

“Using knowledge for decision-making purposes in the context of
large projects in The Netherlands”

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Using knowledge for decision-making purposes in the context of large projects in The Netherlands

0 Abstract

Policy-related research in general, and Impact Assessments in particular, are too loosely connected to decision-making processes. The result is often sub-optimal or even undesirable, as one of two situations arises: 1) much research is done; however, those with the real power to make decisions do not make use of all of the resulting information, or 2) advocates of contrary opinions struggle with each other, using policy-related research as ammunition. To avoid these unwanted situations, the connection between the world of knowledge and the world of decision-making should be carefully constructed, by connecting the process of decision-making to the academic research and carefully developing research goals in response to the demands of decision-makers. By making these connections in a stepwise manner, knowledge may generate new insights and views for involved decision-makers and stakeholders, thus changing perceptions and problem definitions. In this way, these actors learn about the possibilities of several alternatives as well as each other's perceptions, and thus can make educated decisions leading to the most desirable and socially acceptable solution. The way this proposed method works is illustrated using two cases in The Netherlands: the project "Mainport Rotterdam" (the enlargement of the port of Rotterdam), the project "A fifth runway for Amsterdam Airport (Schiphol)".

Keywords: decision-making processes, multi-actor decision-making, policy-related research, impact assessments, negotiated knowledge

1 Introduction

1.1 *What is this paper about?*

Impact Assessment could be made more effective

Policy-related research (Impact Assessment included) in general is too loosely connected to decision-making processes. There are several examples of projects or policy changes where vast amounts of money were spent on research and IAs were executed. Nevertheless, the decision-makers could not make use of, or deal with, the outcomes of all of this research. Carefully planned and structured research seemed to be of little importance to those with the real power to decide. In addition, research often becomes part of an endless debate about its own value. Advocates of contrary opinions often cannot even reach consensus about the validity of the outcomes of the research.

The International Association for Impact Assessment (IAIA), in its meeting in The Hague in June 2002, has emphasized that a general shortcoming of Impact Assessment is its weak linkage to decision-making. This was reiterated in the IAIA contribution to the World Summit on Sustainable Development in Johannesburg in 2002, as one of the recommendations for actions to all countries (IAIA, 2002). Decision-makers are often not open to the suggestions made in impact assessments. The authors of this paper explore this problem, by analyzing the linkage between knowledge and decision-making. Such knowledge and information is the result of some form of impact assessment, as defined by IAIA. However, in the view of the authors and as illustrated by Dutch cases, the way in which such information is generated determines whether that information is meaningful to decision-makers. The process by which impact assessment is executed therefore is of crucial importance to its effectiveness. The authors argue that a meaningful distinction between the process of impact assessment and the process of decision-making is difficult to make.

Wanted: mechanisms to create a learning process

This paper is written in the Dutch political context, which has now reached a stage where no single decision-maker has the power to act on his/her own. In the context of a powerful civil society and businesses, “central steering” is seen by many as unworkable and unwanted. The true power, according to most Dutch scholars in administrative science, is in the informal policy networks that support formal decision-makers (e.g. Teisman 1992; Kickert 1997; De Bruin, 1998, 1999). In this context, effective impact assessment amounts to creating a learning process among these networks. The authors argue that decision-makers mainly learn through negotiation about knowledge. This paper provides ideas and insights into mechanisms that may create such a learning process. Such mechanisms are illustrated for two cases in The Netherlands:

1. The enlargement of the port of Rotterdam (“Project Mainport Rotterdam”). In this case an informal arena developed recommendations to the formal decision-maker, which were accepted as the basis of the decision about port development.
2. A fifth runway for Amsterdam Airport Schiphol. In this case, several informal platforms were erected, but the learning and cooperation process succeeded only in part.

Target audience for this paper

The authors like to state that the intention behind this paper is not to contribute to new scientific theory. Rather, the authors wish to place the theories about Impact Assessment in the wider context of existing theories of the social sciences, in particular the theory about policy networks and governance which has been put forward by authors such as Sabatier, Susskind, Scharpf, Kingdon, Rhodes and Teisman. (note that only one of these is Dutch). In our view, for those

practitioners of impact assessment that are open to more cooperative methods of policy making in situations of conflict, and approaches such as joint fact finding, this paper could provide some interesting thoughts and examples.

A note to the reader

Following a problem description with more detailed definitions, first the theoretical basis for our proposed way of connecting the world of knowledge to the world of decision-making is assessed; this is done in chapter 2. Secondly the two cases are described in chapter 3. Chapter 4 deals with the case-analysis using the theoretical background provided in chapter 2. The conclusion and recommendations are finally presented in chapter 5.

1.2 Definitions and position of the authors

Scope: Impact Assessment as part of decision-making

The world of knowledge relevant to policy in general is central to this paper, meaning that the scope is limited to policy-related research in general and to Impact Assessments in particular. The authors use the definition for IAs according to the International Association for Impact Assessment (IAIA), which defines Impact Assessment as follows: *Impact assessment, simply defined, is the process of identifying the future consequences of a current or proposed action* (www.iaia.org). IA is a class of instruments with a broad scope, from sustainability impact assessment to gender impact assessment, which “provides a key means of implementing sustainable development when major actions are proposed and before decisions are made. ... Because of its widespread use, environmental impact assessment offers a practical basis for leveraging an integrated, participatory approach that can help achieve the three goals of sustainable development” (IAIA, 2002). According to Nooteboom (in press), generic features of these instruments are that they all involve a standardized process, which ensures: a) transparency to those who are not primarily involved in that process, and b) quality information of some specific kind through checks and balances (public review).

This is how impact assessment can be distinguished from:

1. impact studies at large,
2. self-evaluations, interactive policy making at large, and
3. quality assurance systems at large.

Decision-making in policy networks

In the authors' view, the world of decision-making is determined not only by formal procedures and governmental bodies, but also consists largely of informal processes wherein various actors negotiate with each other. The question central to this paper is how these two worlds can be connected, keeping in mind that decision-making is a political process oriented toward social acceptability and gaining electoral advantages. If IAs can be made more relevant to decision-makers, the quality of decisions can be improved - under the strict condition that good governance provides for a checked-and-balanced decision-making process. The view we take in this paper, is that there is always to some extent a power balance between different governmental parties, the civil society and corporations, reflected by discussions in parliament. These actors represent the array of most societal interests. They include, for example, the often-present not-in-my-backyard lobby. The main Dutch environment groups, for example, have shifted to a more cooperative position. Of course, there are also relatively extremist groups and individuals who do not take part in the policy arena in a constructive way. The body that is competent for decision-making (in the Dutch context), for example the full Council of Ministers, has the responsibility to decide whether policy proposals have been developed in

balance, and whether all voices have been heard, reported and responded to, including actors in the “conflict mode”. In addition, in the case of formal EIAs, the independent Commission on EIA publicly expresses its views about relevant or forgotten interests.

Agreement about information is not the same as agreement about policies

However, agreement about balance in the process of planning is not the same as agreement about the policy itself, since different views remain. It is better viewed as agreeing on the validity of information rather than agreeing on the political choices made. Wide agreement on the validity, completeness and usefulness of impact information in a transparent and participative planning process, supervised by a legitimate democratic government, is in our view an example of good governance. This statement is in line with definitions given by the European Commission in its European Governance White Paper (2001) and by the United Nations (2000)

Criteria for good IAs in a context of power balance

As seen above, one way of defining an effective IA would be a process where views and perceptions of as many actors as possible are accounted for. Due to our social constructivist assumption, there is no single truth. Various actors have their own view of reality. Hence, in terms of Teisman’s approach (1992) the criterion for effective and efficient IAs is ex-post satisficing, meaning the extent to which involved actors are satisfied with the result of the policy-process. This satisfaction may be determined by a (neutral) ex-post evaluation of the perceptions of actors. The main question to ask the actors is whether the result of the policy-process was satisfactory to them; for IAs this means that all involved actors should be satisfied with their results. Designing transparent processes of gathering knowledge with involved actors conjointly will definitely help in making the results of the research more satisfying.

Obviously different types of actors can use different types of criteria for IAs to be satisfactory to them. For example, negotiating actors having relevant means for the decision-making process (financial resources, power or influence) may only be interested in the issues relevant to themselves. The competent authority may be interested in the balanced development of the impact information. Scientists doing the research, often use criteria such as completeness of information. Even though research done for an IA has to be scientifically sound, in our view, effectiveness is dominated by the ex-post-satisficing about the IA by involved actors.

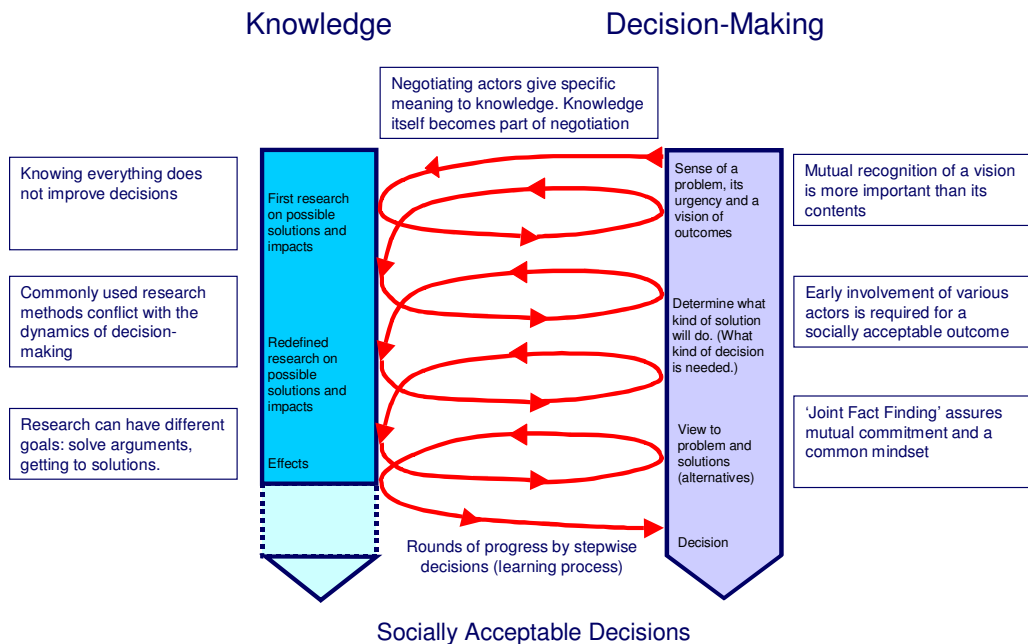
The Dutch situation: product of a learning process leveraged by IA?

In The Netherlands after decades of applying impact assessment the situation developed as above described, IA’s are tried to be made in the context multi-actor networks and practitioners try to cope with different research demands by different actors. In previous times, information about impacts was used in less constructive ways, and primarily with the aim to turn proposals around at a late stage of planning, or to put issues on the mainstream political agenda where they had not been before. According to most Dutch political scientists, the effectiveness of impact assessment is no longer constrained by a lack of legal provisions for impact assessment, or by a lack of high quality impact assessments. The main constraint is the limited ability of most involved actors to take part in a social learning process that effectively addresses complex issues. Thus, perhaps the impact assessment regulations may be said to have acted as a lever for more balanced processes, and the first strides on a path towards social learning about complex political problems. Within the context of formal decision-making powers of the government, balanced planning processes emerge, quite in line with recent discussions about governance (Scharpf 1993, Rhodes 1997). Within this context, impact assessment could become truly effective, although less recognizable.

2 Rounds of progress by stepwise decision-making and assessing

The authors' alternative approach to the conduct of IAs and the proposed linkage of the world of knowledge to the world of decision-making is graphically represented by the figure below.

Figure 1: Rounds of progress by stepwise decisions; each turn of the spiral is a round of decision-making and a round of assessment



The basic principle of this approach is that the decision-making process dictates the research. Researchers are forced to cope with the dynamic character of decision-making, a dynamism mainly caused by the different perceptions of negotiating actors, by adapting their research to the changing demands. By adapting in a stepwise manner, knowledge may generate new insights and views for the involved actors, thus changing their perceptions and problem definitions. In this way, the involved actors learn about the possibilities of several alternatives, and they learn about each other's perceptions; thus, through learning, the most desirable and socially acceptable decision is achieved.

In this section, this model is elaborated upon, first by giving an overview of scientific views about how decision-makers look at knowledge. Secondly, practical recommendations are presented for conducting IAs, based on experience in The Netherlands. In the following section, the six statements presented on both sides of the model above are examined. The statement "Research can have different goals: settling arguments or arriving at solutions" is examined in particular; by elaborating on the other two statements about the use of knowledge, it is made clear that different goals can be discerned for the conduct of research. The statements on the decision-making process are also elaborated upon in section 3.

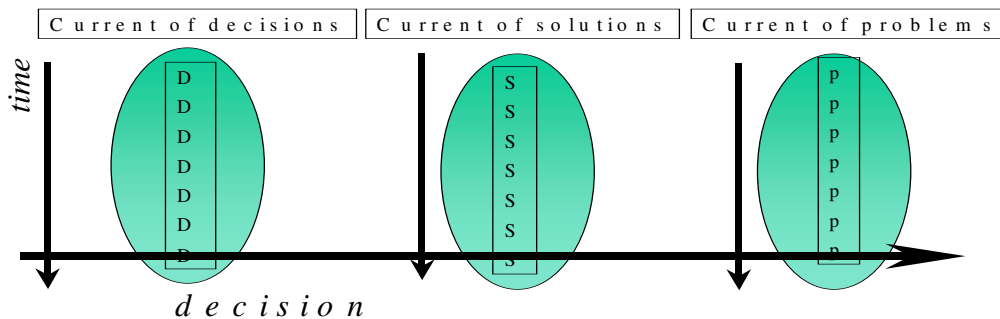
2.1 How do decision-makers look at knowledge?

Within the constraints of formal procedures and governmental bodies with specific roles and tasks (and thus checked-and-balanced), decision-making can be perceived as a game played by negotiating actors operating in informal and semi-formal forums. Those actors are related to each other because they are mutually dependent in order to reach their goals (Teisman, 1992). Each actor has a specific perception of reality in relation to his or her interests. This interest is expressed in terms of the definition the actors use for the problem or problems that are at stake (Schön and Rein, 1994). The way in which IAs are to be conducted should fit the dynamics of negotiation and changing problem definitions.

Windows of opportunity

As a result of the above-described situation, the policy and decision-making process can be considered as a series of “currents” of problems and solutions. Decisions are taken when there is a window of opportunity, meaning that there is a problem that is urgent to most actors - and that there is a solution they can support. When these conditions are met, decision-makers are inclined to decide (Kingdon, 1995; Teisman, 1992).

Figure 2: Currents of problems, solutions, and decisions. These are always “on the market”, but progress is only made when the three of them match together.



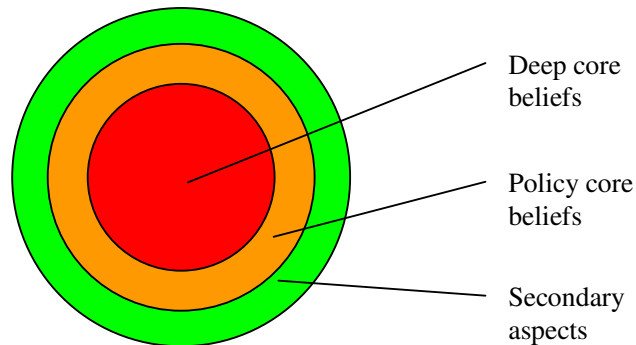
By deciding step-by-step in different rounds, and thus gradually changing the nature of the goals and problem definitions, negotiating actors can reach consensus about a problem and its solution (Teisman, 1992). Generating knowledge in an equal stepwise manner that is carefully linked to the steps of the decision-making process would effectively improve the quality of the decision and hence the chosen solution. In Figure 1, this possibility is represented through the spiral: each turn of the spiral represents a round of decision-making and a round of assessment.

In this approach, policy-making as well as decision-making occurs in (informal) arenas where NGOs (stakeholders) and government bodies meet, discuss and debate decisions and their implementation. The relationship between these involved actors is best described in terms of networks of reciprocity. These networks are characterized by the condition that actors are interdependent to achieve their goals. Actors do not have the sole power to make decisions on their own. Government bodies are dependent on stakeholders because the stakeholders have the potential to obstruct decision-making (most procedures provide for a legal framework NGOs can use for this purpose). On the other hand, stakeholders may have a particular goal; in order to achieve this goal they need the government to ratify certain plans. The result is that actors negotiate with each other in different arenas in which they try to influence decision-makers (Teisman, 1992; De Bruin, Ten Heuvelhof and in 't Veld, 1998; De Bruin & Ten Heuvelhof, 1999; Edelenbos 2000).

Belief systems

The reality of policy-making and decision-making also illustrates that most actors have their own specific perception of reality. These perceptions are based on beliefs. Sabatier (1988) discerns three types of beliefs: deep core beliefs, policy core beliefs and secondary aspects.

Figure 3: Perceptions of actors



Deep core beliefs contain basic assumptions about reality. Assumptions about human nature or epistemological beliefs, for example, are part of deep core beliefs. Policy core beliefs are the assumptions of actors about the content of the policy that has their interest; for example, in the case of Schiphol Airport (investigated below), the government believed that a fifth runway for Schiphol was necessary for further growth of the airport. Secondary aspects are more interchangeable aspects of the policy that actors easily adjust during the process. Sabatier (1988) poses first that deep core beliefs are rarely changed as a result of negotiation of actors. Secondly, he poses that policy core beliefs are also rarely changed; nevertheless, policy core beliefs are changed more often than deep core beliefs. Secondary aspects, however, are changed quite often during the process of negotiation. An example of a secondary aspect in the discussion about the second land reclamation for the port of Rotterdam (also investigated in further depth below) is the question of the location for a large site for the development of a nature reserve. In this case, all involved actors had their own perception of the best location for the nature reserve (as a mitigation measure for the land reclamation). The actors negotiated amongst themselves about the location, trying to create an acceptable solution for all parties. A good example of an solution that is acceptable would be a larger nature reserve on a slightly different location. This could be a strategy for the nature NGOs to maximize the result of the negotiations. This example illustrates that actors are willing to give up some of their secondary aspects in order to achieve a more optimal outcome of the negotiation for all parties.

Frame reflection

Schön and Rein (1994) added the idea of “Frame reflection” to the ideas about perceptions of negotiating actors. They observed that, in some situations, there is endless debate about an issue and no resolution. This situation can be termed an intractable policy controversy; according to Sabatier (1988), this situation is characterized by the fact that the deep core beliefs and policy core beliefs of involved actors are fundamentally different. The central idea of the Schön and Rein proposal (Ibid.) is that actors try to reflect upon the ‘frames’ or ‘beliefs’ of other actors in terms of the way actors define the problem that is at stake. By reflecting on each other’s ‘frames’, actors try to understand the position of other actors, and hence try to resolve the controversy. Van Eetens’ (1999) solution is slightly different, but fits the Schön and Reins proposal: he proposes defining new agendas for the arenas of decision-making, focusing on issues that contain potential deals to be closed by stakeholders. By defining new agendas, actors can prevent meeting the same pitfalls met earlier in debate.

In conclusion, the authors' approach is characterized by the fact that interdependent actors negotiate with each other about different solutions to certain problems, thus creating windows of opportunity for decision-makers. The way in which actors perceive reality (the way they define the problem and value solutions) influences negotiations. Knowledge can become part of negotiation. If knowledge becomes part of debate about values, and a joint approach fails, it is very likely that an intractable policy controversy will be created. In the next paragraph, a method by which knowledge can be effectively used during the process of decision-making is presented.

2.2 Coping with dynamics of decision-making

Social sciences in general, as well as practical cases of Impact Assessment in The Netherlands analyzed in this paper, teach several lessons for those who are involved in Impact Assessment. In this section, recommendations are made based upon experiences in the field. The recommendations made are an elaboration of the proposed model for coupling the worlds of knowledge and of decision-making. This model is illustrated in the following chapter, in which the cases are examined.

Impact Assessments: how outcomes can be effective to decisions

Impact Assessment is commonly defined as an instrument used to make better decisions. It is not an instrument that aims to organize resistance against proposed decisions, yet in countries where Impact Assessment has just been introduced, this resistance is often precisely the effect that is brought about. Applying Impact Assessment in such a way that it contributes to better decisions - without increasing the cost of decision-making - may take decades. In The Netherlands, even after 30 years of practicing IA, many inefficient Impact Assessments still occur. In spite of the fact that some inefficiency still occurs, after this longer experience, Dutch expertise can be used to make some recommendations to impact assessors.

Impact Assessment is commonly described as a process that follows several steps, such as screening (to decide whether a proposed decision requires an Impact Assessment), scoping (to decide which impacts should be considered, or which alternatives to the proposed decision should be considered), assessment (to assess the impacts and develop the alternatives), and decision-making (by a formal, democratic decision-maker, such as the Cabinet or similar governmental body). In many countries, including The Netherlands, decision-makers still assign the responsibility for organizing such processes to civil servants and experts. From experiences in The Netherlands, however, it has become clear that those who have political influence, such as the formal decision-makers, should be involved not only at the stage of decision-making, but also in earlier stages in the process. (Also see IAIA 2002: Findings / Final Results¹).

Formal decision-makers should, for example, express their views about the scope of Impact Assessments. This involvement increases the likelihood that knowledge is used as an instrument for learning rather than as a weapon for fighting. The stakeholders who are skeptical about the proposal, as well as their political representatives, should participate in such a learning process as well. The skeptics should have a dialogue with their opponents about the relevance of impacts, about the assumptions behind a problem description used to legitimize proposed decisions, and about the validity of baseline data and assessment methods or the reliability of research institutes.

Difficulties using Impact Assessments

However, such a learning process can be a delicate matter. Co-operation and open-mindedness depend upon trust between parties, an aspect often lacking in such situations. Recent practice in

¹ www.iaia.org click: "conference"

The Netherlands demonstrates that in many cases trust can (gradually) develop if the manager of the formal decision-making and assessment process takes sensitivities into consideration as the process is designed. For example, it may help to ask leaders of opposing stakeholder groups – each with his/her own interest to defend - to meet one another in small groups, in order to get acquainted and to build up trust. Then, these groups can make more efficient progress towards a common mindset of steps to take in order to develop a joint recommendation to the formal decision-maker. In early stages, this recommendation may concern screening or scoping, while later it may also concern the Impact Assessment report and the proposed decision. The more stakeholder groups are represented in such “arenas”, the more difficult it becomes for the formal decision-maker not to follow their views or advice. The advice need not even be unanimous: opposing views can be represented and compared (to “agree to disagree”).

A major difficulty is that such arenas do not self-organize. Self-organization is limited to interests that are already overlapping and where trust has been built up in the past. In The Netherlands, it has proven helpful if a neutral person (process intermediary) facilitates these arenas. This person may be hired by the parties or by the formal process manager, as long as the parties are willing to negotiate under his/her guidance and coordination. The process intermediary may use an array of facilitating techniques that focus the negotiation process on knowledge, so that the parties develop joint perceptions of the problem (rather than negotiate a political compromise). The parties then negotiate until they encounter uncertainties that can be resolved by jointly asking the assistance of research institutes, and jointly formulating the questions these institutes should answer (joint fact-finding). Experience in The Netherlands demonstrates that assigning a neutral facilitator may often represent a more efficient approach to effective and sound decision-making than assigning unilateral research to resolve uncertainties.

To develop such arenas in a credible manner (so that they can be politically influential) is not an easy matter. All the actors need to learn to play their roles; this situation is made more complex by the fact that one actor may play several roles at the same time in the same process, and that the actor might have to split these roles up over several persons. In particular, the authority representing the formal decision-maker (for example, a minister may represent Cabinet) might not be perceived as neutral. Such a person then is unacceptable as a process facilitator for many parties. The person then needs to ask the assistance of a neutral facilitator. Another example of dual or multiple roles is that of a researcher that acts as a stakeholder as well; e.g. a bird watcher’s NGO may deliver data for an IA, but also have a stake in protecting the environment. This example demonstrates a role conflict in that the results presented by the bird watcher’s NGO are not trusted by other stakeholders. Only when there is consensus about basic assumptions can the research be acceptable for other actors.

Finally, arenas need to be small. Building up trust and efficient negotiation only succeeds in small groups of less than fifteen members. However, such small arenas should represent the full spectrum of social interests, many of which might not be organized into NGOs that are commonly seen as legitimate representatives of that interest. Time is required for such a “civil society” to develop. As it happened in The Netherlands, the government can support NGOs until they have proven their usefulness to their supporters, after which they become self-supporting.

3 Case descriptions

3.1 *The enlargement of the port of Rotterdam*

Spatial planning procedure to address a possible area shortage in the Port of Rotterdam

In the early 1990s, enterprises in the Port of Rotterdam claimed that new industrial port area was needed to provide for growth of port activities, and therefore proposed a second large land reclamation in the North Sea. The environment movement opposed this solution from the start, questioning the need for additional port area. In 1997 the government decided to initiate the spatial planning procedure (PKB) to address the possible area shortage. This process considered the future of land use in the Port of Rotterdam, a major project called Project Mainport Rotterdam (PMR). The procedure ended in 2002 when the PKB decision was ratified. This decision was based on joint recommendations by organizations of civil society and local governments. The minister of transport had requested these recommendations after efforts of the administration to prepare a draft PKB had failed.

A double objective and a bureaucratic approach

At the start of the PKB-procedure, the government defined a so-called double objective for PMR. Its first objective was to define the port's needs for land and to choose locations as required. The second objective was to improve the environmental quality of the port and its surrounding area. Linking these objectives together created a balanced cooperation (based on interdependencies) between economic, transport and environmental ministries and stakeholder organizations. The administration was assigned to develop a draft PKB and an EIA. The involved ministries provided civil servants who worked together in a project bureau, under coordination of the Ministry of Transport. The project bureau split the study up into themes and "directions for solutions" that would be addressed one by one before being integrated into alternatives.

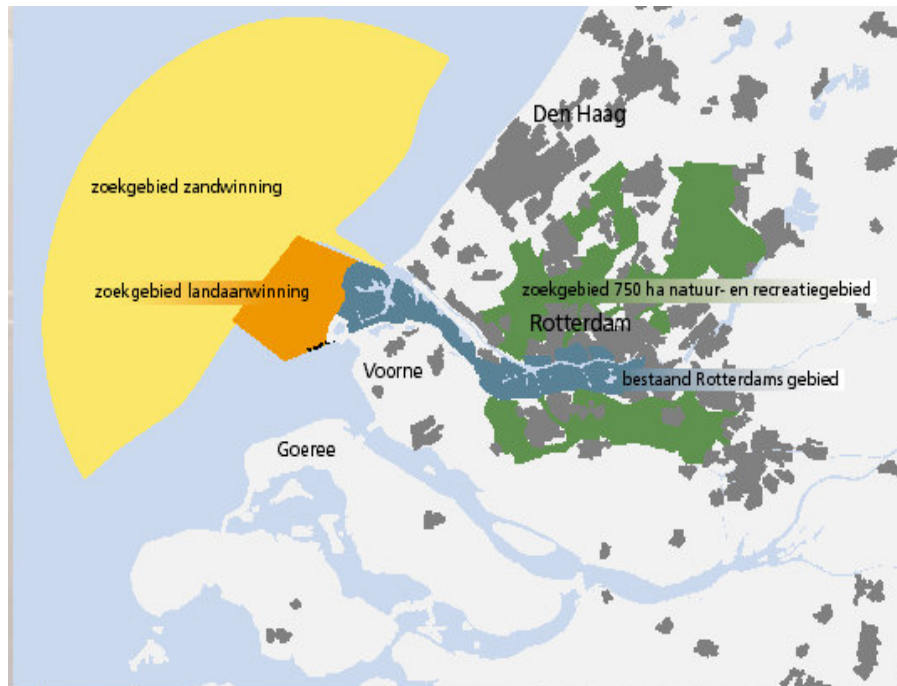
A clash and remediation

Stakeholder organizations were "consulted" by the project bureau, and they were asked to reflect on the documents it produced. Stakeholders occasionally met with high-placed administrators, but their influence on the planning process was basically reactive. This attitude of government towards the stakeholders resulted in a clash after several years. Environmental NGOs became increasingly convinced that PMR was not taking all of the feasible solutions seriously. It took half a year to resolve this problem.

After mediation by the respected ex-politician Hans Alders, a new approach was chosen for consulting stakeholders, entitled 'Summit Deliberation new style', or "ONR". An independent person would chair ONR, assisted by a neutral secretariat. ONR would not communicate about planning decisions with the national administration, but would only communicate directly with the Cabinet in the "Summit Deliberation". ONR would itself prepare, assign and interpret any necessary research, but participation in ONR would not foreclose legal rights of the participants to appeal against any formal decisions. In this way, the stakeholders acquired a proactive role in the planning process, and they were stimulated to work together in order to prepare potentially influential recommendations. Despite the fact that port lobbies and environmental movement had been opposing each other for years, these groups were able to develop a joint vision on the port within several months, whereas the government had failed to achieve such an achievement over a period of several years of work. For the port lobby, the land reclamation and (later) industrial development were important. For the environment lobby, the important issue was independent attention for nature development. All agreed on the importance of high quality of

life, which provided a mental link between the parties. The PKB has been made fully in line with the ONR recommendations. The core of the spatial decision is shown in the figure below.

Figure 4: Main areas for PMR



Legend: Yellow: possible area for sand depletion for the second land reclamation.
 Orange: possible area for the second land reclamation.
 Green: possible area for the development of nature.
 Blue: possible area for plans concerning existing areas with harbor activities.

3.2 A fifth runway for Amsterdam Airport Schiphol

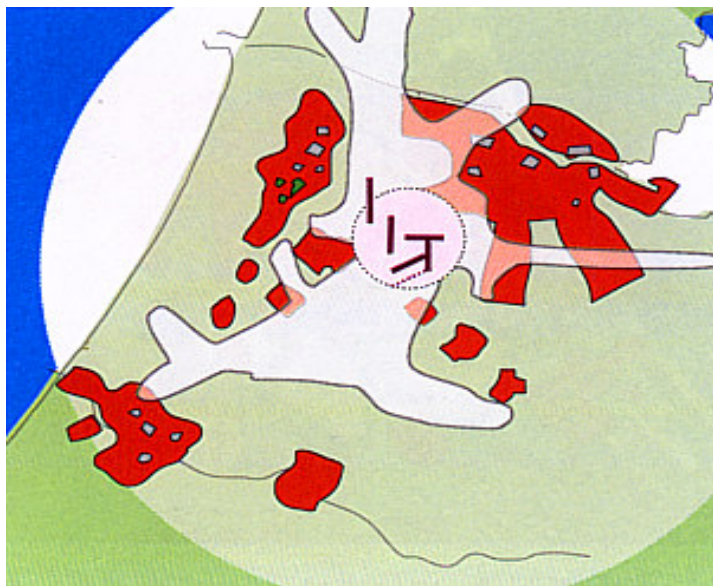
Informal arenas addressed airport growth and influenced several formal decisions

During the last decades of the 20th century, the Amsterdam Schiphol Airport saw rapid development. This development increased the required runway capacity and the pressure on the environment. Public decision-making about airport development and allowable environmental impacts has been a major issue. The most controversial issue has been the construction of a fifth runway. The decision-making process about Schiphol has been structured by a number of formal decisions and environmental assessment procedures, but most of the actual negotiations took place in informal, nonetheless influential, arenas organized by the government. The level of NGO participation in these arenas grew over time. After failing efforts to make widely supported decisions, and as a response to increasing polarization and political conflict, the government allowed the anti-airport lobby to take part in the informal planning arena. This decision led to a joint learning process where knowledge and information were used more efficiently. The main arenas were successively as follows: the Commission Noise Nuisance Schiphol (from the early 1980s), the Temporary Consultative Platform Schiphol TOPS (in 1999) and the Regional Deliberation Schiphol (as of 2002).

The process did not lead to a wide acceptance of the fifth runway

Debates were dominated by a dispute about the need for a fifth runway. This idea had been informally agreed upon and pursued by the airport lobby and national, regional and local authorities in the late 1980s. Despite the fact that opponents later used all legal means to stop this development, all they could achieve was an ambivalent promise, eventually entitled the “double objective” of Schiphol (“The Implementation Plan Schiphol and its Area (PASO)”). The first objective was to develop a fifth runway and the second, but equally important, objective was to improve the environment. The environmental quality related in particular to the number of people exposed to excessive noise and the risk of airplane crashes. Figure 5 shows the overlap between noise contours and urban areas. The construction of the fifth runway was completed in 2002, and the noise and safety issues were temporarily resolved through a zoning plan implemented in 1995. Nevertheless, due to higher-than-anticipated growth of air traffic, the noise zones could not be maintained. The airport won the legal proceedings. The environment movement and the local population have never accepted the decision to construct a fifth runway.

Figure 5: Noise contours and urban areas



Noise contours (white) reflect the pattern of runways. They overlap with urban areas (red)

The process led to a wider understanding on several relatively minor issues

Despite the continuing controversy surrounding the fifth runway, inviting opponents into the informal arena did in any case lead to a wider agreement about several other issues. The main agreements made addressed the degree of control of air traffic growth and the regulation of the environment. Measures taken apart from zoning related to airport management, in particular air traffic management (frequency, location and timing of takeoffs), fleet composition and the airport capacity itself. Air traffic is controlled by an integrated information and management system jointly developed by the opposing actors.

4 Knowledge and decision-making in practice

4.1 *Knowing everything does not necessarily improve decisions*

The basic assumption of the model presented in this paper is that involved actors jointly define relevant issues, implying that policy-related research should concentrate on those issues that are important to the involved actors. This concentration is important for two reasons:

1. it limits the amount of money spent on research in early stages of decision-making, thus reducing the risk of performing irrelevant research, and
2. actors define the research questions together, thus increasing the chance that all involved actors subscribe to the results of the research.

The cases demonstrate that if these rules are not obeyed, the acquired knowledge is not used for making better decisions.

Mainport Rotterdam: research set-up did not provide for relevant results

One of the central discussions in the PMR process addressed the future need for new port area: Was the port enlargement really necessary? How many hectares of new industrial area were needed? Both the Rotterdam port authority and the Central Planning Bureau (CPB), an independent research institute that advises the Dutch Government, had conclusive research results. However, the different sets of results presented were very different from each other. The Dutch Cabinet decided not to wait for the resolution of this debate, and decided that the area shortage was sufficiently demonstrated. The prognoses of the port authority and the CPB were used as upper and lower limits of a range of required surface area in hectares of industrial area. According to the Cabinet, the expansion of the Port of Rotterdam needed to be undertaken in order to fulfill the best scenario for economic growth. In the final PKB-decision, this decision was underpinned by a (yet to be initiated) cost-benefit analysis.

The tension between the port authority and the CPB was still there. In preparation of the cost-benefit analysis, neither party was willing to use the research results of the other, claiming that the other's results were prejudiced or biased.

Finally, the cost-benefit analysis was executed in cooperation between the CPB and the research institute that previously worked for the Rotterdam port authority. Still, both parties continued to argue about the interpretation of the results of the cost-benefit analysis.

The PMR process was mainly focused on finding solutions for the space shortage in the port of Rotterdam. The set-up of the project organization consisted mainly of a sizeable research program, the main goal of which was to investigate all possible alternatives, effects, and future developments. The research aimed to reduce lack of knowledge existing for the central government. Researchers did not focus on essential information for good decision-making. The research generated a great deal of information on an overly specific and detailed level.

One of the alternatives investigated was the possibility to relocate port developments to the southwest of The Netherlands, which would prevent extra land reclamation in the Rotterdam area. A project bureau was set up to investigate this alternative. Several studies were executed by research institutes and consultants.

However, after a short time it became obvious that the Southwest-Netherlands alternative could never be the solution for the space shortage in Rotterdam, because it lacked the possibility for a deep-sea container terminal. Nevertheless, all research was continued, working towards an all-conclusive report, even though the responsible Minister was convinced that the alternative did not suffice and it was clear to all that it would not be taken into account in further decision-making.

Schiphol Amsterdam Airport: research did not convince local stakeholders

In the case of the development of Schiphol Airport, most of the data gathered to work out an acceptable development plan for Schiphol arguably did not influence the outcomes of the decision-making process.

For example, researchers have mapped out in detail the noise contours of the airport in different situations, by means of noise dispersion models and by monitoring actual noise levels at a number of fixed sampling points. Noise nuisance was also gauged using opinion polls and physical measurements. Long-term health impact assessments were set up, and complaints were monitored. The resulting data were widely communicated and used to develop scenarios for noise contours and noise nuisance under varying growth and management assumptions. The government used these scenarios to develop a strict environmental zoning plan linked to a specific airport growth and management scenario, which served to achieve the government's double objective (growth of the airport in conjunction with improvement of the environment).

However, these endless data did not convince the affected population and the environment lobby; these groups had no faith in these studies. Their distrust was enhanced when the legally affirmed zone was not enforced after air traffic grew faster than expected. The opponents did everything they could to challenge the government's data. Objections against presented facts included, for example: "the methodology and modelling of noise levels is not up to date", and "several measurements of noise levels around Schiphol indicate that the computer models underestimate these noise levels".

Conversely, the aviation sector questioned the methodology used to determine the external safety situation around Schiphol (individual and societal risk). Parties hired their own experts; some of these were legally independent, but they criticized each other's ways of handling uncertainties.

Mainport Rotterdam: structuring research through involvement of actors

At the start of the PMR process, the discussions were focused on the necessity for a port expansion in the classical dichotomy of economy/ecology. Some stakeholders claimed that a second land reclamation was not necessary and that solutions could be found elsewhere. Others claimed that, without a land reclamation, economic growth in the region and for the whole of The Netherlands would decrease.

In 1998, the project manager realized that all stakeholders needed to be brought together into a process to create a common vision as a basis for the further discussions. By expanding the project's objective to include a more integrated vision of the development of the Rotterdam area, the parties managed to come to a shared vision.

Later on, this step appeared to have been essential. By formulating the vision, the participants showed mutual commitment and trust. The vision also set the agenda for further deliberations, and narrowed and scoped the issues. There was mutual understanding about the issues that were of real value to most stakeholders. Negotiation space was defined, and when additional research was needed, it was clear what the objectives of this research would be.

Schiphol Amsterdam Airport: first steps to mutual understanding between stakeholders

In the case of Schiphol airport, in the mid 1990s a vision was laid down in the so-called "PASO" decision. Its double objective stated that the airport capacity should grow whilst, at the same time, the environment should improve. This objective had been developed in an arena that was dominated by governments and the airport lobby, and under pressure of the Minister for Environmental Affairs and his department. This political compromise enabled the continuation of the airport's growth at that time, but the dispute with the environmental movement did not diminish. It was only after the government allowed the environment movement to participate in

the informal arena in 1999 that perceptions aligned more closely. The presence of an independent chairman in this delicate process allowed the participants to develop a better understanding of each other's long-term objectives. Despite the fact that parties did not reach agreement about formal decisions, the controversy diminished. For example, the arena unanimously made recommendations on how the double objective should be interpreted in the case of noise (measurement, enforcement).

4.2 Research methods conflict with the dynamics of decision-making

Quite frequently IAs repeatedly address similar issues, such as mitigation measures required to limit traffic noise pollution. Research methods to assess such issues tend to become standardized and subject to continuous development and improvement. However, when more fundamental questions are asked and mitigation is not the only issue, other stakeholders enter the arena. It is likely that carrying out a particular IA would not make the new stakeholders accept standard research methods automatically, nor would it reduce resistance to the plans.

Mainport Rotterdam: standard research method did not provide for sufficient options

In the summer of 2001, one of few remaining major deadlocks in the discussions between the government and the ONR stakeholders addressed the compensation of the loss of nature caused by a land reclamation. This discussion had two dimensions: the first was technical and juridical: how do the European Birds- and Habitats- Directives work, how can presumed effects of the land reclamation be measured and how can those effects be compensated? The second looked at the desirability on the part of the stakeholders of the various possible measures for compensation.

For a long period, the second dimension of the discussion continued. The Rotterdam port authority did extensive "technical" research, which resulted in a selection of preferred options. In discussion with ONR stakeholders, it appeared that most of the options lacked the support of several stakeholders. It became clear that a process of joint-fact finding was needed.

In this process, which paralleled the ongoing research, administrators and stakeholders were brought together and discussed the various options. The results of the research were used as input. In the discussions, several misunderstandings about the proposed measures were cleared up. Furthermore, the participants managed to broaden the discussion, which made it possible for all relevant stakeholders, with one exception, came to an overall agreement on how to compensate for the loss of nature.

In this case, research appeared to be essential to underpin the options and final agreement, by generating relevant input that the stakeholders could use in their discussions. However, the actual decision could not be made strictly through research. The preferred options based on standard research methods lacked the necessary stakeholder support.

Schiphol Amsterdam Airport: de-politicizing by discussing methodology

The formal environmental assessments of Schiphol airport, several of which had been made, had been actively used by all stakeholders in the process despite the fact that most of these reports were not easily accessible to non-experts. Each stakeholder group had its own experts that reviewed the official environmental reports. These experts could easily identify flaws in the methodologies.

Therefore, the IAs did not cater to a debate about political choices based on agreed-upon facts. Instead, the validity of data was questioned, even in discussions between Dutch Parliament and the responsible Ministers. For example, complicated methods for estimating noise nuisance and guarding against plane crashes had been developed by the authorities and the airport sector. However, the data gathered in this way did not provide answers to the questions thought relevant by many of the parties. Adversaries usually did not accept assumptions on which the

methods were based, and therefore also did not accept the outcomes of research. Whereas noise nuisance prediction methods had been applied since the 1980s, they never had been understood or accepted by the local population or by the environmental movement.

After the environmental movement had been allowed to participate in the informal arena in 1999, parties jointly adapted the research methods. For example, they could agree that the actual noise level would be used as the development limit of the airport rather than more easily enforceable criteria, such as the numbers and times of flights. Thus the airport was allowed to reach the environmental goal in a more flexible manner, and acknowledged that the environmental movement had become an advantage to the airport sector.

The dynamics of the decision-making process in this case were partly due to the learning process between parties, and partly to the unpredictable development of demand for airport capacity. In the context of an increasingly cooperative political arena, two independent Dutch research institutes aligned their methodology and basic data in 2000. These organizations had been giving conflicting recommendations about assumptions, methodology and modeling on external safety at the Airport.

4.3 Involvement of various actors for a socially acceptable outcome

In many assessment processes, the client of the assessment (often a representative of the formal decision-maker) does not represent the informal political power structure. Whether a proposal decision is politically accepted depends upon its support in the Council of Ministers and Parliament. Not all stakeholder groups are equally influential at that level; weaker groups are often inclined to use formal 'delaying' powers and tactics. By making these weaker groups part of the informal process, their resistance and opposition are reduced, and the decision is made more 'socially acceptable'. However, in this way these weaker actors do have improved opportunities to effectively influence the outcomes of the decision-making process. When the weaker actors are represented solely by 'scientists' who put these issues on their research agenda for an IA, opposition is not usually reduced. A more successful approach would be to get the weaker interests involved in defining and scoping the IA that is needed for decision-making. However, this approach can only be undertaken if the weaker groups have organized themselves.

Mainport Rotterdam: how "early involvement of actors" becomes organized

During the development of the "Project Mainport Rotterdam", it became clear that early involvement is important to ensure that all relevant stakeholders share the same problem definition. When all parties are involved in the problem-definition phase, the process begins from a common basis. This shared definition of the problem was lacking in the environmentalists' view; they believed that the project organization was working towards an already-defined solution (the proclaimed land reclamation), without properly discussing all possible options. The environmental organizations felt that their input was not taken seriously, and therefore withdrew their support of the process.

After intervention of a neutral mediator (ex-politician Hans Alders) they were willing to resume deliberations, but on their own conditions. They had two demands: first, the dialogue with the Cabinet had to be chaired by an independent chairman; secondly, that basic and strategic questions had to be part of the discussion, instead of exchanging opinions free of obligation.

Schiphol Amsterdam Airport: "early involvement" keeps the dialogue going

In the case of Schiphol Airport, the formal decisions about airport development became increasingly acceptable to the population and the environment movement. This positive situation was brought about by the groups' involvement in the informal arena where support was garnered for formal proposals. Therefore, the stakeholders were involved too late to prevent

high-level political conflict in the 1990s, but even after the fifth runway had been constructed, the parties were able to draw closer together to jointly prepare the next planning decision.

“Early involvement” should therefore relate to the next formal planning decision. In the case of Schiphol, it was not too late for an appeasement. The Schiphol case shows that the organization of the informal decision-making process can be a factor in the relevance of such information for actual decisions. The government gradually learned how to create arenas that facilitate a dialogue between opposing parties. This dialogue was instrumental in reducing the hostilities and prevented procedural delays. Participants’ experiences showed that many of the disputes, for example about assumptions upon which studies should be based, could be resolved in this manner. The organizational structure and working methods of the arenas, in particular regarding knowledge, information and commitment to joint decisions, and the joint approach to wider communication, were of central importance to a successful outcome. Even the local population was able to partially release its “not-in-my-backyard” attitude when it was more closely involved in designing the measures for mitigation and compensation of noise nuisance.

The Schiphol case also shows that “early involvement” applies not only to formal decisions about airport extensions and their conditions, but also to the implementation of these decisions. The population and interest groups should also be involved in the more general daily management of airport activities. The growing importance of information and communication management in the case of an airport that is coming close to its physical and environmental capacity limits might be one of the important lessons learned from the last ten years of managing the development and assessing the impact of Amsterdam Airport Schiphol.

These results could lead to a stronger emphasis on the communication management role of IA and the development of new, sophisticated tools to increase the accessibility of important data and news about the daily care of running a busy international hub in an urban environment of well-informed, high-educated civilians. For example, in 2000, the national government urged the airport authority and regional and local governments to intensify the fact finding, communications and negotiations regarding non-acoustical factors in environmental noise, as well as the evaluation and implementation of measures to adjust aircraft approach procedures, in such a way that noise nuisance was decreased in areas more remote to the airport.

Environmental management of airport operations (on and around the airport) requires integrated management of information about operations, procedures and schedules of airlines, airport and traffic control. Moreover, the environmental data and related knowledge should be up-to-date and comprehensive. These requirements are challenging because the relevance and adequacy of information also depend on the point of view of each stakeholder. The airport, the main airline network/alliance and the traffic control authority have identified the necessity for exchanging and linking information and planning/scheduling in order to control the environmental impacts of their operations, as well as to optimize the capacity of the airport within given environmental constraints.

4.4 Joint fact finding: the Mainport Rotterdam case

Joint fact finding is an activity shared by opposing parties having the common interest of efficient decision-making. By agreeing on the terms and conditions of research, on the usefulness of certain types of data in their negotiation of a vision and on the recommendations to be given to the formal decision-makers, the relevance of the outcome of research becomes inescapable. Unfortunately, joint fact finding appears not to be successful or possible in planning and assessment processes that are implemented solely by the government.

Only in the case of Mainport Rotterdam was an informal arena created that was not dominated by ministerial management of the research. Here, joint fact finding between stakeholders became a success, in the awareness that the joint advice of such a group would be of significant political influence. After the clash between central government and nature NGOs, Mr. Alders

mediated the contact between these actors in autumn 1999; as a result, serious involvement by all stakeholder organizations was managed. This involvement resulted in a final decision by the Cabinet that was fully supported by the ONR parties. In the view of the authors, the final result of the PMR process would never have been acceptable to, for example, the environmentalist parties if they had not been explicitly part of this process. Because they were involved and as a result of their own efforts, an outcome was achieved that was acceptable. As a result of this involvement, they were committed to the results of the decision-making process. Moreover, in the common search for solutions of the port's area shortage, some possibilities appeared less feasible than they had seemed. The environmental parties thus got a better-informed notion of the feasibility (more political than technical feasibility) of the different solutions because of to the process of 'joint fact finding'.

5 Conclusion

The authors believe that the three case studies clearly demonstrate that the creation of informal arenas to link knowledge to decisions in a stepwise manner is a helpful way of making IA more useful and efficient. The model presented in Figure 1 and elaborated throughout this paper provides insights that can guide the manager of decision-making and assessment processes to implementing a more efficient process for conducting policy-related research in general, especially regarding IAs. The model also requires that decision-makers cultivate a certain mindset: consensus-oriented, rather than conflict-oriented. Whereas conflicts do exist and should never be neglected, focusing interaction on contentious subjects is not constructive. It is more constructive to focus on finding the issues about which there is consensus. The benefit of IA is that politically weaker forces are given a voice in this process.

Recommendations to specific actor groups

A number of recommendations to the actors in a decision-making and Impact Assessment process are presented below. Note that these recommendations are lessons from practice rather than scientifically sound advice, and that they are only useful within contexts that are appropriate for “joint fact finding” or “participatory impact assessment”.

Formal process managers:

- Analyse the stakes and stakeholder groups that are influential, or that should be influential;
- Encourage stakeholder groups to organize themselves and to give their joint recommendations to the decision-making process (in the context of screening, scoping, assessment, decision-making);
- Consider the possibility of asking the assistance of a neutral facilitator if that would help to involve more parties in the informal arena, but limit the arena to the most politically relevant parties;
- When there is enough support for your recommendation that implies a step forward in the process, meet at political level as well to ensure additional support at that level, and
- Be sure that politically relevant interests that are weakly organized through well-established NGOs are represented in the arena in a professional way, if necessary through a government service.

Parties (stakeholder groups):

- Be conscious that not cooperating and always using legal possibilities to delay the process does not serve your interests at the end of the day (the other party develops no awareness of your views or problems); and related to this suggestion,
- Always be open to proposals for cooperation: give the other party the benefit of the doubt. Yet, if your trust is unjustified, move back to your old position (“tit for tat”). Take initiatives and ask for a neutral facilitator if you think that would help.
- Organize sound communication with your supporters to be sure that they participate in the learning process.
- Give publicity to this strategy in order to become a credible partner in informal decision-making arenas.

Researchers (assessors):

- Contact other researchers to align your studies as fits the requirements of your respective Clients;
- Make certain your Client is aware of the benefits of making use of the same assumptions as the researchers of your Client’s opponents, by opening the Client’s eyes to its hidden assumptions and of alternative approaches to the issue at hand;

- Make credible arrangements to prevent a non-neutral appearance (in The Netherlands, for example, some institutes have re-organized or split up in order to develop credibly neutral recommendations), and
- Make your Client aware of the possibility of asking the assistance of a neutral facilitator.

Neutral facilitators

- Make clear to the parties and the formal process manager what your added value to the process could be by jointly reviewing possibilities for negotiation and by creating a common vision based on the possibilities.
- Focus on an area of decision-making so that you can develop knowledge about the different perceptions and parties in that area, but simultaneously avoid all appearance of being connected to specific parties (in particular the governmental entities responsible for the field in question), and
- Develop your skills through international courses on (e.g.) environmental mediation. Be aware that a culture of joint fact-finding and cooperation in a learning process needs time to develop.

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