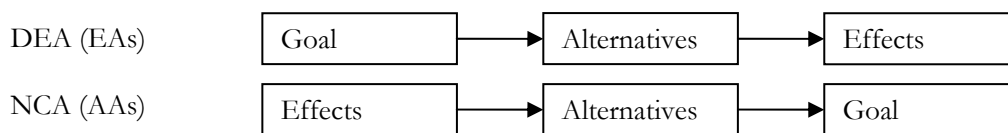


Figure 2: Problem approach in DEA and NCA procedures

The instruments differ also on their substantive requirements, the formal requirements for the contents of an AA are far less strict than those of an EA. However, for determining whether significant negative effects on nature will occur, the AA remains the most important instrument (Broekmeyer et al., 2008). So, although the AA is embedded in a more restricted regime (its conclusion directly influences the final NCA decision), EAs have more formal substantive requirements, which probably means that an AA which is included in an EIS also has to meet the requirements of the EA procedure. This would mean that AAs which are combined with EA procedures would be more extensive and provide more information, but also cost more time and money, than AAs which are not connected to EA procedures.

Initiators are expected to anticipate on the use of the instruments. The combination of AAs and EAs in these situations already has an impact simply because the initiator knows early in the process that the instruments will be applied, therefore a more sustainable, environmentally or nature friendly approach is chosen already prior to the official processes in order to speed the processes up and avoid costs later on. However, anticipation can also have negative implications. Initiators probably would like to avoid doing an AA (and consequently a SEA for plans), since using two instruments still will cost more time and money than only using one or even none. When in an orientational phase it is concluded that significant negative effects will not occur, an AA is not needed anymore, which in the case of a proposed plan also means that a SEA is not needed anymore. So, initiators can do an orientational phase (and steer its' results towards the conclusion that significant negative effects on Natura 2000 will not occur) in order to avoid doing an AA. Such situations undermine the use, impact and integrity of the instrument AA. Moreover, when in a later phase the conclusions of the orientational phase turn out to be wrong, or the research turns out to be insufficient, still an AA will be required. Doing an AA and EA later on in the process will even cost more time and money (Broekmeyer et al., 2008^b). Hence, avoiding an EA is more difficult than avoiding an AA. An AA can be avoided through 'manipulating' an orientational phases, while such 'escapes' are not possible in EA cases. It is recognized that in this research the actual focus is on the right half of figure 1 (e.g. the four right boxes and the arrows between them) and that this issue in fact will not be researched. However, it will be mentioned when it is necessary.

In table 2 the positive and negative expectations of combining EAs and AAs mentioned above, are summed up shortly.

Positive	Negative
DEA decisions get more nature friendly	Difficulties in alignment of procedures due to the combination of reverse approaches
NCA decisions based on broader considerations	
AAs get more extensive and provide more information	AAs cost more time and money since they get more extensive
Anticipation: early in the processes an environmental and nature friendly approach is chosen	Anticipation: avoiding AAs and consequently SEAs by manipulating orientational phases (diminishing the value of AAs)

Table 2: Expected implications of combining EAs and AAs.

1.7 Relevance

The research is socially as well as scientifically relevant. On the one hand it will be an analysis *of* policies (scientific relevance) and on the other hand it will be an analysis *for* policies (social relevance).

1.7.1 1.7.1 Social Relevance

The social awareness of the importance of developing sustainably has increased during the last years. People have become aware that development cannot go on as it did during the last decades. Therefore taking environmental and natural interests into account in decision making is getting even more important than before. EAs and AAs are contributing to this. By combining them, an optimal consideration of the natural and environmental values of Natura 2000 areas in decision making should be ensured. However, it remains unclear what the implications are of combining these instruments for their impact on final decisions. Furthermore, the discussion whether EA/AA combinations should get mandatory for all activities with possible significant negative effects on Natura 2000 (e.g. not only for plans), is on the political agenda right now. This research is an attempt to contribute to this discussion by providing insights in the implications of combining EAs and AAs.

1.7.2 1.7.2 Scientific Relevance

The objective of this research is to gain better insights in the impact of the combined instruments on decision-making. Several researches on the impact of EAs on final DEA decision-making already exist. However, a similar analysis of the impact of AAs on NCA decision-making or the impact of EA/AA combinations on DEA and NCA decision-making seem to be missing. Through this study an attempt is made to fill that gap and to make a contribution to the discussion whether or not these two different instruments could (and/or should) be combined in order to ensure an optimal consideration of the interests of the environment and nature in decision-making.

1.8 Outline of the report

This report is structured into four parts, which in total comprise seven chapters. The introduction to the research is given in part I of the research, which consists of chapter 1. The basis of the research is set in part II, which includes the chapters 2 and 3. In chapter 2 the theoretical framework for the research is presented. First the concept of 'impacts' is elaborated upon, followed by an analysis of factors that can influence these impacts. Then the expected relative importance of several factors for the impact of EAs, AAs and EA/AA combinations on decision-making is mentioned, followed by some hypotheses about the impact of the instruments in practice. Chapter 3 then provides the applied methodology for the research. In part III the results of the research are presented. It consists of the chapters 4, 5 and 6 in which the impact of respectively EAs, AAs and EA/AA combinations on decision-making are been presented. Finally in part IV the conclusions of the research, including some recommendations for further research and practice, will be given (chapter 7) and some point of discussion will be mentioned (chapter 8).

Part II – Theoretical & Methodological Framework

Part II of this report consists of two chapters, providing the theoretical and methodological frameworks for the research. In chapter two the theoretical background of the research is presented resulting in some hypotheses about the impact of EA/AA combinations on decision-making. Chapter three explains and underpins the methods used and choices made during the research. This is an important part of the research, since the scope and the value of the results of the research are explained.

2 Theoretical Background

In this chapter the theoretical background of the research is presented. Firstly some impacts which policy instruments can have on decision-making will be presented. This will be followed by an overview of factors that influence the impact of EAs and AAs according to two theoretical perspectives on decision-making: ‘the rational perspective’ and ‘the social-interaction perspective’. Since these perspectives are very normative by nature, there also will be an overview of some empirically found impact factors. Finally, several hypotheses regarding the influence of the different factors on the impact of the instruments on decision-making will be presented.

2.1 Impacts

The impacts of EAs on decision-making have been subject to various studies in the past and several forms of impacts have already been distinguished in these studies. For instance Ten Heuvelhof and Nauta (1996) have researched the impacts of EAs in the Netherlands grouping them under ‘regular impacts’, ‘wide impacts’ and ‘weighted impacts’. Hokkanen (2004) has measured the impacts of EIAs in three time periods: ‘prior to the EIA’, ‘during the EIA’ and ‘after the EIA’. Furthermore, several studies (for an overview see: Runhaar and Driessen, 2007) again use another approach; they group impacts in ‘indirect’ and ‘direct’ impacts. Most of the studies using the latter approach put emphasis on the analysis of direct impacts, since indirect impacts are very difficult to identify. As a consequence of the large number of studies, also numerous methods and frameworks to analyze the impact of EAs on decision-making have been suggested (see for instance: Runhaar and Driessen, 2007; Hokkanen, 2004; Ten Heuvelhof and Nauta, 1996; Fischer, 2002; Thérival and Minas, 2002). This has resulted in a wide range of different outcomes. For instance, Ten Heuvelhof and Nauta (1996: p 24) reported an impact in 79% of the EA cases. Thérival and Minas (2002: p 86) report that roughly 70% of development plans were changed in 2001 due to SEAs. Furthermore a study done by the Japanese Ministry of the Environment Government and Mitsubishi Research Institute (2003) revealed an impact in about 67% of the researched EA cases (Runhaar and Driessen, 2007). Hence, a variety of different definitions of the impacts of these instruments on decision-making is already available in literature. Since ‘direct’ and ‘indirect’ impacts are used very often, these will be explained in more detail³.

Direct impacts of the instruments on decision-making can be directly identified in final decisions:

- Elements of the official conclusions of the EISs, AA reports and other official documentation (like advices of the NCEA and other background documentation) can be recognized in the formal decisions;
- The decision-makers’ awareness and/or understanding of the environmental and/or natural issues have changed;
- The extent to which these environmental and/or natural issues have been considered in decision making has changed;
- The instruments have caused some changes in practice or ‘material reality’ (Runhaar and Driessen, 2007).

³ Since studies on the impacts of AAs seem to be lacking, in this research the impact criteria which are mentioned in EA literature will be used to study the impacts of AAs as well (therefore the term ‘instrument’ will be used instead of SEA, EIA, EA or AA).

Indirect impacts of the instruments decision-making in most cases are not officially documented, but are still very important. Examples of indirect impacts are:

- The anticipation of decision makers and/or initiators already in the procedure (or even prior to it) on the use of instruments;
- The inclusion of new (or more) ideas which are used in the next rounds of the process;
- Impacts on other fields, projects, plans, situations etc. of which the instruments not directly have been part (Runhaar and Driessen, 2007; Nooteboom 1999).

The focus in this research will be on the first direct impact; 'Elements of the official conclusions of the EISs, AA reports and other official documentation can be recognized in the formal decisions'. This is understood to be the most important type of impact, which determines the total level of impact of an instrument extensively (Kautto and Similä, 2005).

Hence, the 'changes in the decision-makers' awareness and/or understanding of the environmental and/or natural issues' and 'the changes in the extent to which environmental and/or natural issues have been considered in decision making' will not be analyzed. These two types of impact will most likely be reflected in the first impact as well. In other words: when the decision-makers awareness and understanding, or the extent of consideration has changed, this will most likely be reflected by the inclusion of the results of the assessments into the formal decisions. Also the question whether the instruments have caused some changes in the material reality, will not be answered. These kind of changes often take a long time to occur and to become 'visible', which makes them very difficult to determine. Moreover the determination of indirect impacts will not be a primary goal in this research, since these are much more complex to determine and much less apparent than the direct impacts. Therefore it is very difficult to find out whether they really have been caused by the policy-instrument or did occur due to other policies or external factors. However, when from the interviews appears that the instruments also had an impact by means of the other types of impact, this will be included in the evaluation as well. In order to be able to analyze the impact of the instruments, first more insight is needed into the factors that influence the impact.

2.2 Factors influencing impacts

The impacts of policy instruments on decision-making can be explained by a number of different theories. According to existing literature on policy analysis, the impact of policy instruments on decision-making is influenced by both internal and external factors. As a consequence, some of these factors can be managed to some extent, while others cannot, but they all are strongly interrelated with each other.

In literature several approaches to decision-making and the use of policy instruments are distinguished. Though, two of these approaches; 'the rational approach' and 'the social-interaction approach' to decision-making, are used very often in an EA context (Kørnøv and Thissen, 2000). The rational approach puts emphasis on the content of the documents and sees EAs and AAs as information providers. Decision-making should be done in an hierarchical way based on rational thinking. The social-interaction approach to decision-making puts emphasis on the processes; participation of all relevant stakeholders is seen as an essential factor for decision-making. The role of EAs and AAs in this approach is one of enabling participation.

Both approaches to decision-making have other ideas about the importance of EAs and AAs for decision-making. Consequently, different factors influencing the impact of the instruments are emphasized by the approaches and moreover the relative importance of these factors is understood differently. Therefore these two theoretical approaches and their views on the use of policy instruments will be explained.

2.2.1 Rational approach to decision-making

The rational approach to decision-making is a normative model. A normative model is a prescriptive model to evaluate practical situations. It suggests what should be done or how things should work in order to improve the evaluated situation. The proponents of the rational approach believe that real-world decision-making can be improved by applying this approach (Kørnøv and Thissen, 2000). Rationalists

perceive decision makers to be acting totally value free and objective. Social problems can be overcome through rational-hierarchical policy making. Actions are only taken after a rational choice is made by weighing all costs and benefits and considering several alternative outcomes. Thereby the impact (and problem solving capability) of the policy and its instruments is maximized, because the rational choice leads to the best congruence of means and goals. The government has a central role in policy-making; it is considered to take place a single-actor setting, where no public consultation takes place since the government is perfectly able to take decisions solely and in a hierarchical way (Van de Riet, 2003). Decision-makers base their decisions on evidence and information gathered through systematic assessments alone; no subjectivity is allowed. Therefore, systemization, routinization and binding rules are the key to ensure uniformity in rational decision-making. Individual opinions, values and the character of decision makers become irrelevant. Their professionalism enables them to put other considerations aside, because they are ought to act only in the interest of the organization they are working for (Kørnøv and Thissen, 2000). As such society can be steered in a desired direction. According to the rational approach decisions are made by following some sort of predefined path, such as:

- a systematic consideration of all possible alternatives;
- an assessment of all possible solutions; and
- an analysis of all available information which is objectively assessed as it is always quantifiable (Weber, 1947 in: Weston, 2000, p 187).

Instruments like EAs and AAs have an important role within this rational school of thinking. These instruments are seen as providers of value free information for decision-making through objective scientific research. Hence, they enable decision-makers to make their decisions rationally. The keywords in the rational approach always are objectivity and quality; subjective assessments should be kept out of the process as much as possible. Information should only be collected just as it is, without any subjective interpretations. Making judgments, value assumptions and giving opinions should be avoided as much as possible in research. Hence, according to rational theory, the impact of EAs as well as AAs will be improved by ensuring completeness, transitivity and context free ordering (Colman, 2003). Furthermore, science and politics are two separated domains; Scientists have to provide pure objective information, which enables the decision-makers to make choices as rational as possible. E.g. it are succeeding procedures and science should not adjust according to the demands of politics. Therefore, assessments like EAs and AAs need to consider predefined goals and determine their implications (Elling, 2009). Their impact can be improved by undertaking the key stages in the instrumental processes in a rigorous manner (Cashmore, 2004). Content of assessments is very important in the rational-approach; Quality of the information determines the impact of EAs and AAs on decision-making extensively (Weston, 2000; and Van de Riet, 2003). Information should be quantified as much as possible, and moreover the findings should be presented in a logical, coherent and comprehensive manner in order to make the assessment more transparent and maximize the impact of the instrument on decision-making (Cashmore, 2004).

Thus the rational approach to decision-making emphasizes the role of the central government in decision-making. Rationality and intellectuality are key features in making-decisions, therefore policy instruments have a major influence on decision-making by providing scientific evidence. Good quality information as well as clear and quantitative presentations of results are therefore influencing the impact of an instrument extensively; The results directly influence decision-making. The process follows a predefined path, goals are formulated in advance which makes the results a reflection of a single point in time at the start of the assessment. This makes the procedures more time- and cost-efficient.

2.2.2 Social interaction approach to decision-making

Decision-makers in interactive procedures cannot make decisions without strong assumptions about the behavior of other participants. Therefore rationality does not appear to be characteristic for social interaction in general as the rational approach to decision-making does claim (Colman, 2003). For this reason, contrary to the rational approach to decision-making, in the social interaction approach participation and transparent procedures are highly valued. Decision-making is understood to be a multi-actor activity. Therefore it is a political process; It has to consider complex political issues and needs to account for the interests of the multiple actors which are involved as well as for the information which is

provided. A top-down hierarchical approach (as emphasized by the rational approach to decision-making) therefore is unwanted. Instead, a participative approach should be used in order to gain support from the actors within the process. When some stakeholders' interests are not reflected, this may result in opposition from their part, which will decrease the impact of a policy and its' instruments. Therefore dialogue and consensus seeking are highly valued within the social interaction approach. Moreover, the information provided for decision-making should be relevant instead of totally rational. All actors can provide valuable information and when not all of them are included in the process, not all information will be available. The latter notion implies that subjectivity and value judgments are accepted to some extent and the role of policy instruments in decision-making is one of enabling participation and negotiation. Therefore, according to the social interaction approach science and politics come together in policy instruments and the distinction between the two is not clear (Kørnøv and Thissen, 2000; Van de Riet, 2003). Thus, contrary to the rational approach to decision-making, they are not two separated domains. As such, decision-making and the assessments are connected extensively. Which makes it not only important to undertake the key stage of the assessments rigorously (Cashmore 2004), but the during the entire process the assessment should be adjusted accordingly to recent developments. Therefore the flexibility of an instrument to be adjusted during the processes is influencing the impact of it extensively. No predefined path or method therefore should be made mandatory for all situations, but instead differentiations should be made accordingly to the context of the project or plan considered (Elling, 2009).

The decision-making process is very important according to the social-interaction approach. The impact of EAs and AAs on decision-making can only be substantial when the actors agree on the importance and legitimacy of the results of the assessments. This can only be achieved by a participative and transparent process. Not including all actors in the process will increase the risk of disregarding the results of the assessments and thereby decreasing their impact (Van de Riet, 2003). Since all actors have diverging expectations about the information required, the instruments do not necessarily have to satisfy all the information requirements of all actors (Cashmore, 2004). Therefore the central role of EAs and AAs in this approach is providing a platform for negotiation between actors and providing relevant and acceptable information.

Thus the social interaction approach to decision-making highly values interaction of different stakeholders within the decision-making processes. The role of policy instruments according to this approach therefore is one of enabling participation. Good quality information and clear presentations therefore are of major importance as well according to this approach. However, the results of the assessments are only providing arguments for negotiation amongst actors. As such, it is more important to provide relevant data for discussions than totally value free and objective information. Gaining support of actors or stakeholders, finding compromises and managing processes are factors contributing to the impact of an instrument. Consequently, the process is very variable rather than static or following a predefined path. Which makes flexibility of the instruments very important.

2.2.3 Reported impact factors

The two approaches to decision-making mentioned above are purely theoretical approaches. However, the rational as well as the social-interaction approach to decision-making do distinguish some factors influencing the impact of policy instruments on decision-making. These factors also are rather normative and not operational. Yet, numerous empirical researches have already been done on the factors influencing the impact of policy instruments. Many different impact factors which influence the impact of instruments on decision-making to some extent, are being distinguished in these researches (Fischer & Gazzola, 2006).

Especially a research of Runhaar and Driessen (2007) provides a useful framework to analyze the impact of policy instruments on decision-making. They have analyzed fifteen empirical studies reporting on factors contributing to impacts of SEAs and have found eleven different impact factors in the analyzed studies. However, nine of them were reported almost incidentally (only mentioned in a minority of the studies). Therefore the factors influencing the impact of SEAs seem to be rather heterogeneous.

Table 3 gives an overview of the impact factors which according to Runhaar and Driessen (2007), were mentioned in the fifteen analyzed studies. Factors which are highly valued by both the rational as well as the social-interaction approach to decision-making can be recognized, which makes clear that these are two extremes and reality lies somewhere in the middle. Nevertheless, two factors which are emphasized by

the social-interaction approach to decision making stand out, namely ‘the flexibility of the instrument to fit into the decision-making context’ and ‘the level of stakeholder participation’, which are mentioned in the majority of the analyzed studies (Runhaar and Driessen, 2007).

In this research the factors which have been mentioned in at least five out of the fifteen analyzed studies will be used in order to explain the impact of EAs, AAs and EA/AA combinations on decision-making. The factors which were mentioned in four or less out of the fifteen researches have been kept out of the analysis. The focus will be on the impacts of the combined instruments, however a comparison between the impacts of EAs, AAs and EA/AAs is needed in order to determine the added value of the latter option.

Factor	Authors	How often mentioned? (n = 15)
Flexible SEA that fits into the decision-making context	Arbter, 2003; Elwell, 2002; Fischer, T B, 2004; Hildén <i>et al</i> , 2004; Knigge and Leipprand, 2003; Knigge, 2005; MEGJ/MIRI, 2003; NGOs, 2000; Sheate <i>et al</i> , 2003; Thérivel and Minas, 2002; Zerbe and Dedeurwaerdere, 2003	11 out of 15
Stakeholder participation	Arbter, 2003; Dalal-Clayton and Sadler, 2004; Elwell, 2002; Fischer, T B, 2004; Hildén <i>et al</i> , 2004; Knigge and Leipprand, 2003; Knigge, 2005; MEGJ/MIRI, 2003; NGOs, 2000; Sheate <i>et al</i> , 2003; Zerbe and Dedeurwaerdere, 2003	11 out of 15
Transparency of SEA process	Arbter, 2003; Dalal-Clayton and Sadler, 2004; Elwell, 2002; Fischer, T B, 2004; MEGJ/MIRI, 2003; Sheate <i>et al</i> , 2003	6 out of 15
Binding character of SEA	Dalal-Clayton and Sadler, 2004; Fischer, T B, 2004; Hildén <i>et al</i> , 2004; Knigge and Leipprand, 2003; Knigge, 2005; Sheate <i>et al</i> , 2003	6 out of 15
Quality of the assessment	Elwell, 2002; Fischer, T B, 1999; 2004; Hildén <i>et al</i> , 2004; MEGJ/MIRI, 2003	5 out of 15
Values in SEA should reflect values in policy context	Arbter, 2003; Elwell, 2002; MEGJ/MIRI, 2003, Partidário, 2000	4 out of 15
‘Openness’ of decision-makers to environment/sustainability	Dalal-Clayton and Sadler, 2004; Elwell, 2002; Fischer, T B, 1999; 2004	4 out of 15
Tiering of SEA with other assessments	Hildén <i>et al</i> , 2004; MEGJ/MIRI, 2003; Sheate <i>et al</i> , 2003	3 out of 15
Adequate resources	Fischer, T B, 2004; Sheate <i>et al</i> , 2003; Thérivel and Minas, 2002	3 out of 15
Effective communication	Aschemann, 2004; Fischer, T B, 2004; MEGJ/MIRI, 2003	3 out of 15
Assessment and mitigation of redistributive effects ^a	Elwell, 2002	1 out of 15

Note: ^a Elwell refers to two factors contributing to SEA impact on decision-making: “SIA should assess regulatory capacity effects – the loss of political sovereignty” and “Avoid environmental injustice”.

Table 3: Factors influencing impacts of EAs and/or AAs on decision-making found in empirical studies (Runhaar & Driessen, 2007, p 4)

In the following sections, the factors considered in this research will be presented. Also the will be mentioned for each factor in which of the two approaches to decision-making it fits best.

Flexible instrument

The extent to which an instrument is flexible, can cause some ‘changes in the extent to which issues have been considered in decision making’. When an instrument is flexible enough to fit into the decision-making context, its’ impact on decision-making will increase. This is due to several reasons: the flexibility of the instrument allows correct timing of the assessments, so that the needed information is available at the right moment and the process will not take to long (Runhaar & Driessen, 2007). This for instance can allow early anticipation of initiators or decision-makers on the use of the instruments and thereby shorten procedures (Christensen *et al.*, 2005). Moreover, flexible instruments allow changes during the processes, so that new ideas can be included and original drafts can be adjusted in time. This is very important because the opinions of decision-makers, actors and the public sometimes are very negative about policy instruments, which is declining their impact on decision-making. A flexible instrument can for instance take away perceptions that the instrument will add significant costs, will increase the work load and delay decision-making and development (Dalal-Clayton & Sadler, 2004). As such the importance of flexibility is

especially emphasized by the social-interaction approach to decision-making. Finally a flexible instrument is more likely to have an impact in other fields as well, since it can easily be adjusted for the purposes needed for the other field. Also it can relatively easy be extended to provide information and have an impact on other projects, plans etc. than it originally was used for. However, some strictness is needed in order to set a clear framework (on contents, rules, goals, deadlines, processes etc.), and thereby improve the impact of the instrument. E.g. an instrument should *not be too flexible*, because this can decrease its impact on decision-making.

Hence, flexibility is mainly important in cases where decision-making stands open for adjustments during the actual procedures. Flexibility of an instrument simply will not be of any added value influence for decision-making regulations do not allow adjustments during the procedures. The flexibility of an instrument can be very important for multi criteria and multi actor decision-making, according to the social-interaction approach to decision-making. When an assessment only has to consider one criterion, often an exclusive conclusion (for instance ‘yes’ or ‘no’) without any nuances can be made. In cases where multiple criteria need to be considered often different scenarios or alternatives are possible and need to be researched. A flexible instrument is much more important here, since it allows the inclusion of evolving and new knowledge into the assessments which can have a major impact on decision-making. When a hierarchical decision-making system is in place, flexibility can even negatively influence the impact of an instrument. According to the rational approach to decision-making, in such situations clear, rigid and prescriptive government provisions are more likely to influence impacts of instruments positively than introducing a flexible instrument (Runhaar, 2008).

Stakeholder participation

Secondly, the level of stakeholder participation is influencing the impact of instruments on decision-making, because public participation will increase the credibility of decisions. The importance of stakeholder participation especially is emphasized by the social-interaction approach to decision-making. It sees top-down hierarchical steering as insufficient (and therefore unwanted) to cope with such complex decision-making areas as the environment and nature (Kørnøv and Thissen, 2000). By giving stakeholders a voice, assessments will more likely to be perceived as ‘trustworthy’. Furthermore stakeholder participation will steer the course of research, by introducing new issues, topics, concerns, interests etc do the assessments. For instance, consulting the public will add ‘public concerns’ to the discussion, including politicians in the procedures will make sure that political objectives will be matched with the results of the researches (after all decision-making is a political process) and the inclusion of other or new stakeholders can put new issues on the agenda (Runhaar & Driessen, 2007; Thérival & Minas, 2002). Moreover, stakeholder participation broadens the acceptability of the results of the assessments and thereby can ensure that actors are willing to agree on decisions which in their view are less than perfect (van de Riet, 2003). This is a central point in opting for consensus: *‘In a healthy consensus group, people seek the wisdom of the group instead of pushing their personal agendas, and decisions are made through mutual consent. The course of action is something that everyone can consent to, not that everyone loves, or even agrees with, but that everyone can live with. A decision can go forward even when people disagree with it, if they “stand aside.”* (Kerrigan, 2004).

This consensus oriented way of decision-making has the advantage that it will lead to widely supported decisions and less opposition than with top-down hierarchical methods. However, one major critique of the rational approach to decision-making on the use of consensus, is the tendency to end up with a ‘lowest common denominator’. This is the measure or the alternative which is accepted and appreciated by the broadest group of actors. It is unlikely that this will be the most stringent measurement or alternative. Often each considered possibility has some negative implications for one or more of the actors in the process. Coming to a decision by consensus then means that non of the measures or alternatives will be supported by all actors. In order to still reach consensus, in most cases a weakened form of an original measure or alternative is agreed on. In addition, in complex and sensitive cases, reaching consensus can be difficult and time consuming, which might result in longer procedures (Andeweg, 2000; Deelstra et al., 2003).

Transparency of instrumental process

Stakeholder participation is strongly related to the transparency of the instrumental processes; transparency enables stakeholders to participate and it mobilizes support of (key)stakeholders in decision-making processes. This is a major reason for the social-interaction approach to decision-making to highly value this impact factor. By making all results and their values transparent for everyone (e.g. also for everyone who was not part of the process), public and political confidence in the outcomes will be fostered. Making results transparent is not only giving actors and external parties insight into the reports, but in addition the information in the reports should be clear enough and focused on the public so that everyone can understand the results and their implications. This will strengthen the impact of the instrument and its' results on decisions-making (Arbter, 2003; Dalal-Clayton & Sadler, 2004). Also can transparency ensure social control and thereby put pressure on decision-makers to take into account the results of the assessments. Moreover the foresight of this social control potentially can increase the level of anticipation on the use of the instruments by initiators. They implicitly will be forced to deliver good quality research, because they do not want to get 'a bad name' by performing badly or proposing an unacceptable initiative.

Also the rational approach to decision-making acknowledges the importance of transparency. Transparency of the process, methods and the results of the assessments namely can enable decision-makers to find bottlenecks, mistakes or positive aspects in the process. This can improve the decision-makers' understanding about the results, the issue at stake and about the use of the instrument. Transparency thus allows decision-makers to take legitimate and meaningful decisions and to improve their recommendations, rather than making 'shots in the dark' (Sinha and Swearingen, 2002).

Binding character of instrument

The fourth factor influencing the impact of a policy instrument on decision-making is the 'binding character of the instrument'. The strictness of the regime regarding the use of the outcomes of the assessments will affect the impacts of the instrument. When decision-makers are obliged to take the results of assessments into account in decision-making, they cannot ignore them. For this reason the outputs of assessments will be recognizable in final decisions and the impact of the instrument will be considerable. On the other hand, when this obligation is not in place and the instrument is only used as information provider, without any obligation attached to it, the impact of the instrument will be much less (Dalal-Clayton & Sadler, 2004; Hildén et al., 2004).

The rational approach to decision-making on the one hand emphasizes strict, predefined and clear regimes to increase the impact of an instrument, but on the other hand makes a clear distinction between science and politics. The binding character of an instrument therefore is considered to be of major importance for an instrument to have an impact. However, it should not be too big, according to the rational theory, because science then will determine the outcomes of politics too extensively.

The most important aspect which determines the big importance of this factor for the impact of an instrument on decision-making, is the fact that it can influence some other impact factors. When the binding character of an instrument is big, other impact factors become less important. E.g. the binding character of the instrument solely can ensure that the instrument has an impact on decision-making and as such is of major importance for the impact of an instrument.

Quality of the assessment

'The quality of the assessment' is only mentioned in one third of the studies considered by Runhaar and Driessen (2007) as being a factor contributing to the impact of instruments on decision-making. Despite this relatively low level of consideration in existing researches, in this research it is considered to be a very important factor for improving the impact of policy instruments. This is due to the acknowledgement, that there is a growing demand on the part of decision-makers for reliable knowledge and solid scientific information. Moreover, the rational approach to decision-making stresses the importance of high quality content and assessments extensively.

Only valid data and methods should be used in the assessments. This makes good quality content more likely to be recognizable in (and have an impact on) final decisions than bad quality content. Availability of good quality information and knowledge will reduce uncertainties and is able to establish new patterns of behavior among actors by diffusing new ideas (Haas, 1992). However, data limitations,

missing data, data incompatibility and data complexity are major challenges to the use of policy instruments (Dalkmann et al., 2004). Therefore improving quality of the assessments and data collection, as well as taking away doubts about the robustness of results, will improve the impact of instruments on decision-making.

The quality of the assessment is also related to the strictness of the regime regarding the contents and quality of the assessment. The rational theory emphasizes the importance of clear guidelines for the contents of the assessment, thereby the quality of the assessment potentially can be improved. According to the social-interaction approach also the existence of known tried-and-tested methods, the inclusion of practitioners with considerable expertise in the assessment approaches (professionals both at the side of initiators and decision-makers), and the existence of a monitoring program can potentially improve the quality of the assessment. Related to this, also the inclusion of stakeholders, experts, authorities, or even so called ‘epistemic communities’⁴ will positively affect quality of a policy instrument and thereby its’ impact on decision-making (Haas, 1992; Arbter, 2003; Dalal-Clayton & Sadler, 2004).

‘Openness’ of decision-makers to the subject

As already stated before, the factors mentioned in less than five out of fifteen analyzed studies by Runhaar and Driessen (2007) will not be assessed in this research. However, the authors have emphasized the importance of ‘openness of decision-makers to the subject’ for the impact of an instrument. So, although only four out of fifteen analyzed studies mention this ‘openness’ as an important impact factor, it is added to the list by which the impact of EA, AA and EA/AA combinations on decision-making will be determined in this research.

According to the rational approach to decision-making, decision-makers take their decisions as rationally as possible. Their professionality enables them to put other considerations aside, which makes their openness to the subject of less importance (Kørnøv and Thissen, 2000). However, according to social-interaction approach to decision-making much depends on the openness of decision-makers and on their willingness to take into account new ideas, information etc. Furthermore the openness of the decision-makers to the use of the instrument itself is very important, because this will considerably affect the extent to which the outcomes of the assessments will be used in decision-making. For instance when the use of an instrument is interpreted by decision-makers as a ‘threat’ instead of an opportunity, they will not be open to the use of the instrument and the impact of it will decline (Papadakis et al., 1998). Finally, this factor is strongly related to the binding character of the instrument; When the latter factor is big, decision-makers are obliged to use the instrument and its results. In such cases the openness of decision-makers to the subject does not influence the impact of the instrument anymore.

2.3 Relative importance of the impact factors

It is expected that the extent to which impact factors influence the impact of the three different instruments on decision-making will be different for all three of them. Consequently, the level of impact as well as the way the impact has been reached is expected to be different for each instrument. In the next sections several hypotheses about the relative importance of the different factors on the impact of EAs, AAs and EA/AA combinations on decision-making will be mentioned⁵.

2.3.1 Operationalization of the impact factors

In order to be able to research the extent to which the instruments are influenced by the impact factors, these factors have to be operationalized. In this research this is done according to a plus-minus (++)/(-) scale, which consists of five levels (see table 4). When a factor is very important for the impact of an instrument, a score of two times a plus (++) will be given to the factor for that instrument. On the other hand, a factor can also hinder or impede the impact of an instrument on decision-making extensively. In such cases a score of two times a minus (-) will be given to that factor for that instrument. However,

⁴ Epistemic Communities: “*Networks of knowledge-based experts*” (Haas, 1992: 2)

⁵ One has to be aware that, since only one type of the direct impacts and a select number of factors influencing this impact is described, the analysis by no means is comprehensive. E.g. not the entire impact of EA/AA combinations on decision-making will be analyzed, but only the most important direct impacts.

when a factor is of no importance for the impact of an instrument on decision-making at all a neutral score of plus/minus (0) will be given to that factor for that instrument. Finally, when a factor is of some importance for the impact of an instrument or is hindering it to some extent but not as much as the extreme scores, a more nuanced score of one plus (+) or one minus (-) will be given (more detailed and specified scales per factor will follow in the next sections).

Score	Level of importance of factors for the impact of an instrument on decision-making
--	Hindering/Impeding extensively
-	Hindering/Impeding
0	No importance
+	Medium importance
++	High importance/Very important

Table 4: Operationalization of the impact factors

is chosen. The main reason for this is the fact that the extent to which the factors are met is very hard to operationalize in another fair and comparable way. For none of the factors any quantified data on their importance and influence on impacts of policy instruments are available. Therefore expectations have to be made more qualitatively and based on literature. In such qualitatively cases often +/- scales are used (Cox, 2004).

For each factor separately is described how a specific score has been determined. Although an attempt is made to be as objective as possible in scoring the instruments on the factors, it is recognized that no scoring table can be entirely value free. For this reason every score has been underpinned extensively, in order to be as inclusive, transparent, trustworthy and objective as possible.

In the following sections the expected relative importance of the several impact factors for the impact of the three different instruments on decision-making in the Netherlands will be presented. It is important to take into account that the instruments all are applied within the same context: namely the Dutch decision-making context. Within this context social-interaction is highly valued in decision-making. This acknowledgement is very important for the interpretation of the relative importance of the impact factors.

2.3.2 Hypotheses for the impact of EAs on DEA decision-making

EAs resemble many aspects of the social-interaction approach to decision-making, which are reflected by the relative importance of a number of factors for the impact of the instruments on decision-making. In this section the expected importance of the impact factors for the impact of EAs on DEA decision-making (dotted arrow in figure 3) is described.

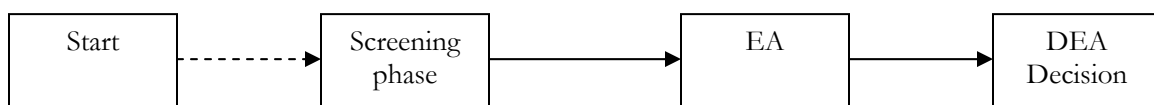


Figure 3: EA procedures and their impact on DEA decision-making

The aim of EAs is to improve decision-making by providing useful information on the impacts of a proposed activity or plan. Several alternatives need to be considered on their impact and numerous criteria (e.g. the impacts on nature, biodiversity, water, cultural aspects, economic considerations etc.) are used. As such, possibilities to include new alternatives and new measures will be kept open when EAs are flexible. However, it is mandatory to require certain alternatives; the most environmental friendly alternative (EIAs) and zero-alternative (EIAs as well as SEAs). Hence, some differentiation already is required and more flexibility possibly can influence the impact of EAs negatively by enabling a proliferation of new alternatives. For this reason flexibility is important for EAs in order to have an impact on decision-making, but not of major importance.

Moreover, participation is embedded in DEA legislation and therefore is mandatory during EAs, which resembles the ideas of the social-interaction approach to decision-making extensively. This ensures

that the interests of all participants are heard and much new information can enter the assessments. Public support can be improved by stakeholder participation and thereby the impact of the instrument will increase (Ten Heuvelhof and Nauta, 1997; Mostert, 1996). In addition, the possibility for participation makes transparency of EAs important for their impact, because without information no participation will be possible. Or as Tennøym et al. (2006) state it: “[a lack of transparency] could lead to a situation in which: decisions resulting in unwanted environmental consequences are made on the basis of erroneous information; democratic influence on decisions may be impeded by a lack of information; and information valuable to the discussions may fail to be brought to light”. Thus, stakeholder participation as well as transparency are of major importance for the impact of EAs on decision-making.

EAs use a so called ‘Yes, provided that’-approach. This means that the proposed activity or plan in principle is allowed, provided that several alternatives and their effects to reach the proposal are considered. So in EAs the assessment findings only have to be taken into consideration for decision-making and there is no direct precondition to really use the results (Söderman, 2009). However, decision-makers are not allowed to just put aside the results of EAs and make decisions which are conflicting to those results. In cases where is deviated from the results of the EA, the decision-makers have to underpin their considerations and decision extensively. Therefore, the binding character of EAs remains of importance for the impact of these instruments (Ten Heuvelhof and Nauta, 1997).

The fact that the regime regarding EAs is not ultimately binding, has implications for the importance of the openness of decision-makers to the use of the instruments. This factor is important, because the less binding regime gives decision-makers the opportunity to disregard the (results of the) assessments. However, as is described above, the regime still has some obligations to use the results, which makes the openness of decision-makers of some importance (but not of major importance) for the impact of EAs on decision-making. Although decision-makers might not stand open for the use of EAs and their results, they cannot ignore them totally without any explanation.

Finally the factor quality is of major importance for the impact of EAs on decision-making. This factor is highly valued by both theoretical approaches to decision-making. The assessments and the results have to be of good quality in order to reduce uncertainties and to enable the public to participate and decision-makers to make sound decisions. Moreover, many EAs are checked on their quality by an independent commission (the NCEA) which ensures that bad quality assessments are filtered out and cannot have an impact (Ten Heuvelhof and Nauta, 1997). Moreover, the fact that the NCEA does exist suggests that the quality of EAs is considered to be of major importance by the Dutch government.

In table 5 the preceding discussion on the importance of the factors for the impact of EAs on decision-making is summarized.

Factor	Score
Flexibility	+
Stakeholder participation	++
Transparency	++
Binding Character	+
Quality	++
Openness of decision-makers	+

Table 5: Relative importance of each impact factor for the total impact of EAs on DEA decision-making.

2.3.3 Hypotheses for the impact of AAs on NCA decision-making

In this section the expected importance of the impact factors for the impact of AAs on NCA decision-making (dotted arrow in figure 4) is described.

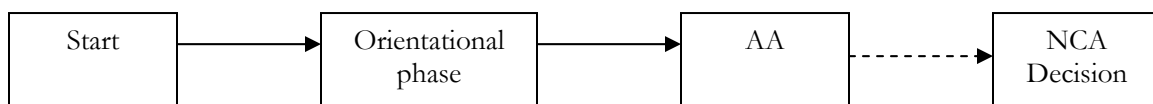


Figure 4: AA procedures and their impact on NCA decision-making

The aim of an AA is to conclude whether significant negative effects on Natura 2000 will occur or not as a consequence of a proposed activity or plan. It is allowed to analyze the effects of possible mitigating measures, however this is not mandatory. Moreover, it always will require an extra research. Therefore the

EU advices to incorporate mitigating measures already in the design phase of the project, prior to the AA. In this way these measures become part of the proposed activity or plan and as such will be analyzed in the AA (Van Dijk, 2005). According to the rational approach to decision-making assessments need to consider predefined goals and determine their impacts (Elling, 2000). Since the analysis of an AA does not diverge from the proposal, this is exactly what is done in AAs. Therefore flexibility is not important for their impact. Moreover, only one criterion is researched (e.g. whether significant negative effects will occur or not). Making AAs flexible might even cause delays in the procedures and make the assessments consider too many aspects which are not needed in order to reach that final goal. Thus, flexibility can potentially impede the impact of AAs on decision-making.

Stakeholder participation during AA procedures is not ensured by the NCA. In the actual permitting phase it is possible, but participation during the AA procedures themselves is not possible and of no use either. The competent authority is the only decision-maker during the AA procedures, so initiators only have to ‘convince’ decision-makers and stakeholders have no influence on the results. Therefore, stakeholder participation is not important for the impact of AAs on decision-making, since new ideas and alternative solutions will not be considered in AAs. Allowing stakeholders to participate in AAs can therefore even delay procedures and impede the impact of the instruments.

Transparency about the methods and sources used for the assessment are important in AAs. This allows decision-makers to determine the legitimacy of the results. Moreover, these results should be made as explicit (and transparent) as possible. Just as the rational approach to decisions-making emphasizes, AAs’ results should be presented logically and clear in order to have an impact. Although transparency is important for the impact of AAs on decision-making, it is not of major importance, since transparency does not comprise ‘the public’. In other words: AAs should be transparent enough for decision-makers to understand the results and procedures, but not necessarily for the entire public.

The binding character is of major importance for the impact of AAs. A so called ‘No, unless’-approach is used in AAs. This involves that in principle no activities with significant effects are allowed (Cappelle and Stumpel, 2003). So in AAs there is the direct precondition to decision-making that approval cannot be granted when in the AA is concluded that significant negative effects will or might occur. This very rational approach to the use of the instrument is following the ‘precautionary principle’, which implies that there is a responsibility of the government to protect the public (or public goods) from harmful exposure where scientific research shows that there is a risk (Söderman, 2009). The binding character of AAs ensures the impact of the instruments and therefore declines the importance of flexibility and stakeholder participation. The binding character thus is of major importance for the impact of AAs on decision-making.

Quality of the assessments is highly valued by both approaches to decision-making and therefore is understood to be of major importance for the impact of AAs. The assessments and the results have to be of good quality in order to reduce uncertainties and to enable decision-makers to make sound decisions. The ANFQ always checks the quality of the assessments before they accept them, therefore bad quality assessments will not have any impact on decision-making. Moreover, in AA cases decision-makers base their decision solely on the results of AAs which makes quality of major importance.

According to the rational approach, individual opinions, values and characters of decision makers are irrelevant for decision-making. As such the openness of decision-makers to the use of the instrument is not important for the impact of AAs, but neither does it impede that impact. Moreover, the binding character of the AAs also negatively influences the importance of this factor for the impact of the instruments. The binding character namely, already ensures that decision-makers will take into account the results of the assessments, which makes their openness to the issue and the use of the instrument of less importance (since they just are obliged to take into account the results of the AAs).

In table 6 the preceding discussion on the importance of the factors for the impact of AAs on decision-making is summarized.

Factor	Score
Flexibility	-
Stakeholder participation	-
Transparency	+
Binding Character	++
Quality	++
Openness of decision-makers	0

Table 6: Relative importance of each impact factor for the total impact of AAs on NCA decision-making.

2.3.4 Hypotheses for the impact of EA/AAs on DEA and NCA decision-making

In EA/AA combinations EAs and AAs are been combined and as such these combinations are expected two have an impact on two different decision-making procedures. Determining the importance of impact factors for the impact of the instruments on decision-making therefore gets more complicated. For instance one factor can be of major importance for EAs to have an impact on DEA decision-making, but that same factor can be of no importance for EAs to have an impact on NCA decision-making.

In the former two sections, the expected importance of the impact factors for the impact of EAs and AAs on decision-making procedures for which they originally were designed was described. This expected importance of the impact factors for the impact of EAs for DEA decision-making and AAs for NCA decision-making remains the same for the instruments which are part of EA/AA combinations. However, the expected importance of the impact factors for the impact of EAs on NCA decision-making and the impact of AAs on DEA decision-making (dotted arrows in figure 4) is different. Therefore in this section firstly the latter expectations are described, followed by a comparison with the already presented expectations. Finally, the expected importance of the impact factors for the impact of both EAs and AAs on DEA as well as NCA decision-making will be presented.

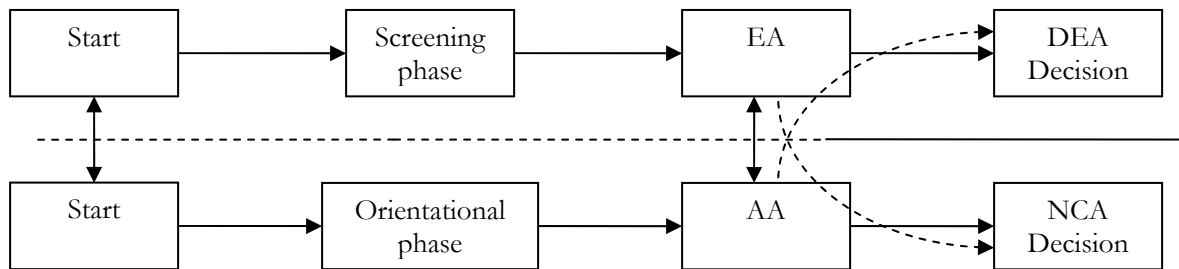


Figure 5: EA and AA procedures and their impact on decision-making

EA/AA combinations bring together the aims of EAs and AAs. EA/AA combinations have to consider several alternatives, based on several criteria which makes flexibility important in order to include new insights directly in the assessments. However, the combination of the instruments brings along a new dimension, namely the importance of flexibility in order to synchronize the procedures of both instruments. Only when the instruments are very flexible, their procedures can be synchronized sufficiently to have an impact. Especially the flexibility of the AA parts of EA/AA combinations is of major importance for their impact on DEA decision-making. Since AAs have to become part of the EISs, they need to be flexible enough to fit into EA procedures. Flexibility therefore is of major importance for AAs to have an impact on DEA decision-making.

NCA decision-making focuses solely on the outcomes of AAs. Therefore, flexibility may seem of no importance for EAs in order to have an impact on NCA decision-making. However, when EAs in EA/AA combinations have an impact on the outcomes of the attached AAs, they will have an impact on NCA decision-making as well. Some flexibility of EAs therefore is important to enable AAs to fit in EISs (without a proper combination with an AA, an EA cannot have any impact on NCA decision-making).

Stakeholder participation is embedded in DEA legislation. This framework also applies to AAs in EA/AA combinations. Participation can ensure the inclusion of new ideas into the assessments, but also enables 'social control' on the results and on decision-making itself. Finally, public support will increase when stakeholders (as well as other public actors) can participate in the procedures. Public support can increase the impact of AAs on DEA decision-making extensively, which makes stakeholder participation of major importance.

According to the DEA legislation participation has to be ensured by the EAs in EA/AA combinations. Therefore, for EAs to have an impact on decision-making it is expected that participation is of major importance. However, in NCA legislation participation is not embedded. For NCA decision-making participation is not important, since new ideas or alternatives are hardly ever included in final decisions. Moreover, the NCA decision will only be based on the question whether significant negative

effects will occur or not. Stakeholder participation is unlikely to change the level of significance of the effects of the proposed activity or plan. Hence, for NCA decision-making stakeholder participation is not of any importance and even can delay procedures when it is applied. But, stakeholder participation is important for EAs to have any impact on decision-making at all. It therefore remains of importance for the impact of EAs on NCA decision-making. This is expected to lead to difficulties and a decreasing level of impact of EA/AA combinations on NCA decision-making.

Transparency is of major importance for the impact of AAs in EA/AA combinations on DEA decision-making. It enables the public as well as the stakeholders and decision-makers to see, understand, use and give their opinion about the results and the methods of the assessments. As such transparency enables participation and increases the quality of assessments, which makes this factor of major importance for the impact of the AAs on DEA decision-making.

For EAs to have an impact on NCA decision-making transparency is of major importance as well. Decision-makers should be able to understand the results and procedures, and in addition also other participants (e.g. 'the public') should be able to do so. Transparency thereby is expected to improve public support, the quality of the assessments and the openness of decision-makers to the use of the instruments and the results of the assessments. Therefore it is of major importance that results should be presented logically and clear in order to have an impact.

The binding character (or strictness of the regimes) of EAs and AAs is very different and moreover the approach they use for their assessment differs. As stated before, AAs use a 'No, unless'-approach, while EAs use a 'Yes, provided that'-approach. The combination of EAs with AAs thus implies combining two regimes with different obligations on the use of the outcomes of the instruments.

Due to the binding character of AAs it is expected that this factor is of major importance for their impact on DEA decision-making. As already has been described: in NCA decision-making cannot be deviated from the results of AAs, which makes the binding character of AAs of major importance for their impact on NCA decision-making. However, the binding character of AAs is also of major importance for their impact on DEA decision-making, when AAs are part of EA/AA combinations. DEA decision-making and NCA decision-making namely have to be aligned and may not be conflicting with each other.

The binding character of EAs is less strict than that of AAs. For NCA decision-making no legal obligation exists to take into account the results of EAs. Instead, only the results of AAs need to be used. However, for DEA decision-making it is not allowed to just put aside the results of EAs and make decisions which are conflicting to those results. Since NCA and DEA decisions are not allowed to be conflicting with each other, the same applies for NCA decision-making. Hence, the binding character of EAs is of some importance for their impact on NCA decision-making.

The quality of the assessment is very important for the impact of the combination of the two instruments on decision-making. Bad quality assessments are expected to have no impact at all, since the quality of AAs in EA/AA combinations is checked by the competent authority in the NCA decision-making procedure (the ANFQ or a province) as well as the NCEA. Hence, the quality of these AAs is checked twice. Therefore it is assumed that only real good quality assessments will pass both quality checks and can have an impact on decision-making, which makes the quality of the AAs of major importance for their impact on DEA decision-making.

Although the EAs in EA/AA combinations are only checked by the NCEA (and not by the competent authority of the NCA decision-making procedure), it still is assumed that only good quality assessments can have an impact on decision-making. In other words, the work of the NCEA is not questioned in this research, since the NCEA is an independent quality control organization, with considerable expertise in controlling the quality of EAs. Hence, the quality of EAs in EA/AA combinations is of major importance for the impact of these EAs on NCA decision-making.

The combination of EAs and AAs is relatively new. New instruments often are considered difficult to use and decision-makers are not used to them (yet). Moreover, the issues EAs and AAs focus on (the environment and nature) often are perceived as hindering for the realization of goals of other policies like

spatial planning, traffic or economics (Smits, 2000). For this reason the impact of new instruments can be improved by ensuring a sufficient level of openness of decision-makers to the use of the instruments.

The openness of decision-makers to the use of AAs in combination with EAs is important for the impact of the AA-parts on DEA decision-making. Nevertheless it is not of major importance, since the binding character of AAs is expected to ensure the impact of AAs on DEA decision-making already. Therefore, the openness of decision-makers to the issue gets less important, since they simply are obliged to use the instruments and to take into account their results.

However, the openness of decision-makers to the use of EAs in combination with AAs is of major importance for the impact of the EA-parts on NCA decision-making. For the NCA decision it is only obliged to do an EA in combination with an AA in some cases, but no obligation exist to use the results of the EAs (although it is not allowed to just put aside the results of EAs and make decisions which are conflicting to those results). Hence, the binding character of the legislation regarding the use of EAs for the NCA decision is not strict, which increases the importance of the openness of decision-makers to the use of EAs and their results for NCA decision-making.

In table 7 the preceding discussion on the expected importance of impact factors for the impact of AA parts of EA/AA combinations on DEA decision-making and EA parts of EA/AA combinations on NCA decision-making in the Netherlands is summarized.

	AA parts on DEA	EA parts on NCA
Flexibility	++	+
Stakeholder participation	++	+
Transparency	++	++
Binding character	++	+
Quality	++	++
Openness of decision-makers	+	++

Table 7: Expected relative importance of impact factors for the impact of: AA parts and EA parts of EA/AA combinations on DEA decision-making respectively NCA decision-making in the Netherlands.

2.4 Synthesis

In the preceding sections it is suggested that the AAs as well as EAs which are part of EA/AA combinations have an impact on NCA as well as DEA decision-making. The impact factors are of different relative importance for the impact of the instruments on the different decision-making procedures. This is summarized in table 8. In the columns one and two the expected importance of the explanatory factors for the impact of AAs on NCA decision-making (1) and decision-making subject to EAs (e.g. DEA decision-making) (2) are shown. In the columns three and four the expected importance of the explanatory factors for het impact of EAs on decision-making subject to AAs (e.g. NCA decision-making) (3) and DEA decision-making (4) are shown. Hence, in the columns one and four the expected importance of these factors for individual AAs and individual EAs on the decision they were originally designed for is presented. And the scores in all four columns together represent the expected importance of the factors for the impact of EA/AA combinations on both DEA and NCA decision-making.

	1: AA+EA/AA	2: EA/AA	3: EA/AA	4: EA+EA/AA
	AA on NCA decision	AA on decision subject to EA (DEA)	EA on decision subject to AA (NCA)	EA on DEA decision
Flexibility	-	++	+	+
Stakeholder participation	-	++	+	++
Transparency	+	++	++	++
Binding character	++	++	+	+
Quality	++	++	++	++
Openness of decision-makers	0	+	++	+

Table 8: Expected relative importance of impact factors for the impact of AAs, EAs, and AA- and EA-parts of EA/AA combinations on NCA and/or DEA decision-making in the Netherlands.

By comparing the columns one and two as well as three and four with each other, the expected bottlenecks and opportunities of combining EAs and AAs for their impact on decision-making can be recognized. When the scores in the first two columns would have been exactly the same, it would have meant that DEA decision-making would make the same demands on AAs as NCA decision-making does. However, not all impact factors are of the same importance in both columns. Therefore, it seems that DEA and NCA decision-making put different demands on AA parts of EA/AA combinations, which can lead to problems. The same situation applies for EA parts of EA/AA combinations, when comparing the columns three and four.

In table 8, the impact factors which are expected to be equally important for an instrument to have an impact on NCA and DEA decision-making are marked green. Where differences are expected, the expected importance of the impact factors is marked orange. In these situations, EA/AA combinations will require some adjustments to the AAs and EAs in comparison to situations where these instruments would have been used individually. Finally, where major differences in importance of factors are expected, the expected importance is marked red. In these situations problematic situations can occur, because the expected importance of the factor for the impact of the instrument on the different decision-making procedures are not only different, but are even conflicting.

Expected implications for EA/AA combinations

The impact factors ‘flexibility’, ‘stakeholder participation’, ‘transparency’ and ‘the openness of decision-makers’ are expected to be more important for impact of AAs (which are part of EA/AA combinations) on DEA decision-making than for their impact on NCA decision-making. Therefore EA/AA combinations are expected to require AAs to have a higher level of flexibility, stakeholder participation, transparency and openness of decision-makers, than normal AAs do. Especially the different requirements regarding the levels of flexibility and stakeholder participation can lead to problems. EA/AA combinations will require a high level of flexibility and stakeholder participation in order to enable AAs to have an impact on DEA decision-making. However for NCA decision-making it is important to not have a high score on these factors, since these are expected to impede the impact of AAs. Hence, one part (the AA-part) of EA/AA combinations has two different and even conflicting interests concerning flexibility and stakeholder participation, which are important difficulties in combining EAs and AAs.

In order to have an impact on NCA decision-making, EAs which are part of EA/AA combinations are expected to require a higher level of openness of decision-makers to the use of the instruments and their outcomes. This is an important implication for combining EAs with AAs. On the other hand stakeholder participation within EAs (which are part of EA/AA combinations) is less important for them to have an impact on NCA decision-making in comparison to its importance for the impact of EAs on DEA decision-making.

All the green parts in the table are considered to be ‘opportunities’ for EA or AA parts of EA/AA combinations to have an impact on both DEA and NCA decision-making.

3 Methodology

The objective of this research is to gain better insights in and explain the impact of combined EAs and AAs on decision-making (e.g. on both DEA and NCA decision-making). Therefore both the individual instruments as well as their combinations will be analyzed on their impacts on decision-making. Moreover the factors that have influenced the impact of the instruments as well as the extent to which they contribute to that impact will be analyzed and explained. This will result in conclusions about the impact and the (added) value of EA/AA combinations in comparison to individual EAs and/or AAs. In this chapter the used research methodology and its implications are explained.

3.1 Research strategy

In order to explain the impact of EA/AA combinations as well as individual EAs and AAs, two research strategies can be used. The first is that the researcher studies these instruments on the micro or project level. Following this strategy the researcher will have to study into great detail all modifications during the processes of large numbers of EAs, AAs and EA/AA combinations, and finally decide on their impacts and differences (Christensen et al., 2005). This method is very time consuming, but provides very detailed and in-depth insights in the impacts of the instruments. The second research strategy is to research the impacts of the instruments on a general or 'meta'-level. Several interviews have to be taken with experts who have a 'helicopter view' on the practical situation. Persons who have a helicopter view are able to make a distinction between details and overall trends due to their expertise. They can see 'the bigger picture' and take on a broader perspective than solely focusing on their own role. In this way they can recognize and explain general trends, developments and directions in their working field (Hamerlinck, 2009). This method can provide useful information about the general situation relatively easy and quick. However, on the other hand it is relatively shallow; it is not a in-depth research like the first strategy is. Moreover, the researcher has to be aware that also experts are subjective to some extent, which will influence the outcomes of the research (Bressers, 2003).

The research strategy used in this research is focusing on the general situation in the Netherlands. The general impact of EAs, AAs and EA/AA combinations in the Netherlands is analyzed. In addition, some case studies provide more in-depth insights in practical situation in the Netherlands.

The research strategy as described above is one of qualitative and empirical nature. In a qualitative research problems, situations, events, persons etc. are been analyzed and interpreted according to qualitative data. Qualitative data exist of experiences, opinions, characteristics, values and nature of the issue which is studied. Such data is assessed through open interviews, observations or existing documentation and literature (Baarda en de Goede, 2001). The focus of the research is on analyzing, *comparing* and interpreting the available data. The empirical nature of the research is reflected by the goal of the research, namely to explain the impact and added value of EA/AA combinations in comparison to individual EAs or AAs in practice. Therefore interviews with persons with experience in the practical field have been done and existing data on real world situations is used. Moreover, this is illustrated even more empirically by doing some case studies.

3.2 Data collection

As described already, the data for this research have been collected in several ways. At first existing literature was used in order to put the research in perspective and to create the framework for the research. For the actual research some databases have been used as well as information gained through interviews. The latter two data collection methods will be described in the following sections.

3.2.1 ANFQ database

A database was available which was made by the ANFQ (the Dutch Ministry of Agriculture, Nature and Food Quality). This database did contain an extensive list of all cases in the Netherlands in which an article 19d NCA-license had been applied for and on which a decision had been made between October 1st, 2005 and August 1st, 2008. For all cases was defined which Natura 2000 area was affected, in which province the activity was planned, who the initiator was, in which year the decision was taken, what the outcome of the

decision was, who the competent authority was, and some particularities were given sometimes. Much of this information has been used to get a quick and broad impression of NCA decision-making in the Netherlands and some information was particularly useful to come in contact with actors within the procedures. However, the background document of Broekmeyer et al. (2008) was used more extensively than the database itself.

3.2.2 NCEA database

Also a database of the NCEA was available. It has provided much information EAs the NCEA has been involved in. The library at the secretary of the NCEA did contain hardcopies (and often also digital versions) of all EISs as well as much other background information (such as AAs, DEA as well as NCA licenses, notifications of intents, draft plans, final plans, additional researches, etc.) of the projects of the NCEA. For the case studies these documents have been very important.

Secondly the NCEA has made some files with information for its own use in the past. These documents did mention for instance the number of procedures where nature or Natura 2000 had been an issue, the number of reviews with a negative advice (even split up per subject to be negative about, such as for instance 'nature') etc. None of these files contained information detailed enough for my research, but still I could use some of the available information to get a general overview of the scope of the issue.

3.2.3 Developing a new database

No overview of all EA/AA combinations was available. Neither the NCEA or ANFQ could give this overview. The information implicitly was available at the NCEA, but nobody had put in the effort to create a database which would clearly provide an outline of the EA/AA cases handled by the NCEA. Therefore for this research a new database had to be developed to fill in that gap.

The NCEA does not carry out independent reviews for all EAs in the Netherlands, because their workforce is insufficient to prepare guidelines for all of them. The assistance of the NCEA is limited to review the processes of complex and/or controversial projects or plans (NCEA, 2009^a). It has given 1079 advices in the years 2005-2008. However, in order to avoid that cases would be included twice, only *quality reviews* of EISs have been included (totally 464 cases). In order to create the new database on EA/AA combinations, every technical secretary at the NCEA was asked to fill in a list of all the reviews he or she had done during the last four years. Due to quitting of some staff members, not all projects of the NCEA during that period could be analyzed in this way. Therefore the quality reviews of former technical secretaries have been analyzed shortly by myself. Every technical secretary at the NCEA was asked to answer the following questions about their own projects of the years 2005-2008:

- Was the quality review about an EIA or SEA procedure?
- Has an orientational phase or AA been done for the project?
- Was the documentation on this orientational phase or AA included in the EIS?
- Were the conclusions of the orientational phase or AA clearly or explicitly recognizable in the EIS?
- Could Significant negative effects on a Natura 2000 area occur due to the project or plan?
- Has an ADC-phase been done (completely or partly)?
- Finally extra comments could be given optionally.

The answers of these questionnaires together resulted in a database on EA/AA combinations in the Netherlands. However, there were some points of discussion concerning the interpretation of the questionnaire and the quality of the created database, because some issues were not as clear in practice as they were in theory.

- The database only consists of cases handled by the NCEA. Therefore not all EAs and consequently not all EA/AA combinations in the Netherlands have been included in the database. However, the number of excluded cases is very small according to several technical secretaries of the NCEA.
- When the instruments of the orientational phase and AA were newly implemented, there was no clear distinction between them in practice. For instance some of the first SEAs included very global (and for their scale appropriate) AAs, which by then often were seen as an orientational

- phase since AAs were perceived to be more detailed. After some time the use of these instruments became more clear, but early AAs and orientational phases can be confused sometimes.
- Also in the early implementation phase, it remained unclear what the role of AAs within EA/AA combinations was. Therefore at first the trend was not to ask for any additional information or improvements (on the AA-part) when the AA-part of EA/AA combinations was insufficiently done.
 - In practice orientational phases as well as AAs often are *not explicitly mentioned* in EISs, instead they are done implicitly or are given another name (like for instance: 'nature assessment', etc.). Therefore for some cases it was not clear whether they included an orientational phase or AA. When the instruments were explicitly called 'orientational phase' or 'appropriate assessment' in the EIS they were also qualified as such in the analysis. However, when some nameless form of review, concerning Natura 2000 areas, did occur in an EIS, this review always was classified as orientational phase. This could probably have led to some wrong classifications (e.g. AAs that were called an orientational phase) and some wrong exclusions of a small number of AAs.
 - Before the end of 2006 the practical distinction between SEA and EIA was not very clear. Moreover, some projects of the NCEA could not even be classified as SEA or EIA. These cases have been sorted in the category that according to the involved secretary was the closest to the actual category it should have been in. So, the limitation to sort cases into the categories 'EIA', 'SEA' or 'EIA/SEA' has influenced the accuracy of the data slightly..
 - Not for all cases could be concluded for sure whether significant negative effects would occur or not. Therefore in a large part of EA cases was concluded that it was not sure that significant negative effects on Natura 2000 would not occur. This obviously is not the same conclusion as that such effects will occur for sure.
 - Every technical secretary was given an explanation about the way to fill in the questionnaire and the way to handle unclear aspects of cases. However, despite this explanation, each person could still have interpreted the questions in another way, which may lead to some level of inconsistency in the results of the questionnaire (which came forward through slightly different values than in the annual reports of the NCEA).
 - Due to time constraints not all EISs could be analyzed in detail and when in the NCEA database nothing was mentioned about 'nature', 'Natura 2000', 'orientational phase' or 'appropriate assessment', it was assumed that no orientational phase or AA had been done at all in that case. However, in some cases the database seemed not totally complete. Therefore a small number cases could incorrectly be excluded from the analysis.

None of the above mentioned points of discussion have influenced the final outcomes of this research extensively.

3.2.4 Interviews

The databases provided much information on the numbers of EAs, AAs and EA/AA combinations in the Netherlands and moreover they have provided much documentation of actual cases. However, a third way to gain information was needed in order to get a good overview on the actual use of these instruments and their overall impact on decision-making in the Netherlands. This was done through taking interviews with experts with a helicopter view on EA/AA combinations in the Netherlands.

According to Baarda and de Goede (2001) there are many different forms of interviews, which all have their own pros and cons. Taking these into account, the use of semi-structured, one-on-one, oral interviews seemed the most appropriate for this research. Such interviews can be pretty time-consuming and it often is difficult to pick a date and time. A problem with information gained from interviews, is that respondents always will have a subjective look at situations (in most cases they are not aware of this themselves). This is inherent to their involvement in the actual processes. Another possibility is that the respondents may want to make a good impression and therefore give socially desirable answers to questions. Furthermore, a researcher has to account for the feelings of the respondents during the interview; e.g. when a respondent does not feel very well, he or she may be more negative than when he or she is feeling well. Moreover a researcher always has to deal with a certain level of non-response; some people do not have time or do not want to give an interview. Therefore researchers sometimes have to

choose other respondents instead, who could have another view on the topic. So, non-response is a factor which can influence the final outcomes of a research (Baarda and de Goede, 2001).

However, the preparation time of an oral interview is less time consuming than that of a written review (the interviewer can elaborate on questions when the respondent does not understand them, while the written interview has to be much more clear). Oral interviews have a low non-response rate and the interviewer or researcher will be able to improvise and ask further questions based on the answers of the respondent. This together with a structured start of the interview enables the interviewer to steer the conversation in the desired direction and get relevant information (Baarda and de Goede, 2001).

The interviews with the experts with a helicopter view on the practical EA, AA and EA/AA situation in the Netherlands were the main information source for analyzing the hypotheses of the research. The simplest approach to verify them would have been to ask the respondents' opinion about each hypothesis. However, such closed questions do not provide any answers about the reason why the criterion is met or not (e.g. these answers do not give an explanation). Hence, open questions regarding the impact factors have been asked as well. So, the interviews first have provided much information on the impact of the three different instruments on decision-making in the Netherlands and secondly, they have explained that impact according to the (relative importance of the) impact influencing factors in practice.

After giving an explanation about the research and its' goal, all respondents were asked to give their opinion about the impact of the EA/AA combinations on decision-making, especially in comparison with the individual instruments. After that a structured list of questions was gone through (for the questionnaire see Appendix 10). When the respondent had given an answer, very often this led to additional questions, which originally were not included in the questionnaire. In this way more extensive explanations for the level of impact of the different instruments emerged.

3.3 Case studies

The results of the analyses are illustrated by several studies of cases which have occurred during the period 2005-2008. For each instrument one case has been studied (e.g.: an AA case, an EIA case, a SEA case, an EIA/AA case and a SEA/AA case). By doing case studies, it was attempted to look at all ins and outs of a small number of decision-making procedures and illustrate the use of the instruments in practice. No statistical analysis could be done on the results of these case studies, because their number was too small for that purpose (Verschuren and Doorewaard, 1999). It is recognized that every case is unique and by no means a representation of the general practice of the instruments. The aim of the case studies therefore is not to produce results that can be generalized. Instead, they are used to *illustrate* the relative importance of the impact influencing factors for the impact of AAs, EAs and EA/AA combinations on decision-making in the Netherlands (the importance of the impact influencing factors for the impact of the different assessments on decision-making in the case studies is shown in the 'synthesis' sections (4.11, 5.10 and 6.11) of this report).

For the selection of an AA case, at first the database of the ANFQ was used to get an indication of the most common activities for which an article 19d NCA-license had been applied for in the Netherlands during the period 2005-2008. The database especially contained many agricultural activities and mussel seed fisheries. Therefore, I have searched for AA cases related to these activities on the website of the ANFQ. It was very difficult to find actual AA reports (this will be explained into more detail in section 5.5 on the transparency of AAs). Since, a monitoring report of Ens et al. (2007) was available for the AA case of the 'Mussel Seed Fisheries Autumn 2006', I decided to study that particular case. Although the impact of this case is similar to the impact of AAs on decision-making in general (see the last column in table 9), it cannot be considered representative for that impact (because no single case can be considered representative). However, the case study did provide some information about the relative importance of the impact influencing factors for decision-making in the Netherlands.

The four EA- and EA/AA cases have been selected at random from the databases of the NCEA and the new database on EA/AA combinations. Every case has its own specific situations, opportunities, difficulties and impacts, which can be illustrated the best by using case studies. For instance, the analyzed EIA case included an exceptional large number of alternatives, the SEA case was mainly perceived as an

obstacle for development, the EIA/AA case was part of a larger regional development program and the SEA/AA case was delayed extensively (after five years still no official DEA decision has been taken yet). Hence, every case was special and the impact of every case relative to the general impact of the instruments was different (differing from relatively low to relatively high; see the last column in table 9). So, none of the cases can be considered representative for the general situation in the Netherlands. But nevertheless, the case studies were very interesting and have provided information on the relative importance of the impact influencing factors, especially since some of the cases were very extreme on some points.

The following cases have been selected for the research:

Instrument	Case	Impact relative to the impact of the instrument in general
AA	Mussel Seed Fisheries Autumn 2006	High
EIA	Bio-Energy Plant, N.V. Waste Processing Rijnmond	Low
SEA	Spoorzone Municipality of Tilburg	Similar
EIA/AA	Waste to Energy Plant Delfzijl	Similar
SEA/AA	Camping-Marina 'Uitdam'	Similar

Table 9: Overview of the cases selected for the research

Part III – Results

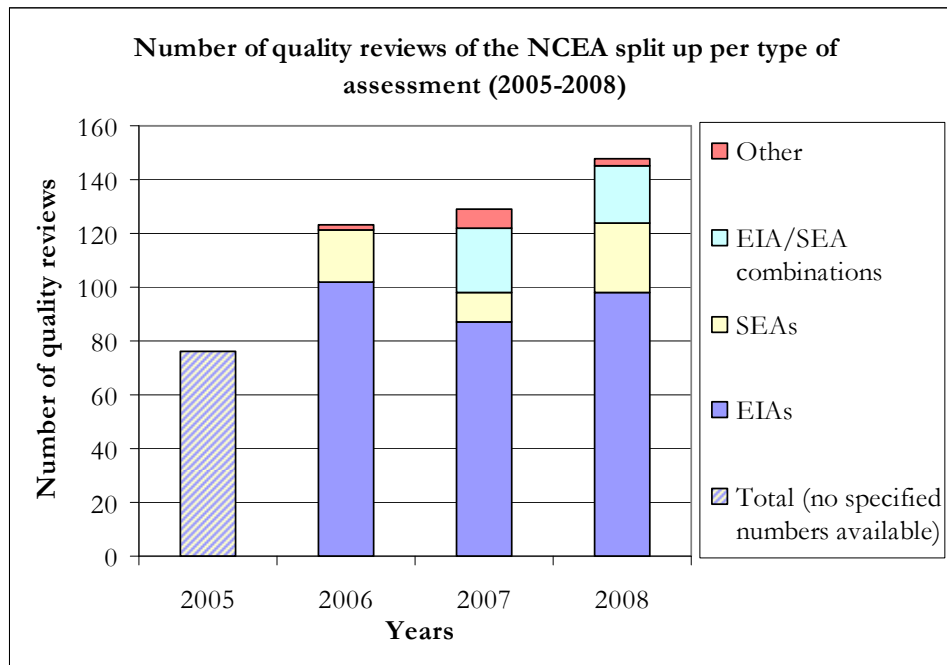
In this part of the research the results of the analyses on the impact of EAs, AAs and EA/AA combinations in general on decision-making in the Netherlands will be presented. All results are illustrated empirically by case studies. In chapter 4 first the impact of EAs on decision-making will be analyzed. Followed by an analysis of the impact of AAs in chapter 5 and an analysis of the impact of EA/AA combinations in chapter 6.

4 The impact of EAs on decision-making

In this chapter the impact of EAs in general on decision-making in the Netherlands will be analyzed. Since EAs have a rather broad scope (e.g. the environment in general), the focus in this chapter will be on the impact of ‘nature parts’ of the EAs when needed. Since, some differences exist between EIAs and SEAs in the Netherlands, these instruments will be analyzed separately when needed.

4.1 EAs in the Netherlands in 2005-2008

The use of EAs has grown extensively over the last decades; environmental concerns have grown considerably as well as the belief in the EA system. However, exact data on the total number of EAs in the Netherlands are not available. Nevertheless, the number of advices given by the NCEA is available. Although the NCEA is not included in every EA case in the Netherlands, it is assumed that the growing number of advices of the NCEA reflects the growing number of EAs in the Netherlands reliably. All quality reviews resemble another EA case checked by the NCEA and therefore this number reflects the total number of individual EA projects handled by the NCEA. Graph 1 shows that in the years 2005-2008 this number almost doubled from 76 in 2005 to 148 in 2008 (NCEA, 2006 and NCEA, 2009^e). This indicates that the number of EAs in the Netherlands has increased considerably during the last years.



Graph 1: Number of quality reviews of the NCEA in the period 2005-2008 split up per type of assessment (For exact numbers see Appendix 4, data derived from: NCEA, 2006; NCEA, 2007^a; NCEA, 2008; NCEA, 2009^e)

Specified numbers on the types of assessments are only available for the last three years. Due to this relatively short time period, it will not be possible to recognize ‘a general trend’ in the development of EAs over the years based on these data. Nevertheless, some observations can be made. The graph shows that the absolute number of EIAs is quite stable over the last three years. However, the relative share of EIAs

declines since the total number of EAs has increased. The number of SEAs is much smaller than the number of EIAs, but still is a considerable part of the total number of EAs. Finally, EIA/SEA combinations only have occurred (or have been registered as such) during the last two years. Despite this short period of application, these combinations seem to take a considerable share in the total number of EAs in the Netherlands.

The main observation which can be made from the graph, is that the total number of EAs is increasing each year. This situation is recognized by the NCEA in their annual reports for several years already (NCEA, 2006; 2007^a; 2008; 2009^c).

4.2 Impact on decision-making

In the Dutch decision-making practice, decision-makers are obliged to take into account the results of the EIS, the opinion of all actors, the measures described in the EIS, the original proposal, the draft version of the decision, etcetera. Although all these results should have an impact on the final decision, none of them provides the exact framework according to which the decision could be taken. Nevertheless, EAs widely acknowledged to have an impact on decision-making. EAs lead to an improved level of environmental protection by providing information on the environmental effects of proposed actions. EAs consider several environmental aspects, like for instance 'nature'. Each aspect only is mentioned in EISs when considerable negative effects are expected (NCEA, 2009^d). In general, EAs have an impact on decision-making in most national EA systems (e.g. also in the Dutch system), although this sometimes is only to a minimal extent (Sadler, 2004).

Several researches on the Dutch EA practice have been done already. The methods of the researches and the conclusions on the impacts of the instruments vary. However, the general trend is that the instruments do have an impact on decision-making, although this often is limited to including additional mitigating measures in final decisions (Valk, 1997). For instance the Evaluatie Commissie Wet Milieubeheer (ECW) concluded in a research in 1996 already that the majority of the Dutch EAs had an impact on the decisions of the competent authority as well as initiators, who seem to choose slightly more environmentally friendly alternatives due to EAs (Heuvelhof and Nauta, 1996). This was slightly more positive than the results of the research done by the ministries of ANFQ and HSPE⁶ in 1994, which showed that in five out of ten researched cases the results of EAs were visible in the form of extra required measures in the final-decisions (Ministries of ANFQ and HSPE, 1994). Also De Valk (1997) has provided an extensive research on the extent to which EAs influenced final-decisions in the Netherlands. This research has shown that environmental concerns were significantly more important for decision-making when EA procedures were followed, than for decision-making which lacked EA procedures. De Valk did conclude that EAs did have a positive, though not very high, impact on decision-making in the Netherlands. The decision of the competent authority was influenced directly by the results of EISs and there was no substantial interference of other field variables, like economic interests. However, the ways EAs did have an impact were variable (Valk, 1997).

More recently, also several international researches on the impact of EAs have been done. In 2002 Fischer has done a research in which he analyzed eighty SEAs considering 'spatial planning' or 'transport' in three countries: the Netherlands, UK and Germany. The main conclusion was that SEAs had an impact on decision-making, however only in the transport sector this impact was statistically significant (Fischer, 2002). In the same year also Thérivel and Minas have researched the impact of SEAs, however they focused specifically on the situation in the UK. Their conclusions showed a relatively high impact of SEAs; in approximately 70% of the plans the SEA did lead to changes in proposals (Thérivel and Minas, 2002). One year later, an analysis of sixteen cases in five countries (the Netherlands, UK, Estonia, Slovakia and the Czech Republic) concluded that EAs had an impact on decision-making in approximately two-third of the cases. This impact was varying from 'a bit' to 'substantial' (Runhaar and Driessen, 2007) and on average is somewhere in-between these two extremes. Although these researches have focused on the international context, their results give an indication of the impact of EAs on decision-making in the Netherlands. One then has to keep in mind that a comparative research to EA practices in several nations

⁶ Ministry of HSPE: Ministry of Housing, Spatial Planning and the Environment.

all over the world has concluded that the Dutch EA system performed the best of all (Wood, 2003). The research of NovioConsult (2003) shows that the impact of EAs in the Netherlands in general is rather modest. The proposals and decisions are hardly ever completely cancelled. In most cases in the final decision, the proposal gets adjusted, optimized and elaborated upon due to EA procedures (NovioConsult, 2003).

Also, the experts in the EA/AA field who have been interviewed, in general were positive about the use of EAs and their impact on decision-making in the Netherlands. In their opinion, in the majority of the decisions for which an EA is available, the results of the EA are used to some extent. Often none of the researched alternatives is used explicitly for the final decision and the preferred alternative is chosen. However, in most cases additional (mitigating) measures (based on the EA research) are included in final decisions. Hence, the impact of EAs in general is limited to adjusting preferred alternatives in final decisions and to the inclusion of several additional measures. Researched alternatives, like environmental preferable alternatives, are hardly ever taken over literally in final DEA decisions and therefore EAs do hardly have an impact on the chosen alternative in final decisions (Bakker, 2009; Broekmeyer, 2009).

The above confirms the general hypotheses on the impact of EAs on DEA decision-making as presented in section 1.6. It was expected that the impact EAs on decision-making would be 'medium'. From existing empirical researches on the impact of EAs on decision-making it seems that: approximately 50%-70% of the EAs has an impact on decision-making. In the Netherlands this percentage may be slightly higher, because the Dutch EA system seems to perform the best of all systems (Wood, 2003) and moreover according to the NCEA (2007^a, 2008 and 2009^e) the percentage of cases in which their advices have had an impact on final decisions is relatively high. Hence, the impact of EAs on DEA decision-making turns out to be 'medium to high' in terms of 'number of influenced decisions'.

However, since the impact is only 'a bit' in some cases and 'substantial' in others (Runhaar and Driessen, 2007), the impact of EAs in general is assumed to be somewhere in the middle of these two extremes. In most cases the impact is limited to adjusting the preferred alternative; EAs not often lead to negative decisions and cancelation of projects or plans (NovioConsult, 2003). Moreover, EAs do hardly have an impact on the chosen alternative in final decisions and instead only lead to adjustments to preferred alternatives in final decisions and to the inclusion of several additional measures on top of preferred alternatives. Hence, the impact of EAs can only be considered 'medium'. This can be explained by analyzing EAs according to the impact influencing factors which have been distinguished, which will be done in the next sections.

4.3 Flexibility

This factor was expected to be of some (but not of major) importance for EAs to have an impact on decision-making. Some flexibility is expected to be required in order to enable considered alternatives to have an impact on decision-making. However, too much flexibility can also cause assessments to differ too much from their original goals.

In the Netherlands, EAs in practice are not that flexible that initiators are allowed to research every alternative, solution or measure. The scope of the research on alternatives may not be too extensive, because alternatives might deviate too much from the original proposal and thereby do not fit into the original goal of the proposal (Ministry of HSPE, 1999). When the decision is made about an alternative which is not underlining the goal of the original proposal, a new EA procedure should be started with the alternative as the newly proposed preferred alternative (Bakker, 2009). Hence, the scope of the alternatives considered in EAs is very dependent on the goal of the original proposal. SEAs in this respect are broader and leave more room for elaboration, adjustments and more detailed considerations later on in decision-making procedures than EIAs (Bakker, 2009). So, regarding the contents of EISs there are a number of requirements in EA procedures. The competent authority sets guidelines for the contents of each EIS. There are some general guidelines which apply for all EAs and there are some case specific guidelines which are different for each EA case. For all EIAs it is mandatory to include at least a zero- or no-action alternative (what if the activity is not undertaken) and an environmentally preferable alternative (impacts to the environment are reduced to levels as low as reasonably achievable) in the EIS. In SEAs it is not

mandatory to describe the environmentally preferable alternative (Wood, 2003). For each EA specified guidelines are set by the competent authority. These guidelines often are based on an advice of the NCEA.

Hence, in practice EAs are not totally flexible. The experts in the EA field consider this not ultimately flexible character of EAs to be positive for the impact of EAs on decision-making. Too much flexibility of EAs could make them provide more irrelevant information and thereby blurring decision-making (Bakker, 2009 and Broekmeyer, 2009). Moreover, in a research of NovioConsult (2003) is concluded that experienced EA actors in general are satisfied about the level of flexibility of EAs. The flexible character of EAs should optimally be somewhere in the middle between totally flexible and ultimately mandatory, which currently is the case in the Netherlands. When these instruments would have been more flexible, this would have decreased the impact on decision-making, but when the instrument would have been less flexible, this also would have been the case.

Therefore, the current level of flexibility of EAs in the Netherlands is positively influencing the total impact of these instruments on decision-making, while EAs are not ultimately flexible. Hence, flexibility in practice is of importance (but not of major importance) for the impact of EAs on decision-making and scores one plus (+).

4.4 Participation

It was expected that participation would be of major importance for EAs to have an impact on decision-making. In the first place participation can improve public support by including several specific interests. Secondly, new ideas can be included in the assessments.

In EA procedures, stakeholder participation is integrated in the legal procedures on the instruments. The obligations regarding the exact procedures are slightly different for EIAs and SEAs (see Appendix 1: Legal framework environmental protection), however in all EAs it is mandatory to give the public opportunities to participate and give its view at some point in the procedures. These moments when participation should be made possible during EA procedures coincide with the moments decision-makers need to take decisions (NovioConsult, 2003). All views of the public should therefore be recognizable in final DEA decisions; the competent authority should take them into account or refute them in a well argued way. In practice the views which are given by the public or stakeholders often are summarized in a separated document or in the document with the considerations for the final decision (and not in EISs or final decisions themselves).

In more strategic EA projects (e.g. SEAs) the level of participation in practice is lower than in EIAs. The main participants in these projects often are professional organizations with very specific interests in some specific themes. EIAs on the other hand often have a higher level of participation, especially when they concern sensitive projects. Direct stakeholders, like local interest groups and residents, often try to take the participation opportunity to object to the proposal (NovioConsult, 2003).

The number of participation opportunities in practice seems relatively high (Ligtermoet and Partners, 2007). However, most of the consultation moments in practice are organized as ‘information-meetings’, where the main goal is only to inform the public. During these organized meetings often also official forms to participate and give a personal view on the proposal are provided (Ligtermoet and Partners, 2007). However, these meetings rarely give the public the opportunity to give advice, coproduce or co-decide on proposals. Moreover, public consultation in most cases occurs very late in the process, when the fundamental choices considering the project or plan already have been made. Early participation, before the formal ‘notification of intents-participation’ is used very rarely (Ligtermoet and Partners, 2007) while this is very important for EAs in order to have an impact (NovioConsult, 2003). This situation in practice causes citizens as well as decision-makers to value participation in EAs in the Netherlands negatively (Ligtermoet and Partners, 2007).

So, participation hardly seems to have an impact on decision-making in practice (Ligtermoet and Partners, 2007). The public often only gets information and in most cases does not get the opportunity to give its’ own view on the proposal. When participation would be better taken care of in EA procedures and the opinion of the public would be asked *and taken into account* more often, the public support for the final decisions could increase extensively. In this way EAs would get a more substantial impact on decision-making. As such participation as it is applied nowadays in EAs, is not of real importance for the general impact of EAs on decision-making in the Dutch practice and scores neutral (0). This score is lower

than it was expected to be, which is one of the explanations of the fact that the general impact of EAs on decision-making in the Netherlands is lower than expected.

4.5 Transparency

Transparency was expected to be of major importance for the impact of EAs on decision-making, since it is legally mandatory to be transparent about EAs and DEA decision-making. In the DEA is stated more than once that the documents concerning EAs as well as (draft) decisions of competent authorities should be made available for the public through a notification in one or more (daily) newspapers or door-to-door-newspapers. All these documents need to be made available for public examination.

According to experts in the EA field, EA documentation in practice is available for the public. During the actual procedures the documents often are available at offices of the competent authorities. Due to the notification in newspapers etc. the public knows where to find these documents and regularly uses this opportunity (Bakker, 2009). Moreover, often information-meetings' are held in order to inform the public (Ligtermoet and Partners, 2007). In addition, the documents of the projects in which the NCEA was involved are available at the NCEA library (often accessible through their website). The experts doubt whether the public knows about this opportunity to see the NCEA projects and think the former option is used more often than the NCEA library (Bakker, 2009) (see Appendix 7 for the exact data on the visitors of the NCEA website). Nevertheless, making documents publicly available through the internet makes EAs very easy accessible and transparent in the sense of 'making information available'. However, information also should be understandable for third parties in order to be transparent.

In EISs it is not possible to entirely exclude or simplify all complex and technical aspects of the assessments. This decreases the transparency of EAs considerably, because the (non-expert) public as well as decision-makers may not be able to understand all information. Nevertheless, in practice at the office of the decision-makers often several colleagues are present who are specialized in a particular field of environmental effects, like for instance traffic, noise, soil, waste, social concerns, communication etc. So, complex and technical aspects of EISs in general will not be problematic for decision-makers. Nevertheless, in order to increase transparency of EISs, the NCEA asks for a summary in each EIS. This summary should be readable on its own (without having to check the EIS itself) and should include good maps. Moreover, this summary has to be clear for citizens and appropriate for decision-making. The NCEA considers it to be an essential shortcoming when no such summary is included. Since, this situation rarely occurs (Bakker, 2009), it can be concluded that EISs in general are transparent.

However, because public participation is not important for the impact of EAs on decision-making, also the importance of transparency declines. When EAs would have been less transparent, this would not cause major changes in impact, since informing the public is only important when participation is important for the impact of an instrument on decision-making. Nevertheless, it remains important to be transparent for decision-makers, since they have to take the final decision. Less transparency therefore can still cause a declining impact of EAs on decision-making. Hence, in practice this factor is of some (but not of major) importance for the impact of EAs on decision-making. Therefore a score of one plus (+) is given to it. This score is lower than it was expected to be, which is one of the explanations of the fact that the general impact of EAs on decision-making in the Netherlands is lower than it was expected to be.

4.6 Binding Character

The binding character of EAs was expected to be important for the impact of these instruments on decision-making. The DEA states which requirements EAs, EISs and DEA-decisions have to meet. Detailed provisions can be found in general administrative orders, such as the EIA decree 1994. This decree states which activities require an EA, based on the so called "C" and "D" lists. These lists mention all activities, specified with explicit quantitative sizes, which require an EA to be done. According to the DEA article 7.26d (concerning SEAs) and article 7.37 (concerning EIAs) in all EA decisions has to be stated in which way was accounted for the environmental consequences of the plan or activity. Also has to be stated in which way the alternatives considered in the EIS, the views given by different actors and the advice of the NCEA (where applicable) have been accounted for in final decisions. EISs should provide all

information needed for decision-making, but the final decision does not necessarily need to follow directly from that information (Jesse, 2008).

Hence, the DEA does not provide a direct obligation to use the results of EAs for decision-making, but does not allow decision makers to ignore the results of EAs either. Deviation from the results of EAs has to be argued sufficiently (Jesse, 2008). Nevertheless, mitigating and compensating measures which are mentioned in EISs often do not have an impact on the regulations in final decisions (NovioConsult, 2003). Hence, the impact of the EAs on decision-making decreases by the fact that the regime regarding the use of the results of these assessments is not ultimately binding. Some decision-makers even state that EAs in practice only can have an impact on decision-making through legal enforcement by court order (NovioConsult, 2003).

Nevertheless, in practice final decisions which lack an EA contain far less thresholds, strict goals, regulations etc., than final decisions which have included an EA in the decision-making process (ECWM, 2003). EAs namely provide information on whether or not a proposal will meet strict regulations regarding emissions, external safety, noise hindrance etc. When the thresholds of these regulations are not met, the final decision will have to include additional regulations and measures, or the proposal will have to be adjusted. This implies that an ultimately binding regime regarding the use of the results of EAs is not needed, since other regulations ensure an impact of the results of EAs on decision-making.

So, in practice a more binding regime regarding the use of the outcomes of EAs could increase the impact of EAs on decision-making (see for instance Valk, 1997). But on the other hand, other regulations also ensure the inclusion of the results of EISs in final decisions. Therefore, a binding character is important, but not of major importance, for the impact of EAs on decision-making and a score of one plus (+) is given to this factor. This is the same as was expected.

4.7 Quality

The quality of EAs was expected to be of major importance for their impact on decision-making. It was expected that bad quality EAs would be rejected through the quality check of the NCEA and therefore only good quality EAs could have an impact on decision-making.

The quality of EAs is checked by the NCEA, which formulates a review about the quality of each EIS. When the quality of EISs (and the subsequent EAs) is insufficient, the NCEA will give a negative advice. Then the initiator should provide the NCEA with additional information in order to improve the quality of the EIS and to get a positive advice of the NCEA. The number of quality reviews of the NCEA which did require extra additional information can give an indication of the quality of EAs in the Netherlands during a certain year. From the annual reports of the NCEA could be derived that the multiannual average of the number of quality reviews which did require extra additional information is approximately 30% (NCEA, 2006). This trend still is followed in 2005 were 31% of the quality reviews did require extra added information. However, in the following years the number of required additions to EISs increased considerably and was about 50% in the years 2007 and 2008 (see table 10). This means that approximately half of all EISs was of insufficient quality and did not include all information needed to support decision-making sufficiently in these years.

	2005	2006	2007	2008
Number of quality reviews which required additional information	23	39	68	73
Percentage of quality reviews which required additional information	31%	38%	56%	50%

Table 10: Additions on EISs asked by the NCEA during the years 2005-2008 (Derived from: NCEA, 2006; NCEA, 2007^a; NCEA, 2008; NCEA, 2009^e).

Own researches of the NCEA have shown that its advices are considered explicitly in approximately 75% of the final decisions. In addition, its recommendations (about information which is not 'essential' for decision-making) are recognizable in about one third of all decisions (NCEA, 2005). Hence, in the majority of the EA cases, decision-makers follow the conclusions of the NCEA on the quality of the assessments and require initiators to improve the quality of EISs when the NCEA thinks it is insufficient. As such, can

be concluded that the quality of EAs has a major impact on DEA decision-making and that the results of good quality assessments often can be recognized in final decisions. Bad quality assessments do not pass the quality check of the NCEA and since decision-makers in most cases follow the judgement of the NCEA about the quality of EISs (NCEA, 2005), bad quality EISs do hardly ever influence the contents of final decisions. Instead, these will only delay procedures since extra added information (and extra research) will be required for decision-making.

Overall, the majority of the EAs in the Netherlands will eventually be of good quality, which will positively affect the impact of the contents of EAs on decision-making. It is shown that in practice, when the quality of EAs gets less, the procedures get delayed, because additional information is needed. Moreover, the impact of the instruments on decision-making decreases when they are of bad quality, since decision-makers tend to follow the advice of the NCEA; results of EISs which are of insufficient quality according to the NCEA, are hardly ever used for decision-making. Hence, good quality is of major importance for the impact of EAs on decision-making in the Netherlands and scores two pluses (++).

4.8 Openness

The instrument EA has been introduced in the Netherlands in 1981 on a voluntary basis, in September 1987 it became mandatory to use this instrument for certain activities (Wassen, 2007). Therefore EAs have been used in the Netherlands for almost three decades by now. And as already has been shown in graph 1 the total number of EAs in the Netherlands is increasing each year. Therefore it can be assumed that decision-makers at least are familiar with the use of the instruments. But this does not necessarily mean that they also stand open for the use of EAs, while this factor was expected to be of some importance for the impact of EAs on decision-making.

Even though EAs have had significant results in the past, in practice still it seems that many proponents would rather avoid being involved with it if possible (Ridgway, 1999). EAs namely often are regarded as a hindrance to development (Jesse, 2008) and administrative expenses in most cases have increased in comparison to decision-making procedures without EAs (Ministry of HSPE, 1999). Moreover, EAs do not seem to make competent authorities as well as initiators more aware of the consequences of the project or plan (Ministry of HSPE, 1999). Research has shown that the openness of decision-makers to the use of EAs decreases when EISs get more lengthy and difficult to understand. Decision-makers seem to rarely read the entire EIS (Cashmore, 2004; NovioConsult, 2003). In 44% of the EA cases they felt EISs were too long and they did not read the entire EIS. The constraints that mainly caused decision-makers to read less were time and technical expertise (41% and 46% of the cases) (Cashmore, 2004). This implies that in almost half of the EA cases, the openness of decision-makers to the use of the instruments is not maximal. Therefore, in order to keep decision-makers stand open for the use of EAs it is important that the information in EISs is understandable and focussed.

Decision-makers seem to value EAs very differently. Some would like to abolish them from the Dutch decision-making system because they think that: the environmental interests already are represented sufficiently by other instruments and rules, EAs lead to unnecessary delays, EAs are instruments with a too defensive character, EAs put too many limitations to decision-making etc. Moreover, they often would like to limit the number of researched alternatives. Especially the environmentally preferable alternative is considered redundant, but the description of the baseline situation is considered valuable (NovioConsult, 2003). However, on the other side there are also decision-makers who value EAs highly. They for instance state that EAs increase transparency of decision-making, provide useful alternatives, legitimize decisions, optimize plans, lead to more objective decision-making, stimulate better communication between various actors etc (NovioConsult, 2003).

In general decision-makers in practice stand open for the use of EAs for decision-making, but think the instrument should be improved on some aspects (NovioConsult, 2003). However, in almost half of the EA cases decision-makers do not read the entire EIS, they do not take the time or do not have the expertise to use EAs sufficiently for decision-making. Moreover, several arguments are presented on the reasons why some decision-makers would like to abolish EAs from the Dutch decision-making system. Hence, the current level of openness of decision-makers is not maximal. When the openness of decision-makers to the use of EAs would increase, also the impact of these instruments on decision-making would

most likely increase. This shows that openness of decision-makers in practice is of importance for EAs to have an impact on decision-making, but not of major importance since in the Netherlands the current level of openness of decision-makers to the use of EAs is not maximal either. Hence, a score of one plus (+) is given to this factor, which is exactly as was expected.

4.9 Case study EIA: Bio-Energy Plant, N.V. Waste Processing Rijnmond

In this section a specific EIA case will be studied into more detail. The results presented in the former sections will be illustrated empirically by this case study. The aim is to verify the results and to give examples from the Dutch practice. The EIA case concerned is a Bio-Energy Plant project.

4.9.1 Introduction

In the year 2005 N.V. Waste Processing Rijnmond did take the initiative to build a new Bio-Energy Plant at the town of Rozenburg, near the port of Rotterdam in the western part of the Netherlands. The aim was to build a plant with a capacity of 80 MW, which would burn approximately 200,000 tons of biomass per year. The biomass should consist of several materials of which so-called 'B-wood' (painted and lacquered wood, panels, etc.) would be the main fuel. Also other wood related biomasses would be used, but this only would be wastes which could not have been reused in another way. For this initiative, the initiator needed several licenses, including a DEA license and a SWCA (Surface Water Contamination Act) licence. For this purpose an EIA procedure was followed and the competent authority for the DEA decision was the province of South Holland (KEMA, 2006).

4.9.2 Impact EIA on decision-making

In general EAs do not often lead to negative decisions and cancelation of projects or plans (see section 4.2). This is also the case in the EIA case 'Bio-Energy Plant, N.V. Waste Processing Rijnmond'; the final decision is to authorize the Bio-Energy Plant under several specific requirements. In the final document both the considerations of the competent authority to come to its decision and the additional requirements to the decision are described. In both sections the EIA procedure is mentioned explicitly and the results of the EIS are clearly recognizable (some tables are even taken over literally). Hence, the contents of the EIS are handled very extensively in the final DEA decision. The proposed activity, the alternatives for reference and the other alternatives are summarized shortly. Also the way the preferred alternative was build up as well as the considerations which led to it, are mentioned. Moreover, all views given by third parties are mentioned and answered by the competent authority (Province of South Holland, 2007).

The competent authority has authorized the preferred alternative in its final decision, but has set some additional requirements. It states explicitly that it has considered the information in the EIS, the advices and views of third parties as well as the quality check of the NCEA for its decision (Province of South Holland, 2007). Hence, the impact of this EIA is one of substantial visible adjustments of the final decision. In comparison to the average impact of EAs, this EIA has a relatively high impact on decision-making.

4.9.3 Factors influencing the impact of the EIA on decision-making

The score of the EIA case 'Bio-Energy Plant, N.V. Waste Processing Rijnmond' on the impact influencing factors is presented in this section in order to explain the relatively high impact on decision-making in comparison to the average impact of EAs in general.

Flexibility

Since the quality of the EIS was sufficient according to the quality review of the NCEA, it did meet the requirements as they were set in the guidelines. As such the EIA procedure was not entirely flexible, because these guidelines had to be met. However, the flexibility of this EIA did allow the inclusion of more alternatives and measures than the guidelines did require. This has resulted in a very extensive report (of approximately 300 pages and 500 pages of appendices), including the consideration of the environmental effects of twelve alternatives (KEMA, 2006). By combining the proposed activity with several of these alternatives, new alternatives have been created; the most environmental friendly and the

preferred alternative, which were required according to the guidelines. Hence, the alternatives considered during the EIA procedure were more extensive than the guidelines required them to be (KEMA, 2006; Province of South Holland, 2005). Hence, a very flexible situation was created by allowing the combination of several alternative solutions to come to overall alternatives. This has ensured that the environmental interests have been considered more extensively and could be taken into account in a well-argued manner.

Thus, the flexibility of this EIA has been sufficient. There have been some requirements to the procedures and the contents of the EIS, but there still was room to research more alternatives and consider other ideas. As a result the flexibility has positively influenced the impact of the EIA on the final DEA-decision, since the consideration of the alternatives has been valued positively and was recognizable in the final decision. The flexibility of this EIA case therefore is reflecting the level of flexibility of EAs in general and scores one plus (+).

Stakeholder participation

In the guidelines for the EA report explicitly was stated that two views of third parties had been received on the notification of intents of the proposal. Both views did suggest new directions to research, which in both cases have been taken over explicitly by the competent authority. Hence, number of views given in this phase of the EIA process was rather poor. But the views which had been given, did have an impact on the assessment and the contents of the EIS.

On the EIS itself also only two views were given. In the quality review of the NCEA only was stated that they had taken notion of the first of the two views on the EIS. The competent authority did mention both views in their final decision and did give well argued answers on all points (and often refuted them). Some points of the views were entirely taken over by the competent authority and were made an integral part of the final DEA-decision.

Hence, the overall level of participation has been rather low in this EIA case. However the few views which have been given, have been taken seriously by the competent authority and have influenced the final decision to some extent. The level of participation therefore is slightly more positive in this EIA case, than for EAs in general and scores one plus (+). This is an explanation for the relatively high level of impact on decision-making in this case.

Transparency

The documents of this EIA have been available for public consultation. This was done in the way the DEA required them to be available. As such, the level of transparency is considered to be acceptable but not very high, since more consultation rounds most likely could have increased the transparency of the EIA procedures and the results. By now, all documents are available online at the website of the NCEA, which makes the EIA very transparent and easy accessible for the public nowadays.

The EIS contains a summary of 35 pages. This is a rather extensive summary, which is in accordance with the length of the total EIS (approximately 300 pages). However, in order to increase the readability and thereby the transparency of the EIS, a shorter summary most likely would have been better. Moreover, there still are some specialist words in the summary, which most likely not everybody (including lay persons) does understand. This decreases the transparency of the report as well. However, in general the information is handled so extensively in the EIS, that it should be understandable enough. This also is reflected in the low number of questions and remarks of third parties.

Hence, the transparency of this EIA is considered to be sufficient, but it could have been better. Therefore, it is not of major importance for the impact of the EIA on the final decision and scores only one plus (+), which is congruent with the situation of EAs in general.

Binding-character

It is mandatory to do an EA for this activity according to the DEA decree. The 'Bio-Energy Plant, N.V. Waste Processing Rijnmond' is a category C18.4 activity: the creation of a device or facility for incineration (or chemical treatment) of non-hazardous wastes with a capacity of 100 tons or more each day. Moreover, it is mandatory to take into account the results of the EIS in the final decision. In this case no indications are found which suggest that was deviated from the results of the EIS to some extent, although this is allowed under certain circumstances in practice.

Some strict regulations are taken over literally from the EIS into the final decision in this EIA case. Especially considering emissions of noise and certain residual gases regulations are included in the DEA-license. However, the inclusion of these results cannot directly be ascribed to the binding character of the EIA procedure. Instead, the regulations specifically considering these types of environmental impacts are so strict (and binding) that they ensure their own inclusion themselves already. The regulations regarding the results of the EIA procedure therefore do not need to be ultimately binding. The binding character of the other regulations ensures already that the results of the EIS are taken into account.

Hence, it is not clear exactly to what extent the binding-character of this EIA has contributed to its impact on the final decision. But it illustrates that an ultimately binding character would probably not have increased the impact of the EIA very much, since other strict regulations have ensured the impact of the results of the EIA already. Hence, the situation in this case is not deviating much from the general EA situation in the Netherlands and the binding character is of some importance for the impact of the EIA on decision-making (a score of one plus (+) is given to it).

Quality

According to the quality review of the NCEA, the quality of the EIS was sufficient. No additional information was needed. The initiative was described very clear; the technologies, the biomass, as well as the measures taken in order to avoid emissions and other negative environmental effects were described sufficiently. Nevertheless, the NCEA did have some comments and made nine recommendations, none of which considered essential shortcomings. This good quality of the assessment influenced the final decision extensively. Several graphs of the EIS were taken over in the final decision and the competent authority referred to results of the EIS numerous times. Moreover, the number of views given by third parties was rather small and most of them could be refuted easily by referring to the results in the EIS. Hence, the good quality of the EIS was of major importance for the impact of the EIA on decision-making; a score of two times plus (++) has been given to this factor. This is congruent with the situation of EAs in general.

Openness of decision-makers

The EIS is very lengthy (approximately 300 pages), and existing researches on EAs have shown that decision-makers barely read entire EISs, especially when these are very long (Cashmore, 2004; NovioConsult, 2003). However, this does not seem to have happened in this case. The competent authority replies to the views of participants extensively and with arguments based on the contents of the EIS in its final decision. Based on the informative level of these answers, one can tell that the decision-makers have read and understood the EIS, *and* were willing to use its results. Moreover, during the EIA procedures the competent authority has been very cooperative and compliant with the NCEA according to intern project related documents at the NCEA.

Hence, the openness of decision-makers to the use of the instrument EIA in this case has been very high. It has increased the impact of the EIA on the DEA-decision extensively and it was of major importance for this impact. So, a score of two times plus (++) has been given to this factor, which is more positive than for general EAs and partially explains the relatively high level of impact on the final decision.

4.9.4 Conclusion

The EIA case 'Bio-Energy Plant, N.V. Waste Processing Rijnmond' has a relatively high impact on decision-making in comparison to the average impact of EAs in general. This mainly is caused by the relatively high scores on the factors: participation and openness of decision-makers. On the other four factors, the scores of this EIA case are more or less similar to the scores of EAs in general.

4.10 Case study SEA: Spoorzone municipality of Tilburg

In this section a specific SEA case will be studied into more detail. The results presented in the former sections will be illustrated empirically by this case study. The aim is to verify the results and to give examples from the Dutch practice. The SEA case concerned is a Housing Location project within the municipality of Tilburg named 'Spoorzone'.

4.10.1 Introduction

The area called ‘Spoorzone’ is located in the centre of the city of Tilburg. This area has developed into a large scale urban area, with numerous regional functions. In order to develop a legal framework for the re-development of the entire area, a new zoning plan was needed. Therefore, in the spring of 2007 the municipality of Tilburg decided to start developing a new zoning plan for Spoorzone.

The aim of the new zoning plan was to make Spoorzone to develop itself into a new, dynamic area in the centre of the city of Tilburg. The plan included offices, houses, several public facilities and parking locations. The actual locations of houses and companies needed to be determined in a later phase. So, the main focus of the alternatives in the SEA was on traffic issues, because this aspect was expected to cause the most negative environmental effects mainly in the fields of ‘noise’ and ‘air quality’. Only one access road and the bus station were located explicitly in the plan, which was of a very strategic character (e.g. not very detailed). Since the plan provided the legally binding framework for a city development project which included parking places (category D11.2 of the EIA decree 1994) a SEA was needed for it.

4.10.2 Impact SEA on decision-making

The impact of most EAs is limited to adjusting decisions, they do hardly ever lead to negative decisions. For SEAs there is the legal obligation to provide both the EIS and the related draft plan for public consultation at the same time. As such, everybody should be able to recognize the impact of the SEA on the plan. This has also been done in this case.

Since both the SEA as well as the zoning plan had been focusing on the same issue; infrastructure and its environmental effects, the SEA was appropriate for decision-making on this plan (NCEA, 2007^c). The SEA did have an impact on the infrastructural issues which have been handled in the zoning plan. Some results of the EIS could be recognized to some extent. In many activities which were mentioned in the plan, some measures had to be taken in order to decline the negative effects of the traffic in the Spoorzone area. Hence, the majority of the measures mentioned in the plan are traffic related, just as the information in the EIS had been.

However, the zoning plan did include many more aspects than infrastructure alone. Since the SEA was mainly focusing on traffic issues, its focus was too narrow to provide sufficient information on the other aspects. For this reason, most construction locations in the planning area have only been described very briefly in the zoning plan. Very often the activities needed to be worked out in more detail in a later phase and some of them would even need their own planning procedures then (Municipality of Tilburg, 2010). For instance, health and noise (both related to traffic) were issues which were mentioned in the EIS (BRO, 2007^b). In the zoning plan, only was stated that the ‘advices’ about these issues would be the basis for further and more detailed development of the related activities (Municipality of Tilburg, 2008^c). Hence, no real requirements have been set following these conclusions of the EIS.

In total, the SEA did have some impact on the zoning plan, especially regarding infrastructural issues. However, the total impact of the SEA on the zoning plan was rather ‘low’, since the requirements set in the plan relating to the conclusions of the EIS remain too non-committal. This is lower than the general impact of EAs in the Netherlands.

4.10.3 Factors influencing the impact of the SEA on decision-making

The score of the SEA case ‘Spoorzone municipality of Tilburg’ on the impact influencing factors is presented in this section in order to explain its relatively low impact on decision-making

Flexibility

The flexibility of SEAs in general is higher than the flexibility of EIAs. The scope of the alternatives considered in the assessment can be more broad and do not need to be as detailed as in EIAs. However, this was not the case in this SEA; all alternatives were focused on one aspect: ‘infrastructure’. The alternatives were considering the location of the access road and other infrastructure, like the railways. In the zoning plan the location of the Noordlaan (which was the main access road to the area) was even situated explicitly. The focus on infrastructure became even more clear by the very global descriptions of all other activities than infrastructure in the Spoorzone area. In the notification of scope and detail even

was stated that the goal was 'to make a zoning plan which included as less as possible', since it had to be made as fast as possible (BRO, 2007^a). Hence, the flexibility of this SEA was very low; the focus was only on infrastructure, deliberating on other aspects has been avoided as much as possible and the aim was to keep the process as short as possible. Especially the latter requirement did not allow the SEA to be flexible, since it may have cost more time (although it could have increased the impact of the SEA).

A higher level of flexibility could have increased the impact of this SEA on the final decision extensively. The zoning plan namely was only focusing on infrastructure and other activities remained underexposed. Its low level of flexibility did influence its impact on the zoning plan negatively, so a score of one minus (-) was given to it, which is much lower than the importance of flexibility for the impact of EAs on decision-making in general.

Stakeholder participation

The draft notification of scope and detail has been available for public consultation. Several reactions have been given, however most of them did not give any opinion about the contents of that report or about the future SEA procedure. Instead most persons or organizations mentioned that they got to know that the SEA procedure had started and that they would wait for completion of the draft EIS and draft zoning plan to give their view. These reactions did not affect the final version of the notification of scope and detail nor the EIS in any way (Municipality of Tilburg, 2008^c).

After the draft zoning plan as well as the draft EIS were finished, again a consultation possibility was created. Not only the documents were available for consultation, also a consultation meeting was organized. In total eleven views did come in of which only one was considering the draft EIS and did not lead to any adjustments, while all other views were considering the draft zoning plan. In an appendix to the final plan motivated reactions were given on all received views. In total, sixteen adjustments have been made to the draft version of the zoning plan due to the views given (Municipality of Tilburg, 2008^a). Finally, in June 2008, the municipality of Tilburg approved the zoning plan Spoorzone. However, the multinational firm AHOLD did appeal against the approved zoning plan. Therefore the plan was not legally binding yet and the whole project got delayed. Eventually the municipality did make some concessions to AHOLD and closely involved the firm in the further developments of Spoorzone. AHOLD in turn did withdraw its appeal (Municipality of Tilburg, 2010). This shows that the inclusion of participants in the SEA process has not been sufficient and that this can impede the impact of a SEA extensively; the zoning plan in this case did lose its legally binding status temporarily and the entire procedure got delayed.

So, the level of participation during the SEA procedures in this case was not really influencing the impact of the instrument on decision-making and scores neutral (0). Moreover, when the level of participation in this case would have been higher, most likely the appeal of AHOLD against the final zoning plan could have been avoided and the impact of the SEA on the plan could have increased. This shows the potential high value of participation for the impact of EAs on decision-making.

Transparency

All documentation was written in clear language which should be understandable for the majority of the public. However, some tables did contain differing and unclear data on the traffic load in the Spoorzone area. The NCEA did ask for a clarification and it turned out that different methods had been used for the calculations, which have led to slightly differing results. The NCEA concluded that both methods were right (NCEA, 2007^c), but the transparency of the results of the EIS did decrease due to this 'inconsistency'.

Nevertheless, all documents have been freely available for third parties through the internet. The project Spoorzone even did have its own website in order to inform citizens during the whole process: www.tilburgspoorzone.nl. On this website the complete planning process, including all procedures, decisions, documents etc. have been explained to the public. Also several contact persons could be contacted to get more information. Therefore, the transparency of this SEA procedure has been very good. The importance of this factor for the impact of the SEA on decision-making was high and did score two times plus (++) .

Binding-character

It was mandatory to do a SEA for the zoning plan Spoorzone according to the D-list of the EA decree 1994, because the plan was falling into two categories for which a SEA was mandatory:

- Category D11.1: The construction of over 2000 houses within an urban area.
- Category D11.2: The implementation, change or extension of an urban development project, including the construction of shopping centers or parking areas. Only when this project is covering over 200.000 m² of floor space for businesses.

Taking into account the results of the SEA in the final plan was mandatory. However, the final plan may even differ from the results of the EIS. In this case the EIS did not lead to sensational conclusions; none of the alternative solutions was really better than the other alternatives. Alternative 1b was the best from the traffic point of view and therefore some of the measures of this alternative have been included. However, for every alternative the initiator did have a reason not to go for it entirely (mostly high costs). The not ultimately binding character of the SEA allowed the initiator to only partly include the results of the EIS in the final plan. When the regime regarding the use of the results of the EIS would have been more binding, the impact of the SEA probably would have increased. But nevertheless, the fact that the SEA did have a binding character to some extent did ensure that the initiator *did take into account* some of the results of the EIS (and the advice of the NCEA). So, the importance of the binding-character for the impact of this SEA on decision-making has scored one plus (+), since it was rather modest.

Quality

The NCEA was included in the SEA procedures on a voluntary basis and did make a quality review. Additional information was required on a first draft EIS, but the quality of the final EIS (including the additional information) was sufficient.

The information in the EIS about the environmental consequences of other (not infrastructure related) activities in the Spoorzone area was very poor. Most information remained very abstract and the main sources of information for the SEA have been already existing documents of the Municipality of Tilburg. For action plans, in the future more detailed information would be needed and in some (sub-) cases, EIAs would have to be done. The information in the existing EIS (on the SEA level) was not sufficient for the purpose of creating action plans.

Hence, the quality of the information in the SEA was rather poor, but for the purpose of taking a decision on the zoning plan 'Spoorzone' the quality has been sufficient (NCEA, 2007^c). This shows that good quality was not of major importance for this SEA to have an impact on decision-making; only focused information of sufficient quality was required for the final plan. Hence, the importance of quality for the impact of this SEA on decision-making was lower than the importance of quality for the impact of EAs in general and scores one plus (+).

Openness of decision-makers

On September 27th, 2004 the municipality of Tilburg did decide that no SEA was needed for any of the development plans considering Spoorzone. However, due to new legislation it did become mandatory to follow a SEA procedure for the zoning plan. This obligation has been put forward extensively in the notification of scope and detail of the EIS as well as the EIS itself (BRO, 2007^a; BRO, 2007^b). No statements have been made which suggested that a SEA would have been done on a voluntary basis when it would not have been mandatory.

The entire Spoorzone project was including the construction of 2111 houses and a city development project covering 261.846 m² of floor space for businesses (BRO, 2007^b), which mandatory to follow SEA procedures. However, the municipality of Tilburg stated that these numbers were smaller in the actual zoning plan area. The numbers mentioned above were considering the area described in the Structural plan which comprised a bigger area. Nevertheless, the urban development project still was so large that a SEA was required (DEA decree, 1994; BRO, 2007^b).

The zoning plan was not very detailed; only one access road and one bus station have been located explicitly. In the EIS is stated explicitly that performing a detailed EA was unwanted and that the zoning plan needed to have a very broad focus in order to avoid a project oriented EA (e.g. an EIA) (BRO, 2007^b). Hence, the decision-makers have not been very open to the use of EAs.

On the other hand, the NCEA has been included in the process on a voluntary basis. This organization has been asked for advice twice: firstly about the notification of the scope and detail and secondly about the draft EIS (BRO, 2007). This indicates that the decision-makers were willing to use some parts of the SEA procedures.

Hence, the openness of the decision-makers to the use of the SEA was rather low, the importance of this factor for the total impact of the instrument also was low and did score one minus (-). When the openness of the decision-makers would have been higher, the impact of the instrument could have been higher as well. This can be one of the explanations of the low impact of this SEA on the final decision in comparison to the overall EA situation in the Netherlands.

4.10.4 Concluding

The SEA case ‘Spoorzoon municipality of Tilburg’ has had a relatively low impact on decision-making in comparison to the overall score of EAs. The final zoning plan has been influenced slightly, especially regarding infrastructural issues. However, the total impact of the SEA on the zoning plan has been rather low. This score has mainly been caused by relatively low scores on the impact influencing factors: flexibility and openness of decision-makers. EAs in general score more positive on these two factors. Since this SEA case even got a negative score on them, its impact on decision-making did decrease extensively. In addition also the quality of the assessment was poor, which has decreased the impact of the SEA on decision-making even more. Finally the importance of participation was rather poor for the impact of this SEA, however this situation also occurs for EAs in general in the Netherlands.

Only the relatively high level of transparency has increased the level of impact of the SEA slightly, but overall this SEA scores worse than EAs in general, which explains its relatively low level of impact on decision-making.

4.11 Synthesis

The general impact of EAs on DEA decision-making has turned out to be ‘medium to high’ in terms of ‘number of influenced decisions’. However, this impact in most cases is limited to adjusting decisions; EAs not often lead to negative decisions and cancelation of projects or plans. Hence, the total impact of EAs on decision-making in the Netherlands is ‘medium’. This is slightly lower than was expected in the hypotheses. This can be explained by comparing the importance of each factor for the impact of EAs on decision-making in practice, with the expected importance of each factor for the impact of EAs on decision-making. In table 11 a schematic overview of these scores is shown.

Factor	Expected importance	Practical importance in general	Practical importance in EIA-case	Practical importance in SEA-case
Flexibility	+	+	+	-
Stakeholder participation	++	0	+	0
Transparency	++	+	+	++
Binding Character	+	+	+	+
Quality	++	++	++	+
Openness of decision-makers	+	+	++	-

Table 11: Explaining the impact of EAs in general in the Netherlands.

The impact of EAs in practice explained

According to the scores in Table 11 the differences between the expected impact and the actual impact of EAs on decision-making can be explained. The higher the importance of a factor for the impact in practice, the more it contributes to the overall impact of the instrument in practice. The scores in the table resemble the current importance of the factors for the impact of EAs on decision-making.

The table clearly shows that the importance of ‘stakeholder participation’ and ‘transparency’ is lower in practice than was expected in the hypotheses. Especially the importance of stakeholder participation is rather poor in practice, since it is not used sufficiently. These two low scores explain why the general impact of EAs on decision-making in practice has turned out to be slightly lower than was

expected. Another important observation in this respect is that the scores on all other factors are the same as was expected. The net score in practice therefore is more negative than was expected.

Thus, all the other factors are equally important in practice as was expected in the hypotheses. But especially the current level of quality of EAs is contributing positively to the impact of EAs on decision-making. The quality of EAs is very important for the impact of the instruments; bad quality assessments simply cannot have an impact, since they are not approved by the NCEA. So, in fact the NCEA has a major role in ensuring that EAs have an impact on decision-making.

The level of flexibility, transparency, binding character and openness of decision-makers in practice also are important for the impact of EAs on decision-making. However, these factors are of less importance than quality.

The current level of flexibility of EAs in the Netherlands is positively influencing the total impact of these instruments on decision-making, while EAs are not ultimately flexible. Hence, flexibility in practice is of some importance (but not of major importance) for the impact of EAs on decision-making.

A positive point regarding transparency of EAs is that in general the reports are available for the public. Therefore, EAs can be considered transparent. However, the actual procedures often are not sufficiently understandable for the public, which makes the transparency of EAs not maximal. In order to make the impact of EAs increase, the latter point should be improved.

The binding character of EAs mainly is not maximal because the present regulations regarding the use of the results of EAs give room to ignore them. By making the regulations more strict, the impact of EAs on decision-making can be increased extensively. However, it does remain important to maintain the present level of flexibility of EAs which might be difficult in practice.

Finally, the current openness of decision-makers to the use of EAs is of some importance for the impact of these instruments on decision-making. However, some decision-makers think EAs should be improved on some aspects and several arguments are presented on the reasons why some decision-makers would like to abolish EAs from the Dutch decision-making system. Hence, the current level of openness of decision-makers is not maximal. When the openness of decision-makers to the use of EAs would increase, also the impact of these instruments on decision-making would most likely increase.

The EIA case 'Bio-Energy Plant, N.V. Waste Processing Rijnmond' has a relatively high impact on decision-making in comparison to the average impact of EAs in general. This mainly is caused by the relatively high scores on the factors: participation and openness of decision-makers. On the other four factors, the scores of this EIA case are more or less similar to the scores of EAs in general.

The SEA case 'Sporzone municipality of Tilburg' has had a relatively low impact on decision-making in comparison to the overall score of EAs. This is mainly caused by a very low level of flexibility and openness of decision-makers. In addition also the quality of the assessment was poor, which has decreased the impact of the SEA on decision-making even more.

5 The impact of AAs on decision-making

In this chapter the impact of AAs in general on decision-making in the Netherlands will be analyzed. First an overview of the development of AAs in the Netherlands since the enforcement of the NCA in October 2005 will be presented. Then the extent to which the six impact factors are met by AAs in general will be determined. Finally, the impact of AAs on decision-making in the Netherlands will be analyzed by comparing the extent to which the impact factors are met, with their level of importance as is presented in chapter two of this report.

5.1 AA since enforcement of the NCA in October 2005

Since the enforcement of the NCA on October 1st, 2005, the articles 19d-19k of this act apply to activities concerning Natura 2000 sites. Broekmeyer et al. (2008^a) have analyzed all cases which have applied for a permit based on article 19d NCA in the period from this date until July 31st, 2008. Although this period does not exactly match the period this research is focusing on, the results of the research of Broekmeyer et al. give a good overview of the use of AAs in the Netherlands.

Broekmeyer et al. (2008^a) have found out that in the period they have researched 1951 appliances for an article 19d NCA permit have been submitted. For 1716 of these cases the decision already had been taken until August 2008. Of the total number of 1716 applications on which a decision had been taken, 63% (1087 cases) eventually had to go through the licensing procedures (which means that either an AA or a Test of quality deterioration and disturbance of species had to be done). Only 2 of these cases have been permitted after going through an ADC-phase. The other 37% (629 cases) had only been handled in an orientational phase, of which 488 cases eventually did not need a permit (see also table 12)

Appliances Art. 19d NCA	Appliance taken in consideration (No decision yet)			235	1716 (100%)	1951		
	Orientalional Phase	Redrawn, not taken into consideration		141 (8%)			629 (37%)	
		No permit needed		488 (29%)				
		Art. 19d NCA decisions taken	Permit needed (based on AA, Test of quality deterioration and disturbance of species, or ADC-phase)	Permit partially rejected			38 (2%)	1087 (63%)
				Permit completely rejected			19 (1%)	
Permit prolonged	98 (6%)							
Permit granted	932 (54%)							

Table 12: Art. 19d NCA permit appliances October 2005 – July 2008 (derived and adjusted from Broekmeyer et al., 2008^a)

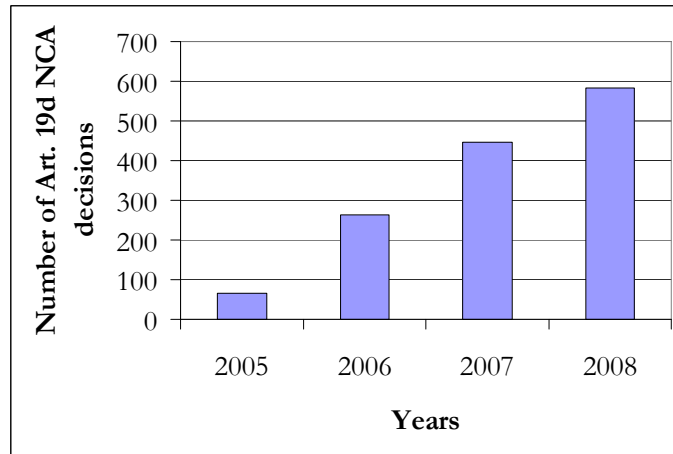
Of the 1087 cases which did have to go through the licensing procedures, 95% eventually got granted, prolonged or only partially rejected. In many cases the permit only was granted with some restrictions, such as: restrictions considering the period in the year the activities are allowed, restrictions considering the materials to be used for the activity, restoration of the area after leaving work, catching animals before the activities and returning them afterwards, or monitoring of possible side effects. Only one percent of all applications eventually has been rejected completely. Rejection can be based on procedural grounds or on contents. The first reason for rejection is used when an application is unacceptable. This for instance is the case when the initiator does not provide the competent authority with enough information to base the final decision on. Rejection based on contents is done when the application shows that the activities will negatively affect the conservation objectives of Natura 2000 (e.g. will have significant negative effects) (Broekmeyer et al., 2008^a).

The number of permit applications has increased considerably during the last four years. In 2005 only 66 decisions were made, while Broekmeyer et al. expected this number in 2008 to be around 580 (see also table 13 and graph 2 for the development).

Year	Number of Art. 19d NCA decisions
Unknown	20
2005	66
2006	264
2007	446
2008	582 * (July: 291)

Table 13: Number of Art 19d NCA decisions (2005-2008) (Broekmeyer et al., 2008)

* This value is estimated by Broekmeyer et al. based on the trend until July 2008 (the actual number of decisions in 2008 until that month was 291)



Graph 2:: Number of Art 19d NCA decisions (2005-2008) (Broekmeyer et al., 2008)

However, not all decisions are based on AAs. Also numerous tests of quality deterioration and disturbance of species (and two times an ADC-phase) have been used. These are all instruments which are part of the 'Habitat Check', which is explained in appendices 2 and 3. Exact numbers of decisions based on the use of AAs are not available, because the ministry of ANFQ as well as the provinces do not have a clear system of documentation and every office has its own system.

5.2 Impact on decision-making

Since AAs are only used in practice for relatively short period now, not much research has been done on these instruments and their impact on decision-making yet. The researches which have been done already as well as experts in the Dutch AA practice, state that AAs in general have a substantial impact on NCA decision-making. In this way AAs contribute positively to nature conservation as well as environmental protection in the Netherlands. However, some remarks have to be made regarding the actual impact of AAs on decision-making.

In a research of Backes et al. (2007) it is concluded that already during the period of 2002 until 2005 (hence, the period in which the Habitats and Birds Directives ensured the use of AAs directly, because the enforcement of the NCA was not done yet) most proposals got approval of the competent authority either in their first or second request already. Testing through AAs whether these proposals did meet article 6 of the Habitats Directive seemed to barely have an impact on the final decisions then; most of them did get approval sooner or later and very few negative decisions had been taken (Backes et al., 2007). The latter observation also is made by Broekmeyer et al. (2008^a), who have stated that over the period 2005 until 2008 only 38 applications had been partially rejected and 19 applications had been completely rejected (of totally 1716 applications). Moreover, only two cases did go through the ADC-phase. Therefore, in only 3% of all Art. 19d NCA appliances, which had been taken into consideration by a competent authority in the period 2005-2008, was concluded that significant negative effects on Natura 2000 would (or could) occur. In the other 97% was concluded that such effects could be *excluded for sure* (Broekmeyer et al., 2008^a). Hence, in practice in the vast majority of the AAs it is concluded that the proposal does not have significant negative effects on Natura 2000. As such the direct obligation of a negative NCA decision when the conclusion of an AA is negative cannot apply very often in practice, since the conclusion of AAs is hardly ever negative. However, when AAs do conclude that significant negative effects cannot be excluded for sure, in practice the decision always will be negative as well (Bakker, 2009). Hence, in short can be stated that in only 3% of all Article 19d NCA applications which have been taken into consideration by the

competent authority, the conclusions of AAs have been negative *and* have led to total or partial rejection of the application.

Although AAs do hardly ever have an impact by causing total or partial rejection of projects or plans, the direct obligation that a negative AA conclusion should lead to a negative NCA decision does still have a substantial impact (Bakker, 2009). AAs and their conclusions often *do* lead to adjustments of the original proposals and to additional requirements in the final decisions. For instance in many AA cases in the Netherlands, mitigation measures have to be taken to decline the negative effects on nature (and to avoid 'negative effects' to become '*significant* negative effects'). Strictly, there is no legal obligation to include mitigating measures in AAs; their only goal is to determine whether significant negative effects on Natura 2000 will occur or not due to the original proposed activities. However, in most AA cases mitigating measures still are included in the considerations of the AA as well as in the requirements of the licenses. Some examples of such requirements are: catching animals before construction works have started and releasing them again afterwards, limiting or avoiding activities during some periods of the year, limitations considering the use of some particular materials, recovering the area and ground after finishing the activities, the prohibition of using lights when it gets dark, monitoring of possible effects, etcetera (Broekmeyer et al., 2008^a).

Activities which clearly will have a negative effect on Natura 2000 sites in most cases are already planned far from such sites in advance. The foresight of the obligation to do an AA, in combination with an expectation that its' conclusion will probably be that significant negative effects cannot be excluded (for sure), is a major reason for initiators to go to another location. This often is done already due to the conclusions of orientational phases (e.g. before AAs are made). Sometimes another location even is chosen already before the actual licensing procedures have started (e.g. even before the orientational phase) (Griep, 2009). Hence, also orientational phases do have an impact on decision-making, but this impact is not involving the inclusion of the results of these instruments in final decisions. Instead, these instruments have an impact in the form of anticipation, for instance like described above. But on the other hand there are also indications of negative forms of anticipation. Initiators could for instance manipulate the results of orientational phases in order to avoid AAs (Broekmeyer, 2008^b). However, this does occur very seldom in practice (Broekmeyer, 2009; Griep, 2009).

It is not clear how many projects are moved exactly to other locations due to conclusions of orientational phases or without even trying to get a NCA license. But the indirect impact of anticipation most likely has an important share in the total contribution of AAs to nature and environmental protection (Griep, 2009 and Bakker, 2009). However, the goal of this research was to determine whether elements of the official conclusions of the AAs can be recognized in the formal decisions. Therefore the indirect impact of anticipation will not be handled into more detail, since no actual AA has been made in these cases and therefore no conclusions of an AA can be recognized in formal decisions. It is recognized that orientational phases do have a substantial impact on NCA decision-making as well, however not enough information on these instruments was available and moreover these assessments in fact are outside the scope of this research.

Hence, in general the actual impact of AAs on decision-making is high. But, the number of negative conclusions (and negative decisions/rejections) is very low, although the obligation that a negative AA conclusion needs to lead directly to a negative NCA decision does work exactly that way in practice (Bakker, 2009). Moreover, instead of rejecting applications, original proposals are been adjusted and mitigating measures are been proposed in order to avoid significant negative effects. These adjustments and measures very often are recognizable in final NCA decisions in the form of (additional) legal requirements. As such the results of AAs are recognizable in final decisions and the instruments do have a high impact, but they do not lead to rejections of applications very often, which makes the impact of AAs not as hard as expected.

The level of impact can be explained by analyzing AAs according to the impact influencing factors which have been distinguished. This will be done in the next sections.

5.3 Flexibility

The focus in AAs should always remain on the effects of the original proposed activity and on the goal of the AA itself, which is to determine whether significant effects might occur or not (Ens et al., 2007). Other than that, there are no further requirements on the form and contents of AAs, as long as the results are understandable and controllable for external parties. Hence, AAs are very flexible. This is a positive situation, because it can offer opportunities to make adjustments during the process and can enable efficiency. Sometimes, the competent authority and initiator can make agreements on the contents of the assessment, however this is not obligatory. Furthermore the competent authority can ask for added information when an AA is not done sufficiently (ANFQ, 2005).

Better guidelines regarding the contents and form of AAs would improve uniformity and eventually their impact on decision-making. Such guidelines should also concern the used research methods and should be provided by the ANFQ (Bakker, 2009). The ANFQ itself is aware of this situation and has started developing some guidelines already for initiators in order to provide a framework for the contents of AAs. Thereby the initiators as well as provinces which are competent authorities, should know as early as possible which issues are the most important to research (Griep, 2009). Nevertheless, this framework is not available yet.

In many AA cases in the Netherlands, the project or plan concerned is on the edge of causing significant effects on Natura 2000 or not causing such effects. This is caused by the flexibility of AAs; in the majority of the cases significant effects on Natura 2000 can be excluded (on paper!) through adjusting plans and projects and taking mitigating measures. When in practice the activity does differ only to a minor extent from its description on paper, this can already lead to significant negative effects on Natura 2000. Hence, when requirements can be met on paper, there is no guarantee that they will be met in practice as well (Broekmeyer, 2009). Strictly, including mitigating measures in AAs even is outside the scope of the assessments; their only goal is to determine whether significant negative effects on Natura 2000 will occur or not due to the original proposed activities. The flexibility of AAs facilitates the inclusion of mitigating measures in the assessments and in final decisions. In this way final decisions get less strict; projects or plans which normally would have been rejected, can now get approval under certain requirements or with some adjustments, where this would not have been possible without flexibility (Ens et al., 2007). Hence, the impact of AAs on decision-making declines due to their flexibility.

Thus, in general AAs are very flexible. Although it is positive that an instrument is flexible, AAs often are *too flexible*, which declines the impact of these instruments on decision-making in the Netherlands to some extent. The flexible character of AAs should optimally be somewhere in the middle between totally flexible and ultimately mandatory in order to influence their total impact on decision-making positively. When a more clear and strict framework would get available and AAs would be less flexible, it can be ensured that the instruments provide the right information and get more suitable (and valuable) for decision-making. So, total flexibility is of some importance, but not of major importance for the impact of the AAs on decision-making and scores one plus (+). Nevertheless, this still is higher than it was expected to be.

5.4 Participation

Exact numbers on participation in AAs are not available due to an insufficient registration of the provinces as well as the ANFQ. Therefore it is unknown how often stakeholders or the public have commented or have given suggestions on AAs in the Netherlands (Griep, 2009). Stakeholders and others which have indicated that they were interested in the effects of a project or plan on Natura 2000, in most cases did get the related AA report from the ANFQ. However, this only was done after they had mentioned themselves that they were interested. In some cases, some professional stakeholder organizations have been asked for their opinion explicitly by the ANFQ, but this has only been done in a small number of very difficult or controversial cases. It is not clear whether the same applies for the provinces (Griep, 2009). Hence, in practice the level of participation is very low in AAs.

This situation in the first place is caused by the fact that AAs do not have legal framework for participation. It is not legally mandatory to give stakeholders the opportunity to participate in the AA

procedures themselves. Only in the actual decision-making procedures stakeholders and the public have to be consulted; they can give their views on draft licenses or plans. For this reason participation is not facilitated sufficiently (Broekmeyer, 2009) and stakeholders sometimes go to court during the decision-making procedures to protect their interests and object against final decisions. This is delaying the procedures in practice and causes the present AA system in the Netherlands to become very unclear and juridical (jurisprudence is growing extensively because stakeholders go to court more often).

The second reason why the level of participation is low in AAs is the lack of knowledge of the majority of the public. Many people do not know what the purpose of AAs is and in addition they are unfamiliar with the possibilities to give their views. Moreover, there is a lack of knowledge about nature in general, the Natura 2000 network, the accompanied legislation and the effects of a project or plan (Kunzman et al., 2007). So, people simply do not know how to participate.

Finally, there is a third reason for the low level of participation: Natura 2000 areas are not densely populated. So, a plan or project nearby Natura 2000 in most cases does not affect many people directly in their day-to-day activities. Therefore, also less people give their views on these proposals.

Thus, the importance of public and stakeholder participation for the impact of AAs on decision-making, in practice is very low and the instruments score two times minus (--) on this factor. This is even lower than was expected and this situation influences the impact of AAs on decision-making negatively. Therefore, the impact of AAs in general can be increased by enabling public and stakeholder participation early in the procedures. For instance the ANFQ could provide some sort of framework in order to enable actors to give their opinion on initiatives and the outcomes of AAs. In that way all provinces could have the same (approved) framework for participation, which will be much clearer for all actors and most likely will increase the impact of AAs in general in the Netherlands (Bakker, 2009).

5.5 Transparency

Final NCA decisions as well as the considerations of the competent authority are freely available for the public. These documents can be found on the websites of the ANFQ or the provinces. However, AAs themselves are hardly ever available. Hence, the documents which provide the information on which decisions are based are not available. Moreover, in decisions often is referred to AAs, but no references including titles, authors etc. are mentioned. So, it even is hard to find out which AA was used for a particular decision. This makes it very difficult to monitor whether contents of decisions differ from what was researched in AAs. In decisions only is stated whether significant negative effects on Natura 2000 will occur or not according to the related AA research. Never quantitative data are mentioned, therefore the numbers of affected species, habitats, breeding pairs etc. are not mentioned in final-decisions in practice (Broekmeyer, 2009). For these data the AAs have to be checked, but these are not publicly available.

Hence, there is a lack of transparency of AAs in the Netherlands, which negatively influences the impact of AAs on decision-making in the Netherlands. This is mainly a problem considering the determination of cumulating effects when two or more activities are proposed which affect the same Natura 2000 site (also existing activities count). Every individual activity itself might have no significant negative effects on the site, however the effects of all activities together can become significant. It is mandatory to motivate in each AA which plans and projects have or have not been considered in the research on cumulation (Ens et al., 2007). It is only possible to determine cumulative effects when all quantitative data about the effects of all activities in the Natura 2000 site are available and can be analyzed together (Broekmeyer, 2009).

Therefore, more transparency of AAs can avoid double work and will increase quality of subsequent AAs by providing data which can be used. When decisions also include quantitative data, or at least mention clear references, the impact of AAs can be expanded to subsequent AAs and NCA decisions (Broekmeyer, 2009 and Bakker, 2009). However, the actual AA situation as it is by now in the Netherlands is not transparent at all and the importance of this factor for the general impact of AAs on decision-making is very low. It is even declining the impact of AAs extensively and therefore scores two times minus (--).

5.6 Binding character

AAs are mandatory for activities or plans for which significant negative effects on Natura 2000 cannot be excluded for sure (according to an orientational phase). When a NCA decision has been taken while such effects could not be excluded for sure and no AA has been done first, that decision will be destroyed eventually. This is ensured by article 3 subsection 2 of the Dutch General Administrative Act (Kistenkas and Kuindersma, 2004). In practice, very seldom it turns out that an AA would have been needed for a decision which already has been taken without such an assessment (Griep, 2009).

As has been mentioned before, AAs use a so called 'No, unless'-approach which involves that in principle no activities with significant negative effects are allowed unless there are no other alternatives, there are imperative reasons of major public importance and possible compensating measures have been taken (ADC-phase), so that the total interconnectedness of the Natura 2000 network remains intact (Cappelle and Stumpel, 2003). So, in AAs there is a direct precondition to decision-making: approval cannot be granted when in an AA is concluded that significant negative effects will or might occur. Hence, the so called '*precautionary principle*' applies as a matter of law in AA cases, which means that even if the effects are uncertain, it must be assumed that the plan or project will have an adverse effect on the site and the proposal has to be rejected (Liley et al., 2006 and Sö, 2009). However, in the Netherlands (partial) rejection has only occurred in 3% of all applications during the period 2005-2008. In the other 97% of the cases was concluded that significant negative effects on Natura 2000 could be excluded for sure (Broekmeyer et al., 2008^a). So, in practice in the vast majority of the AAs is concluded that the proposal does not have significant negative effects on Natura 2000 and the direct obligation to reject the proposal cannot apply.

However, when AAs *do* conclude that significant negative effects cannot be excluded for sure, in practice the obligation to reject the proposal *does* always apply and the decision always turns out negative (Bakker, 2009). Hence, in short can be stated that in only 3% of all Article 19d NCA applications which have been taken into consideration by the competent authority, the conclusions of AAs have been negative *and* have led to total or partial rejection of the application. In these cases the impact of AAs has been very 'hard' and high.

It is very unlikely that in all the other AA cases significant negative effects on Natura 2000 could be excluded for sure for the original proposal. Instead, very often mitigating measures have been taken so that the negative effects on Natura 2000 got less (e.g. not significant anymore). This shows that AAs can have a 'softer' impact as well due to their binding character; In order to make the proposed activity proceed, the conclusion of AAs has to be: "no significant effects" and therefore very often mitigating measures are taken which decrease the effects of the initiative on Natura 2000 (Bakker, 2009). In these cases the impact of the AAs still is high, because the final decision is influenced extensively. Nevertheless, their impact is not as 'hard' as it is in the 3% of the cases in which AAs have led to rejection of the proposal.

Hence, the binding character of AAs is of major importance for the impact of these instruments on decision-making and contributes extensively to the total impact of AAs. Therefore a score of two plusses (++) is given to this factor. When the binding character would have been less, most likely the results of the AAs would have led to rejection even in a smaller number of the NCA decision-making cases. Moreover, projects or plans which had significant negative effects on Natura 2000 could probably proceed more easily, even without taking mitigating measures. In fact the binding character of AAs seems to be the major reason of their relatively high impact on decision-making, because this factor on its own already ensures that the results of AAs have an impact on decision-making.

5.7 Quality

In general the quality of AAs in the Netherlands is sufficient according to the experts in the AA field (Bakker, 2009; Broekmeyer, 2009; Griep, 2009). Competent authorities for NCA decision-making check (and ensure) the quality of AAs.

AAs require the most recent information. The ANFQ uses a general guideline that data which are older than five years are no longer recent. Extra research then is needed in order to provide the most recent information. Such researches are needed quite often. However in most cases they only consist of some new surveys (counting and locating of species) and are not very extensive (Griep, 2009). Very often old methods and analyses are used to determine dose-effect relations. Moreover, researchers often divide everything into pieces; all segments of nature are analyzed separately rather than integrally (Kunzman et al., 2007). Hence, there is a lack of new good quality researches *and* of good sources of information (Broekmeyer, 2009). Especially regarding the determination of (the significance of) the effects on Natura 2000 initiators are in need of better and more accurate sources of information. Determining the significance of effects is very hard, since nature is very complex and unpredictable and large gaps in knowledge exist in practice. Therefore, the precautionary principle applies to the valuation of the effects on Natura 2000 and to the valuation of the influence of gaps in knowledge (Ens et al, 2007). This means that the most negative expectations should be used as a starting point. Hence, uncertainties or insufficient information may not cause the exclusion of certain species or habitats from the analysis and thereby lead to a positive NCA decision.

There is no independent monitoring organization (like the NCEA for EAs) to check the quality of the documentation and the researches of AAs. Instead this is solely done by competent authorities. At provinces the quality of AAs often is checked by an internal verification round with several internal employed experts. However, there is no central steering from the ANFQ and there are no clear guidelines in order to improve quality and uniformity of requirements (Bakker, 2009). When the ANFQ checks the quality of AAs, it first determines by whom the research was done. Researches done by a well known and respected research institute or organization which has proven to deliver good quality reports in the past, are not checked as extensively as the researches of unknown, new, small organizations which have not proven themselves yet. In cases where doubts exist concerning the accuracy and quality of the research, some extra research can be required in order to check (and improve) the results of the former research. Moreover monitoring by the ANFQ takes place by recognizing trends. The ANFQ receives very many researches which cover the same issues (to some extent). When three studies come to conclusion A and the fourth study comes to conclusion B, there are reasons to doubt the credibility of the fourth study (Griep, 2009). So, competent authorities do not check the quality of AAs as extensively as the NCEA checks the quality of EAs. Moreover, the quality of AAs depends extensively on the personal expertise of the employees at competent authorities. This is regrettable, because this expertise in the past has not always turned out to be sufficient (Broekmeyer, 2009). However, the quality of AAs has improved extensively since the introduction of the instrument in 2005 and moreover both initiators as well as competent authorities have learned much (Bakker, 2009; Broekmeyer, 2009; Söderman, 2009). Nevertheless, an independent monitoring organization would still be of added value to improve the quality of AAs in present days. Moreover, a clear framework or guideline about the substantial requirements of AAs should be provided by the ANFQ.

Hence, in general the quality of AAs in the Netherlands is sufficient according to the experts in the AA field. The competent authorities check the quality of AAs and ask for additional information when they think it is needed. Nevertheless, the quality of AAs could still be improved extensively by setting a clear framework for the requirements on AAs and by including an independent monitoring organization into AA procedures. Therefore the importance of a good quality of AAs for their impact on decision-making in general in the Netherlands only is valued one plus (+). This is slightly lower than was expected, which can be one of the explanations why the overall impact of AAs on decision-making in practice is slightly lower than was expected.

5.8 Openness

The NCA has been enforced in 2005 which made AAs mandatory for certain PPPPs. So, AAs are relatively new in the Netherlands (Broekmeyer, 2008^a). For this reason decision-makers sometimes are not familiar with the use of AAs (yet). Nevertheless, society (e.g. also decision-makers) is getting increasingly

aware of the importance of protecting nature, which most likely increases the openness of decision-makers to the use of AAs (Bakker, 2009).

The total number of AAs has increased every year since the enforcement of the NCA in 2005 (see graph 2 again). Which suggest that either (1) more activities with possible significant negative effects on Natura 2000 are proposed, or (2) that the percentage of projects and plans nearby Natura 2000 for which AAs have been done has increased. Since the enforcement of the NCA makes it more difficult to take on activities with possible effects on Natura 2000 than before, it is very unlikely that more activities with possible significant negative effects on Natura 2000 are proposed. More strict legislation in general does lead to less, instead of more activities, since initiators get discouraged by the strict legislation (Griep, 2009). In the meantime decision-makers have learned a lot about the use of AAs. They know when to use them and are accustomed with these instruments, which has increased their understanding about the purpose and added value of AAs (Broekmeyer, 2009; Ens et al., 2007; Griep, 2009). In general, their openness to the use of AAs has increased (Griep, 2009).

Nevertheless, there are cases in which the contents of the final decision differ slightly from the results of the AA. Sometimes for instance different lists about species are used. The decision then can be based on other data than the AA was (Bakker, 2009). Hence, the decision-makers in these cases apparently do not stand open for (the use of) the results of AAs and the methods used for the researches.

Often at the start of the procedures it is already clear that an AA will be needed for an initiative. In many of these cases even prior to the actual AA it is known already that significant negative effects on Natura 2000 will occur for sure as a result of the proposed activity. Decision-makers then encourage initiators to adjust their application in order to avoid significant negative effects on Natura 2000 and thereby avoid doing an AA (Griep, 2009). In these cases the original application is adjusted and a new application is done. Strictly, it is not allowed to take mitigating measures on the original application and thereby avoid an AA, since the fact that mitigating measures are needed to avoid significant negative effects on Natura 2000 implies that these effects cannot be excluded for sure for the original application. Therefore, officially it would be mandatory to do an AA in such cases (Bakker, 2009). However, in practice the ANFQ as well as the provinces do allow (and even stimulate) initiators to take mitigating measures on their original proposed activity and thereby avoid an AA (Griep, 2009). So, in practice competent authorities try to avoid AAs where possible and sometimes even ignore the official rules in order to do so. This is a consequence of insufficient openness to the use of AAs.

Hence, it can be concluded that decision-makers in practice do stand open for the use of AAs when these instruments absolutely are needed. In most of these cases the results of the assessments are used for decision-making. However, when AAs can be avoided decision-makers do stimulate initiators to do so, so they do not stand entirely open for the use of AAs for decision-making. When the openness of decision-makers to the use of AAs would have been higher, these instruments would have been used more often and their impact would have been higher. Nevertheless, currently this impact influencing factor is of some importance for the impact of AAs on decision-making in practice and scores one plus (+). This is slightly higher than expected and therefore in general is positively contributing to the level of impact of AAs on decision-making.

5.9 Case study AA: Mussel Seed Fisheries Autumn 2006

In this section a specific AA case will be studied into more detail. The results presented in the former sections will be illustrated empirically by this case study. The aim is give an example from the Dutch practice. The AA case concerned is an assessment of the effects of Mussel Seed Fisheries in the Waddensea in the Autumn of 2006.

5.9.1 Introduction

The Dutch mussel seed fisheries are depending on natural stocks for their mussel-sources. The fisheries take place twice each year, during the spring and autumn, in four areas in the sub-littoral areas⁷ in the Western part of the Waddensea. The AA considered in this case has focused on the effects of the fisheries during the autumn of 2006.

The mussel seed fisheries take wild natural mussels from instable stocks in the Waddensea and move them to locations with better circumstances to grow. After the animals have grown sufficiently, they are transported to the province of 'Zeeland' to be sold there. It is only allowed to fish for mussels in instable areas and stocks, because this will only have minor effects on the Natura 2000 site the Waddensea. These stocks very likely will disappear during the winter due to natural factors like storms or feeding starfishes. Through taking the mussel seed away from the instable natural habitats before the winter and releasing them in better, more stable locations, these mussels are secured for the fisheries. In the new locations they can even grow to a larger amount of biomass.

It is only allowed to fish 'mussel seed'; but in practice fisherman do not fish the actual seed, but young mussels instead (animals smaller than one centimetre). Fishing on adult mussels is not allowed, however when not enough 'mussel seed' is available, sometimes apprentice mussels (1-5 centimetres) have to be caught in order to ensure the maintenance of the mussel fisheries sector. When this situation occurs, a NCA license is needed in order to permit the fishing on apprentice mussels in the instable stocks. This situation has occurred in the autumn of 2006 (Straalen and Sas, 2006^a).

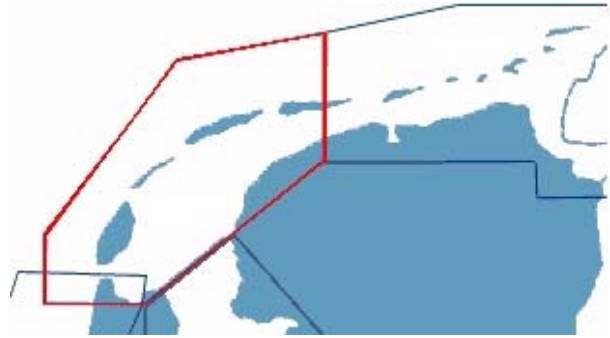


Figure 6 : The Western part of the Dutch Waddensea

5.9.2 Impact AA on decision-making

In practice in the vast majority of the AAs is concluded that the proposal does not have significant negative effects on Natura 2000 (Broekmeyer et al., 2008^a). This was also the case in the AA considering the mussel seed fisheries in the autumn of 2006. The effects of the fisheries on Habitat type 1110 and four species of ducks (Eiders, Greater Scaups, Goldeneyes and Red-breasted Mergansers) have been analyzed extensively in the AA and for none of them any of the effects were expected to be significant (Straalen and Sas, 2006^a). Based on the information of the AA therefore the NCA license could be granted. In the decision the following was stated in Dutch: “[...] *the delivered appropriate assessment as meant in article 19f of the Nature Conservation Act 1998, provides the certainty that the requested fishing activities do not negatively affect the important features of the Natura 2000 site and former state monument as well as protected natural monument, ‘Waddensea’.* This conclusion does apply strongly from the [...] *specific formulated licensing requirements*” (ANFQ, 2006^c: 2). Hence, in the license itself, it was mentioned that significant negative effects on the Natura 2000 site ‘Waddensea’ could only be excluded for sure by the formulation of specific requirements. Some of these requirements which actually had been included were: the prohibition to fish in places which became dry sometimes, the requirement to keep a certain (specified) distance from animals in the area, the prohibition to run faster than twenty kilometers an hour, the requirement to report accidents, calamities and other incidents, etcetera. (ANFQ, 2006^c). Especially the requirements considering the animals could directly be derived from the conclusions of the AA. Also some parts on cumulation had been literally taken over from the AA. In addition the areas which had been described in the AA where explicitly mentioned in the license and could be traced back on a map which was also included in the document with considerations about the license (ANFQ, 2006^b; ANFQ, 2006^c; Straalen and Sas, 2006^a). Hence, the contents of the final decision had been influenced by the results of the AA for sure and the impact of the AA was ‘high’, which is similar to the general AA situation in the Netherlands.

⁷ Sub-littoral areas: shallow areas in the sea with many plants and small animals living there.

5.9.3 Factors influencing the impact of the AA on decision-making

The scores of the AA case 'Mussel seed fisheries autumn 2006' on the impact influencing factors is presented in this section in order to explain its impact on decision-making.

Flexibility

In general AAs are very flexible in the Netherlands. Although it is positive that an instrument is flexible, AAs often are too flexible. This situation also occurs in this AA case.

The flexibility of the AA in this case was high and therefore the final decision was taken relatively fast, which is positive. However, the flexibility of the AA in this case was a bit too high and decreased the impact of the instrument on decision-making. This was shown during the participation stage of the process. The original AA needed some additional information in order to provide all information for decision-making. Due to the flexibility of the AA procedures, the competent authority allowed the initiators to deliver the additional information while the participation round about the original AA already had started. When the additions finally were finished, only one week remained for the stakeholders to give their views about it (ANFQ, 2006^c). This period was too short and therefore several stakeholders did complain about it, but nothing was done about it. According to the stakeholders, the license had been given far too early and the AA was not providing all information yet.

Hence, the support for the decision was rather low, and the impact of the AA on decision-making was declined due to the flexibility of the AA. When the AA would have been less flexible, the impact of the instrument on decision-making could have increased, because more support could have been created for the final decision. This too flexible situation is similar to the overall situation in the Netherlands and scores one plus (+), since overall a certain level of flexibility does positively influence the impact of the AA on decision-making.

Stakeholder participation

Stakeholders could object against the decision of the Minister of ANFQ to grant the license under certain circumstance until six weeks after the date of authorization. This date was October 24th, 2006 and the license was valid until December 22nd, 2006 (ANFQ, 2006^b). Hence, the total period the license was valid, was eight weeks and three days. This means that objection could still be given when the license was already almost expired. It therefore is very questionable whether the participation opportunity was taken seriously by the competent authority.

Nevertheless, sixteen organizations were asked to give their views about the mussel seed fisheries. In total ten views were given, of which nine were considering nature aspects or procedural aspects. All views were handled in the final decision, however none of them has led to any changes. Moreover, the organizations only did receive additional information on the original version of the AA one week before the deadline by which they should have given their views. This is a very short time period to analyze the additional research and give a view on it. Some of the organizations did complain about this situation and the opinion of the competent authority was that they could have known this in advance and should have anticipated on it. One week should be enough for the organizations to give their view about the contents of the AA and its procedures (ANFQ, 2006^c). The result was that some organizations did not support the final decision, and felt the license was granted too early and not deliberately.

Hence, although sixteen organizations were asked to give their views, only a small number of them took the effort to actually participate. Moreover, the participation period was very short and extensively overlapping the period for which the license had been granted already. Finally, the views which were given did not really have an impact on the final decision and the support of the stakeholders to the decision was low. So, in this AA case participation has not been of any importance for the impact of the AA on the final decision at all and scores two times minus (--). When this would have been higher, most likely there would have been more support for the decision and the decision would have been taken more deliberately. However, the situation in this case is comparable with the general AA situation in the Netherlands.

Transparency

The final decision in mussel seed fisheries case did include results of the AA, but no quantitative results where available. For these results was referred to the appendixes (of which the AA was one). The final decision itself, as well as the considerations about it where easily accessible through the website of the ANFQ. However, the appendixes were not downloadable at that website. In order to get them I had to do some research, send a number of e-mails and make telephone calls with several persons of the ANFQ and the consultancy firm MarinX (which eventually turned out to be the author of the AA). After all these struggles only to get the AA report, it became very clear to me that the transparency of this AA was not good. It was not easily accessible for the public and too many actions had to be taken to actually get a hand on the AA report.

The report itself contained quite some 'mussel seed fisheries jargon', but overall the texts had been written in correct and clear Dutch. Even a lay person should be able to understand the general lines of reasoning and the conclusions of the report. In that sense, this AA scores good on clarity. However, no quantitative data had been mentioned for most species in the final decision. Only for Eiders this is the case, which makes the transparency of the AA for later AA cases which could have cumulative effects, insufficient for the other species. Nevertheless, the considerations of the AA about cumulation had been taken over literally in the final decision (ANFQ, 2006^e; Straalen and Sas, 2006^a).

So, the transparency of this AA was very bad, because it the AA report itself was not easily accessible. However, the final decision and the considerations for the final decision where available. Moreover, the contents of the reports were understandable for lay-persons and not all, but still some quantitative results were recognizable in the final decision (where this is not the common situation in the Netherlands). Therefore, overall this AA case scores slightly better than AAs in general in the Netherlands, but the score is still negative (-).

Binding-character

In the final decision, it was mentioned that significant negative effects on the Natura 2000 site 'Waddensea' could only be excluded for sure by formulating a number of specific requirements (ANFQ, 2006^e). Eighteen requirements have been included. Especially some of the requirements considering fauna could directly be derived from the conclusions of the AA. For instance a requirement to limit the disturbance of and the effects on fauna in the area by keeping enough distance to the animals was included (ANFQ, 2006^b). Hence, despite the fact that the conclusion of the AA was that significant negative effects could be excluded for sure, still some additional requirements (based on the results of the AA) had been included in the final decision. The direct precondition to take a negative decision when significant negative effects could not be excluded for sure, did not apply here. This is congruent with the majority of the AA cases in the Netherlands.

However, when effects remain uncertain, according to the precautionary principle it must be assumed that the initiative will have an adverse effect on the site and the proposal has to be rejected (Liley et al., 2006 and Söderman, 2009). From the AA in this case it turned out that some uncertainties did remain, which could be taken away in the future by an additional research project (PRODUS). However, this was not done yet at the time the license got granted. Hence, the precautionary principle did have to apply here, but in reality it did not. The research of Ens et al. (2007) concluded the same and stated that many of the conclusions in the AA had been taken too quick and based on insufficient or even wrong information.

Hence, the AA did have an impact due to its binding character. In the final decision, it was stated that significant negative effects on the Natura 2000 site 'Waddensea' could only be excluded for sure by formulation specific requirements. Some of the included requirements could directly be derived from the results of the AA. However, the precautionary principle was not met in this case, which shows that legislation which in theory is binding, does not necessarily have to be that binding in practice. Nevertheless, the binding character of the AA itself has been of major importance for the impact of the instrument on decision-making and scores two plusses (++), which is congruent with the general AA situation in practice.

Quality

The ANFQ in its' final decision has reviewed the reasoning and conclusions of the AA extensively. This was done through the judgement of experts, both internal at the ANFQ and on the locations. Finally, the conclusions of the AA turned out to be correct according to the ANFQ; the four proposed areas for fishing all did turn out to be instable (ANFQ, 2006^e). Also Ens et al. (2007) have concluded that this analysis was correct and convincing.

Nevertheless, the ANFQ did ask for additional information to the original AA report. Some data needed to be specified into more detail and a fishing plan needed to be included (Straalen and Sas, 2006^b). After the addition was provided, the ANFQ judged the quality of the research to be sufficient.

However, total certainty about the results of the AA could not be given. For instance the function of the mussel stocks for the structure and protection of the ecosystem in the Waddensea was not clear and the indirect feeding function of the mussel stocks was not clear either. These gaps in knowledge could only be taken away (partially) after the actual AA procedures by the so called 'PRODUS research program'. This research aimed at determining the multiannual effects of the mussel fisheries in the Waddensea. Moreover, when it would turn out that the area was affected negatively, the program would study possible solutions, adjustments and mitigating measures as well (Straalen and Sas, 2006^a; ANFQ, 2006^e). Nevertheless, this program did not contribute to the quality of the AA itself and did not have an impact on the final decision.

So, since the PRODUS program had to fill some considerable gaps in knowledge, the total quality of the AA in this case was not good. In fact the information was incomplete. This was also concluded by Ens et al. (2007), who stated that the conclusions about the significance of the effects on almost all considered species as well as habitat type 1110, had been taken too early and based on insufficient information. Hence, the conclusions of the research were not founded sufficiently. The ANFQ did ask for additional information eventually, but after that they did approve the AA and agreed on its quality. The fact that an independent research afterwards did conclude that the quality of this AA was insufficient, while the competent authority did conclude the opposite, suggests that competent authorities are not always able to judge the quality of AAs.

The quality of this AA is worse than the quality of AAs in general in the Netherlands. It is not clear whether the bad quality of the assessment has led to wrong conclusions about the significance of the effects on Natura 2000. Therefore it is not clear either whether a better quality and fewer gaps in knowledge would have led to another decision or would have led to a higher impact on decision-making. Hence, the importance of a good quality assessment scores neutral (0) in this case.

Openness of decision-makers

The AA report was only 32 pages, which is not very lengthy and probably will increase the openness of decision-makers to read the entire report. The decision-makers did ask for some additional information, which was missing in the AA report. One can only conclude that information is missing when he or she has read the total report and did not found that information. Moreover, when additional information is asked, this suggests that the decision-makers were willing to use the instrument and the information it provided. Hence, the fact that additional information was asked by the decision-makers indicates that they did read the entire report and did stand open for the use of the AA for decision-making.

When the openness of the decision-makers to the use of the AA would have been lower, probably no addition was asked and less measures would have been included in the final decision (e.g. the total impact of the AA would have been lower) Hence, the openness of the decision-makers to the use of the AA has been of major importance for the impact of the AA on decision-making and a score of two plusses (++) is given to the importance of this factor.

5.9.4 Concluding

Overall the AA 'Mussel seed fisheries autumn 2006' did have an impact on the final decision, but this impact could not be considered very high. This impact is lower than the impact of AAs in general in the Netherlands. Especially the quality of the AA turned out to be less important for the impact of the instrument in this case than it is in general. The decision had been taken based on an AA which was *assumed* to be of good quality, but which in fact turned out to be of insufficient quality instead. This

indicates that quality is a very important aspect for an instrument to have an impact on decision-making; when the quality is bad (and is perceived to be good) this potentially can lead to bad quality decisions or at least to badly founded decisions. The importance of the other factors for the impact of the AA on decision-making was rather similar to the general AA situation in the Netherlands.

5.10 Synthesis

In general the impact of AAs on decision-making in the Dutch practice is high. However, the number of negative conclusions (and negative decisions) is very low. So, although the obligation that a negative AA conclusion needs to lead directly to a negative NCA decision does work exactly that way in practice, this only leads to rejection in a very small number of AA cases. Moreover, instead of rejecting applications, often original proposals are been adjusted and mitigating measures are been proposed in order to avoid significant negative effects. These adjustments and measures very often are recognizable in final NCA decisions in the form of (additional) legal requirements. As such the results of AAs are recognizable in final decisions and the instruments do have a substantial impact, but they do not lead to rejections of applications as often as was expected; the impact of AAs still is considered to be 'high', however it is not as high as was expected in the general hypothesis. This can be explained by comparing the importance of each factor for the impact of AAs on decision-making in practice, with the expected importance of each factor for the impact of AAs on decision-making. In table 14 a schematic overview of these scores is shown.

Factor	Expected importance	Practical importance in general	Practical importance in AA-case
Flexibility	-	+	+
Stakeholder participation	-	--	--
Transparency	+	--	-
Binding Character	++	++	++
Quality	++	+	0
Openness of decision-makers	0	+	++

Table 14: Explaining the impact of AAs in general in the Netherlands.

The impact of AAs in practice explained

According to the scores in Table 14 also the actual impact of AAs on decision-making can be explained. The higher the importance of a factor for the impact in practice, the more it contributes to the overall impact.

So, especially the binding character of AAs is ensuring the impact of AAs on decision-making; it is the only factor which is of major importance for that impact. AAs are part of as the 'No, unless'-regime of the NCA; No activities with (possible) significant negative effects on Natura 2000 are allowed, unless there are no possible alternatives, there are imperative reasons of major public importance and all mitigating measures have been taken. The binding character of this legislation regarding the use of the results of AAs ensures in the first place that the conclusions of AAs in the vast majority of the cases are that 'significant negative effects on Natura 2000 can be excluded for sure'. The measures which have been proposed in AAs in order to exclude these kind of effects often can be found in final NCA decisions. And secondly, where the conclusions of AAs are that these kind of effects cannot be excluded for sure, the proposal just is rejected. Hence, the major reason why AAs have an impact on decision-making is because of their binding legal framework.

The level of flexibility, openness of decision-makers and quality of AAs in practice also are important for the impact of these instruments on decision-making. However, these factors are of less importance than the binding character. AAs in practice are very flexible; these instruments often even are too flexible. The flexible character of AAs should optimally be somewhere in the middle between totally flexible and ultimately mandatory in order to influence their total impact on decision-making positively.

The fact that AAs often are too flexible diminishes the impact of these instruments on decision-making in the Netherlands to some extent. A clearer framework can ensure the instruments provide the right information, and get more suitable and valuable for decision-making. Therefore better guidelines are needed to ensure AA procedures will not be too flexible anymore. In practice decision-makers do stand open for the use of AAs when these instruments are absolutely needed. However, when AAs can be avoided, sometimes decision-makers do stimulate initiators to do so. So, they do not stand entirely open for the use of AAs for decision-making. The quality of AAs in the Netherlands in general is sufficient according to the experts in the AA field. The competent authorities check the quality of AAs and ask for additional information when they think it is needed. Nevertheless, the quality of AAs could still be improved extensively by setting a clear framework for the requirements on AAs and by including an independent monitoring organization into AA procedures. Also the AA case study has indicated that good quality should be a very important aspect for an instrument to have an impact on decision-making; when the quality is bad (and is perceived to be good) this potentially can lead to bad quality decisions or at least to badly founded decisions. Hence, currently the quality of AAs in practice is not as important for their impact on decision-making as was expected and as it should be.

Finally, stakeholder participation and transparency are of no importance at all for the impact of EAs on decision-making. In fact, in the current AA situation in the Netherlands the importance of these factors for the impact of AAs on decision-making is very low (even lower than was expected) and makes the impact of the instruments on decision-making even decrease. Hence, in order to improve the impact of AAs on decision-making, stakeholder participation during the processes and the transparency of the procedures as well as the documents should be improved extensively.

6 The impact of EA/AA combinations on decision-making

Article 19J subsection 4 of the NCA obliges initiators to do a SEA for plans which require an AA. As such the obligation to do an AA for a plan obliges initiators to do a SEA for that plan as well. In EIA cases there is no such obligation. However, AAs can be included in EIA procedures on a voluntary basis. Competent authorities in cases with EA/AA combinations should base their decision on information from both the AAs as well as the EAs. In this part of the research the impact of such EA/AA combinations on decision-making is analyzed.

6.1 EA/AA combinations in 2005-2008

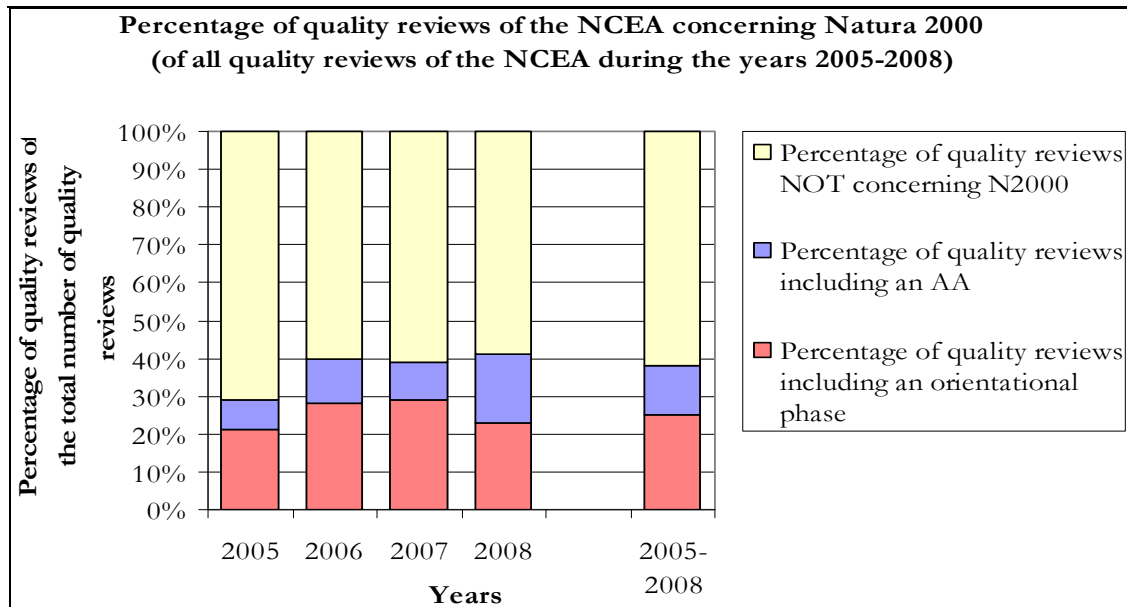
Already in the early 1990s some researchers have wondered why during the development of the DEA nothing had been mentioned about the possibilities to include legislation on nature conservation in the DEA as well. Some years later an arrangement has been developed related to the coherence of the DEA-license and NCA-license (prior to the version of 1998). However, this arrangement was cancelled after the Birds- and Habitats Directives had been implemented in the NCA. A separated NCA-license would be needed in the future. Because municipalities were considered to be incapable for NCA decision-making and did not understand complex ecological issues, the provinces should be the competent authority in all NCA decision-making procedures. The municipalities however remained the competent authority in all DEA decision-making procedures. However, this did turn out to be unsuccessful in practice and again a new construction was developed: the AA researches for the NCA procedures could be (or sometimes had to be) part of the EA researches for the DEA procedures (Verschuuren, 2005). From that moment EA/AA combinations did exist in the Netherlands.

The development of EA/AA combinations since the enforcement of the NCA in 2005 could only be analyzed by determining the exact numbers of these cases during those years. The only way to do this was by analyzing all quality reviews of the NCEA during the period 2005-2008 and determine for each individual case whether an AA was included in the EIS. Although the NCEA is not included in all EA procedures in the Netherlands, the general assumption at the NCEA is that the organization is included in almost all EA/AA cases. Only a very small number of normal SEAs is done without including the NCEA and according to several technical secretaries, it is very unlikely that there are SEA/AA cases in which the NCEA had not been involved, since these cases often are rather complex. In EIA/AA cases it is obligatory to include the NCEA. Hence, it can be assumed that the NCEA has been included in (almost) all EA/AA cases in the years 2005-2008. So, by analyzing all quality reviews of the NCEA of that four year period, a good overview of the general EA/AA situation in the Netherlands can be given.

Over the years 2005-2008 in 181 quality reviews of the NCEA effects on Natura 2000 have been considered. These cases were put into a newly self-made database to be analyzed into more detail. As is shown in graph 3, the total percentage of EAs considering Natura 2000 (including either an orientational phase or an AA) is substantial over the last four years; about 40% of all projects of the NCEA were concerning Natura 2000. This points out that Natura 2000 is a very important issue within EAs. 121 quality reviews of the NCEA have included an orientational phase (117 different projects) and 60 quality reviews have included an AA (56 different projects).

Graph 3 clearly shows an increasing percentage of EAs including orientational phases during the first three years; however in 2008 this percentage is much lower (going from 29% in 2007 to 23% in 2008). One possible explanation for this can be found in the increasing percentage of EAs including AAs; this namely suggests that fewer projects were finished in an orientational phase already. Hence, extra and more detailed research (an AA) was needed more often in order to ensure that significant negative effects on Natura 2000 could be excluded. The percentage of EA/AA cases has grown over the years towards 18% of all NCEA quality reviews in 2008. Because the *percentage* of EAs including an AA is increasing, the number of EAs including an AA is increasing relatively fast in comparison with the total number of EA projects of

the NCEA. Therefore can be concluded that either more projects which needed an EA were situated in or nearby Natura 2000 sites than before, or that the NCA legislation had been applied more strictly over the years.



Graph 3: Percentage of quality reviews of the NCEA concerning Natura 2000 (for exact numbers, also split up per type of EA, see appendix 5)

Hence, the number of EA/AA combinations has grown each year since the enforcement of the NCA in October 2005. Nevertheless, the total number of cases in which these two instruments have been combined has been rather small during the four years afterwards. Only 56 EA/AA cases have been handled by the NCEA in total. According to several technical secretaries of the NCEA, this is likely to be the total number of EA/AA combinations in the Netherlands since 2005. They thought that there would have been no, or only very few EA/AA cases in which the NCEA has not been involved. In the next sections the impact of these instruments on decision-making in these cases will be analyzed.

6.2 Impact on decision-making

Many researches already have been done on the impact of EAs on decision-making. In the field of AAs much less research has been done already, but the combination of both instruments seems to still be rather unexplored until now. Some theoretical researches regarding the use and the potential impacts of EA/AA combinations do exist, however empirical researches on the impact of these combined instruments seem to be lacking. Nevertheless, the construction of combining EAs and AAs does exist since 2005 already and the number of people with practical expertise regarding EA/AA combinations in the Netherlands is growing. Therefore, the general impact of EA/AA combinations on decision-making in the Netherlands mainly is determined according to expert judgments.

General impact of EA/AA combinations on decision-making

Since two different instruments of two different decision-making procedures are been combined in EA/AA combinations, *both instruments* are expected to have an impact on *both decision-making procedures*. In other words: the EA-parts as well as the AA-parts of EA/AA combinations are expected to have some impact on NCA decision-making as well as DEA decision-making.

According to the experts in the EA/AA field, the impact of the EA-parts on DEA decision-making and the impact of AA-parts on NCA decision-making, in practice are not influenced negatively by the combination of the instruments (Bakker, 2009; Griep, 2009). So, the impacts of EA-parts of EA/AA

combinations on DEA decision-making will remain medium, just as the impact of individual EAs is. The same situation applies to the impacts of AA-parts on NCA decision-making in comparison to the impacts of individual AAs. In many cases the 'normal' impacts even are enforced by the combination of the two instruments. This namely suggests that the project or plan is rather complicated, which raises awareness amongst decision-makers about the importance of using the results of the assessments (Bakker, 2009). In addition, two legal frameworks apply to these combinations, the information about nature is available in one document, and only one research on the effects on nature is needed instead of two. As such, time and money are saved (NCEA, 2009^d; Kunzman et al., 2007).

Nevertheless, the real added value of combining EAs and AAs for decision-making lies at the impact of the instruments on the decision-making procedures for which they had *not been designed* originally; e.g. the impact of the EA-parts on NCA decision-making and the impact of the AA-parts on DEA decision-making in the Dutch practice.

Impact of EA-parts on NCA decision-making

According to experts in the EA/AA field in the Netherlands, the EA parts of EA/AA combinations in most cases do not have a substantial impact on NCA decision-making in practice. Despite the fact that it is legally mandatory to do EAs and AAs at the same time or to do EAs first and AAs later on in the procedures, still in practice sometimes first an AA is made. Then the NCA-decision is already taken before the actual EA procedures are started and the AA is only put into the EA after the NCA-procedures (Griep, 2009). In such cases EAs cannot have an impact on NCA decision-making.

In other cases, AA parts of EA/AA combinations do not go to the competent authority for NCA decision-making. Instead new, individual and more specific AAs are made based on information of the EA/AA combinations and send to the NCA decision-makers. So, then the EA parts can have influenced the results of the final AAs slightly, but these parts themselves have not directly been used by the NCA decision-makers (Bakker, 2009).

However, in most cases EAs and AAs are done simultaneously. But still the EA-parts hardly have an impact on NCA decision-making then and moreover EA-parts never lead directly to rejection of a NCA-license. NCA decision-making has to be based on expectations whether or not significant negative effects on Natura 2000 will occur. EAs aim at providing all relevant information on all environmental effects in order to support decision-making, so in EA-parts of EA/AA combinations in practice is never stated whether or not a project or plan can be approved (Broekmeyer, 2009; Bakker, 2009). So in fact the aim of the EA-parts is too broad and the information is not detailed enough to base a NCA decision on.

Nevertheless, when the conclusion of an AA-part of an EA/AA combination is that significant negative effects on Natura 2000 cannot be excluded for sure for the preferred alternative, the EA-part can have an impact on NCA decision-making. However, this only applies for the phase after the 'AA-phase'; the 'ADC-phase'. In the EA-parts namely already alternatives which can provide information for A-parts (research on alternatives) of ADC-phases, can be researched. These alternatives in most cases need to be researched into more detail in the actual ADC-phases, but the information of the EAs in most of these cases is of added value here (Broekmeyer et al., 2008^b).

However, the above does not apply for the second parts of ADC-phases, the so-called D-parts (research on imperative reasons of major public importance). The question whether or not imperative reasons of major public importance do exist is not to be answered by EAs; this is the task of decision-makers. Nevertheless, in some cases in practice the NCEA asks initiators to research some economical or social effects in EA-parts. But, the main goal of EAs is to determine the environmental effects of an activity and of possible alternatives. So, the goal of these assessments is not to research whether some legitimate reasons might exist to approve the activity anyway, although there are some negative environmental consequences. Such extra research only makes the assessment more complicated (Soppe, 2005).

Finally, for the C-parts (what are the options for compensation?) of ADC-phases, EA-parts can be used again. In the DEA namely is stated that the competent authority may ask initiators to describe compensating or mitigating measures in EISs, which is done very often in practice. However, regarding the compensating measures which have to be done during the ADC-phase of NCA procedures, adjustments

have to be made on the results of EISs. But still EA researches are of added value for the ADC-phases in these cases (Soppe, 2005; Broekmeyer et al., 2008^b). However, since only very few ADC-phases have been done in the Netherlands during the years 2005-2008, it appears that this kind of impact hardly occurs in practice.

Hence, EA-parts of EA/AA combinations hardly have a substantial added value for NCA decision-making. But after the AA procedures, the EA-parts can provide information for the 'A' and/or 'C' phase of the ADC-phase. However, in the Netherlands very few ADC-phases are used in practice (Broekmeyer et al., 2008^a). Since the impact of EA-parts on NCA decision-making is mainly ensured through ADC-phases, in practice this kind of impact hardly occurs.

Impact of AA-parts on DEA decision-making

According to experts in the EA/AA field in the Netherlands, the AA parts of EA/AA combinations in most cases do have a 'low' to 'medium' impact on DEA decision-making in practice. However, the combination of the instruments often is not used to its full potential in practice, since very often AAs are just put into EISs without aligning the assessments properly (Griep, 2009) (this will be explained later). Nevertheless, often EAs and AAs are done simultaneously in EA/AA combinations and then the results of AAs have an impact on DEA decision-making to some extent through the inclusion of some additional measures. But still AA-parts never lead directly to rejections of a DEA-license. Instead, when in AA-parts is concluded that significant negative effects on Natura 2000 cannot be excluded for sure, still approval can be given on DEA grounds, based on the results of EA-parts of the combinations. The projects or plans then only are rejected on NCA grounds (NCEA, 2010).

NCA decision-making has to be based on expectations whether significant negative effects on Natura 2000 will occur or not. Normal AAs only aim at answering that question and thereby directly determine the outcomes of the decision-making process. DEA decision-making instead only is *supported* by the information provided by EAs. This information is rather broad in comparison to that of AAs. Moreover, in EAs never is stated whether or not a project or plan can be approved; only environmental effects of the proposal and some alternatives are described (Broekmeyer, 2009; Bakker, 2009). So, in fact the aim of AA-parts is too narrow to really support DEA decision-making and the information provided is not on the same level of abstraction as the other information in EISs. This situation is unwanted since EAs originally had been designed to give an integral overview of all environmental effects. By including AAs in EISs, no integral overview is given because the effects on Natura 2000 get over amplified (Soppe, 2005). In practice, in most cases this is not considered to be a problem, because the Natura 2000 sites in the Netherlands generally are assumed to be 'the most important nature sites' of the country (Broekmeyer, 2009). As such AA-parts of EA/AA combinations do have an impact on DEA decision-making, by replacing or (being an addition to) the normal nature parts of EISs.

Nature

According to experts in the EA/AA field in the Netherlands, the combination of these two instruments ensures that the importance of the aspect nature in the EISs increases. The combination of the two instruments therefore in practice is perceived to be of added value for decision-making. This added value especially occurs when in EISs a normal 'nature section' which mentions the effects on nature in general *and* an AA-part which specifically focuses on the effects on Natura 2000 are included (Bakker, 2009). But EAs always have to remain more broadly focused than AAs. Therefore, normally nature is considered on a rather general level in EAs (which sometimes includes Natura 2000) and AAs only consider Natura 2000. Due to the combination of the two instruments, in the EIS still nature in general is considered, but also more specific information on Natura 2000 is included. Hence, the focus of the EISs of EA/AA combinations is not more broad than the focus of normal EISs per se (Natura 2000 can also be considered in normal EAs), but the information in AA-parts is more detailed on Natura 2000 than nature parts in normal EAs are (Bakker, 2009).

However, combining EAs and AAs does lead to some problems as well. One of these problems is related to the situation described above; the information on nature which is needed for EAs is not exactly the same as the information needed for AAs. In order to determine whether significant negative effects on

Natura 2000 occur, AA researches have to focus on specific species and habitats. EA researches on the other hand, in practice very often require far less detailed information; SEAs and many EIAs are looking at environmental effects on a far more abstract level (e.g. policies and location alternatives). Where EIAs are focusing on alternatives for certain technical processes or transport options etc., the level of detail of AA researches can be used for the EA research more easily (Soppe, 2005; Kunzman et al., 2007). Nevertheless, the focus of DEA decisions and EAs is so broad, that in practice it is almost impossible to do good AAs for all considered alternatives in EISs. However, still very often it is asked to do such AAs, which then in most cases are called: 'general AAs' or 'risk assessments' (Bakker, 2009). In this way AAs thus get a broader focus due to their inclusion in EA procedures.

The overall conclusion is that in practice AA-parts of EA/AA combinations do have an impact on DEA decision-making; in most cases some parts of the AA results are recognizable in DEA decisions in the form of some additional measures. However, the information on Natura 2000 in AA-parts does not lead to negative DEA decisions, even when significant negative effects on Natura 2000 cannot be excluded for sure. Hence, the total impact of AA-parts of EA/AA combinations on DEA decision-making in practice in the Netherlands is somewhere between 'low' and 'medium', which is slightly lower than was expected.

EA-parts of EA/AA combinations on the other hand hardly have an impact on NCA decision-making and are not of substantial added value for these decision-making procedures themselves. However, EA-parts can be of added value for potential ADC-phases (which in turn are done very seldom). Overall, the total impact of EA-parts of EA/AA combinations on NCA decision-making in practice in the Netherlands is 'very low', which is even lower than was expected.

So, the added value of combining EAs and AAs does mainly exist for DEA decision-making, while it does not really exist for NCA decision-making.

The impact of EA/AA combinations can be explained by analyzing the instruments according to the impact influencing factors which have been distinguished before. This will be done in the next sections.

6.3 Flexibility

For the combination of EAs and AAs 'flexibility' is very important; in order to be aligned properly both EA- and AA-parts of EA/AA combinations should be flexible. The flexibility of normal EAs in the Netherlands is considered to be sufficient. Some requirements, like for instance the inclusion of some alternatives, do exist and moreover some guidelines on the contents of EISs exist. However, these guidelines are case specific and can be adjusted when needed. So, normal EAs are rather flexible, but still have a framework which creates clarity on the requirements for EISs (Bakker, 2009). However, no general guidelines regarding the form and contents of the AA parts in EA/AA combinations exist. AAs do not necessarily have to be done integrally with EAs and in practice it does not matter whether the EIS and AA report are actually been combined in a physical way (the AA is included in the EIS, so there is one single document in which both assessments are included) or are still two separated documents (NCEA, 2009). So, EA/AA combinations are flexible regarding the methods to combine the two instruments.

Importance for the impact of AA-parts on DEA decision-making

Flexibility of AA-parts was expected to be of major importance for their impact on DEA decision-making. In practice the flexibility of AAs allows them to fit in EISs. There are no real requirements about the contents of AA reports, as long as the information leads to a conclusion on the occurrence of significant negative effects on Natura 2000. For the nature parts of normal EISs always some guidelines exist and moreover, it is required to describe the effects of some alternatives. AA-parts of EA/AA combinations only need to consider the effects on Natura 2000 (and sometimes on nature in general) of the preferred alternative. However, when other alternatives are chosen later on in the procedures, AA-parts need to consider the effects of these alternatives as well (ANFQ, 2005).

Hence, flexibility is of major importance for AA-parts of EA/AA combinations in order to have an impact on DEA decision-making, because it allows them to fit in EAs *and* it allows them to adjust their

scope during the procedures. Both are of major importance for the impact of AA-parts on DEA decision-making. Therefore the importance of this factor for the impact of AA-parts on DEA decision-making scores two plusses (++). When AA-parts would have been less flexible, their impact on DEA decision-making in general would have been less, because late adjustments would not have been possible then.

Importance for the impact of EA-parts on NCA decision-making

Flexibility of EA-parts was expected to be of some, but not of major importance for their impact on NCA decision-making. In practice sometimes first an AA is made, then the NCA-decision is taken and finally the EA procedure is started which includes the already existing AA (Griep, 2009). This officially is not allowed and it can only be done due to the flexibility of both EA and AA procedures. However, this kind of flexibility diminishes the impact of EAs on NCA decision-making, since the NCA decision has already been taken before the EA has even been started.

On the other hand, in practice sometimes EA/AA combinations have been done already and afterwards a new and more specific AA report is made for NCA decision-makers. The reason why a new AA report is made in these cases is that normal nature parts of EISs often are entirely replaced by AA-parts. These AA-parts then need to focus on the effects of an activity (and sometimes several alternatives) on nature in general *and* on Natura 2000. This focus is much broader than the normal scope of AAs and their flexibility allows them to turn into 'general AAs' or 'risk assessments' (Bakker, 2009). The consideration of the effects on nature in general is not needed for NCA decision-making and makes AAs less suitable for NCA decision-making. For this reason often the AA-parts of EA/AA combinations are used to make a new, more specified AA report for NCA decision-making. That report then is used by the competent authority in the NCA decision-making procedure (Bakker, 2009). This situation declines the impact of EAs on NCA decision-making, since the decision-makers do not see EISs in such cases.

Overall, EA-parts are flexible enough to include AAs in their procedures, but sometimes are too flexible so that their impact on NCA decision-making diminishes extensively. On the other hand EAs sometimes are not flexible enough and require AAs to adjust to their requirements. The focus of AAs in such cases often gets too broad for NCA decision-making and therefore sometimes new AA reports, excluding the results of the EA-parts of EA/AA combinations, are made for NCA decision-making. Hence, the present level of flexibility of EA-parts of EA/AA combinations in practice scores one minus (-), since it is not sufficient in order to have an impact on NCA decision-making and in fact it is even negatively influencing this impact. When EA-parts would have been less flexible regarding procedures and more flexible regarding contents, their impact on NCA decision-making could increase.

6.4 Participation

In normal AA procedures no participation opportunities are given; only the final NCA decision is available for the public to give its views. Nevertheless, sometimes some professional organizations are asked to give their opinion. But still the general opinion in practice is that participation in AAs only would delay procedures. DEA decision-making however, has a framework for participation, which in practice also applies to AA-parts of EA/AA combinations.

Importance for the impact of AA-parts on DEA decision-making

Participation was expected to be of major importance for the impact of AA-parts on DEA decision-making. By including AA-parts in EISs, the public in practice is enabled to participate in AA procedures to some extent. However, the opportunities to give a critical view on the proposal or the AA research are limited. Hence, in the Dutch EA/AA practice not many views are given by the public on the aspects nature or Natura 2000. Where this did happen, in most cases the views were limited to one or two specific species. So, this was not really relevant for NCA decision-making (Bakker, 2009). This situation on the one hand can be explained by the lack of familiarity with the concept and goals of Natura 2000 on the part of the public. Therefore there is a lack of understanding why AAs (and EAs) are necessary in the first place and moreover the contents of AA-parts often are not understood by the public (Kunzman et al., 2007). On the other hand, participation does not have a major impact on decision-making in normal DEA

procedures either (even without the inclusion of an AA-part in the EIS). The public often only gets information and in most cases does not get the opportunity to give its' own view on proposals and researches (Ligtermoet and Partners, 2007). So, the current participation methods are not sufficient to enable a high level of participation in AA-parts and in the Dutch practice not much public support is created by the current participation methodologies.

So, participation on AA-parts of EA/AA combinations is not important for their impact on DEA decision-making and often even is negatively influencing that impact. Therefore, the current importance of participation for the impact of AA-parts on DEA decision-making in the Netherlands scores two times minus (-). This is significantly lower than was expected and therefore is one of the explanations why the impact of AA-parts on DEA decision-making turned out lower than expected. When participation would be more important, more public support for and understanding of the purpose of AAs/AA-parts as well as Natura 2000 in general, could be created. In this way the total impact of EA/AA combinations and especially the impact of their AA-parts could be increased.

Importance for the impact of EA-parts on NCA decision-making

Participation was expected to be of some, but not of major importance for the impact of EA-parts on NCA decision-making. However, considering the actual impact of EAs on NCA decision-making, participation seems not important in most cases in practice. In the majority of the cases participation leads to none or only minor changes in the DEA decision and thereby does not influence the NCA decision at all. However, in cases where participation causes major changes in the DEA decision, it can influence the impact of the EA-parts on NCA decision-making as well. Participation in EAs namely sometimes can provide new knowledge, which possibly can lead to the choice of another alternative. Since many AA-parts in practice only are considering the effects of the preferred alternative on Natura 2000 (it is legally required to consider at least the effects of the preferred alternative), choosing another alternative leads to new considerations in the AA-part and sometimes even to a new NCA decision-making proposal (Bakker, 2009; Broekmeyer, 2009). Then participation has been of major importance for the impact of the EA-part on NCA decision-making, but this does not occur often in practice.

Overall, the participation on EA-parts of EA/AA combinations in practice is of no importance for their impact on NCA decision-making. In a small number of cases it leads to such changes that the final NCA decision is influenced, however this hardly ever happens. Hence, the importance of participation for EA-parts to have an impact on NCA decision-making scores neutral (0) since it is not negatively influencing that impact either. This is lower than expected and is one of the explanations why EA-parts have no substantial impact on NCA decision-making. When the importance of this factor for the impact of EA-parts on NCA decision-making would be higher, more public support to and understanding of the final decision could be created.

6.5 Transparency

Normal AAs are not transparent at all; the documents cannot be accessed easily by the public. Only final NCA decisions, as well as the documents with the considerations which have led to the final NCA decisions are available. For the actual AA-reports one has to search extensively, especially since often no references are included in NCA decisions. Moreover, the information in the reports sometimes is rather complicated for lay-persons. EAs on the other hand are available for the public. This is necessary due to the participation possibilities which should be given. In addition always a readable summary should be included in EISs, which makes the information of these reports (even) understandable for lay-persons.

Importance for the impact of AA-parts on DEA decision-making

Transparency was expected to be of major importance for the impact of AA-parts on DEA decision-making. Due to the combination of AAs and EAs in practice AA-parts become available for the public, since these are included in EISs which are available. Of all 56 EA/AA cases in 2005-2008 all documents are available on the website and/or at the library of the NCEA. Moreover, the readable summaries which need to be included in EISs also include the information of the AA-parts in these EISs. Finally, also

advices of the NCEA are available, which enables the public to better understand the contents of the reports and to take on a 'control function' (Broekmeyer, 2009). So, AA-parts surely get more transparent due to the combination of EAs and AAs. The public in this way is enabled to get all information during the decision-making procedures and after final decisions have been taken. Nevertheless, since participation is even declining the impact of AA-parts on DEA decision-making in practice, the importance of transparency also is diminishes. This factor itself is not negatively influencing the impact of AA-parts on DEA decision-making, however due to the low score on participation, it is not positively influencing that impact either. Hence, a neutral score (0) is ascribed to it, which is lower than expected. When the AA-parts would be more transparent this would not lead to substantial differences in their total impact on DEA decision-making, but when these parts would have been less transparent, their total impact on DEA decision-making would not be affected either.

Importance for the impact of EA-parts on NCA decision-making

Transparency was expected to be of major importance for the impact of EA-parts on NCA decision-making. In practice NCA decision-making needs to include information on cumulative effects on Natura 2000. Hence, AAs for projects which possibly could have cumulative effects together with already existing projects, need the information of the AAs which already have been made for these projects. Only in the AA reports quantitative data are mentioned about (the effects of a project on) species and habitats, but the majority of these reports is not publicly available. In the NCA decisions which are available, in most cases these data are not mentioned, which makes these documents not suitable for the determination of cumulative effects together with later projects. The transparency of EISs of EA/AA combinations ensures that reports are (and remain) publicly available and therefore can be used in other AAs. In this way it gets a lot easier to determine cumulative effects in AAs later on (Broekmeyer, 2009). Hence, transparency of EISs is not directly important for their own impact on present day NCA decision-making, but it is of major importance for the impact of total EA/AA combinations on NCA decision-making procedures in the future. So, on average transparency of EISs is of some, but not of major importance for the impact of EA-parts and total EA/AA combinations on NCA decision-making. The importance of this factor for that impact therefore scores one plus (+). This is slightly lower than was expected and therefore can be one of the explanations why the impact of EA-parts on NCA decision-making in practice is slightly lower than was expected. Increasing the level of transparency however, is not likely to affect the total impact of EA-parts on NCA decision-making. But decreasing the level of transparency most likely would negatively influence that impact, because EISs then could not provide the information for future NCA decisions anymore.

6.6 Binding character

The binding character of the DEA and NCA is very different and the approach they use for their assessment differs. The NCA uses a 'No, unless'-approach for decision-making, while the DEA uses a 'Yes, provided that'-approach for decision-making. EAs are decision-making *supporting* instruments and from the results of EISs in practice sometimes is deviated while the results of AAs have a more binding character and actually set the framework for NCA decision-making. These differences make it very difficult to integrate AAs one-on-one in EISs (NovioConsult, 2003). Nevertheless, for EA/AA combinations both approaches apply which means that the 'No, unless'-approach of AAs also applies to EA-parts and the 'Yes, provided that'-approach also applies to AA-parts of the combinations.

Importance for the impact of AA-parts on DEA decision-making

The binding character of AA-parts was expected to be of major importance for their impact on DEA decision-making. In practice the 'No, unless'-approach implies that the conclusions of the majority of the AA-parts directly determine the outcomes of NCA decisions. Therefore the majority of the outcomes of AA-parts is that 'no significant negative effects on Natura 2000 will occur due to the activity', because only than the 'No, unless'-approach allows the final NCA decision to be positive. Only when significant negative effects cannot be excluded for sure, the more extensive 'unless'-part of the approach (e.g. the

ADC-phase) is needed to still get approval. As such the focus of AA-parts in practice is mainly on answering the question on the occurrence of significant negative effects on Natura 2000. This is a very narrow focus, while the DEA decision requires a much broader focus and much more abstract information (Soppe, 2005). As such the binding character of NCA legislation regarding the use of the results of AA-parts makes these results not suitable for DEA decision-making and diminishes the impact of these parts on DEA decision-making.

However, the obligation to do an AA for a plan in practice has an impact on DEA decision-making already by making it mandatory to do a SEA as well. According to article 7.2a of the DEA, SEAs namely are mandatory for plans for which an AA research is required (Bakker, 2009; Griep, 2009).

Overall, the current binding character of AA-parts is very strict, which influences their impact on DEA decision-making both positively as well as negatively. Hence, the net importance of this factor for the impact of AA-parts on DEA decision-making is neutral (0), which is lower than expected. When the binding character regarding the use of the results or AA-parts would be less, this could make the results more suitable for DEA decision-making (but less suitable for NCA decision-making instead) and increase the impact of AA-parts on DEA decision-making. On the other hand, decreasing the binding character regarding the use of EA/AA combinations would decrease the use of the combined instruments and thereby also the impact of AA-parts on DEA decision-making.

Importance for the impact of EA-parts on NCA decision-making

The binding character of EA-parts was expected to be of some, but not of major importance for their impact on NCA decision-making. The ‘Yes, provided that’-approach of DEA decision-making in practice implies that the focus of EA-parts is very broad and the information is more abstract than NCA decision-making requires. So, due to the ‘Yes, provided that’-approach the results of EA-parts are not sufficient for NCA decision-making and thereby the impact of EA-parts on NCA decision-making declines. So, the binding character is of no importance for and even is declining the impact of EA-parts on NCA decision-making.

However, the obligation to combine AAs and SEAs when AAs are needed for plans, ensures that EA/AA combinations are used in the Netherlands in practice and thereby enables EA-parts to have an impact on NCA decision-making. So, the binding character than is of importance for the EA-parts to have an impact on NCA decision-making.

So, overall the binding character of the regime regarding the use of the results of the EA-parts is negatively influencing the impact of these parts on NCA decision-making. But the binding character of the regime regarding the obligation to combine EAs and AAs ensures the use of these combinations in the first place. Hence, the overall importance of the binding character for the impact of EA- parts on NCA decision-making is rather neutral (0). This is lower than was expected, so this can be one of the explanations for the lower impact of EA-parts on NCA decision-making than was expected. When the binding character regarding the use of the results or EA-parts would be less, this could make the results more suitable for NCA decision-making (but less suitable for DEA decision-making instead) and increase the impact of EA-parts on NCA decision-making. On the other hand, decreasing the binding character regarding the use of EA/AA combinations would decrease the use of the combined instruments and thereby also the impact of EA-parts on NCA decision-making.

6.7 Quality

The quality of EA/AAs is checked by the NCEA. Moreover, the quality of AA-parts also is checked by competent authorities for NCA decision-making. Hence, the quality of EA/AAs is checked extensively.

Importance for the impact of AA-parts on DEA decision-making

The quality of AA-parts is checked by the NCEA and decision-makers, while normally only the latter group checks the quality of AAs (NCEA, 2009a; ANFQ, 2005). This was expected to make quality of major importance for the impact of these parts on DEA decision-making.

In practice the percentage of additions asked by the NCEA on AA-parts of EA/AA combinations is much higher than the percentages of additions asked on nature in normal EAs. Moreover, the number of asked additions on AA-parts has increased each year during the last four years (both absolute and relative to the total number of EA/AAs, which is increasing as well). The multiannual average shows that approximately 78% of all additions in EA/AA cases have been asked specifically on the AA-parts of these combinations (and in 2007 this percentage was even 92%)! Hence, when an addition is asked on an EIS in an EA/AA case, in the vast majority of the cases this is because of insufficient information on nature or Natura 2000 (for a clear overview see the table and graph in appendix 6). According to experts in the EA/AA field the percentages of additions asked on AA-parts of EISs is relatively high because these projects and plans are relatively complex. Not only the procedures are more complicated, but also the requirements on the contents of the reports are not clear. Moreover, in general in EAs initiators do not need to research all aspects on which 'gaps in knowledge' exist. However, since to AAs the precautionary principle applies as a matter of law, gaps in knowledge need to be researched extensively in EA/AA combinations (Soppe, 2005). The legislation regarding the results of AA-parts therefore is more strict than for normal nature parts of EISs (Broekmeyer, 2009), which can explain the relatively high number of additions on these parts.

That the number of required additions on AA-parts is high in practice in the first place suggests that the quality of these parts is not sufficient. Secondly, it shows that a very large number of bad quality assessments is filtered out by the NCEA and that only good quality AA-parts can have an impact on DEA decision-making. Quality therefore is of major importance for the impact of AA-parts on decision-making and scores two plusses (++) as expected. When the importance of quality would have been less, more bad quality AA-parts would be used for DEA decision-making. This would decrease the value of these parts and their impact on DEA decision-making.

Importance for the impact of EA-parts on NCA decision-making

The quality of EA-parts was expected to be of major importance for their impact on NCA decision-making. Because the NCEA was expected to filter out all bad quality assessments, which therefore could not have an impact on NCA decision-making.

The demands on the information in principle are the same for both EAs and AAs. Both require the most current information that is available. So, no outdated information is permitted because this can lead to wrong conclusions. However, in practice for NCA decision-making the most current information sometimes is not sufficient and new research is needed (ANFQ, 2005). Therefore the demands on the quality of the information are stricter for EA-parts of EA/AA combinations than for individual EAs (Bakker, 2009; Broekmeyer, 2009). This situation is reflected in practice. The overall quality of EA/AA cases in practice namely is better than the overall quality of EAs; in EA/AA cases the percentage of additions asked is lower than in EA cases in general. However, the percentage of additions asked by the NCEA on AA-parts of EA/AA combinations is much higher than the percentages of additions asked by the NCEA on nature in normal EAs (for a clear overview see the table and graph in appendix 6). Therefore, the relative number of additions asked specifically on EA-parts of EA/AA combinations is *less* than on normal EAs. This suggests that the overall quality of EA-parts of EA/AA combinations is better than the quality of normal EAs.

Hence, good quality of EA-parts of EA/AA combinations in practice is of major importance for the impact of these parts on NCA decision-making and therefore scores two times plus (++), as expected. Currently the quality of EA-parts is relatively good, which is contributing to the general impact of these parts on NCA decision-making. Moreover, the bad quality assessments which do exist are filtered out by the NCEA. When the importance of quality would have been less, more bad quality EA-parts could be used for decision-making, which would decrease the value of these parts and their impact on NCA decision-making.

6.8 Openness

In practice decision-makers in general do stand open for the use of EA/AA combinations, however this does not apply for all cases (Broekmeyer, 2009). Often decision-makers are unfamiliar with the use of EA/AA combinations, which decreases their openness to the use of the instruments. But, on the other hand there are indications of decision-makers which help initiators to avoid AAs (and thereby sometimes the corresponding SEAs) in order to save time and money. They do so by steering the conclusions of the preliminary orientational phase towards a conclusion that 'significant negative effects will not occur' (Broekmeyer et al., 2008^a). Also Mr. Griep made some statements which supported the former observation. He stated that when an AA could be avoided, he would always stimulate initiators to do so, especially when also an EA would be needed when the AA would be done (Griep, 2009). This is a very clear indication that decision-makers do not stand open for the use of EA/AA combinations.

Importance for the impact of AA-parts on DEA decision-making

The openness of decision-makers to the use of AA-parts was expected to be of some, but not of major importance for their impact on DEA decision-making. Since the binding character regarding the use of the results of these parts was expected to guarantee their impact on decision-making AA-parts did not need to depend extensively on the openness of decision-makers in order to have an impact.

However, in practice sometimes decision-makers help initiators to avoid AAs and thereby in some cases also the corresponding EAs. This shows that the openness of decision-makers to the use of EA/AA combinations for decision-making is not high (Broekmeyer et al., 2008^a). As a consequence also their openness to use AA-parts for DEA decision-making is not high. Especially since the binding character of the AA-parts in practice turned out to be not important for the impact of AA-parts on DEA decision-making, the low level of openness towards the use of AA-parts for DEA decision-making is decreasing the impact of these parts on DEA decision-making extensively and scores two times minus (--) on its importance in practice. When the openness of decision-makers towards the use of AA-parts for DEA decision-making would have been better, this would have increased the total impact of these parts extensively. Hence, a high level of openness of decision-makers to the use of AA-parts for DEA decision-making in fact is of major importance for the impact of these parts on DEA decision-making.

Importance for the impact of EA-parts on NCA decision-making

The openness of decision-makers to the use of EA-parts was expected to be of major importance for their impact on NCA decision-making. The binding character of the EA-parts namely is not that strict that it ensures the inclusion of its results in decision-making.

The avoidance of AAs and thereby in some cases the corresponding EAs, also suggests a low level of openness to the use of EA-parts for NCA decision-making. Especially since there are indications that AAs in practice are avoided *in order to avoid the corresponding EAs* (Broekmeyer et al., 2008^a). Moreover, in practice sometimes AA-parts of EA/AA combinations are not used for NCA decision-making. Instead, new and more specified AAs are made for the NCA decision-making while the AA-parts of combinations only are used as a basis for these new AAs. Then the final NCA decision solely is based on the new AA and the EA-parts of the original EA/AA combination cannot have any impact on NCA decision-making anymore. Hence, NCA decision-makers do not stand open for the use of EA/AA combinations and especially not for the use of EA-parts of these combinations.

So, the binding character of EA-parts turned out to be of no real importance for the impact of these parts on NCA decision-making. Therefore the importance for the impact of the openness of decision-makers to the use of EA-parts for NCA decision-making did increase. However, since the current level of openness is very low, this factor in practice is declining the overall impact of EA-parts on NCA decision-making and scores even two times minus (--) on its importance for that impact. When the openness of decision-makers towards the use of EA-parts for NCA decision-making would have been better, this would have increased the impact of these parts extensively.

Overall can be stated that the low importance of the binding character in combination with the low importance of openness of decision-makers to the use of the combined instruments, have decreased the impact EA/AA combinations on decision-making extensively.

6.9 Case study EIA/AA: Waste to Energy Plant Delfzijl

In this section a specific EIA/AA case will be studied into more detail. The results presented in the former sections will be illustrated empirically by this case study. It is recognized that the EA-part has an impact on DEA decision-making and the AA-part has an impact on NCA decision-making. These impacts will be mentioned shortly, but in order to be congruent with the previous parts of this chapter, they will not be analyzed according to the impact influencing factors. Hence, the focus will be on explaining the impact of the EA-part on NCA decision-making and the impact of the AA-part on DEA decision-making, since this was the focus in this chapter. The EIA/AA case concerned is: the Waste to Energy Plant project in Delfzijl.

6.9.1 Introduction

In 2006 the German company BKB Aktiengesellschaft (BKB) took on the plan to develop a 'Waste to Energy (WtE)-Plant' at the industrial area Oosterhorn in the municipality of Delfzijl. This WtE-Plant consists of a combined waste incineration plant, coupled with an electricity and heat (steam) producing plant. Both waste of households and industrial waste will be processed in the plant, which will increase the overall waste processing capacity in the Netherlands. In addition the WtE-plant will deliver electricity and steam to other companies at industrial area Oosterhorn (Swinkels, 2006^b).

The capacity of the waste incineration plant would be approximately 200.000 to 300.000 tons of waste each year. The maximal mechanical capacity of the plant would be about 1.104 tons each day, which made it mandatory to do an EIA for the project (Swinkels, 2006^b). In addition, the project was situated nearby a Natura 2000 site: the Waddensea area. Therefore also an AA was needed, which was combined with the EIA.

6.9.2 Impact EIA/AA on decision-making

In this part the impact of both the EIA-part and the AA-part of the EIA/AA combination, on NCA as well as DEA decision-making will be described.

Impact on DEA decision-making

The results of the EA-part are recognizable in the final decision. Many calculations and measures are mentioned in the considerations of the decision-makers to come to their final decision. A very large number of them also has been translated into actual requirements (Province of Groningen, 2007). Hence, the impact of the EA-part on the DEA decision has been 'high'. This is slightly higher than the general impact of EAs in the Netherlands, because EAs in general score somewhere between 'medium and high'.

In addition, also the results of the AA-part are recognizable in the final DEA decision. In the AA-part some measures were suggested in order to avoid significant effects on Natura 2000, which all had been taken over in the final DEA decision. Since the DEA decision-makers recognized the importance of protecting Natura 2000 sufficiently, even some extra strict measures have been included in their final decision (Province of Groningen, 2007). So, the impact of the AA-part has been relatively high in this EIA/AA case.

Impact on NCA decision-making

The AA-part of the EIA/AA combination has had a major impact on the final NCA decision, which is similar to the general situation in the Netherlands. The final decision includes a very large number of requirements and measures which are a direct result of the results of the AA research (ANFQ, 2007a).

However, the EIA-part did not influence the final NCA decision at all. In the NCA license only one time was referred to the DEA license (e.g. not to the EA-part itself). It was stated that in the field of acidification the DEA license already had ensured that the effects on Natura 2000 would not be significant,

but still a monitoring requirement was included in the NCA license itself. Hence, the EA-part did not have any impact on NCA decision-making, which is rather similar to the general situation in the Netherlands.

6.9.3 Factors influencing the impact of the EIA/AA on decision-making

In this part the focus will solely be on explaining the impact of the EIA-part on NCA decision-making and explaining the impact of the AA-part on DEA decision-making.

Flexibility

The AA-part was put into the appendix of the EIS. Hence, it was not important for the AA-part to be flexible enough to actually fit in the EIS and a neutral score was given to it (0). Being more or less flexible would not have had a substantial influence on the overall impact of this part on DEA decision-making.

The flexibility of the EA-part to include the AA-part in the EIS has been rather low. The AA-part was put in the appendix and in the EIS itself is not referred much to the AA-part (Swinkels, 2006^b). As such, the AA-part in fact was a document on itself, which decreased the impact of the EA-part on NCA decision-making extensively. Hence, the importance of this factor for the EA-part in order to have an impact on NCA decision-making scores two times minus (--).

Stakeholder participation

Since the AA was part of the EIS, the opportunity was given to the public as well as stakeholders to give their view on the AA-part. For the considerations regarding the DEA decision, only a small number of views was given about the AA-part. These views did hardly influence the DEA decision; most of them were related to increasing water temperatures or water contaminations. In the DEA decision therefore very often was referred to the Dutch Water Contamination Act license, since these issues were handled in that license. Hence, the views on the AA-part did not have an impact on the final DEA decision and mainly were about irrelevant information for this decision. Therefore, stakeholder participation scores one minus (-) for its importance for the impact of the AA-part on DEA decision-making.

In the NCA license the views on the AA-part were mentioned and handled explicitly. Several views even did lead directly to the inclusion of some requirements in this license. However, these views were considering other issues than the views given for the DEA-decision. Therefore it is questionable whether the participation possibility provided by the EA-part did influence the participation rate on the AA-part, or that participation on the AA-part would have occurred anyway. However, it is very unlikely that participation on the EA-part has had a negative impact on NCA decision-making. So, the importance of stakeholder participation for the impact of the EA-part on NCA decision-making is set neutral (0).

Transparency

All documents were available for public consultation, however the AA-part was not recognizable very easy in the EIS. Instead in the EIS (which in this case in fact is the EA-part) almost never is referred explicitly to the AA-part and the AA-part itself was only an appendix to the EA-part of the EIS. The information in both parts was readable and understandable, although some specific technical calculations were included (especially in the considerations of (mitigating) measures). So, this has decreased transparency slightly. However, a summary of the EIS also was available, which has increased transparency of the EA-part. Since the results of the AA-part were only included very shortly in the summary and the AA-part itself was not mentioned specifically (e.g. it was only called 'ecology'-part and not 'AA'), the summary did not increase transparency of this part (Swinkels, 2006^b).

Overall, transparency has been of no importance for the AA-part to have an impact on DEA decision-making in this case. The AA-part in the EIS is hardly recognizable as 'AA' and moreover, its results are not included sufficiently in the summary of the EIS. In addition, stakeholder participation was even decreasing the impact of the AA-part on DEA decision-making. So, transparency influences the impact of the AA-part negatively in this case and therefore the importance of this factor for that impact is valued two times minus (--).

Since the importance of participation for the impact of the EA-part on NCA decisions-making was not clear. The actual importance of transparency for that impact is not entirely clear either, but also for

this factor it is very unlikely that it has influenced the impact of the EA-part on NCA decision-making negatively. Therefore, a neutral score (0) is ascribed to it.

Binding-character

The results of the EA-part of the EIS are not recognizable in the final NCA decision. Due to the binding character of the EIA-regime, it was obligatory for the initiators to consider at least the preferred alternative and the environmental preferable alternative. However, in the NCA decision nothing is mentioned about the considered alternatives. From the NCA decision-making point of view, the description of alternatives in the EIS has only delayed its procedures and has provided more useless (and blurring) information. Therefore, in this case, the importance of the binding character of the EIA-part has been of no importance for its impact on NCA decision-making. It even has declined that impact slightly and therefore scores one minus (-) which is slightly lower than in general. This is one of the explanations of the low impact of the EIA-part on NCA decision-making.

In the final DEA decision is explicitly stated that the results of the AA-part showed that no significant effects on Natura 2000 were expected. As such, all measures proposed in the AA-part were taken over in order to really avoid significant effects on Natura 2000. However, in the DEA decision also is stated that extra strict requirements would be included when the results of the AA-part would show that these were required (Province of Groningen, 2007: 29). Such extra strict requirements have been included, for instance regarding the emission of hydrogen fluoride (Province of Groningen, 2007: 18). Hence, the binding character regarding the use of the results of the AA-part has been of major importance for the impact of this part on DEA decision-making and scores two plusses (++). This is much higher than the situation in practice and therefore is one of the explanations of the relatively high impact of the AA-part on DEA decision-making in this case.

Quality

According to the first quality review of the NCEA, not enough information was available about the environmentally preferable alternative and about the effects on Natura 2000. The environmentally preferable alternative was an essential element of the EA-part of the EIS, while the effects on Natura 2000 were the main issue in the AA-part of the EIS. Hence, the quality of both parts at first was insufficient and additional information was needed. After the additional information was provided, the quality of both parts was sufficient according to the NCEA and the EIS could be used for decision-making (NCEA, 2006^c). Hence, quality has been of major importance (++) for both parts of the EIS to have an impact on NCA- as well as DEA decision-making, since the 'bad quality' EIS at first was rejected by the NCEA and could not have an impact at all. This is similar to the general situation in the Netherlands and illustrates the results of section 6.7.

Openness of decision-makers

The openness of the decision-makers to the use of the EA-part for NCA decision-making has been very low. In the final NCA decision the EIS has not been mentioned at all and only the EA-evaluation has been included in the requirements (ANFQ, 2007^b). As such the openness of the NCA decision-makers to the use of the EA-part has contributed very negatively to the total impact of this part on NCA decision-making and scores two times minus (--) on its importance.

The DEA decision-makers on the other hand have been open for the use of the AA-part of the EIS for their final decision. The results of this part have been included extensively in the final DEA decision and the decision-makers have not stimulated the initiators to avoid an AA at all. Even stricter regulations than were needed according to the AA-part were included (Province of Groningen, 2007). Hence, the openness of the decision-makers to use the results of the AA-part for DEA decision-making has been of major importance (++) for the total impact of this part on the final DEA decision. This is far higher than the general situation in the Netherlands and therefore is one of the explanations of the relatively high impact of the AA-part on DEA decision-making in this case.

6.9.4 Conclusion

The impact of the EA-part on NCA decision-making has been very low in this EIA/AA case. This is similar to the general situation in the Netherlands. Especially the flexibility of the instrument and the openness of the decision-makers to use the results of the EA-part for NCA decision-making have influenced the impact of the EA-part on NCA decision-making extensively. In addition, the importance of the binding character in this case was lower than in the general EA/AA situation in the Netherlands, which also contributed to the low impact of the EA-part on NCA decision-making.

On the other hand the impact of the AA-part on DEA decision-making has been relatively high in this EIA/AA case. The main contributing factors to this were the binding character of the instrument and the openness of the decision-makers to the use of the results of the AA-part for DEA decision-making. The importance of these two impact influencing factors was much higher in this EIA/AA case than for EA/AAs in general. Also the quality of the assessment have been of major importance for the high impact of the AA-part on DEA decision-making, but this is similar to the general EA/AA situation in practice.

6.10 Case study SEA/AA: Camping-Marina 'Uitdam'

In this section a specific SEA/AA case will be studied into more detail. The results presented in the former sections will be illustrated empirically by this case study. In the SEA/AA case concerned the environmental effects of the expansion of the Camping-Marina 'Uitdam' are assessed in order to provide information for the new local zoning plan. It is recognized that the final DEA decision (the final zoning plan) has not been taken yet and that the final NCA decision in fact is that no official NCA decision needs to be taken. This means that this case may seem unusual to research, however some technical secretaries at the NCEA have recommended it for my research, because it is considered to be a very interesting case which shows the combination of an SEA and AA in a rather extreme form.

It is recognized that the SEA-part has an impact on DEA decision-making and the AA-part has an impact on NCA decision-making. These impacts will be mentioned shortly, but in order to be congruent with the previous parts of this chapter, they will not be analyzed according to the impact influencing factors. Hence, the focus will be on explaining the impact of the EA-part on NCA decision-making and the impact of the AA-part on DEA decision-making, since this was the focus in this chapter.

6.10.1 Introduction

Already since 1978, the Camping-Marina 'Uitdam' is located north of the village Uitdam in the Municipality of Waterland, nearby the Markermeer and IJsselmeer. The Marina has about 300 dock-places for boats and the camping has 325 permanent places as well as 200 tourist places. Moreover many facilities, which are open all year long, are available on the camping and marina. In 2003 already an expansion with 250 dock-places in the marina (to 550 dock-places) was proposed. Moreover, the entire marina would be redesigned and existing contaminations in the soil and



Figure 7: Preferred expansion of Camping-Marina Uitdam (green line) and the boarder of the Natura 2000 area (the area is on the right side of the red line) (Oranjewoud, 2008^b).

Moreover many facilities, which are open all year long, are available on the camping and marina. In 2003 already an expansion with 250 dock-places in the marina (to 550 dock-places) was proposed. Moreover, the entire marina would be redesigned and existing contaminations in the soil and

dykes would be rehabilitated. All permanent caravans on the camping would be replaced by permanent recreational houses which would either be build on land or would be floating on the water. The number of tourist places would be kept the same, but would be moved to the area south of the marina.

For the expansion of Camping-Marina Uitdam a new zoning plan was needed. Since the marina in the new situation would have a size of over 100 dock-places a SEA was needed for the plan as well. Moreover, since the project would be situated nearby the Markermeer as well as IJsselmeer area, which both are Natura 2000 sites, NCA legislation did apply to the project and zoning plan. First an orientational phase was done, which concluded that some negative effects on Natura 2000 could occur, but these would surely not be significant (Oranjewoud, 2006). Therefore a test of quality deterioration and disturbance of species was performed, which roughly concluded the same (Oranjewoud, 2008^d). Nevertheless, the NCEA and the competent authority finally concluded otherwise and did decide to ask for an AA as well. This assessment concluded again that significant negative effects on Natura 2000 were 'unlikely to occur' and (on other species) 'could be excluded for sure' (Oranjewoud, 2008^c). Eventually the NCA decision-making procedures ended with the conclusion that no license was needed anymore when the construction activities would be done in specified periods; so no official documentation is available about this 'NCA decision'. However the SEA/AA combination did have an impact on this 'decision'. The final DEA decision still was not taken on February 21st, 2010. Therefore, the impact of the AA and SEA on decision-making will be described according to the latest draft zoning plan and the developments until now.

6.10.2 Impact SEA/AA on decision-making

Impact on NCA decision-making

The results of the AA-part eventually were so positive that no official (documented) NCA decision was needed anymore, this 'decision' is considered the final NCA decision in this research. The impact of the AA-part on this decision has been high, since it is based directly on the results of the AA-part of the EIS. Since still some species could be affected due to activities in the area, a FFA decision was needed. The results of the AA-part were recognizable in this decision, and several mitigating measures which had been suggested in the AA-part were taken over in the final FFA decision (ANFQ, 2009). However, since this research is focusing on NCA decision-making, the impact of the AA-part on FFA decision-making is not relevant to research into more detail.

The SEA-part of the SEA/AA combination however, did only have a minor impact on the final NCA decision. The final NCA decision namely was only based on the results of the AA-part and no additional requirements based on the SEA-part could be included. However, the AA-part was made in the first place because the quality of the EIS would be insufficient without the inclusion of an AA-part in it. So, the SEA framework did have some impact on the final NCA decision. This is similar to the general situation in the Netherlands; even when an official NCA decision is taken and for instance a NCA license is granted, EAs do hardly have an impact on that decision.

Impact on DEA decision-making

In the latest draft zoning-plan the results of the AA-part were recognizable into much detail. For instance the size of a small polder site in an earlier draft zoning-plan was set bigger than was considered in the AA research (20 meters wide instead of 3 meters). Based on the information of the AA-part, the size of the polder needed to be declined in the next draft version of the zoning-plan. So, the impact of the AA-part also was high on this decision-making procedure. However, it has delayed the procedures extensively as well. Since first an orientational phase was done, which concluded that some (not significant) negative effects on Natura 2000 could occur (Oranjewoud, 2006). Then a test of quality deterioration and disturbance of species was done, which roughly concluded the same (Oranjewoud, 2008^d). And only then the actual AA was done. So, every opportunity was taken to avoid an AA, but eventually it still needed to be done. So, overall the impact of the AA-part on DEA decision-making was 'medium', since the contents of the AA-part did have an impact on the latest draft zoning-plan, however this part also did delay the planning procedures extensively. This impact is rather similar (slightly higher) to the general situation in the Netherlands.

The impact of the SEA-part on DEA decision-making was high. The results of the EIS, as well as several measures are recognizable in the latest draft zoning-plan (Oranjewoud, 2009). This impact is higher than the general situation in the Netherlands.

6.10.3 Factors influencing the impact of the SEA/AA on decision-making

In this part the focus will solely be on explaining the impact of the SEA-part on NCA decision-making and on explaining the impact of the AA-part on DEA decision-making.

Flexibility

Both the NCA as well as DEA procedures allowed the initiators to use several assessments of the 'habitat check'. First an orientational phase was done (Oranjewoud, 2006), then a test of quality deterioration and disturbance of species was done (Oranjewoud, 2008^d) and finally an AA was done (Oranjewoud, 2008^c). So flexibility has been of major importance for both the SEA as well as AA-part to combine the two instruments and have an impact on both NCA and DEA decision-making.

Its flexibility did enable the SEA-part to have a minor impact on NCA decision-making, because it allowed the initiators to go through all possible stages of the habitat check. Eventually an AA was needed, which had a high impact on the final NCA decision. Without the flexibility of the SEA, probably no AA-part would have been included in the EIS in the first place. So, indirectly the flexibility of the SEA has been of some importance for the impact of the AA-part on NCA decision-making and therefore scores one plus (+).

The flexibility of the AA-part on the other hand has negatively influenced its impact on DEA decision-making extensively. The AA framework has allowed the EIS to include an orientational phase, a test of quality deterioration and disturbance of species and finally an AA-part. Hence, the legislation regarding the use of an AA apparently has been so flexible that it has allowed the exclusion of such an assessment for a long time during the actual decision-making procedures. When eventually was requested for an AA, the DEA procedures had been delayed extensively already. Hence, the flexibility of the AA-part has been of negative importance for its impact on DEA decision-making and scores two times minus (-) in this case.

Stakeholder participation

This factor has been of no importance for the impact of the EA-part on the final NCA decision, since this decision was only based on the considerations in the AA-part. Hence, a neutral score is given to it (0).

Stakeholder participation has been of major importance for the impact of the AA-part on DEA decision-making. Several views have been given on the results of the AA-part of the EIS and moreover, a large number of the views on the several draft zoning plans has been on the effects on Natura 2000 and the results of the AA-part of the EIS as well. Some of these views are not handled extensively by the decision-makers and are not recognizable in the latest draft zoning-plan. However some other views related to the AA-part or to Natura 2000 are recognizable in the latest draft zoning-plan. These views are one of the reasons why the DEA procedures have been delayed extensively and thereby also have some negative impact on DEA decision-making. Therefore, participation has only been of some (not major) importance for the impact of the AA-part on DEA decision-making and scores one plus (+).

Transparency

Transparency of the EA-part has increased the transparency of the AA-part of the EIS. For the DEA decision-making procedures a special part on the website of the municipality of Waterland has been created. The AA-part of the EIS is also available for the public through this website. However, since the final NCA decision was solely based on the results of the AA, the transparency of the EA-part itself has not been of any importance for its impact on the final NCA decision and scores neutral (0).

The level of transparency of the AA-part in this case is considered 'high'. In the first place, the AA-part did contain very few complex models, calculations etc. and was written in clear and understandable language. Secondly, through its 'inclusion' in the EIS (not physically: it were two separated

documents) the AA-part has been available on the special part on the website of the municipality of Waterland. This has contributed extensively to the impact of the AA-part on DEA decision-making, since stakeholder participation has been of some importance for the impact of the AA-part on DEA decision-making. Therefore a high level of transparency of the AA-part was required, because otherwise participation would not have been possible. Hence, transparency has been of major importance for the impact of the AA-part on DEA decision-making and scores two plusses (++).

Binding-character

The fact that it was not mandatory to use of the results of the EA-part of EA/AA combinations for NCA decision-making has negatively influenced the impact of the EA-part on the final NCA decision. When the binding character regarding the use of the results of the EA-part for NCA decision-making would have been very strict, the impact of the EA-part on this decision-making procedure would have been much higher. Hence, the importance of the binding character of the EA-part for its impact on NCA decision-making in this case scores to times minus (--). This is much lower than the general situation in the Netherlands and therefore is one of the explanations of the relatively low impact of the EA-part on NCA decision-making in this case.

The binding character of the AA-regime regarding the use of the instrument has ensured the use of an AA in this case in the first place. In addition, the results of the AA-part did show that significant negative effects on Natura 2000 would not occur when the construction activities would be limited to some specified periods during the year (outside the breeding season of birds and before the 'winter rest period' of animals, etc) (Oranjewoud, 2008^e). This mitigating measure (and also others) has directly been taken over in the draft zoning-plan in order to avoid significant negative effects on Natura 2000 (Oranjewoud, 2009). Therefore the importance of the binding character regarding the use of the results of the AA-part for its impact on DEA decision-making was substantial. However, the use of the AA in this case has delayed the DEA procedures extensively and thereby also has had negative implications for the impact of the AA-part on DEA decision-making. Hence, overall the binding character of the AA-part has been of some (but not of major) importance for its impact on DEA-decision making and scores one plus (+). This is slightly better than the general situation in the Netherlands.

Quality

The quality of the EA-part has not been of importance for the recognition of its own results in the final NCA decision. However, since the quality of the total EIS was considered insufficient more than once by the NCEA (NCEA, 2006^d) and eventually an AA-part needed to be included in the EIS, the quality of the EA-part has been of importance for the impact of the AA-part on NCA decision-making indirectly. It is not clear whether an AA would even have been done when the quality of the EIS (solely the EA-part, since no AA-part was included then) would not have been checked by the NCEA. So, overall the quality of the EA-part has been of some importance for its impact on NCA decision-making and scores one plus (+).

The quality of the AA-part has influenced the DEA decision-making procedures very negatively. At first an orientational phase was made, which did not provide sufficient information. However, based on that information, a test of quality deterioration and disturbance of species was done. The NCEA did conclude that significant negative effects on Natura 2000 could not be excluded for sure based on the information of the orientational phase. Therefore an AA was needed, but only a test of quality deterioration and disturbance of species was available. The NCEA has checked that assessment as if it was an AA, but obviously it did not meet the requirements of an AA (since it is a totally different assessment). Hence, the quality of the AA-part of the EIS in this stage was very bad. Finally, a real AA was made after the NCEA had asked for additional information several times. The NCEA did make a quality check again and concluded that the information about the environmentally preferable alternative still was insufficient. However, the NCEA accepted the conclusions that significant negative effects on Natura 2000 would not occur (NCEA, 2006^d). Hence, the quality of the AA-part has been of some importance for its impact on DEA decision-making, but mainly has negatively influenced the DEA decision-making process. Therefore it scores one minus (-), which is much lower than the general situation in the Netherlands.

Openness of decision-makers

The openness of the NCA decision-makers to use the EA-part of the EIS for their decision has been very low. The final NCA decision, solely is based on the results of the AA-part of the EIS. When these decision-makers would have stand open for the use of the EA-part for their decision, this part possibly could have some impact on the final NCA decision. Hence, the importance of the openness of the decision-makers for the impact of the EA-part on NCA decision-making in this case has been set on one minus (-).

The openness of the DEA decision-makers to the use of an AA-part for their decision has been very high. This is shown by the fact that they required an AA-part to be added to the EIS, despite the fact that the results of the orientational phase suggested that no AA was needed. Moreover, some results of the AA-part were recognizable in the latest draft zoning-plan. Hence, the openness of the decision-makers to use an AA for DEA decision-making has ensured the impact of the AA-part on the DEA decision to a very large extent in this case. So, this factor has been of major importance for the impact of the AA-part on the final DEA decision and scores two plusses (++), which is much higher than the general situation in the Netherlands. When the openness of the decision-makers on this issue would have been less, the AA-part would have had a much lower impact on the latest draft zoning-plan in this case.

6.10.4 Conclusion

Overall the impact of the AA-part on DEA decision-making was ‘medium’, since the contents of the AA-part did have an impact on the latest draft zoning-plan, however this part also did delay the planning procedures extensively. This impact is rather similar to the general situation in the Netherlands. The main factor which has contributed to this impact has been the openness of the DEA decision-makers to the use of the AA-part. Without this openness, the impact of the AA-part on the latest draft zoning plan would have been far less.

The SEA-part of the SEA/AA combination did only have a minor impact on the final NCA decision. Also this situation is rather similar to the general situation in the Netherlands, however this seems not to be caused by SEA-part itself, but instead by the very strict binding character of the NCA regarding the use of AAs(-parts). This gives no room for the SEA-part to have a substantial impact on NCA decision-making.

6.11 Synthesis

In practice AA-parts of EA/AA combinations do have an impact on DEA decision-making; in most cases some parts of the AA results are recognizable in DEA decisions. However, AA-parts do not lead to negative DEA decisions. Hence, the total impact of these AA-parts on DEA decision-making in practice in the Netherlands is somewhere between ‘low’ and ‘medium’, which is slightly lower than was expected.

EA-parts of EA/AA combinations on the other hand hardly have an impact on NCA decision-making and are not of substantial added value for these decision-making procedures themselves. However, EA-parts can be of added value for potential ADC-phases, which in turn are done rarely. Nevertheless, the total impact of EA-parts of EA/AA combinations on NCA decision-making in practice in the Netherlands is ‘very low’, which is even lower than was expected.

This can be explained by: (1) comparing the importance of each factor for the impact of EAs on NCA decision-making in practice, with the expected importance of each factor for that impact, and (2) comparing the importance of each factor for the impact of AAs on DEA decision-making in practice, with the expected importance of each factor for that impact. In table 15 a schematic overview of these scores is shown.

AA-part on decision subject to EA (DEA)				
Factor	Expected importance	Practical importance in general	Practical importance in EIA/AA-case	Practical importance in SEA/AA-case
Flexibility	++	++	0	--
Stakeholder participation	++	--	-	+
Transparency	++	0	--	++
Binding Character	++	0	++	+
Quality	++	++	++	-
Openness of decision-makers	+	--	++	++
EA-part on decision subject to AA (NCA)				
Factor	Expected importance	Practical importance in general	Practical importance in EIA/AA-case	Practical importance in SEA/AA-case
Flexibility	+	-	--	+
Stakeholder participation	+	0	0	0
Transparency	++	+	0	0
Binding Character	+	0	-	--
Quality	++	++	++	+
Openness of decision-makers	++	--	--	-

Table 15: Explaining the impact of EA-parts on NCA decision-making and the impact of AA-parts on DEA decision-making in general in the Netherlands.

The impact of AA-parts on DEA decision-making explained

According to the scores in table 15 the actual impact of AA-parts on DEA decision-making can be explained. The higher the importance of a factor for the impact in practice, the more it contributes to the overall impact, which is somewhere between 'low' and 'medium'.

The current level of flexibility and quality of AA-parts is positively influencing their impact on DEA decision-making. The AA-parts of EA/AA combinations namely are very flexible in practice. Sometimes other alternatives than the original proposed one are chosen for final DEA decisions due to considerations in the EA-parts of the researches. While AA-parts of EA/AA combinations normally would only have to consider the effects of the originally preferred alternative, the choice for another alternative requires the AA-part to consider that alternative as well. The flexibility of AAs allows them to adjust their scope during the procedures, so that they still can have an impact on DEA decision-making.

Bad quality AA-parts cannot have an impact on DEA decision-making in practice, since these assessments are checked twice: by the NCEA as well as competent authorities. Hence, only good quality assessments pass both quality checks and otherwise bad quality assessments are adjusted in order to become of good quality.

The binding character of AA-parts of EA/AA combinations in practice is of no importance for their impact on NCA decision-making. It is even diminishing that impact slightly. However, on the other hand, the binding character of the regime regarding the obligation to combine EAs and AAs, ensures the use of these combinations in the first place. Hence, the binding character of the regime regarding EA/AA combinations overall has no substantial influence on the impact of AA-parts on DEA decision-making.

Finally, the current level of participation and the openness of decision-makers to use EA/AA combinations for decision-making are diminishing the impact of AA-parts on DEA decision-making extensively. Participation on the AA-parts is made possible through their inclusion in EA/AA combinations. However it hardly is been used and when it is used, in most cases it does not have a substantial impact on DEA decision-making. In addition, there are several indications that decision-makers do not stand open for the use of AA-parts of EA/AA combinations for decision-making, they for instance stimulate initiators to avoid AAs (and consequently EA/AA combinations). This diminishes the impact of

AA-parts on DEA decision-making extensively. So, in order to improve the impact of AA-parts of EA/AA combinations on DEA decision-making, it is important to improve the level of participation and the level of openness of decision-makers to the use of the combined instruments. Hence, it is important to make the public, stakeholders and decision-makers *aware* of the added value of combining the instruments.

The impact of EA-parts on NCA decision-making explained

According to the scores in Table 15 also the actual impact of EA-parts on NCA decision-making can be explained. The higher the importance of a factor for the impact in practice, the more it contributes to the overall impact, which is very low.

Only the current level of quality is really positively influencing the impact of EA-parts of EA/AA combinations on NCA decision-making. The quality of EA/AA combinations in practice is good, because the NCEA checks it and ensures that bad quality assessments are been adjusted or are not been approved at all. So, the NCEA is of major importance for ensuring that EA-parts can have an impact on NCA decision-making.

The level of transparency EA-parts of EA/AA combinations in practice also is important for the impact of these parts on DEA decision-making. However, this factor is of less importance than the quality. The transparency of EA-parts is sufficient, but is not really contributing for the impact of these parts on NCA decision-making directly. Instead, it is important for NCA decision-making procedures in the future, because information gets available for the determination of possible cumulative effects (which is mandatory according to NCA legislation).

The binding character regarding the use of the results of EA-parts of EA/AA combinations in practice is of no importance for their impact on DEA decision-making. Nevertheless, the binding character of the regime regarding the obligation to combine EAs and AAs ensures that these instruments are been used in the combined version. Hence, the binding character of the regime regarding EA/AA combinations overall has no substantial influence on the impact of AA-parts on DEA decision-making.

The participation on EA-parts of EA/AA combinations in practice also is of no importance for their impact on NCA decision-making. Participation on the EA-parts in practice is used, however the results are seldom relevant for NCA decision-making. Therefore, participation often leads to the inclusion of irrelevant information for NCA decision-making and consequently is negatively influencing the total impact of EA-parts on NCA decision-making. Participation should be better used in order to create public support and understanding for decision-making relating to Natura 2000 (Bakker, 2009).

Finally, the current level of flexibility and the openness of decision-makers to the use of the combined instruments is diminishing the impact of EA-parts on NCA decision-making. Overall, EAs are flexible enough to include AAs in their procedures, but sometimes they are too flexible so that their impact on NCA decision-making diminishes extensively. On the other hand regarding procedures, EA-parts sometimes should be less flexible in order to have an impact on NCA decision-making.

Decision-makers in practice do not stand open for the use of EA-parts of EA/AA combinations for NCA decision-making. This diminishes the impact of EA-parts on NCA decision-making extensively. Therefore it is important to improve the level of openness of decision-makers to the use of the combined instruments in order to increase the impact of EA-parts on NCA decision-making. Awareness raising is an important aspect in this respect.

From the case studies it has appeared that not only the relatively low importance of the impact influencing factors for the impact of the EA-part on NCA decision-making causes the low impact of these parts on NCA decision-making. The main reason for this is the binding character of the AA-part regarding the use of its results for NCA decision-making. Because of this binding character there is no room for the EA-part to have an impact on NCA decision-making anymore.

Part IV – Concluding remarks

7 Conclusions

In this chapter the impacts of the three different instruments will be compared with the expected impacts, the differences and similarities between them will be explained according to the scores on the impact influencing factors. Secondly, some conclusions about the relative importance of the impact influencing factors in general will be presented and finally some practical implications of combining EAs and AAs in practice in the Netherlands will be presented in order to answer the main question of this research, which was:

What is the impact of EAs, AAs and EA/AA combinations on decision-making in the Netherlands and how can this impact be explained?

7.1 Impacts of the three instruments

In order to analyze the implications of combining EAs and AAs for their impact on decision-making also the impact of individual AAs and EAs had to be analyzed. By comparing the latter with the former impacts and explaining the results, the value of combining these instruments can be determined. In table 16 the levels of impact of the different (parts of the) instruments on decision-making first are presented and secondly the expected levels of impact are presented between parentheses. In this way, the actual situation in the Netherlands can be compared with the hypotheses of this research.

Instrument \ Procedure		NCA decision-making	DEA decision-making
AA		High (<i>High</i>)	-
EA		-	Medium (<i>Medium-High</i>)
EA/AA	AA-part	High (<i>High</i>)	Low-Medium (<i>Medium</i>)
	EA-part	Very Low (<i>Low</i>)	Medium (<i>Medium-High</i>)

Table 16: The impact and the expected impact (between parentheses) of AAs, EAs and EA/AA combinations on decision-making in the Netherlands

The impact of AAs and AA-parts of EA/AA combinations on Nature Conservation Act (NCA) decision-making in practice in the Netherlands is ‘high’. When the results of these assessments show that ‘significant negative effects on Natura 2000 cannot be excluded for sure’, the conclusions of the assessments directly lead to a negative NCA decision; no license will be given, just as was expected. However, only in a very small number of AA cases this situation occurs. Therefore, in the majority of the final NCA decisions, the results of AAs and AA-parts are recognizable in the form of additional (mitigating) measures. Hence, the impact of AAs and AA-parts on NCA decision-making remains ‘high’, but is slightly lower in practice than was expected, since the direct impact of the assessments on final decisions is not used in most cases.

The impact of EAs and EA-parts of EA/AA combinations on Dutch Environmental Act (DEA) decision-making in the Dutch practice is ‘medium’. The results of these assessments only provide information for DEA decision-making and there is no direct precondition to the use of the results or decision-making like is the case for the results of AAs. Instead, the results of EAs and EA-parts mainly are recognizable in final decisions through the inclusion of additional measures. The EA research on alternatives does not lead to the choice of totally different alternatives in final DEA decisions very often. Since this impact was expected to be somewhere between ‘medium’ and ‘high’, this impact in practice has turned out to be lower than expected. This will be explained later.

The impact of AA-parts of EA/AA combinations on DEA decision-making was expected to be ‘medium’. However, in practice it has turned out to be somewhere between ‘low’ and ‘medium’. AA-parts

often do provide some information which can be recognized (mainly in measures) in final DEA decisions. However, AA-parts do not lead to negative DEA decisions (e.g. rejections) and moreover, they often are considered to be not suitable for DEA decision-making.

Finally, the impact of EA-parts of EA/AA combinations on NCA decision-making in practice is 'very low'. This is even lower than was expected. The results of EAs hardly ever can be recognized in final NCA decisions, the assessments do not provide the information needed for NCA decision-making.

7.2 Importance impact influencing factors in the Dutch practice

In this section the differences between the expected impact and the actual observed impact of the different instruments will be explained according to the expected and observed importance of the impact influencing factors.

AAs

The expected impact of AAs on NCA decision-making was 'high'. In practice however, the impact of AAs on NCA decision-making turned out to be slightly lower than expected, but still was considered to be high. The minor difference between the expected impact and the observed impact was mainly caused by low scores on participation and transparency. These factors were of less importance for the impact of AAs on NCA decision-making than was expected. On the other hand, the binding character of AAs turned out to be of major importance for the impact of these instruments on NCA decision-making in practice. The

Factor	Expected importance	Practical importance in general
Flexibility	-	+
Stakeholder participation	-	--
Transparency	+	--
Binding Character	++	++
Quality	++	+
Openness of decision-makers	0	+

Table 17: Explaining the impact of AAs in general in the Netherlands.

obligation to take a negative NCA decision on a proposal when the results of the AA show that significant negative effects cannot be excluded for sure, namely ensures that many measures are taken in practice in order to avoid significant negative effects and thereby make the proposed activities proceed.

EAs

The expected impact of EAs on DEA decision-making was 'medium-high'. In practice however, the impact of these instruments is only 'medium'. This difference between the expected impact and the observed impact was mainly caused by low scores on participation and the openness of decision-makers to the use of the instrument. The flexibility and quality of EAs on the other hand, are positively influencing the impact of these instruments on DEA decision-making and therefore are of major importance. This

Factor	Expected importance	Practical importance in general
Flexibility	+	+
Stakeholder participation	++	0
Transparency	++	+
Binding Character	+	+
Quality	++	++
Openness of decision-makers	+	+

Table 18: Explaining the impact of EAs in general in the Netherlands.

observation shows the added value of the NCEA for the impact of EAs on DEA decision-making, since this organization ensures that EAs are of good quality and that only good quality assessments can have an impact on decision-making.

EA/AA combinations

For EA/AA combinations, both the EA-parts and AA-parts were expected to have an impact on NCA- as well as DEA decision-making. It was expected that the impact of these parts on the decision-making procedure for which they originally had been designed would remain the same when they were part of EA/AA combinations. In practice, in general this hypothesis is confirmed. However, sometimes AA-parts of EA/AA combinations have to be changed (a new AA-report has to be made) in order to be suitable for and to still have an impact on NCA decision-making.

On the other hand the combination of the two instruments implies that they can have an impact on each other's decision-making procedures as well. The impact of EAs on NCA decision-making was expected to be 'low'. Some impact was expected, but this would be considerably lower than the impact of AAs on NCA decision-making and the impact of EAs on DEA decision-making. In practice this has turned out to be even lower than was expected. This difference between the expected impact and the observed impact was caused by relatively low scores on almost all factors. However, especially the openness of decision-makers to the use of EA-parts for NCA decision-making, the level of participation and the flexibility of EA-parts in practice were impeding the impact of these instruments on NCA decision-making. Only the quality of the reports was sufficient and ensured that EA-parts still had some (minor) impact on NCA decision-making.

The impact of AA-parts on DEA decision-making was expected to be 'medium'. So, the impact of AA-parts of EA/AA combinations on DEA decision-making was expected to be lower than their impact on NCA decision-making. In practice however, this impact turned out to be somewhere between 'low' and 'medium', which is slightly lower than expected. This difference between the expected impact and the observed impact was caused by relatively low scores on the factors participation, binding character and the openness of decision-makers to the use of AA-parts for DEA decision-making. Especially the fact that the binding character was negatively influencing the impact of AA-parts on DEA decision-making is remarkable, since this factor is of major importance for the impact of AAs on NCA decision-making. The binding character namely ensures that the focus of AAs and AA-parts is only on determining whether significant negative effects on Natura 2000 will occur or not. Hence, it ensures that these instruments are only suitable for NCA decision-making and their focus is too narrow to sufficiently support and have an impact on DEA decision-making. The factors which stimulate the impact of AA-parts on DEA decision-making are the level of flexibility, the increased level of transparency and the good quality of AA-parts.

Factor	<i>AA-part on decision subject to EA (DEA)</i>		<i>EA-part on decision subject to AA (NCA)</i>	
	Expected importance	Practical importance in general	Expected importance	Practical importance in general
Flexibility	++	++	+	-
Stakeholder participation	++	--	+	0
Transparency	++	0	++	+
Binding Character	++	0	+	0
Quality	++	++	++	++
Openness of decision-makers	+	--	++	--

Table 19: Explaining the impact of EA-parts on NCA decision-making and the impact of AA-parts on DEA decision-making in general in the Netherlands.

7.3 Relative importance of the impact influencing factors

The relative importance of the impact influencing factors can be determined by comparing the importance of all factors in the situation that an instrument would score high on all these factors. The scores described in this section are shown in table 20 as well.

The analysis has shown that when an instrument scores high on its binding character, this factor alone can ensure that the instrument will have an impact on decision-making. Then the other factors get of less importance for the impact of the instrument on decision-making. For instance, the binding character was the only factor of major importance for the impact of AAs on NCA decision-making, so in fact the impact of AAs on NCA decision-making is ensured solely by the binding character of the instruments. Hence, the relative importance of the binding character of an instrument for its impact on decision-making is very high (++) and makes the other factors of less importance.

Nevertheless, good quality of the assessments remains important for the impact of an instrument on decision-making, especially when an independent monitoring commission is in place. When the quality of an assessment is good, it is suitable for decision-making and provides a sufficient level of information (as well as the right information) for decision-making. Hence, the relative importance of a good quality assessment for its impact on decision-making still is relatively high (+).

Also the openness of decision-makers is relatively important for the impact of instruments on decision-making. This research has shown that the low level of openness of the decision-makers to the use of combined EAs and AAs decreases the impact of these instruments extensively. So, a high level of openness of decision-makers to the use of an instrument and its results is relatively important for the impact of an instrument on decision-making (+).

Factor	Relative importance
Flexibility	0
Stakeholder participation	0
Transparency	0
Binding Character	++
Quality	+
Openness of decision-makers	+

Table 20: Relative importance of the impact influencing factors for the impact of instruments on decision-making

The analysis has shown that when the score on flexibility is very high, this in fact leads to a lower impact of the instrument on decision-making. The flexibility of an instrument should optimally be somewhere between ultimately flexible and totally inflexible in order positively influence the impact of an instrument. Too much flexibility can lead to unclear situations about the use of the instruments themselves and their results. Therefore, some framework regarding the use of the instruments will decline

their flexibility, but can improve their impact on decision-making. Hence, the relative importance of flexibility for the impact of instruments on decision-making is neutral (0).

The importance of participation and consequently also the importance of transparency, for the impact of the instruments on decision-making has turned out to be relatively low in practice. This is mainly caused by the relatively low levels of participation in practice. When these would be high, the public as well as stakeholders could provide new ideas for the procedures and have a control function. Thereby the impact of an instrument on decision-making could be increased extensively. However, the fact that AAs have a high impact in practice despite the fact that the importance of participation and transparency are low, shows that these factors are not important for the impact of an instrument as long as the binding character of an instrument is high. Hence, the relative importance of these factors for instruments to have an impact on decision-making is neutral (0).

7.4 Practical implications of EA/AA combinations

In this section some implications of combining EAs and AAs will be presented, based on the differences between these combinations and normal EAs and AAs. In this way the actual (added) value of EA/AA combinations for decision-making can be determined. Some hypotheses regarding the implications of combining EAs and AAs have already been presented in table 2 in chapter 1 of this report. In this section will be stated whether these hypotheses can be confirmed or not.

Hypothesis: DEA decisions get more nature friendly due to the combination of EAs and AAs

This is not always the case in practice. AAs do influence DEA decisions sometimes and then some requirements, which are based on the results of the AA-part of an EIS, can be included in the final decision. Hence, in general this will imply that the DEA decision is more nature friendly than it would

have been without the inclusion of an AA-part in the EIS. However, the focus of AAs is only on determining the significance of the effects of a proposal on Natura 2000 (e.g. not on nature in general). The significance of the effects on Natura 2000 is strongly related to the conservation objectives of Natura 2000 sites. These objectives are based on the occurrence of specific species and habitats. This implies that the alternative which is very nature friendly and is good for nature in general, still can have negative effects on one or two species which are of importance for the Natura 2000 network. Then, another alternative, which is worse for nature in general, but which is better for the species in the Natura 2000 site can be chosen. So, the inclusion of an AA in an EA in very extreme cases can even lead to DEA decision which are less friendly for nature in general.

Hypothesis: NCA decisions are based on more broader considerations due to the combination of EAs and AAs

In general this is not through. NCA decisions are based on the conclusion of AAs. When significant negative effects on Natura 2000 do not occur due to the proposed activity, the NCA license can be granted. However, when such effects do occur, the license cannot be granted, unless the ADC-phase is gone through sufficiently. A major critique on EA/AA combinations from the NCA decision-making practice, is that the AA-parts of these combinations often are not suitable for NCA decision-making anymore. In most of these cases a new, more specific AA report is made to base the final NCA decision on. Hence, NCA decisions are not based on more broad considerations due to the combination of EAs and AAs.

Hypothesis: AAs get more extensive and provide more information due to the combination of EAs and AAs

In general this true, since in the majority of the cases, AA-parts of EA/AA combinations replace the normal nature parts of EISs. So, then more information is provided because these parts have to consider the effects of a proposal (and alternatives for it) on nature in general as well as Natura 2000. This also is reflected by the critique from the NCA decision-making practice, that the AA-parts of EA/AA combinations often are not suitable for NCA decision-making anymore, because the provided information is too abstract and broad. However, this also implies that the information about the effects of an activity on Natura 2000 often gets less extensive due to the combination of EAs and AAs. So, AAs do not always get more extensive and provide more information due to the combination of EAs and AAs.

Hypothesis: Early in the processes a more environmental and nature friendly approach is chosen due to the combination of EAs and AAs

Although anticipation has not been the subject in this research, some situations in practice show that this is true. Some experts have stated that activities sometimes already are replaced even before they have entered the official EA/AA procedures, the foresight of having to use the instruments makes initiators move somewhere else. However, this is not more nature friendly per se, because the problem is only moved to somewhere else.

Nevertheless, in practice sometimes AAs are been avoided in order to avoid SEAs as well. This is done by steering the conclusions of orientational phases towards the exclusion of significant negative effects. One of the methods to steer these results to a more nature friendly direction is by including mitigating measures. Hence, the proposal gets more nature friendly already due to the foresight of the obligation to do an EA/AA combination.

Hypothesis: Difficulties in alignment of procedures will occur due to the combination of reverse approaches

These difficulties do occur quite often in practice. Especially, the binding character of AAs causes these difficulties. This namely ensures that the focus of AAs and AA-parts is only on determining whether significant negative effects on Natura 2000 will occur or not. This information is only relevant for NCA decision-making and the focus of AA-parts gets too narrow to sufficiently support DEA decision-making.

The situation described above also occurs the other way around due to the insufficient level of flexibility of EA-parts. EAs sometimes are not flexible enough and require AAs to adjust their contents. The focus of AAs in such cases often gets too broad for NCA decision-making

Hypothesis: AAs cost more time and money since they get more extensive due to the combination of EAs and AAs

AA-parts in EISs often replace the normal nature parts. Than the AA-parts need to include more information than they otherwise would have needed. However, the information which is required in EISs is less detailed and the requirements regarding the sources of information are less strict. So, although AA-parts of EA/AA combinations often need to include more information than normal AAs, this not necessarily needs to cost more time and money, because the information is broader and less detailed research is needed. However, often these AA-parts are not suitable anymore for NCA decision-making and a new, more specific AA report needs to be made to base the final NCA decision on. So, then additional researches and reports are needed, which obviously will cost money and time.

Hypothesis: By manipulating orientational phases AAs and consequently SEAs can be avoided

As already has been described above, this does happen in practice. Orientational phases are manipulated, because officially it is not allowed to include mitigating measures in orientational phases and AAs. When mitigating measures are needed, this namely implies that the original proposal would have had significant negative effects on Natura 2000. Officially orientational phases and AAs need to consider the effects of the original proposal, when this can have significant negative effects on Natura 2000, possible mitigating measures have to be researched during the 'A'-phase of the ADC-phase.

However, it is arbitrary whether this situation is diminishing the value of AAs. Obviously, these instruments are not used as they originally where meant to be used. But nevertheless, including mitigating measures as early as possible in the researches can only shorten procedures. Moreover, it does not diminish the value of AAs to consider alternatives, because ultimately the goal of AAs is to protect Natura 2000 from degrading and that is exactly what is done when mitigating measures are included as early as possible. Nevertheless, one has to be aware of the risk that too much mitigation is not really protecting nature anymore; this is solely aimed at getting approval for the proposed activity. When that is the only motivation of initiators to propose mitigating measures very early, the value of AAs is diminished.

Overall in practice AA-parts of EA/AA combinations are of added value for (and have some impact on) DEA-decision-making. While EA-parts of EA/AA combinations hardly have an impact on NCA decision-making and are not of substantial added value for these decision-making procedures.

8. Discussion

The methods used to get the required information for this research may have influenced the results slightly. In the first place it turned out to be very difficult to get a good overview of the EA/AA situation in the Netherlands. Finally, the NCEA database was used in order to create a new database on this situation. This method was depending much on the memory of the technical secretaries at the NCEA and during the analysis some cases turned out to be classified wrongly (included while no AA had been done). However, the number of cases for which this applies is likely to be very small and is of no substantial influence for the results of the research. On the other hand, this method may have excluded some EA/AA cases as well, since the NCEA in theory not has to be included in every EA (/AA) case in the Netherlands. However, according to the technical secretaries at the NCEA, it is very unlikely that there has been any EA case including an AA which has been done without asking the NCEA for advice.

Moreover, helicopter interviews with experts have been used in order to determine the impact of the instruments in general in the Netherlands. The choice of experts was based on their experience and/or publications in the EA/AA field. Experts always will have a subjective view on the situation in practice. However, when other experts would have been interviewed, other views on the practical situation could have been collected, but this would not have resolved the problem of subjectiveness. Interviewing more experts may have resulted in a more comprehensive view on the total impact of the instruments in the Netherlands. But this was not possible due to practical constrains. However, it can have influenced the results of the analysis.

Only one form of direct impact is included in this analysis, while several forms of direct as well as indirect impacts are distinguished in literature. Hence, the impacts found in this research cannot be considered *the impact* of the instruments on decision-making, since some other important forms of impacts are left out of the analysis (which therefore is not complete). Moreover, also not all available impact influencing factors have been used in order to determine and explain the impact of the instruments. Only the most important factors according to existing empirical researches have been included. Including more factors was not possible within the scope of this research, however it has to be recognized that the focus of the research is too narrow to determine and explain the total impact of EAs, AAs and EA/AA combinations on decision-making in the Netherlands.

Because of practical constrains, not every phase of EA and AA procedures could be researched. Therefore some parts which would have been interesting to research as well have been left out of the analysis. For instance screening and orientational phases were considered to be not part of the actual EA and/or AA procedures yet (this was motivated extensively in section 1.3) and therefore could be left out of the analysis. However, it still would be interesting to research these phases as well, since they are expected to influence decision-making as well.

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Interviews:

See appendix 8 for a detailed overview of the interviewees.

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AA: Mussel Seed Fisheries Autumn 2007

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EIA/AA: Waste to Energy Plant, Delfzijl

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SEA/AA: Camping-Marina 'Uitdam'

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Appendix 1: Legal framework Environmental Protection

Environmental protection encompasses many subjects and therefore much regulation exist on this issue. EIA and SEA are just two instruments in the wide range of methods to ensure environmental protection and in the Netherlands they are regulated by EU directives and national legislation.

EIA: legal basis and procedures

Originally EIA was made in the 1960s in the US in order to provide a more objective and systematic approach to environmental decision making. The tool is not a decision-making process in itself, but it contributes to decision-making processes. In essence the goal is to inform authorities of the likely impacts on the environment of an activity or project and on the possibilities to reduce or mitigate those impacts (Weston, 2000).

The EU Directive on Environmental Impact Assessment ensures the use of EIA for decision-making in the EU member states. This directive is implemented in the Netherlands through the Dutch Environmental Act (DEA) and the EIA Decree 1994, which determine whether an EIA is needed for any proposed activity. The DEA is the framework which describes the basic principles of the environmental policy in the Netherlands. This Act contains important passages on EIA procedures in the Netherlands, chapter 7 for instance is totally about EAs. Furthermore chapter 2.2 is about the NCEA, chapter 14.2 is about the coordination which is required when an initiator is preparing an EIS and chapter 20 is on the appeal for a permit. Detailed provisions can be found in general administrative orders, such as the EIA decree 1994, which states when exactly an EIA procedure should be done. This decree contains appendices including so called “C” and “D” lists, which have to be used in order to determine whether an EIA is needed for an activity or project. The C list indicates in which situations it is mandatory to make an EIS, using column one, which indicates the type of activity, column two, which indicates the extent of the activity and column four, which indicates the decision that has to be taken. On the other hand, the D list in the decree sums up all the activities and decisions for which a so called 'article 7.8a/7.8d procedure' is required. These activities and decisions have to be evaluated individually to determine whether an EIA is necessary. The normal EIA procedure in the Netherlands consists of ten steps, which have been listed below.

1. The initiator proposes a notification of intents, which contains the basic details of the project. When the competent authority publishes this document, the official public consultation process begins.
2. Participation is open to everyone during a period between four and six weeks. Consultation is possible by giving written or oral views on the project and the notification of intents. The legal advisors, including the NCEA, give their view as well on the first document and the proposed activity. Consultation and counseling both should focus on the preparation of guidelines for the content of the final EIS. Nine weeks after publication of the notification of intents, the NCEA gives advice on the guidelines for the content of the EIS, based on its own opinion, public comments and opinions of other legal advisors.
3. Within thirteen weeks after publication of the notification of intents, the competent authority determines the guidelines. These indicate which alternatives and environmental impacts should be addressed in the EIS.
4. The initiator has the responsibility for preparing the EIS for his project (in most cases a consultancy firm is hired to prepare the report). In principle there is no time limit, however in practice it is not desirable to put too much time in the research, because this will only delay the project. When the EIS is completed, the initiator sends it to the competent authority.
5. After submission of the EIS by the initiator, the competent authority has to assess within six weeks whether or not the content of the EIS meets the guidelines and legal requirements. Also is

- checked whether the application will be processed. This assessment of the acceptability of the EUS in fact is a preliminary test to ensure no aspects have been forgotten.
6. After acceptance of the draft EIS the competent authority publishes it together with the draft decision for consultation and advice.
 7. Consultation again is open for everybody. Within six weeks after publication of the draft EIS and draft decision anyone can comment on the documents and the project.
 8. After this period of consultation, the NCEA prepares a quality review about the quality and completeness of the EIS. Also the comments and advices of the consultation period will be included in the advice.
 9. The competent authority takes the final decision on the project. It takes into account the environmental impacts, public comments and opinions. Furthermore is motivated in the final decision, in what way and to what extent the results of the EIS have been included. Finally the competent authority determines what to evaluate exactly and when to evaluate the EIA process and the project.
 10. The competent authority assesses the actual environmental impacts occurring as described in the evaluation section of the decision. Furthermore appropriate additional measures will be taken to reduce the environmental impacts of the project. (NCEA, 2009^b)

SEA: legal basis and procedures

The EU SEA Directive (2001/42/EC) was enforced in July 2001. This directive provides the framework for the member states of the EU, to create assessments of the effects of PPPs on the environment. Member states had to implement this directive into their national legislation, however the detailed development of the procedures was left to the member states themselves due to the principle of subsidiarity. For this reason many differences occur among the different countries (Risse et al., 2003). In the Netherlands only since September 2006 it is mandatory to perform a SEA for certain PPPs due to a change of the existing legislation on EIA. The purpose of SEA is to ensure that environmental concerns can be fully assessed in PPPs. Hence, SEA applies to the more strategic level of decision-making than EIA does. For instance, SEA is concerned with the strategic choices about locations and techniques to be used, where EIA concentrates on possible alternatives of activities. There are two ways in which a SEA can be legally mandatory, the first is that the activity the plan is proposed for is mentioned in column three of the C- and D-list in the annex of the EIA Decree 1994. The second way is that the Dutch Nature Conservancy Act requires an AA for the plan, because negative effects on Natura 2000 areas might occur, then also a SEA is mandatory. The normal SEA procedure in the Netherlands consists of nine steps, which have been listed below.

1. The competent authority consults all governing bodies which should be involved in the preparation of the plan and its notification of the scope and detail of the procedures. Consulting the NCEA is not mandatory in this stage.
2. Usually, the competent authority prepares a notification of the scope and detail of the procedures, however this is not legally mandatory.
3. Then the competent authority prepares the notification of the intentions to develop a plan and sometimes there are consultation possibilities. In the notification of intentions the consultation possibilities are described, whether or not the NCEA is included in the procedures is described, etc.
4. The competent authority is responsible for the preparation of the EIS, which in principle has no time limitations. Important aspect in this is that the environmental concerns and research are been connected to the development of the plan. Hence, only information relevant for the plan should be provided to keep the assessment as simple as possible (and appropriate) and to speed things up a bit. When also an AA is needed, it should be included in the EIS.
5. The competent authority publishes the draft EIS together with the draft of the plan.
6. Anyone can comment on the EIS and give views on the draft. Usually this is possible during a period of six weeks.

7. A review of the EIS by the NCEA is required for plans for which also an AA has to be made and for plans within the National Ecological Network of the Netherlands. In other situations, the NCEA can be asked to give a review on a voluntary basis. A deadline for the submission of its review is not legally defined. However, in most cases it takes about six weeks (the same as the consultation period) and when the NCEA is asked to include also comments and opinions, the advisory period may take about two weeks longer.
 8. The competent authority takes the final decision on the plan. It takes into account the environmental impacts, public comments and opinions. Furthermore is motivated in the final decision, in what way and to what extent the results of the EIS have been included. Finally the competent authority determines what to evaluate exactly and when to evaluate the SEA process and the project.
 9. The competent authority assesses the actual environmental impacts occurring as described in the evaluation section of the decision. Furthermore appropriate additional measures will be taken to reduce the environmental impacts of the plan.
- (NCEA, 2009^e)

Differences EIA and SEA

From the latter two sections can be concluded that EIAs and SEAs differ on contents as well as procedures. Where EIAs focus on individual projects, SEAs focus on PPPs and provide information on the more strategic level of decision-making. Normal SEA procedures consist of nine steps, where normal EIA procedures in the Netherlands consist of ten steps. Moreover the procedures are differing in more ways than just on the number of steps. For SEA procedures there is no obligation for public consultation, while in EIA procedures, this is the case. Secondly for EIA procedures it is mandatory to include at least a zero- or no-action alternative (what if the activity is not undertaken) and an environmentally preferable alternative (impacts to the environment are reduced to levels as low as reasonably achievable) in the EIS. However, in SEA procedures it is not mandatory to describe the environmentally preferable alternative (Wood, 2003). A review of the EIS by the NCEA is only mandatory for plans that require an appropriate assessment (AA) and plans concerning areas within the Dutch Ecological Main Structure. In other situations, the NCEA can be asked for advice on a voluntary basis (NCEA, 2009^e)

New system

Starting from January 1st, 2010 a new EIA and SEA system has been introduced in the Netherlands. This research has focused on the impact of the EAs and EA/AA combinations as they were done in the old system, because obviously no data about the new system are available. Nevertheless the new system is in place, so the most important adjustments will be described here.

The Dutch government wishes to speed up decision-making procedures on plans and projects, this includes a modernization of the EA system. This new system leads to more flexibility and less procedural obligations during EA procedures. Proposing a notification of intents and the inclusion of the NCEA for an advice on the guidelines for the intents of the EIS are not mandatory anymore. This simplifies the starting phases of EA procedures extensively. The EA regime is far less strict for small and simple projects with limited impacts on the environment. On the other hand the quality control system for complex projects or plans remains more or less intact. It remains mandatory to allow participation in the early phases of such EA projects and to include the NCEA for a review (this review has to be finished within the statutory consultation period of six weeks). These two obligations are only concerning SEAs, EA/AA cases, and EIAs which support other decisions than only a DEA decision. The new system is expected to reduce the number of mandatory advices of the NCEA with approximately 50%. However, it remains possible to ask the NCEA for advice on a voluntary basis (NCEA, 2009^d).

Appendix 2: Legal framework Nature Protection

Protecting nature very often is confused with the protection of the environment, however it is not the same. Nature is just one part of the environment. Still, nature protection is a rather broad definition and much legislation exists on this issue as well. In addition environmental and nature protection can sometimes be connected to each other.

AA: legal basis and procedures

For a long time decision makers in the Netherlands barely took into account what the implications of their decisions were for nature in general and species in particular. Even though legislation on nature conservation did exist (Van der Zouwen and van Tatenhove, 2002). Finally, in the 1990s the implementation of the Birds and Habitats Directives in the Dutch Flora and Fauna Act (FFA)⁸ and Dutch Nature Conservancy Act 1998 (NCA)⁹ has changed this situation.

The NCA has ensured that specific areas can be protected when they are important for the conservation of the Natura 2000 network. The NCA does so by obliging a 'Habitat check' for plans and projects which can have significant negative effects on Natura 2000 areas. Plans and projects with significant negative effects do not get approval. However, there are some exceptional situations in which approval can be granted (with some restrictions). The first phase of the Habitat Check is the orientational phase, in which is determined what the effects of the project or action are expected to be. There are three possible outcomes:

- 1 There surely will be no negative effects
- 2 There might be negative effects, but these surely will not be significant
- 3 Significant negative effects might occur

In the first situation no NCA license will be needed at all. In the second situation the initiator will have to apply for a NCA-permit through a test of quality deterioration and disturbance of species. When this test concludes that there will be no disturbance or acceptable disturbance of any Natura 2000 site, the permit will be granted (often with some restrictions). But when unacceptable deterioration or disturbance will occur, mitigating measures will have to be taken in order to get a NCA-permit. When no mitigating measures can be taken, the permit will not be granted. In the third situation; when the orientational phase concludes that significant negative effects might occur, the initiator will have to apply for a NCA-permit through an AA. When for sure no negative effects will occur, the permit will be granted. When negative effects possibly will occur, but these effects will surely not be significant, a test of quality deterioration and disturbance of species will have to be done. And finally when the AA concludes that significant negative effects might occur, another test, using the so called ADC-factors, needs to be done in order to get a permit. The plan or project can still get approval when there are no other alternatives, there are imperative reasons of major public importance and all possible compensating measures have been taken, so that the total interconnectedness of the Natura 2000 network remains intact (Cappelle and Stumpel, 2003) (for a schematic overview of the Habitat Check, see appendix 3).

By now the AA is widely recognized as the most important instrument to determine the effects of any proposed activity on Natura 2000 sites (See for instance: Vos et al., 2002; Söderman, 2009; Opdam et al., 2009; Broekmeyer et al., 2009). Because the AA is followed by some other steps in the licensing procedure, a good timing is essential. Other essential requirements are that the conclusions of the AA need to be presented in a written report, with good reasoning about the results. The research furthermore needs to be followable, controllable, and needs to be done according to the most modern insights, knowledge and techniques. the European EIA Directive provides the framework on the contents of the AA which means that all the direct, indirect, secondary and cumulative effects of the project or plan, on the short-, mid- and

⁸ The Dutch Flora and Fauna Act is mainly concerned with the protection of species.

⁹ The Dutch Nature Conservancy Act is mainly concerned with the protection of specific areas and nature in general.

long-term, permanent, temporarily, positive and negative need to be described. Furthermore it is recommended to mention mitigating measures and alternatives in the report (Vos et al., 2002).

Differences EIA/SEA and AA

Inherently the goal of EIA, SEA and AA is the same to some extent, namely to provide information for decision making about the impact of activities on the environment and nature. However, these instruments are not entirely the same, for instance the scope of assessment of AA (only nature in Natura 2000 areas) is narrower than in EIA or SEA, in which all aspects of the environment (including nature) are considered. Moreover, the approach the instruments use is different, which makes it difficult to combine the instruments in practice and still get the required information for decision-making.

The AA procedures use a ‘No, unless’-approach, while the EIA and SEA procedures use a ‘Yes, provided that’-approach (see figure 2). The ‘No, unless’-approach involves that in principle no activities with significant effects are allowed (‘effects’ as starting point), unless there are no other alternatives, there are imperative reasons of major public importance and possible compensating measures have been taken, so that the total interconnectedness of the Natura 2000 network remains intact (‘goal’ as ending point) (Cappelle and Stumpel, 2003). So in AAs there is a direct precondition to decision-making: approval cannot be granted when in the AA is concluded that significant negative effects will or might occur. This approach is following the so called ‘precautionary principle’, which implies that there is a responsibility to protect the public (or public goods) from harmful exposure where scientific research shows that there is a risk (Söderman, 2009). The ‘Yes, provided that’-approach means that the activities’ goals in principle are allowed (‘goal’ as starting point), provided that several alternatives and their effects to reach that goals are considered (‘Effects’ as ending point). So in EIAs and SEAs the assessment findings only have to be taken into account and there is no direct precondition to decision-making like in the AA procedure (Söderman, 2009).

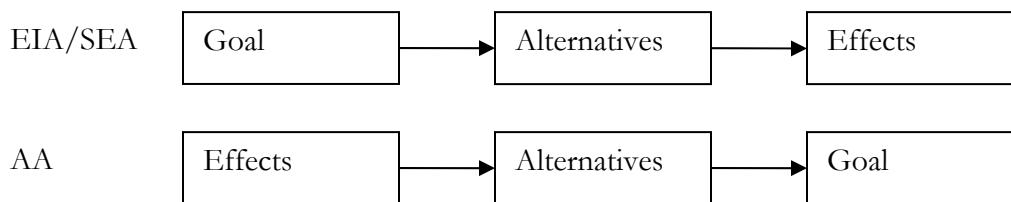


Figure: Problem approach in EIA/SEA and AA procedures

EIA/SEA-AA combinations

From a legal point of view the environment and nature are two different areas of protection and they are protected by different and separated legislation (the NCA and EA). Moreover the instruments EIA, SEA and AA, which are used in the different decision-making procedures, differ. However, as already has been mentioned, the goal of the instruments of both the NCA and EA inherently is the same to some extent. Since the acts overlap slightly (they both include nature), their instruments are also overlapping and they can be combined as will be discussed below.

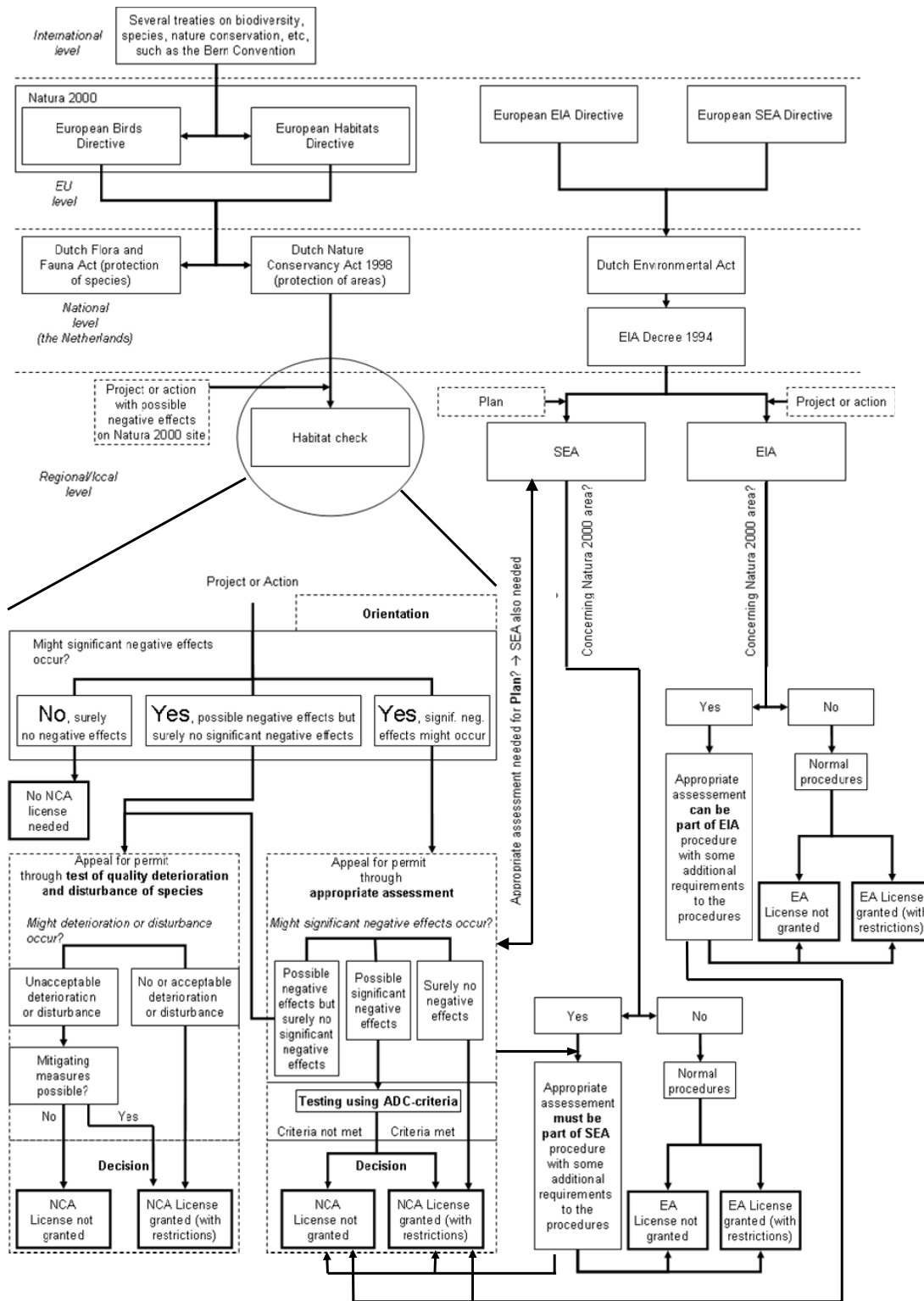
Combining EIAs or SEAs with AAs can be done in several ways. AA-SEA combinations often even are mandatory; when according to the NCA an AA is needed for a plan, also an SEA is mandatory for that plan. Furthermore there also can be situations in which it is voluntary decided to combine an AA with an EIA or SEA. For instance when the EA and EIA Decree 1994 require an EIA for a particular project or action which might affect a Natura 2000 area, the AA can be part of the EIA, but they can also be done separately. Finally some situations can occur in which the initiator has other reasons to do both an AA and an EIA or SEA on a voluntary basis (for a schematic overview of the possible connections see the scheme in Appendix 3).

Combining these instruments can have both negative and positive implications. For instance the use of the 'No, unless-' or 'Yes, provided that' – approach, can lead to different outcomes. It is not clear to what extent and in what direction these differences influence the impact of AAs on final DEA-decisions. For instance the results of the AA may seem more important than the results of the EIA or SEA (due to the harder AA approach). In other words: the 'harder' AA approaches could overrule the 'softer' EIA/SEA approaches. So, one would expect that the results of the AA will surely have an impact on the final EIA/SEA decision, when the instruments are combined. It than is expected that the 'outputs' of AAs will be recognizable in the EISs and final DEA-decisions of which they are part. So, in the final 'outcomes' of the EIA/SEA decision-making processes, some contents of the AAs will be recognizable and something will be mentioned about nature conservation due to the inclusion of the AAs. In the EISs for instance other alternatives can be described due to the information of the AAs.

The differences between their procedures can also lead to positive impacts on the entire decision-making procedures when the instruments are being combined. For instance, better or more information will probably be available for these procedures, because AAs may require new and extra research since the most current information (which normally is required for EIAs and SEAs) is not sufficient in some AA-cases (Vader and Reinhard, 2005). Moreover in this way double work, extra procedures, extra research, extra costs and sometimes delays can be avoided to some extent. Finally the consistency of the conclusions of both procedures is guaranteed by combining them and in this way the instruments can have an impact on decisions which they normally would not apply for.

Voluntary inclusion of an AA in EIA procedures will most likely increase the impact of AAs on final decisions (in comparison with mandatory inclusion), since it implies that the initiators themselves are willing to take into account natural values (and the results of the AAs) in decision-making. However, on the other hand this voluntary inclusion can be a reason to doubt the impact of the AAs on final decisions. The cases where AAs and EIAs have been combined voluntarily originally were relatively 'nature friendly' already. So, the inclusion of nature may not necessarily be done due to the AAs in these cases, which makes the impact of the AAs less than expected.

Appendix 3: Scheme relevant legislation on different levels of decision-making



(Partly) derived from: (LNV, 2007; Vader and Reinhard, 2005; Soppe, 2005)

Appendix 4: Data EAs 2005-2008

	2005	2006	2007	2008	Total
Total number of advices NCEA	223	276	278	302	1079
Excluded (not in this analysis)	147	153	149	154	603
Included (only quality reviews)	76	123	129	148	476
SEA qrs	no data	19	11	26	56
EIA qrs	no data	102	87	98	287
Combined SEA and EIA qrs	no data	no data	24	21	45
Other qrs	no data	2	7	3	12

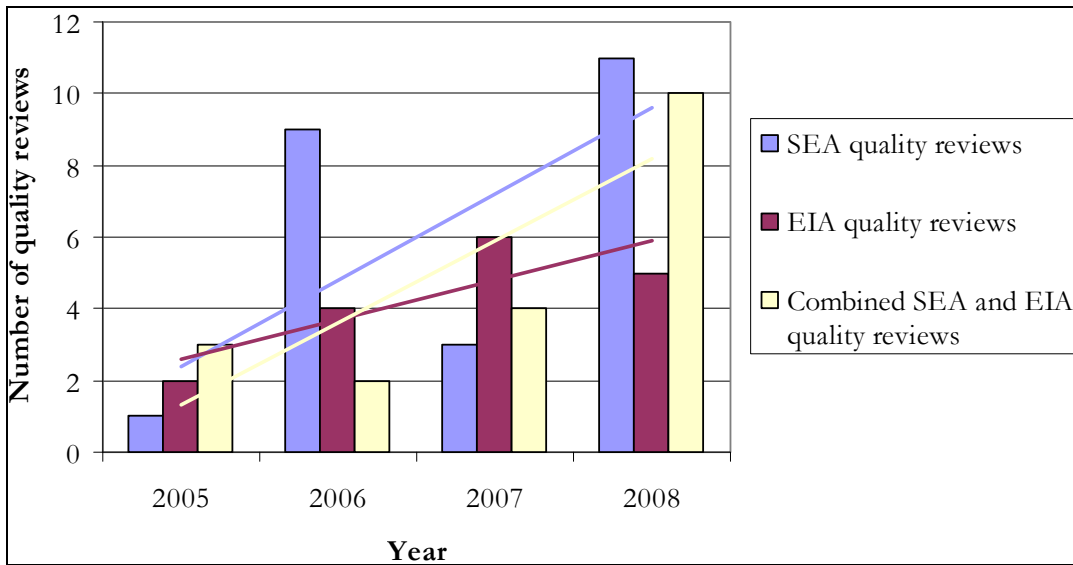
Table: Data on all advices of the NCEA and all the quality reviews of the NCEA, for the years 2005-2008 (Derived from: NCEA, 2006; NCEA, 2007; NCEA, 2008; NCEA, 2009^e).

	2005	2006	2007	2008	Total
Number of quality reviews including an orientational phase	16	34	37	34	121
SEA qrs	1	13	10	10	34
EIA qrs	10	13	24	22	69
Combined SEA and EIA qrs	5	8	3	2	18
Number of quality reviews including an AA	6	15	13	26	60
- Number of SEA qrs	1	9	3	11	24
- Number of EIA qrs	2	4	6	5	17
- Combined SEA and EIA qrs	3	2	4	10	19
Percentage of quality reviews including an orientational phase	21,05%	28,57%	30,08%	23,29%	26,08%
- Percentage of SEA qrs	5,26%	31,71%	37,04%	29,41%	28,10%
- Percentage of EIA qrs	23,81%	20,97%	30,77%	25,00%	25,56%
- Percentage combined SEA and EIA qrs	33,33%	50,00%	16,67%	8,33%	24,66%
Percentage of quality reviews including an AA	7,89%	12,61%	10,57%	17,81%	12,93%
- Percentage of SEA qrs	5,26%	21,95%	11,11%	32,35%	19,83%
- Percentage of EIA qrs	4,76%	6,45%	7,69%	5,68%	6,30%
- Percentage combined SEA and EIA qrs	20,00%	12,50%	22,22%	41,67%	26,03%

Table: Data on the quality reviews of the NCEA concerning Natura 2000 projects for the years 2005-2008 (source: own database).

Note: not all numbers in the second table match the numbers in the annual reports of the NCEA. Not all projects are officially called 'SEA', 'EIA' or 'SEA-EIA' in the annual reports. The NCEA also handles projects that cannot be categorized in the above three categories. Such cases have been included in the category that matches them 'best' in the new database. Although it is recognized that this method is arbitrary and subjective, the results should give an appropriate general overview of the actual situation. Moreover, also the quality reviews on projects which required extra added information have been included, while in the annual reports only the number of projects is mentioned (e.g. the EIS together with the additions are mentioned as one quality review). Finally, the annual reports did not provide all required information (sometimes no data was available according to the reports, while this data was available in the new database). Therefore, the percentages in second table are calculated based on the numbers of the new own database and not in based on the numbers in the annual reports.

Appendix 5: Number of EA/AA cases split up per type of EA



Graph: Number of quality reviews considering EAs including an AA in the years 2005-2008, split up per type of EA

Appendix 6: Data Added Information

Percentages of EA and EA/AA cases which required additional information (in general and on nature/Natura 2000)	2005	2006	2007	2008	2005-2008
Percentage of EA/AA cases which required additional information on aspects other than nature or Natura 2000	32%	24%	50%	42%	37%
Percentage of EA/AA cases which required additional information on the aspects nature or Natura 2000 (e.g. on the AA-part)	23%	20%	46%	27%	29%
Percentage of normal EA cases which required additional information on aspects other than nature	35%	38%	58%	59%	48%
Percentage of normal EA cases which required additional information on the aspect nature	11%	14%	32%	30%	22%

Table: Data on quality reviews of the NCEA which required added information (total numbers as well as specified on the aspect 'Nature') for the years 2005-2008 (Source: Annual Reports NCEA, 2005-2008)

* These numbers were not available in the annual report of 2005, therefore they have been derived from other reports and databases at the NCEA.

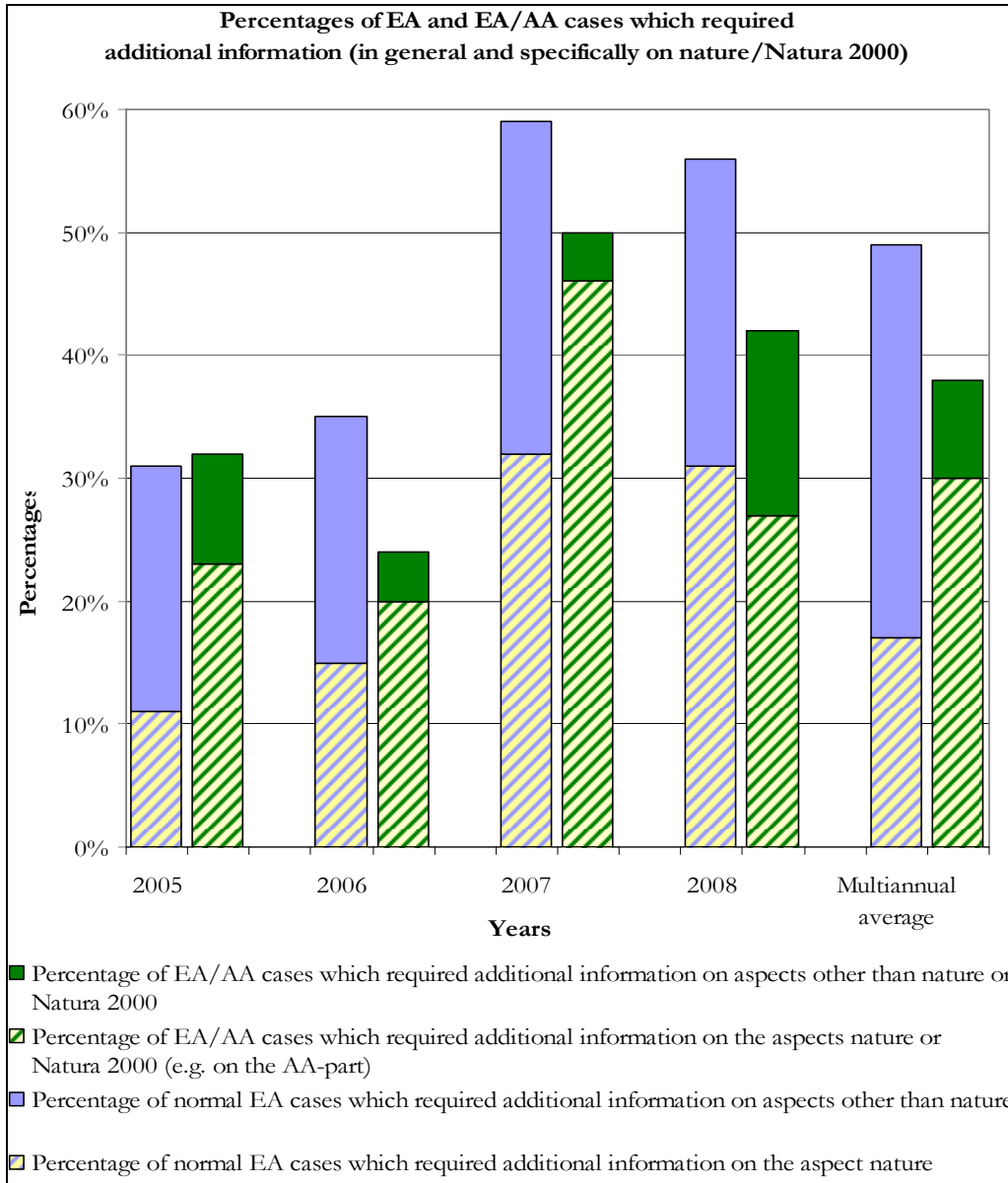
In the graph on the next page the blue bars indicate the percentages of projects (only quality reviews have been included) for which additional information has been asked by the NCEA. Each total bar indicates the percentage of the total number of quality reviews of the NCEA which required additional information. The hatched parts of the blue bars indicate which percentage of all quality reviews required additional information specifically for the aspect nature. So, for instance in 2005, in 31% of all quality reviews was concluded that the quality of the EIS was insufficient and required additional information and in 11% of all quality reviews additional information on nature was required. In 2006 this was the case for 38% respectively 14% of all quality reviews, etc.

The green bars in the graph indicate the percentages of quality reviews considering Natura 2000 for which additional information has been asked by the NCEA. Each total bar indicates the percentage of the total number of quality reviews of the NCEA considering Natura 2000 which required additional information. The hatched parts of these green bars indicate which percentage of all quality reviews considering Natura 2000 required additional information specifically for the aspect nature or Natura 2000. So, for instance in 2007, in 50% of all quality reviews considering Natura 2000 was concluded that the quality of the EIS was insufficient and required additional information and in 47% of all quality reviews considering Natura 2000 additional information on nature or Natura 2000 was required.

So, the blue bars indicate the percentages of all EA cases which required extra information on the original EIS, while the green bars indicate the percentages of EA/AA cases for which extra added information was required on the original EIS. The hatched parts of these green bars indicate which percentage of all EA/AA cases required added information specifically on the AA-parts of the EISs.

The graph clearly shows that overall the quality of EA/AA cases is better than the quality of EAs in general; in EA/AA cases the percentage of additions asked is lower than in EA cases in general. However, the percentage of additions asked on AA-parts of EA/AA combinations is much higher than the percentages of additions asked on nature in normal EAs. Moreover, the relative share of the number of asked additions on AA-parts has increased each year during the last four years. For normal EA cases over the last four years the percentage of additions on nature has been substantially lower than in EA/AA cases. The multiannual average shows that the percentage of additions on AA-parts of EA/AA combinations is

29% of all EA/AA cases. This means that approximately 78% of all additions in EA/AA cases has been asked specifically on the AA-parts of these combinations (and in 2007 this percentage was even 92%)! Hence, when an addition is asked on an EIS in an EA/AA case, in the vast majority this is because of insufficient information on nature or Natura 2000.



Graph: Percentages of EA and EA/AA cases which required added information in general and specifically on the aspects nature or Natura 2000 (for the exact numbers see the table).

Appendix 7: Data visitors website NCEA

Total number of visitors	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Average
Searching Projects	1097	1.244	952	1147	814	1225	734	832	1006
Published Advices	538	544	776	670	588	980	842	518	682
Searching Advices	781	810	850	865	747	906	841	645	806
Ongoing advices	546	647	755	717	753	682	677	474	656
									3150

Total number of visitors of the NCEA website (<http://www.commissiemer.nl/>) during the first eight months of 2008 (NCEA, 2009)

Unique visitors	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Average
Searching Projects	264	252	249	247	197	270	196	176	231
Published Advices	352	348	443	338	352	478	455	324	386
Searching Advices	597	611	648	644	585	706	673	523	623
Ongoing advices	271	302	335	319	315	280	313	248	298
									1539

Number of unique visitors of the NCEA website (<http://www.commissiemer.nl/>) during the first eight months of 2008 (NCEA, 2009)

Appendix 8: The actual impact of EAs, AAs and EA/AAs on decision-making

Actual importance of the factor for the total impact of the instrument on decision-making	EA	AA	EA / AA	
	EA on DEA-decision	AA on NCA-decision	EA on decision subject to AA (NCA-dec.)	AA on decision subject to EA (DEA-dec.)
Factor				
Flexibility	+	+	--	++
Stakeholder participation	0	--	0	--
Transparency	+	--	+	0
Binding character	+	++	0	0
Openness of decision-makers	+	+	--	--
Quality	++	+	++	++

Table: Explaining the impact of EAs, AAs and EA/AA combinations on decision-making in the Netherlands, based on the scores on the impact influencing factors

Appendix 9: List of interviewees

- *Mr. H. (Hans) Griep*, Mediator at the Dutch Ministry of Agriculture, Nature and Food Quality (ANFQ). Expertise: NCA-decision-making and AAs (in combination with EAs). Held at the office of the ANFQ in Utrecht on November 6, 2009.
E-mail: L.j.griep@minlnv.nl
- *Drs. M.E.A. (Mirjam) Broekmeyer*, Researcher at the Alterra research institute, Wageningen University. Expertise: Ecology, Environmental policy and spatial planning. Fields of interest (a.o.): zoning plans, habitats directive, Natura 2000, nature policy, nature conservation law, spatial planning, legislation etc. Held at Wageningen University in Wageningen, on December 10, 2009.
E-mail: Mirjam.Broekmeyer@wur.nl
- *Drs. T. (Trineke) Bakker*, Nature Conservation Act licensing authority at the Province of Noord-Brabant. Experience: (a.o.) former technical secretary at NCEA, currently NCA licensing authority, hence experience with EAs as well as AAs. Held at the 'Provinciehuis Noord-Brabant' in 's-Hertogenbosch on December 14, 2009.
E-mail: TBakker@brabant.nl
- *Drs. C. (Catelijne) Vermeulen*, Employee at the Dutch Ministry of Agriculture, Nature and Food Quality (ANFQ). Several telephonic conversations during the months May, June and July, 2009.
E-mail: C.vermeulen@minlnv.nl
- Numerous (more than 10) *technical secretaries* at the NCEA. With those experts not a structured interview was done, but instead spontaneous conversations and discussions were held which have provided very much practical information.

Appendix 10: Questionnaire for helicopter interviews

Several interviews have been taken with experts who have a 'helicopter view' on the EA/AA field in the Netherlands. This questionnaire was used as a guideline for each interview. However, during each interview questions have been added to this list because I anticipated on turns the interviews took and the information which already had been given during the interviews. Therefore, the interviews were more like normal conversations instead of question-answer interviews and this questionnaire was only used as a guideline or checklist. Each interview took at least 90 minutes to take.

Introduction of the respondent

- What is the function of the respondent?
- What is the experience of the respondent with EA, AA and EA/AA combinations?

1 Preliminary question (the respondent's opinion is not influenced yet by the way the questions are asked during the questionnaire)

- What in your opinion is the value of combining EAs and AAs in comparison to the individual use of the instruments?

Introduction of the research (all respondents received an introduction document to my research in order to enable them to prepare properly for the research). For instance my definition of 'impact' was introduced.

2 General questions

- Do you think that individual EAs in general have a bigger impact on decision-making than individual AAs? Or is the reverse the case?
- How does this relate to the impact of EA/AA combinations in general? Is it bigger or smaller than the impact of individual EAs? And AAs?

A short introduction to the impact factors was given.

3 Flexibility

- A-Does the flexibility of AAs regarding their contents has any consequences for the impact of AAs on decision-making?
 - Is the quality of AAs affected by this flexibility? If yes, in what way?
- B-EAs are far less flexible regarding contents, how do the obligations in EAs affect their impact on decision-making?
 - Could more flexibility improve the impact of EAs on decision-making?
- C-Does the flexibility of AAs allow them to fit in EAs in EA/AA combinations? In what way are the contents of both reports affected?
 - Can this be considered an opportunity or a threat, considering the impact of EA/AA combinations?
 - Do the alternatives researched in EAs affect the contents of AAs in EA/AA combinations? If yes, don't you think this research on alternatives is delaying AAs (they do not need to consider alternatives for the NCA decision)? Is the research on alternatives redundant from an AA point of view? Or can it have positive effects on the impact of AAs in EA/AA combinations, since alternatives are considered earlier in the NCA procedure than they would normally would have been (in AA already instead of the ADC-phase)?
 - Can a final decision deviate from the original proposal in AA cases, for instance due to the research on alternatives?

4 Participation

A Participation is not legally mandatory in AAs

-Do you think this is a good situation? Especially regarding the impact of the instruments on decision-making?

-What is the actual situation in practice? What is the role of participation in AAs?

-Does it have an impact in practice? And to what extent?

B In EAs, participation is legally mandatory

-Do you think this is a good situation? Especially regarding the impact of the instruments on decision-making?

-What is the actual situation in practice? What is the role of participation in AAs?

-Does it have an impact in practice? And to what extent?

C In EA/AAs participation is legally mandatory, due to EA procedures

-Do you think this is a good situation? Especially regarding the impact of the instruments on decision-making?

-Does this situation enable participation in AA-parts where this normally would not have been the case?

-Does this lead to substantial differences with normal AAs? Hence, is participation of added value, especially regarding the impact of the AA-parts on decision-making? Or does it lead to longer procedures?

-Can be concluded from the EA/AA situation that participation should be enabled in normal, individual AAs as well?

5 Transparency

A -Do AAs need to be less transparent than EAs, because no participation is possible?

-In NCA decisions in general no quantitative data are available, what is your opinion about this situation?

-Would a higher level of transparency be of added value for the impact of AAs on decision-making?

B -Participation is possible in EAs. Do these instruments need to be more transparent than AAs?

-Does the high level of transparency of EAs positively influence the impact of these instruments on decision-making? Does it increase social control? Or is it negatively influencing the impact of EAs on decision-making? Too simplistic because also lay-person should be able to understand it? Too much paper work etc?

C -Do AA-parts of EA/AA combinations get more transparent than normal AAs due to their combination with EAs?

-What are the consequences of this for the impact of these instruments on decision-making?

6 Binding character

A -In AAs the direct impact of the results on decision-making is legally mandatory. When significant negative effects cannot be excluded for sure, no license can be given. Is this regime also that strict in practice? Does it actually work that way?

-To what extent does this determine the impact of AAs on decision-making.

B -In EA can be deviated from the results of the EIS. Does this happen often in practice?

-Does this make the binding character regarding the use of the results of EAs, less strict than the same regime of AAs?

-What are the implications of the situation above for the impact of EAs on decision-making?

C -The binding character of EAs and AAs is different. Is this a problem for EA/AA combinations? Does the more strict regime enforce the less strict regime, or does the less strict regime weaken the more strict one? Does this situation lead to difficulties regarding the use of the results of the different assessments for the different decision-making procedures?

7 Quality

A -For AAs the most recent information often is not sufficient and new researches are needed. Do decision-makers often ask for such researches?

-Is the less transparent character of AAs of any influence for the quality of these assessments? (do initiators try to do as less as possible?)

-Since the competent authority needs to check the quality of AAs, a lot depends on the competences of the provinces and the ANFQ. How high do you think these competences are?

-Do decision-makers often ask for additional information in AA cases?

-Would an independent monitoring organization be of added value for the quality of AAs?

-To what extent do you think a good quality of AAs influences the impact of the instruments on decision-making?

B –In EAs the NCEA is included as an independent monitoring organization. Do you think this is of added value for the quality of EAs? Is it better than the situation where the quality of assessment solely is checked by competent authorities?

-To what extent does the inclusion of the NCEA in the procedures have an impact on decision-making?

-To what extent does a better quality influence the impact of EAs on decision-making?

C –Do additional researches on AA-parts of EA/AA combinations in order to provide the most recent information, delay EA procedures?

-Are AA-parts better and/or more extensive than normal nature parts of EAs? Or is their focus too narrow (e.g. only on the effects on N2000)?

-Does the quality of AA-parts of EA/AA combinations get checked twice (e.g. by the NCEA as well as the competent authority)?

-Does this lead to better quality? So, is the quality of EA/AAs better than the quality of individual EAs and AAs? Does this influence the impact of EA/AAs on decision-making?

-Do AA-parts of EA/AAs take longer to be made than normal/individual AAs?

-Do EISs which include AA-parts take longer to be made than normal EISs without AA-parts?

-The NCEA asks for additional information very often in EA/AA cases. What do you think is the most important reason for this situation? Are AA-parts of bad quality? Is the NCEA more strict when the two instruments are been combined? Is the combination of the two instruments too complicated for initiators? Are the two instruments not aligned sufficiently (yet)? Does the role of the competent authority remain unclear? etc.

8 Openness

A –The NCA (and thereby the use of AAs in the Netherlands) only has been enforced 5 years ago, while EAs already have been used for more than 20 years. Is this a reason for decision-makers to stand more open for the use of EAs than for the use of AAs? Are decision-makers not used to the use of AAs and do rather not use these instruments (yet)?

B –Is the opinion of decision-makers that the use of EA/AAs is too complicated? Expensive? Time consuming? Unproven and unknown?

9 General

A –Do EA/AAs in your opinion have any added value for DEA decision-making? And for NCA decision-making?

B – Does an AA-part of EA/AAs have any impact on DEA decision-making?

– Does an EA-part of EA/AAs have any impact on NCA decision-making?

C –What is the most important factor for the impact of the instruments on decision-making (in your opinion)?

