

TR 3391

The Success of Policy Analysis Studies:

An Actor Perspective

A search for success definitions based on cases
in the field of Transport and Infrastructure
in the Netherlands



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Proefschrift



ter verkrijging van de graad van doctor
aan de Technische Universiteit Delft,
op gezag van de Rector Magnificus prof.ir. K.F. Wakker,
in het openbaar te verdedigen ten overstaan van een commissie,
door het College voor Promoties aangewezen,
op dinsdag 12 oktober 1999 te 10:30 uur
door

Patricia Geralde Jolanda TWAALFHOVEN

wiskundig ingenieur
geboren te Wilnis

Dit proefschrift is goedgekeurd door de promotor:

Prof.dr.ir. W.A.H. Thissen

Samenstelling promotiecommissie:

Rector Magnificus	voorzitter
Prof.dr.ir. W.A.H. Thissen	Technische Universiteit Delft, promotor
Dr. P.W.G. Bots	Technische Universiteit Delft, toegevoegd promotor
Prof.dr.ir. P.H.L. Bovy	Technische Universiteit Delft
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Prof.dr. J.A.M. Vennix	Katholieke Universiteit Nijmegen
Dr.ir. G. Blom	Rijkswaterstaat

*To Roland, Corné, and Mams,
but most of all,*

voor Paps.

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Eburon Publishers
P.O. Box 2867
2601 CW Delft
The Netherlands
info@eburon.nl
www.eburon.nl

ISBN 90 5166 729 9

Cover eye photographs by Roland van Amstel and Patricia Twaalfhoven

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PREFACE AND ACKNOWLEDGMENTS

In addition to my work at the school of Systems Engineering, Policy Analysis and Management (SEPA), I worked closely with RAND Europe (former European-American Centre for Policy Analysis) carrying out various policy analysis studies. My interest in the success of policy analysis studies emanated from this background.

The focus of this dissertation was on the success of policy analysis studies from an actor perspective. A search was carried out for definitions of success on the basis of various case studies in the field of transport and infrastructure in the Netherlands. The result of this research provides insights into the broad range of aspects that different actors can take into account when evaluating policy analysis studies. These insights are valuable particularly for policy analysts, helping them in evaluating, setting up and carrying out successful policy analysis studies. The results are also of interest to policy makers, particularly for those working in the field of transport and infrastructure, increasing their awareness of the variety of functions and effects that policy analysis studies can have as part of policy processes.

I would like to thank the many people who have given me encouragement, advice and support and I would like to mention a few names in particular. I am indebted to Wil Thissen, my promotor, for his continuous support, for thinking along with me, and for giving me the freedom to define my own research. Many thanks to Pieter Bots for the fruitful discussions, guidance, and his person-to-person attention.

It was a great pleasure to work with RAND Europe, learning the ins and outs of proposing, setting up, and carrying out policy analysis studies for the Dutch Ministry of Transport, Infrastructure and Water Management. Thanks to Warren Walker and Odette van de Riet with whom I enjoyed working. Special thanks to Jim Kahan for his enlivening encouragement and critical support.

I enjoyed working at SEPA. Thanks to: Tanja Abbas, Remke Bras-Klapwijk, Carolien Klein, Carleen Maitland, Rene Monnikhof, Herman Oude Voshaar, Ab van Poortvliet, Daniel Tijink, Wijnand Veeneman, Marcel van der Vos, and Daniëlle Wille for their friendship and support. Special thanks to Miranda Aldham-Breary for correcting my English.

Furthermore, I would like to thank prof.dr. G.J. Olsder for his enthusiasm and his willingness to chair my defence.

I am most grateful to my friends and family, particularly the van Amstel family, my Mom, and Corné for their continuous love and faith in me. Thanks to Roland, who always stands besides me rather than behind me, being a true 'mate'.

Patricia Twaalfhoven

Delft, July 1999



CONTENTS

Preface and acknowledgments.....	vii
Contents	ix
Figures	xii
Tables	xiii
1. Introduction	1
1.1 Developments of and views on policy analysis	1
1.2 Research question	2
1.3 The structure of the dissertation	5
2. Research approach	7
2.1 Introduction.....	7
2.2 Literature survey	8
2.3 Case study research.....	8
2.4 Theory building.....	11
3. Conceptual basis	13
3.1 Introduction.....	13
3.2 The concept of 'success'	13
3.3 The many faces of policy analysis	16
3.4 Specification of the research question.....	21
3.5 Elements of success	23
3.6 Context.....	33
3.7 Policy analysis study.....	36
3.8 Actors.....	37
3.9 Summary and formal description conceptual basis.....	41
4. Case studies	47
4.1 Introduction.....	47
4.2 The Dutch Riverdikes study.....	49
4.2.1 Context	49
4.2.2 Policy analysis study	52
4.2.3 Actors related to the study.....	54
4.2.4 Success perceptions.....	57
4.2.5 Concluding remarks	64

4.3 The FORWARD study.....	65
4.3.1 Context.....	65
4.3.2 Policy analysis study.....	68
4.3.3 Actors related to the study.....	71
4.3.4 Success perceptions.....	74
4.3.5 Concluding remarks.....	80
4.4 The IVR study.....	81
4.4.1 Context.....	81
4.4.2 Policy analysis study.....	85
4.4.3 Actors related to the study.....	87
4.4.4 Success perceptions.....	90
4.4.5 Concluding remarks.....	96
4.5 The SVV Colored In study.....	97
4.5.1 Context.....	97
4.5.2 Policy analysis study.....	99
4.5.3 Actors related to the study.....	101
4.5.4 Success perceptions.....	102
4.5.5 Concluding remarks.....	107
4.6 The CAU study.....	108
4.6.1 Introduction.....	108
4.6.2 Context.....	109
4.6.3 Policy analysis study.....	113
4.6.4 Actors related to the study.....	116
4.6.5 Success perceptions.....	120
4.6.6 Concluding remarks.....	129
5. Analysis and synthesis of the empirical data: towards a theory?.....	131
5.1 Introduction.....	131
5.2 List of success elements.....	132
5.3 Actors and success elements.....	138
5.3.1 Similarities among actors.....	138
5.3.2 Common elements within particular groups of actors.....	140
5.3.3 Conclusions.....	143
5.4 Cases and success elements.....	143
5.4.1 Clusters of cases.....	147
5.4.2 Measures for the difference between clusters of cases.....	149
5.4.3 Application of the measures for the difference between clusters of cases.....	153
5.4.4 Conclusions.....	158

5.5 Singular aspects of the case studies	158
5.5.1 Introduction	158
5.5.2 Unique characteristics of the five case studies	159
5.5.3 Unique characteristics and success elements	165
5.5.4 Conclusions	175
6. Overall conclusions and reflection	177
6.1 Introduction.....	177
6.2 Research findings.....	178
6.3 Research approach	182
6.4 Empirical data and hypotheses from the literature.....	184
6.4.1 Policy analysis as information provider versus process facilitator.....	185
6.4.2 Types of analysts.....	188
6.4.3 Strategic functions of policy analysis studies.....	191
6.4.4 Research utilization in public policy making	193
6.5 Issues of concern in evaluating policy analysis studies	194
6.6 Future research.....	197
6.7 Designing policy analysis studies for success.....	198
Glossary	201
Appendix A: Persons contacted.....	205
Appendix B: Number of persons contacted per actor	207
Appendix C: Evaluation research of Rijnconsult and its results	209
Appendix D: Empirical data	213
Appendix E: Success elements and questions	225
Appendix F: Similarities among actors.....	235
Appendix G: Sets of success elements.....	237
References	263
Summary	269
Summary in Dutch – Samenvatting	277
About the author	287

FIGURES

Figure 1.1: Success is in the eye of the beholder	3
Figure 2.1: Research approach.....	7
Figure 3.1: The definition of success from an actor perspective as a function of the characteristics of the actor, of the study, and of the study's context ..	23
Figure 3.2: Conceptual structure for identifying and classifying success elements ..	24
Figure 4.1: Actors related to the Dutch Riverdikes study	55
Figure 4.2: Research approach of the FORWARD study	69
Figure 4.3: Actors related to the FORWARD study	71
Figure 4.4: Map of the Netherlands	82
Figure 4.5: Structure of the IVR study	85
Figure 4.6: Basic measures to landscape the river area	86
Figure 4.7: Actors related to the IVR study	87
Figure 4.8: Actors related to the SVV Colored In study.....	101
Figure 4.9: The Amsterdam-Utrecht corridor	109
Figure 4.10: EIA procedure for the Amsterdam-Utrecht corridor	112
Figure 4.11: Actors related to the CAU study	117
Figure 4.12: Results evaluation research of Rijnconsult.....	120
Figure 4.13: Additional evaluation research (grey) in relation to the evaluation research of Rijnconsult.....	121
Figure 5.1: Two step approach for analyzing the empirical data.....	132
Figure 5.2: Revised conceptual structure for identifying and classifying success elements	132
Figure 5.3: Similarity between actors: $D_{Ac}(A, B) = E_A \cap E_B / E_A \cup E_B $	139
Figure 5.4: Similar actors on the basis of $D_{Ac}(A, B) > 0,3$	140
Figure 5.5: Overview of the five case studies.....	144
Figure 5.6: Clusters of cases and the sets of success elements mentioned	149
Figure 5.7: Clusters of cases and the sets of (frequently) mentioned success elements	150
Figure 6.1: Percentage success elements that were negatively, positively, or negatively and positively (by the same or different actors) valued ..	183
Figure 6.2: Duration of the studies and elapsed time until interviews were held ...	183
Figure 6.3: Average number of elements mentioned by the actors interviewed, for each category	187
Figure 6.4: Average number of elements per type of analysts, for each category ..	189
Figure 6.5: Average number of elements per type of analysts, classifying actors 6 and 12 as technicians, for each category	190

TABLES

Table 3.1: General marks of quality by Miser and Quade	28
Table 3.2: Sketch of criteria by Clark and Majone	32
Table 3.3: List of actors distinguished by Goeller	39
Table 3.4: List of elements used as a basis for interviews	42
Table 3.5: Characteristics taken into account in this research	43
Table 4.1: Characteristics of actors related to the Dutch Riverdikes study.....	57
Table 4.2: Success elements mentioned by actors related to the Dutch Riverdikes study	63
Table 4.3: Characteristics of actors related to the FORWARD study.....	73
Table 4.4: Success elements mentioned by actors related to the FORWARD study	79
Table 4.5: Characteristics of actors related to the IVR study.....	89
Table 4.6: Success elements mentioned by actors related to the IVR study	95
Table 4.7: Characteristics of actors related to the SVV Colored In study	102
Table 4.8: Success elements mentioned by actors related to the SVV Colored In study	107
Table 4.9: Characteristics of actors related to the CAU project	119
Table 4.10: Success elements mentioned by actors related to the CAU study.....	127
Table 5.1: Structured list of success elements based on the cases and literature	136
Table 5.2: Actors interviewed per case study	138
Table 5.3: Typical elements of four particular groups of actors	141
Table 5.4: Overview of the characteristics of the five case studies	145
Table 5.5: Clusterings of cases	147
Table 5.6: Clusterings of cases in relation to the characteristics of the cases	148
Table 5.7: Clusterings in ranking order on the basis of D_1 and D_2 ; $M_a = 5, F_a = 30$	152
Table 5.8: Values for F_a	154
Table 5.9: Clusterings (X, Y) in ranking order on the basis of D_2 (X, Y)	155
Table 5.10: Clusterings (X, Y) in ranking order on the basis of D_1 (X, Y); $M_a = 5$	155
Table 5.11: Clusterings (X, Y) in ranking order on the basis of D_1 (X, Y); $M_a = 10$	156
Table 5.12: Clusterings (X, Y) in ranking order on the basis of D_1 (X, Y); $M_a = 15$	156
Table 5.13: Unique characteristics of the Dutch Riverdikes case.....	161
Table 5.14: Unique characteristics of the FORWARD case.....	162
Table 5.15: Unique characteristics of the IVR case.....	163

Table 5.16: Unique characteristics of the SVV Colored In case.....	164
Table 5.17: Unique characteristics of the CAU case	165
Table 5.18: Typical elements of the five cases	167
Table 5.19: Unique characteristics and success elements of the Dutch Riverdikes study	169
Table 5.20: Unique characteristics and success elements of the FORWARD study	171
Table 5.21: Unique characteristics and success elements of the IVR study	172
Table 5.22: Unique characteristics and success elements of the SVV Colored In study	173
Table 5.23: Unique characteristics and success elements of the CAU study.....	175
Table 6.1: Classification of analysts	189
Table B.1: Number of persons contacted per actor.....	207
Table C.1: List of evaluation aspects used by Rijnconsult	211
Table D.1: Success elements mentioned by the actors interviewed.....	213
Table D.2: Construction of the list from the empirical data	220
Table F.1: Actors interviewed per case study	235
Table F.2: Similarity in terms of $D_{Ac}(A, B)$	236
Table G.1: Clusterings of cases	237
Table G.2: Actors that mentioned an element (%), clustering 1 and 2	238
Table G.3: Actors that mentioned an element (%), clustering 3 and 4	241
Table G.4: Actors that mentioned an element (%), clustering 5 and 6	244
Table G.5: Actors that mentioned an element (%), clustering 7 and 8	247
Table G.6: Actors that mentioned an element (%), clustering 9 and 10	250
Table G.7: Actors that mentioned an element (%), clustering 11 and 12	253
Table G.8: Actors that mentioned an element (%), clustering 13 and 14	256
Table G.9: Actors that mentioned an element (%), clustering 15.....	259

1. INTRODUCTION

1.1 Developments of and views on policy analysis

Many of the problems of modern society emerge from interaction among people, the natural environment, and the artifacts of man and his technology (Miser & Quade 1995). Examples of recent situations where such problems have arisen in the Netherlands include large-scale infrastructure and spatial planning problems like 'Maasvlakte II' (claiming land from the North Sea to expand the Rotterdam harbor area), the discussion about civil aviation, and the landscape planning around the Rhine river. These problem situations typically involve multiple interests, a variety of often conflicting objectives, and uncertainty about policy goals, future developments, and the effects of policy measures. For example, the question whether the Netherlands should accommodate future airport demand is of interest to many parties, including the airport authorities, the airlines, the responsible government agencies, national and local environmental interest groups, and, last but not least, the passengers. Some people are in favor of expanding the current Amsterdam Airport Schiphol for economic reasons, while others are strongly against accommodating future growth for environmental reasons.

In the face of the problems of modern society, demands for more informed and more carefully analyzed policies have become all the more intense (Lindblom 1980, Oh and Rich 1996; Shulock 1999). The aim is to acquire a deeper understanding of the factors influencing the problems and to use it to help bring about their amelioration. Studies are often employed to provide information and to distill the complexities of problems into simple and understandable overviews of policy options and their possible effects. Studies of this type are generally referred to as *ex ante* policy analysis studies. The results of such studies are usually presented to those responsible for making changes, i.e. policy makers, to help them adopt and follow an advantageous policy or course of action (Miser & Quade 1995).

The term 'policy analysis study' is used in many ways. A distinction can be made between *ex ante* policy analysis studies, *ex post* policy analysis studies, and *as is* policy analysis studies. *Ex ante* policy analysis studies are undertaken to support policy making, that is, decisions that have to be made and actions that have to be taken to achieve policy goals. *Ex post* policy analysis studies are concerned with evaluating policies that have been implemented. *As is* policy analysis studies focus on the description and explanation of current policy. In this research the focus is on *ex ante* studies, which are simply referred to as 'policy analysis studies'.

Within this broad concept, many variations exist and the field is still developing. Earlier, most attention was focused on methods, e.g., cost benefit analysis and decision analysis, for assisting decision makers in choosing among given alternative policy actions. The scope of policy analysis studies gradually broadened to include

methods to support clarifying and defining objectives, searching out alternative courses of action, and gathering information about their consequences.

Policy analysis studies were originally viewed as objective, independent scientific efforts performed by one or more policy analysts (Miser & Quade 1985 and 1988). Analysts act primarily, in this view, as providers of value-free, science based information to decision makers. In the course of time, however, other approaches developed, which gave more emphasis to supporting collective and interactive learning by the parties at interest in a policy issue (Thissen & Twaalfhoven 1999). In reality, a continuous spectrum exists of variations in approaches and views on policy analysis studies.

1.2 Research question

Many actors play a role, in one way or the other and to a lesser or greater extent, in a policy analysis study, and are, therefore, related to the policy analysis study. For example, some actors are involved in carrying out and steering the content and process of the study, such as analysts and policy makers. Some actors might provide information or receive the results of the study, e.g., organizations and individuals potentially affected by the problem situation or by the measures taken to resolve it.

Different actors may differently perceive the success and failure of the policy analysis study to which they were related (see Figure 1.1). After all, success is usually defined as the achievement of something desired, planned, or attempted (Anonymous 1979; Hornby 1982). Such requirements may differ per actor, as a result of their different roles and interests with respect to the policy analysis study and the surrounding problem situation (Miser and Quade 1988a). Consequently, the elements on the basis of which different actors consider a study successful, and the relative values of these elements, may differ. In line with this thought, the success of a policy analysis study is in the eye of the beholder and different actors may define and assess the success of a study differently (Goeller 1988).

For example, the client organization may focus on the results of the study and to what extent these results match with their own ideas. Analysts, however, may focus on the efficiency of the research process and the validity of a model that they developed. Furthermore, whatever the analysts may be told is the purpose of a study, the policy makers may have used the study to provide themselves with an 'expert' facade for promoting preconceived ideas or policies, as an excuse for inaction and delay, or as a shield for actions that are hard to challenge without rival analysis. As a result, a study might not be a success from the point of view of the analysts, but it might be from the point of view of the policy makers.

Observing the above leads to the question:

How do different actors define the success of a policy analysis study?

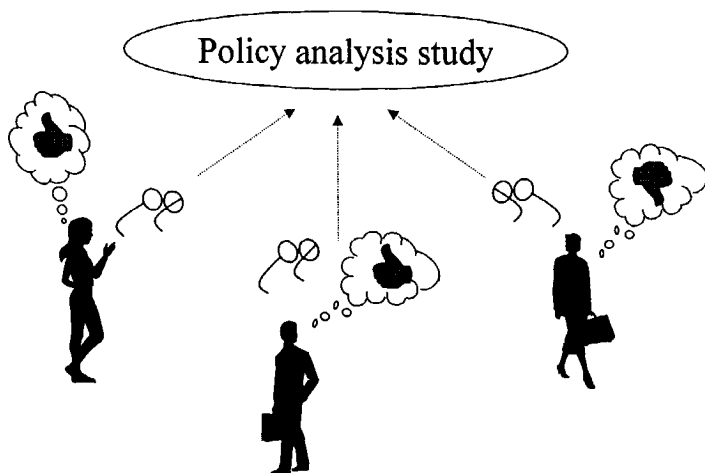


Figure 1.1: Success is in the eye of the beholder

Answering this question provides the opportunity to evaluate the success of a policy analysis study from different actor perspectives. Such broad, evaluative, and comparative research can provide an empirical basis for advancing the field of policy analysis. Knowing how different actors define success, a policy analysis study could be designed to improve its success from a particular actor's perspective.

In this research, an actor's definition of success is expressed as the set of elements that the actor considers when evaluating the success of a study (see Section 3.2).

As pointed out above, it might be hypothesized that the characteristics of the actors in terms of their interests and role in the policy analysis study, e.g., carrying out versus sponsoring the study, largely determine how the actors define the study's success. Other factors, however, might also influence the set of elements actors focus on in evaluating the success of a study. For example, all actors related to a study, which was carried out in a problem situation that had reached an impasse, might focus on changes in the willingness of parties at interest to cooperate, and on the improvement of the working atmosphere to evaluate the success of the study. Furthermore, all actors related to a study, in which model development was a central element, might focus on the characteristics of the model to evaluate the study's success. In other words, it is possible that different actors who are related to the same study consider similar elements to assess the success of the study, independent of their role and interest. In these examples, factors related to the characteristics of the study itself and/or factors related to the context in which the study was carried out determine how actors define the study's success.

This leads to the following question:

What factors determine how different actors define the success of a policy analysis study?

Answering this question provides insights into the discriminating factors that determine the set of elements that different actors focus on in evaluating a policy analysis study from their perspective. Such insights provide the opportunity to identify different types of actors on the basis of their definition of success. Furthermore, it may provide the opportunity to identify different types of policy analysis studies and different types of contexts in which a study is carried out, on the basis of how actors define the study's success. Together with the answer to the first question, such understandings give the opportunity to pay special attention when setting up and carrying out a policy analysis study to the elements that a particular type of actor considers in evaluating the study's success. In other words, such insights may lead to ideas about setting up and carrying out a policy analysis study, geared at improving the study's success from the perspective of a particular type of actor. The insights might also lead to ideas of how to improve the success of a particular type of policy analysis study and to improve the success of a study carried out in a particular type of context.

Little attention has been paid so far in the literature to systematic evaluation of policy analysis studies. There is a continuing stream of publications in which the authors point out, from their perspective, the success of individual studies and/or the success of specific methods and techniques (Walker 1995; Geurts & Vennix 1989; McCartt & Rorhbaugh 1995). Furthermore, some authors illustrate various aspects of studies that are unsuccessful according to them (Greenberger et al. 1976; Jong 1985; Rietveld 1993). Most of the literature, however, is based on anecdotal evidence and/or generalized experience, and none of the authors provide a clear and unequivocal definition of success. The community of producers and users of policy analysis has not yet evolved a mature and coherent consensus about how such work can and should be evaluated from a professional point of view (Miser & Quade 1988b). This shortcoming also exists for the evaluation of scientific advice to policy makers in general. As Clark and Majone put it: "... surprisingly little attention has been devoted to the development of an appropriate theory of criticism for scientific inquiry conducted in policy contexts." (Clark & Majone 1985).

Some descriptions are given of visions of how policy analysis studies should be carried out, and of the development of specific methods and tools, often illustrated by application in one or a few cases. For example, some authors focus on the success of policy analysis studies from a normative perspective and point out that good analysis ought to (Majone & Quade 1980; Meltsner 1976; Miser & Quade 1985 and 1988a):

- assemble support for proposed actions
- introduce a certain amount of objectivity into a subjective policy process
- bring uncertainties to the decision makers' attention
- consider issues in larger contexts and determine interactions and side effects
- shift debate from means to consequences
- compare alternatives in a consistent and systematic way
- provide new insights into problem issues

Such lists, however, are generally not based on scientific research. Furthermore, the normative perspectives of the various authors differ. While some authors stress the function of policy analysis studies as information provider, others focus more on the function of participative learning process.

The main objective of this research was to formulate a theory concerning how different actors define the success of a policy analysis study and the factors underlying the various definitions of success, focusing on the following question:

How do different actors define the success of a policy analysis study and what are the factors underlying the various definitions of success?

1.3 The structure of the dissertation

This dissertation is structured as follows. Chapter 2 contains an outline of the research approach. The conceptual basis is described in Chapter 3, leading to a specification of the research question into four subquestions. A description of the approach used for data collection is given in Chapter 4. The main part of Chapter 4 is devoted to a description of five case studies in the field of transport and infrastructure within the Netherlands and to the identification of the various definitions of success that different actors use in evaluating a policy analysis study. An attempt is made in Chapter 5, on the basis of the empirical data, to formulate a theory concerning the definition of success of different actors with respect to a policy analysis study and the factors underlying the various definitions of success. Chapter 6 contains a summary of the results of the research, a review of the research approach, and a discussion of the area of application along with some suggestions for further research. Some issues of concern are described with respect to setting up and carrying out an evaluation of the success and failure of policy analysis studies. Furthermore, some thoughts are given on designing policy analysis studies for success at the end of Chapter 6.



2. RESEARCH APPROACH

2.1 Introduction

The aim of this research was to formulate a theory about how different actors define the success of a policy analysis study and the factors underlying the various definitions. From the literature it appeared that hardly any attention has been given to systematic analysis of the success and failure of policy analysis studies. Furthermore, the literature does not provide clear insights into whether, and how, the perceptions of success differ per actor. Consequently, there is no foundation for formulating strong hypotheses about what such a theory should look like. Therefore, an explorative approach was chosen to make an attempt at constructing a theory from empirical data. The literature was used to construct a conceptual basis for carrying out the explorative research and developing a theory.

The overall research approach is illustrated in Figure 2.1 and consisted of the following three steps:

1. A literature survey to build a conceptual basis.
2. Collection of data from five case studies in accordance with the formulated conceptual basis.
3. Synthesis and analysis of the empirical data to formulate a theory concerning success perceptions of actors with respect to policy analysis studies.

The three steps are described in more detail in the following sections.

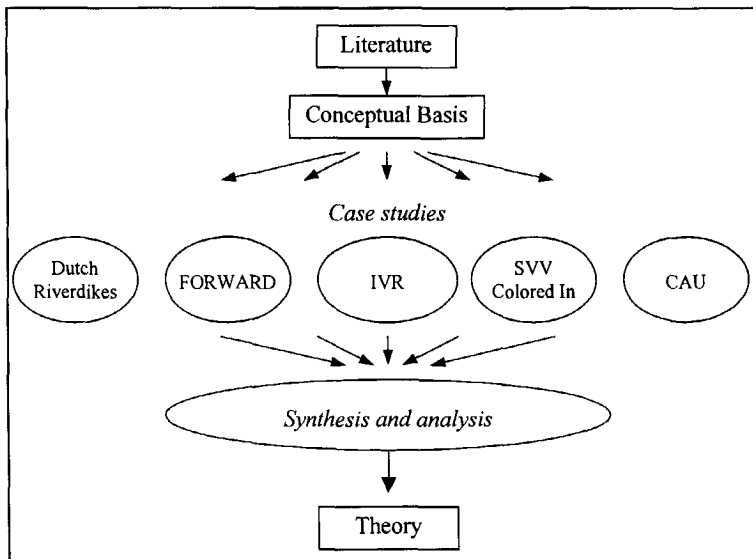


Figure 2.1: Research approach

2.2 Literature survey

The first step in carrying out this research was a literature survey to identify different elements that actors might focus on in evaluating policy analysis studies. Furthermore, the literature was reviewed to identify the factors and conditions that possibly determine the set of success elements that actors focus on.

From the literature it became clear that a variety of views exist on what constitutes successful policy analysis studies and similar activities and processes. The literature contributed many success elements, which can be, or are being, focused on in evaluating policy analysis studies. Furthermore, the literature showed that the following three main factors possibly determine how the success and failure of policy analysis studies are defined by an actor:

- characteristics of the actor
- characteristics of the policy analysis study
- characteristics of the context in which the policy analysis study was carried out

A conceptual basis was constructed from the literature survey, which formed the foundation for carrying out the explorative research and building a theory. The conceptual basis includes a structure for identifying and categorizing elements that actors consider in evaluating policy analysis studies. Furthermore, the conceptual basis distinguishes characteristics of the actors whose definition of success is taken into account, characteristics of the policy analysis study, and characteristics of the context in which the policy analysis study was carried out.

2.3 Case study research

Case study research is considered apt for exploratory and descriptive research to derive theories from and to examine phenomena in their natural setting (Yin 1994). Hence, it is an important research instrument for conducting inductive research. Neustadt and May also argue that studying historical cases can be reflective and helpful in getting insights into causal relationships (Neustadt & May 1986). Therefore, a case study approach was applied to get insights into how actors define the success and failure of the study to which they were related.

Five case studies were used to identify the elements that actors focus on in evaluating policy analysis studies. The case studies offered a cross section of experiences, showing various similar and different characteristics. Analyzing a set of various case studies, rather than focusing on a single case study, provided the opportunity to identify and verify the set of success elements that actors consider in evaluating a study. Furthermore, a set of various case studies provided a basis for comparative research, which is needed to gain general understandings about the relationships between an actor's definition of success and the characteristics of the actor, and/or the characteristics of the policy analysis study concerned, and/or the characteristics of the study's context. The limited number of five case studies may

not provide a statistically sound basis for drawing extensive conclusions about such relationships. This limited number of cases, however, did provide the opportunity to analyze the possible dependencies in depth.

The case studies used in this research were restricted to the policy area of transportation and infrastructure in the Netherlands. Much research has been, and is being, carried out in this field, including policy analysis studies to support the policy makers in doing their job. This limitation provides the opportunity to gain thorough insights into the subject matter, thus enhancing the position of the interviewer during interviews.

Five case studies were selected on the basis of the following criteria:

- the study had been recently finished, i.e. less than five years before the actors were interviewed
- the results of the studies, i.e. reports, were available
- the focus of the study was on a transportation and/or infrastructure policy issue
- the study was an *ex ante* analysis
- various policy options and their consequences were considered in the study, in terms of a wide range of performance measures, e.g., costs, pollution, noise nuisance, visual intrusion, safety, congestion
- many different actors were related to the study, e.g., the client organization, analysts, environmental organizations, businesses, and politicians

The five case studies selected are described and analyzed in Chapter 4. In line with the conceptual basis, Chapter 4 contains a description, for each case study, of the characteristics of the study, the characteristics of the context in which the study was carried out, the characteristics of the actors related to the study, and the success perceptions of these actors. The case studies are described briefly at the end of this section.

Open interviews were used to identify the elements that actors focus on in evaluating the success and failure of the policy analysis study to which they are related. After the open part of the interview, a more structured approach was used to touch on various elements that the interviewee might have forgotten to mention. This structure followed from the conceptual basis. Different questions were asked, pointing at various elements to trigger the interviewees to indicate all elements that they considered to be important in evaluating the study. The approach used for data gathering is described in more detail in Section 4.1.

For the purposes of this research, success elements were identified and studied in relation to a single point in time after the study was carried out. The elapsed time between when the study was finished and the actors were interviewed, however, differed for the five case studies. The differences in elapsed time, while possibly having an impact on the identification of success elements, were practically unavoidable. The possible effects of the differences in elapsed time are explored in Chapter 6.

The Dutch Riverdikes study

The study 'Toetsing Uitgangspunten Rivierdijkversterking', in English, the Dutch Riverdikes study, was focused on riverdike improvements and the underlying safety standards. The study was carried out for the Ministry of Transport, Public Works and Water Management under the joint leadership of Delft Hydraulics and RAND Europe over the four-month period August-November 1992. Individual dike improvement projects had given rise to large-scale protests due to their harmful impact on the river landscape and on the natural and cultural values in the surrounding areas. These protests led the Ministry to request such a study and to appoint the commission 'River Dike Reinforcement Criteria Testing' to supervise the study and to recommend a policy to the government. The overall goal of the study was to (1) analyze the criteria used in establishing a safety standard for dikes along the non-tidal branches of the rivers Rhine and Maas, and (2) examine ways to design dikes that provide adequate safety but cause less environmental damage than traditional designs.

The FORWARD study

The study 'Freight Options for Road, Water, And Rail for the Dutch', i.e. the FORWARD study, was a policy analysis study that focused on ways of coping with the projected massive growth in road freight transportation in the Netherlands. RAND Europe carried out the study for the Netherlands Ministry of Transport, Public Works and Water Management, over a two year period from December 1992 to December 1994.¹ Staff members of the client organization also actively participated in the project team. The continuing public debate about alternative policies to deal with freight transport in the Netherlands and the importance of this transport to the Dutch economy motivated the Ministry of Transport, Public Works, and Water Management to commission a broad study of freight policy options and their impacts and costs. The study's objective was to find the best strategies to mitigate the negative impacts of the growth of freight transport while retaining the economic benefits.

The IVR study

The study 'Integrale Verkenning van de Rijntakken' (IVR), in English, Landscape Planning for the river Rhine in the Netherlands, was carried out during the period early 1994 to mid 1996. The study was commissioned by the Eastern Netherlands Directorate of the Directorate-General for Public Works and Water Management. The Institute for Inland Water Management and Waste Water Treatment was the main contractor, which carried out the study together with various other research organizations, including Delft Hydraulics, Grontmij, and Geodan/Geodesie. The formal objectives of the IVR study were to develop an instrument to assess the

¹ I worked on a part time basis with RAND Europe on the FORWARD study, in addition to my position at the faculty of Systems Engineering, Policy Analysis and Management. Possible implications of this involvement for the data collection and the research findings are discussed in Chapter 4 and Chapter 6, respectively.

effects of landscaping alternatives for the riverine area, to illustrate the possibilities offered by the instrument, and to explore the landscape options for the riverine area.

The SVV Colored In study

The study 'SVV² Ingekleurd', in English, SVV Colored In, was a policy analysis study that was designed to provide unsolicited advice from the Adviesdienst Verkeer en Vervoer (AVV), in English, the Transportation Research Center of the Ministry of Transport, Public Works and Water Management to the various policy and regional directorates general of the Ministry. The study was carried out over a period of 2 months, before the yearly consideration of the Ministry's Budget in October 1994. The purpose of the study was to advise policy makers about solutions, i.e. policy options, for the difficulties in reaching the policy goals stated in the policy statement on transport called Tweede Structuur Schema Verkeer en Vervoer (SVV II), in English, Second Transport Structure Plan, (Ministerie van Verkeer en Waterstaat 1990). Furthermore, the study aimed at providing the policy makers with background information with respect to possible policy measures, which might have measurable effects on reaching the traffic and transport policy goals.

The CAU study

The CAU study was a policy analysis study on the Amsterdam-Utrecht corridor (CAU). The Dutch Railways and the Directorate General for Public Works and Water Management of the Ministry of Transport, Public Works and Management proposed various infrastructure changes, which were likely to lead to significant effects on the environment and amenity. The Dutch law on Environmental Management required an Environmental Impact Assessment before further decision making took place. In 1990 the Dutch Railways and the Directorate General for Public Works and Water Management combined their efforts and jointly started carrying out the CAU study. The study was a formal Environmental Impact Assessment, aimed at forecasting and evaluating the impacts of proposed and alternative infrastructure changes between Amsterdam and Utrecht. The study was finished and its results were made public by the end of 1993, after which a formal decision making procedure followed.

2.4 Theory building

The literature survey provided an initial list of success elements, including elements that actors might use, or do use, in evaluating the success and failure of a policy analysis study. This list was expanded and restructured on the basis of the empirical data.

² SVV refers to the policy statement on transport, called Tweede Structuurschema Verkeer en Vervoer, in English, Second Transport Structure Plan, published in 1990 (Ministerie van Verkeer en Waterstaat 1990).

The central question towards theory building was whether it is possible to identify different types of actors on the basis of their definition of success. Furthermore, an attempt was made to identify whether and how the definition of success is determined by the characteristics of the study concerned and/or by the characteristics of the context of the study.

The various actors are compared on the basis of their characteristics and the elements that they mentioned in Chapter 5. Likewise, the case studies were compared on the basis of their characteristics and the characteristics of the studies' context. The case studies were also compared in terms of the elements mentioned by the actors interviewed. Subsequently, the differences and similarities among the actors and among the case studies, and their interrelationships, were analyzed to discover the dependencies between the success elements that actors consider on the one hand, and the factors observed on the other hand.

These insights form the basis of a theory concerning how different actors define the success of a policy analysis study and the factors determining these definitions. If it is possible to abstract the findings from the empirical data into such a theory, predictions can be made about the definition of success from an actor perspective, as a function of the characteristics of the actor concerned, the characteristics of the study, and the characteristics of the study's context. For example, from such theory it may be predicted that a client organization generally focuses on the presentation of the study's results to evaluate the success of a study. Depending on the characteristics of the study's context, the client organization might also consider particular effects of the study, e.g., if the problem situation was at an impasse, the client organization would consider changes of the relationships and communication patterns among the parties at interest as an indicator of the study's success.

3. CONCEPTUAL BASIS

3.1 Introduction

An inventory was made of what is written on criteria to evaluate the success of policy analysis studies and on factors determining the success perceptions. The findings of the literature survey and the resulting conceptual basis are described in this chapter.

Before setting up a conceptual basis, aspects such as 'object', 'criteria', 'elements' and 'perceptions' require special attention and conscious choices. These aspects are discussed in the next section. The points of view of various authors on decision and policy making processes, and on the role of policy analysis studies are described in Section 3.3. On the basis of these theoretical conceptions, Section 3.4 contains an elaboration on the main research question formulated in Chapter 1. The various aspects of the conceptual structure are subsequently described in further detail in Section 3.5 through Section 3.8. These aspects are consolidated in Section 3.9, which consists of a summary and a formal description of the conceptual basis.

3.2 The concept of 'success'

Evaluation can be defined as 'to decide upon the value of an observation of a particular situation or a change of a situation on the basis of specified criteria' (Hoogerwerf 1992). Two of these aspects, namely 'value' and 'criteria', and also 'the object', 'success elements' and 'perception', which are important aspects in evaluation research, are described further in this section. The differences and similarities between the term 'success' and 'quality' are also elaborated on below.

The object

In designing and carrying out research on the success of policy analysis studies, the object, that is, the unit of analysis should be clearly defined. In this research the unit of analysis is an ex ante policy analysis study, referring to analytic efforts delineated in time and scope and focusing on a specific policy issue. The efforts are carried out by one or more research organizations to assist those responsible for making changes. The products of the analysis are made available to the potential users, e.g., the client organization and/or people who have an interest in the problem situation.

The difficulty is that policy analysis studies are usually highly intertwined with policy processes. As a result of this interconnection, it might not always be clear whether some effects, e.g., improvements to the problem situation, are the result of the policy analysis study or the result of other factors. Simple comparisons of the problem situation before and after the study often cannot establish whether the study

caused any or all of the observed differences. Consequently, it may be tempting to concentrate, in evaluating a policy analysis study, on the study itself and its direct results. This includes the risk, however, of missing effects of a study that some actors consider as important indicators for a study's success.

Logically, the degree of separability of a study and the surrounding policy process depends on the kind of study that is evaluated. It is easier to delimit a specific meeting or group session taking place on one day, than to delineate a longer policy analysis process where regular interaction with other processes takes place.

Perceptions, elements, values, and criteria

A success perception is a function of the elements on the basis of which an opinion about the success of a policy analysis study is formed and how these elements are valued. Such a success function can be expressed in various ways (see text block below).

Different actors may focus on different sets of elements to value the success of a study. Furthermore, different actors may value the elements differently and use a different function of the elements and values to express their perception of the success of a study.

A criterion is a normative view on what the value of an element should be for a policy analysis study to be successful. For example, the volume of the final report of a study may be an element that actors focus on in evaluating the study, and a volume of at most 100 pages might be the corresponding criterion that they use. In other words, the actors value a study negatively on the basis of this element if the report is more than 100 pages.

Let e_1 , e_2 , and e_3 be the elements on the basis of which the success of a study is defined.

Let $v(e_1)$, $v(e_2)$, and $v(e_3)$ indicate the values associated to the three elements. A success criterion is a normative view on what such values should be, expressed in quantitative or qualitative terms, e.g., $v(e_1) > 7$ and $v(e_3) < 3$.

The success perception S of the study might be expressed as:

$$\begin{aligned} S &= v(e_1) \text{ if } v(e_3) < 3 \\ &= v(e_2) \text{ otherwise} \end{aligned}$$

Another example of a function S to express the success of the study is:

$$S = 2 v(e_1) + 3 v(e_2) + 5 v(e_3)$$

The primary focus of this research was to identify how different actors define the success of a policy analysis study. In this research, an actor's definition of success is expressed in terms of the set of elements that the actor focuses on in evaluating a study's success. The term 'success element' is used to indicate such elements. The elements were identified on the basis of interviews with various actors. During the interviews it was unavoidable that the actors expressed both the success elements and their judgments of the elements. These judgments, i.e. the attribution of values

to the success elements and indications of the success functions, are included in the descriptions in Chapter 4 to retain the richness of the identified data. In synthesizing and analyzing the data in Chapter 5, however, the judgments are not taken into account. Analyzing and comparing the values and the success functions requires a specified valuation method and a deep understanding of the various success perceptions, which would go beyond the scope of this exploratory research into success definitions.

Success and quality

Having described various aspects that relate to evaluating policy analysis studies, the two seemingly related terms 'quality' and 'success' require some attention. The quality of a policy analysis study and the success of a policy analysis study are strongly related. Quality and success do not have to be the same, however, or have to be based on the same criteria. A policy analysis study of high quality may be viewed as unsuccessful, while a policy analysis of low quality may be extremely successful.

Various dictionaries define quality as the character, nature, property, feature, goodness, or worth of goods in relation to their use, or something that is special about or that distinguishes a person or thing (Anonymous 1979; Hornby 1982). Success is usually defined as the achievement of something desired, planned, or attempted.

In this research quality is seen as the characteristic of a policy analysis study that relates to the specifications or properties of the study and its results formulated in advance. A distinction can be made between explicitly and implicitly formulated specifications. Explicit quality specifications are those which are laid down on paper. Implicit quality specifications are not laid down on paper in advance. It is generally agreed upon, however, that a policy analysis study and its results should meet these specifications. Examples of quality specifications are:

- the research should stay within budget and time constraints
- the research should be factually correct
- the results should be delivered according to the contract
- the content should be logically consistent and the logic should be transparent
- the methodology should be technically sound and appropriate for the problem

In contrast with quality, success is subjective. Success is in the eyes of the actors, who might consider different elements when evaluating a policy analysis study. Furthermore, the function of elements and the associated values that underlies a success perception may differ per actor.

While quality is related to properties of the policy analysis study and its results, success might also be related to various effects of the study, including effects that were not originally planned and/or not relate to the explicit purpose of the study. For example, the question whether a policy analysis study improved the policy is a success issue, the same as the question whether a study increased the insights people have into possible solutions. Both issues do not concern properties of the study

itself, but relate to the possible effects of a policy analysis study. For some actors such issues might play a major role, and, therefore, such actors consider the achievement of both the officially intended objectives and the unintended side effects of the study in evaluating its success.

All in all, the set of elements that define the quality of a policy analysis study might be a sub-set of the elements on the basis of which actors value the study's success. The word 'might' is used, because actors do not necessarily base their success perception on quality criteria. For example, some persons perceive a policy analysis study as a success if it made impact on the client even if it is bad analysis technically (Meltsner 1976).

The focus of this research is the identification of the elements that actors consider in evaluating a study's success. The term quality only appears if an actor considers the quality of a particular aspect, e.g., the quality of the reports of the study, to be an indicator of the success of a study.

3.3 The many faces of policy analysis

As a first step a broad inventory was made of what has been written on decision and policy making processes, on the role of policy analysis studies in such processes, and on what constitutes successful policy analysis studies or similar activities and processes in that respect. The inventory was not restricted to the field of policy analysis; as not much is written specifically on the role of and evaluating policy analysis studies relevant literature from other, related areas of research was also surveyed.

It appeared that the following two points of view can be roughly distinguished:

- policy analysis as information provider
- policy analysis as participative policy-oriented processes

These two views on policy analysis are briefly described below. It has to be noted, though, that the two points of view are not mutually exclusive. In reality, they are extremes of a continuous spectrum of variations in views on policy processes and the role of policy analysis studies.

In addition to the two views, the points of view of authors that focus on evaluation from an actor perspective are also briefly described.

The success elements that follow from the various points of view, which are used, or can be used, to evaluate policy analysis studies are described in Section 3.5.

Policy analysis as information provider

Many authors in the field of policy analysis, including Goeller, Majone, Meltsner, Miser, Pulles, Quade, Walker, Patton, Sawicki, and Wildavsky, stress the function of policy analysis studies as information provider (Goeller et al. 1995; Meltsner 1976; Wildavsky 1992; Patton & Sawicki 1993). The generation and presentation of objective, i.e. value free, information, including clarification of the problem,

presentation of alternative policy options, and comparison of their consequences in terms of the relevant costs and benefits are at the core of a study (Walker 1994a). Hence, the results of policy analysis studies are primarily cognitive: knowledge with respect to the relationships among problems, alternatives, objectives and actors.

From this perspective, decision makers are generally characterized as goal-oriented persons/organizations that seek after the knowledge that enables them to make 'good policy' (Lynn 1980). Policy and decision processes are linear or cyclical processes evolving in stages from agenda setting, policy formulation, implementation to evaluation (Brewer & DeLeon 1983; May & Wildavsky 1978). Decision makers choose among policy options and allocate resources through a rational process of identifying specific objectives and evaluating alternative ways of achieving them. Policy analysis studies are independent scientific efforts producing value free information that is made available to the client or a broader group of decision makers for their use.

The field of policy theory (Hoogerwerf 1992; Bressers & Hoogerwerf 1995) also stresses the relevance of objective information and the substantive part of the analysis. Policy theory originates from the policy sciences and does not relate to policy analysis studies as such. The concept and the ideas behind it, however, provide insights into different perceptions that may exist of the success and failure of a policy analysis study.

The field of policy theory focuses on the cognitive dimensions of policy processes and the assumptions underlying a policy (Hoogerwerf 1992; Bressers & Hoogerwerf 1995). From a policy theory point of view the following elements are central: the mental frames of a particular policy problem held by decision makers, the presentation of the policy problem in policy documents, and the subjects of policy discussions. A policy theory is defined as the set of causal assumptions and arguments that an actor holds, and which provides the basis of an existing or desired policy. Three types of arguments are generally distinguished: (1) arguments in terms of means and ends (goals), (2) arguments in terms of values and standards, and (3) arguments in terms of causes and effects.

A popular method in earlier years separates policy processes into component steps, to learn the intricacies of policy processes and the possible value added of policy analysis studies (Hogwood & Gunn 1983; Kickert et al. 1997; Nijkamp 1996). A first step is the appearance of policy problems on the agenda of government decision makers. Then, issues for action are formulated, after which legislative or other action follows. Administrators subsequently implement the policy, and finally at the end of the process, policy is evaluated. Different authors formulate and view the sequence of the steps of policy processes in slightly different ways, leading to a different normative view on evaluating such processes. Harold Lasswell, for example, laid down the following steps: intelligence, recommending, prescribing, invoking, applying, appraising, and terminating (Lindblom 1980). According to Hoogerwerf (1992), a policy process consists of various successive phases, starting

with problem formulation, through policy preparation and description, policy implementation, policy evaluation, feedback, and ending with policy termination.

Hoogerwerf argues that analyzing the assumptions that underlie a policy is relevant in each phase of a policy process. It provides insights into the explanatory mechanisms behind the success and failure of policy processes. For example, precision of formulation, internal coherence and consistency, and empirical quality are put forward as important criteria to evaluate a policy theory. Such criteria might also be used to evaluate policy analysis studies, which, after all, are intended to support, or help in building, policy theories.

Policy analysis as participative policy oriented processes

In the last decade the paradigm of policy analysis as a pure information provider has been criticized because of its underlying assumption of a rational decision maker (Tijink 1996). Although some policy decisions in some ministerial organizations are the province of a single decision maker in which case the rational actor model might be appropriate, most are not (Lynn 1980). A number of alternative conceptualizations of decision making have been developed. For example, Lindblom identifies the interdependence of ends and means, the prevalence of value conflicts, the dispersion of power, and the processes of incremental adjustment and compromise as essential characteristics of policy processes. He formulates policy making as an extremely complex process without beginning or end and of which the boundaries remain most uncertain. Somehow a complex set of forces together produces effects called 'policies' (Lynn 1980). According to authors like Allison public policy making can be understood as the outputs of large organizations (Allison 1971; Lynn 1980). These ideas lead to a view of policy making that considers the complex political dynamics of the policy process and the multiple actors who are involved. The objectives and values of participants are not given and immutable; they are created and selected in the course of choosing among alternatives. Conflict and compromise are the methods of policy making. The emphasis is on interaction, communication, dialogue and debate between various actors involved in the policy process.

From this perspective the role of policy analysis is not limited to gathering, integrating, and structuring information for the debate. Policy analysts also have a role as facilitator of the policy process. Policy analysis should support a participatory, or multi-stakeholder communicative debate that uses available information efficiently and leads to policy conclusions that are implementable given the existing policy network (Geurts & Vennix 1989; Geurts & Kasperkovitz 1994). Consequently, the distinction between independent cognitive analysis and the policy process, including interest negotiations and value debates, is blurred. According to Lindblom, the analysts must recognize and incorporate the strategies and dodges of the actual behavior of decision makers. For example, decision makers are limited in their ability and desire to collect information on which to base their actions. They thus 'satisfice' rather than optimize. Furthermore, the analysts should recognize that

a policy process is one of incremental muddling rather than comprehensive choice (Kunreuther et al. 1982; Lindblom 1980).

Fischer and Forester (1993) also recognize that policy analysts should care about the political, organizational, and institutional conditions, in addition to the internal coherence and quality of their analyses. They assess policy analyses and planning as argumentative processes, in which interpreting, marshalling, and presenting arguments are prime activities. From this perspective, Dryzek (1993) argues that one cannot conduct defensible policy analysis without attending to the political process with which analysis and policy are involved. Defensible policy analysis must side with open communication and unrestricted participation. As a consequence of this 'argumentative turn', the idea that policy analysts may provide decision makers with neutral or objective feedback information or recommendations to improve policy is abandoned (Knaap 1995). The analysts might contribute to the quality of the policy discourse by entering the negotiations that compose the policy making processes with informed arguments and a willingness to listen, argue, and persuade or be persuaded (Knaap 1995).

The field of policy network theory also focuses on interactive processes, characterized by active interchange of information and points of view among the participants. Policy network theory highlights the social aspects of policy making. The concept reflects also on characteristics of policy analysis studies and provides insights into different perceptions that may exist of the success and failure of policy analysis studies.

A policy network is defined as a more or less stable pattern of social relations between interdependent actors, which takes shape around specific policy problems and/or policy programs (Kickert et al. 1997). Policy networks form the context in which policy processes take place. The concept is, in part, based on ideas from political science and organization theory about the distribution of power and dependencies, organizational features, and interorganizational relations. The policy network concept was developed as a reaction to the instrumental logic of goals and means, which dominated policy analysis, and much of which was implicitly or explicitly based on the idea of a unitary decision maker. Sharpf concludes: "it is unlikely, if not impossible, that public policy of any significance could result from the choice process of any single unified actor. Policy formation and policy implementation are inevitably the result of interactions among a plurality of separate actors with separate interests, goals, and strategies" (Sharpf et al. 1978).

There are three important characteristics of networks (Kickert et al. 1997):

1. *Dependency as a precondition for networks*

Networks exist because of interdependencies among actors. Actors are dependent on each other because they need each other's resources to achieve their goals. This central idea lies at the core of most theories on networks.

2. *Variety of actors and goals*

A policy network consists of a wide variety of actors who all have their own problem perceptions, goals and strategies. Actors need each other because of the

interdependencies that exist but at the same time try to steer towards their own preferences. This means that strategic interaction is an important feature of processes in networks.

3. *Relation patterns between actors*

The interdependencies between actors and the interactions that result from them create patterns of relations, which influence the interaction patterns taking place within networks.

In essence, a policy process in this network perspective is an interactive, political process involving multiple stakeholders who are dependent on each other but may have radically different perspectives on the problem and conflicting interests (Mayer 1997). Each actor has its own goals and objectives and an individual set of information that is used to defend specific recommendations. The policy process is constantly changing. At any point in time there is an issue or set of issues that involve a network of interested actors. Over time particular issues may be resolved, disappear, or be transformed as new information or new alternatives emerge. Policy processes are unpredictable due to incomplete information and unclear values. According to Kunreuter et al. and Teisman the decision process can be separated into different rounds (Kunreuther et al. 1982; Teisman 1992). A round is simply a device to illustrate a change of the focus of discussions. This new focus can be triggered by a key decision taken, or a change in the context of the discussion due to an unanticipated event, the entrance of a new party or new information brought to the debate (Kunreuther et al. 1982).

From the perspective of policy network theory, policy analysis studies have a role as intermediary, supporting communicative debates among multiple parties at interest, developing shared strategies, creating win-win situations, and breaking through cognitive fixations (Jasanoff 1990; Klijn et al. 1995). A logical consequence of the network perspective is that policy analysis studies should not aim at rational advice given to a single authoritative public decision maker, but should start from, and end with, the interactions between the relevant stakeholders (Mayer 1997).

Policy analysis from an actor perspective

Meltsner is one of the authors who do not discuss policy analysis studies from a normative perspective. On the contrary, he states that different types of analysts evaluate a policy analysis study from a different perspective. Meltsner (1976) describes the success perceptions of three types of analysts, who are classified by their political and analytical strengths or skills. Analysts with high political and high analytical skills are classified as *entrepreneurs*. Analysts with high political and low analytical skills are classified as *politicians*, and analysts with low political and high analytical skills as *technicians*. For example, the technicians usually put the analytic quality of their work first, while the politicians consider a study successful if the study's results match with the needs of the policy makers. Entrepreneurs are both technician and politician, balancing short-term demands and the long-term implications of policy analysis in their success perceptions.

Miser and Quade (1988b) point out that a team conducting or evaluating a policy analysis study should consider criteria and standards of quality emerging from interests of all of the parties likely to be significantly affected by the findings of the study and any actions or policies that might emerge from them. The authors did not explore, however, the criteria that emerge from the interests and responsibilities of such parties.

Clark and Majone (1995) distinguish the actors that review science conducted in policy contexts, from the perspective of a different role with different critical standards: the individual scientists performing the inquiry, their disciplinary peer groups, the sponsor or manager of the research program, the client or decision making group for whose use the results of the inquiry are intended, and, in most cases, the interest groups that could be expected to have a stake in the decisions being contemplated. The authors are of the opinion that efforts to develop better critical skills for science with policy implications should aim not for a unique evaluation, but rather for an enhanced understanding of different evaluative criteria on the part of all role players.

Eden and Ackerman (1996), who refer mainly to the field of Group Decision Support Systems (GDSSs), also stress that evaluation criteria have tended to ignore many of the issues that would be paramount for some actors. Evaluation of GDSSs has been dominated by an experimental and laboratory based approach, viewing the performance of GDSSs from a normative perspective without paying attention to evaluation criteria from an actor's point of view (Eden 1995; Eden & Ackermann 1996).

The field of GDSSs concerns the development and evaluation of computer systems specifically designed to support group processes. Well known examples include electronic brainstorming and voting systems. The basic thought is that application of a GDSS can increase the quality of group processes and, thereby, the results obtained. For example, it is suggested that it stimulates consensus reaching, decreases decision time, and increases participation and the depth of analysis. GDSSs are tools/methods of analysis that can be used in carrying out specific tasks within a policy analysis study.

Eden and Ackerman seek to explore the criteria that might be used by a wide variety of stakeholders, including developers, facilitators, clients, vendors, and academics. The authors distinguish predominantly user criteria, developer/vendor criteria, and academic criteria.

3.4 Specification of the research question

It has become clear from the previous section that different views exist on policy processes and the role of policy analysis studies, resulting in different views on evaluating the success and failure of policy analysis studies. For example, those who stress the function of policy analysis studies as information provider focus on content related aspects, while those who view policy analysis studies from a network

perspective focus more on process related elements. Some authors focus on evaluation criteria from an actor perspective. The main success elements that follow from the various points of view are outlined in Section 3.5. The literature gave reason to believe that the way actors define the success and failure of a policy analysis study may depend on at least three main factors.

First, a wide variety of actors are generally related to a policy analysis study, ranging from the analysts carrying out the analysis to the client organization, the potential users of the study's results, and people affected by policy options that are considered for implementation. Some authors recognize that these actors have different goals and perspectives and do not have to agree upon the criteria to evaluate the success and failure of a policy analysis study (Eden & Ackermann 1996; Meltsner 1976). The characteristics of the actors, e.g., their role with respect to a policy analysis study, might determine the different elements they focus on in defining and assessing the study's success.

Second, the definition of success of a policy analysis study might depend on the characteristics of the study. Large variations exist with respect to the characteristics of policy analysis studies, e.g., the research approach, the nature of the study, and the elements that are central in the study. For example, the success of an analytic, independent and value free analysis might be defined differently than the success of a policy analysis study that was directed towards supporting interactive negotiation and learning. Furthermore, the duration and the public visibility may differ between policy analysis studies (Kahan 1998) and affect the way a study's success is defined.

Third, policy analysis studies do not exist in a vacuum. Analysis without a political environment is completely bounded or closed and exists in and only in textbooks (Meltsner 1976). According to Meltsner, the more political the environment, the more open the boundaries of the analysis, and the more political considerations will influence the analytic work. Policy analysts are part of a social organization in which they interact with other analysts, particularly with a set of policy makers, and possibly with various actors affected by the problem situation or potentially by policy measures to be taken. The context in which a policy analysis study is carried out can affect the production of the analysis, the study's content and process, and the involvement of various actors (Werkgroep Inventarisatie Ervaringen met Beleidsanalyse 1988). Consequently, a study's context can be an important factor in the way actors define the success and failure of a study. For example, the actors related to a policy analysis study, which was carried out in a context involving multiple stakeholders who have radically different perspectives on the problem and conflicting interests, might define the study's success differently from the actors related to a study that was carried out in a context of consensus.

In conclusion, the following three main factors possibly determine how an actor defines the success and failure of a policy analysis study (see Figure 3.1): (1) the characteristics of the study's context, (2) the characteristics of the study, and (3) the characteristics of the actor.

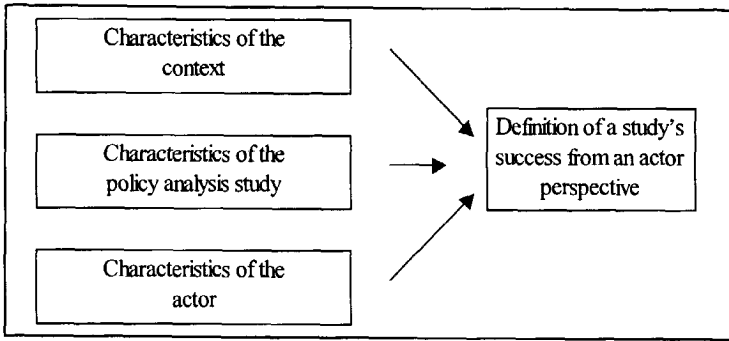


Figure 3.1: The definition of success from an actor perspective as a function of the characteristics of the actor, of the study, and of the study's context

On the basis of the above, the main research question, i.e. how do different actors define the success of a policy analysis study and what are the factors underlying the various definitions of success (as formulated in Chapter 1), was divided into the following four questions:

What are the elements on the basis of which different actors value, from their perspective, the success of the study to which they were related?

What is the relationship between the set of success elements that an actor considers and the characteristics of the actor?

What is the relationship between the set of success elements that an actor considers and the characteristics of the context in which the study was carried out?

What is the relationship between the set of success elements that an actor considers and the characteristics of the policy analysis study?

These questions underlie the various aspects of the conceptual structure and form the basis of this research towards a theory.

In practice, the characteristics of the context, the study, and the actors are mutually dependent. For example, a problem situation in a certain context may be of interest only to specific actors that, consequently, will be related to the policy analysis study. Such actors, who can have different interests and roles, might largely determine the characteristics of a policy analysis study. For the purposes of this research, however, the characteristics of the context, the study, and the actors were treated, as much as possible, as independent variables.

The aspects of the conceptual structure are specified in the following sections.

3.5 Elements of success

From the literature review it appeared that a wide variety of elements are focused on in evaluating policy analysis studies and/or similar activities. Different aspects are

generally considered, including content and process related aspects, direct results of the study, what is being done with these results, whether the problem situation was improved, and the like.

On the basis of this observation, a conceptual structure was developed to take into account the broad set of aspects that are used, or can be used, as a basis for evaluating policy analysis studies. The structure was used to categorize the various elements that different actors focus on, or might consider, when evaluating the success and failure of policy analysis studies. The conceptual structure is illustrated in Figure 3.2

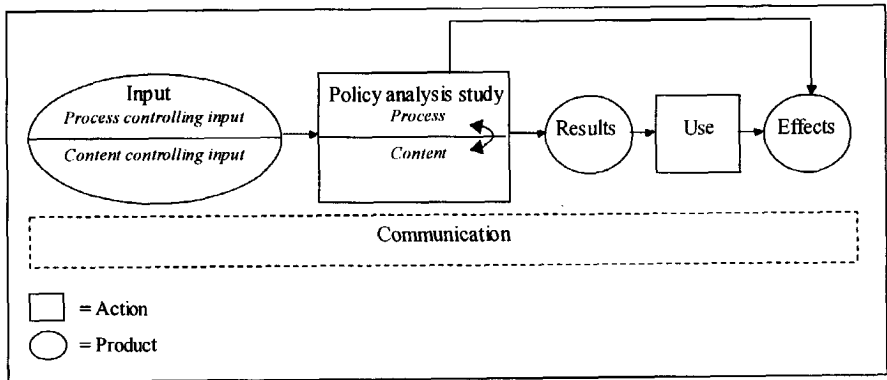


Figure 3.2: Conceptual structure for identifying and classifying success elements

A policy analysis study is viewed as an action, or a series of actions, controlled by particular inputs, leading to specific products or results, e.g., a report and/or a model. Two primary dimensions of a policy analysis study are distinguished: content and process. The results of the policy analysis study might be entirely or partly used by different actors, leading to various effects. A policy analysis study may also lead to some effects without having produced any results, as yet. Throughout the series of actions and resulting products communication takes place among the various actors who are related to the study and the surrounding policy process.

The following categorization of success elements is introduced in the conceptual structure:

- *Input:* these are elements that relate to the things preceding the policy analysis study, e.g., who initiated the study and why was the analysis was initiated.
- *Content:* these are elements that relate to the content of the study, e.g., the subject on which the analysis focuses, the research approach, the validity of the analysis methods used, and the variety of alternatives and criteria considered in the study.
- *Process:* these are elements that relate to the analysis process and its organization, e.g., the transparency of the organization of the process, the cooperation among and/or involvement of various actors, and the use of resources, time, and money.

- *Results*: these are elements that relate to the products of the policy analysis study, e.g., the findings of the study, including the presentation, relevance, availability, and validity of the study's results.
- *Use*: these are elements that relate to who uses which elements of the study for what purpose.
- *Effects*: these are elements that relate to the possible effects of the policy analysis study, e.g., feeding the policy discussion, affecting the policy process, affecting the decisions taken, increasing the insights into the problem and possible solutions, improving the problem situation, and/or shifting the balance of power and responsibilities among the actors involved in the problem situation
- *Communication*: these are elements that relate to the communication among the actors during the whole sequence of activities and products, e.g., internal and external communication during the study, and changes in communication patterns among the actors as a result of the study.

The literature provided many elements to focus on in evaluating policy analysis studies. The main elements that the authors, whose points of view were outlined in Section 3.3, propose are briefly described below. The resulting list of elements, categorized according to the conceptual structure depicted in Figure 3.2, is given in Table 3.4 in Section 3.9.

Before describing the proposed success elements it should be noted that the literature differs in the terminology used; some terms are used in different ways and some concepts are defined by different terms. Some authors use the term 'quality' when referring to desired properties of a policy analysis study or a similar activity and process. Other authors use the term 'success' or 'goodness' when referring to the results, use of results, and the effects of a policy analysis study. The focus of this research was on the identification of success elements in a broad sense, including properties of the study, the inputs, the results, use of results, communication aspects, and possible effects of the study. The descriptions below, however, hold on to the terminology used by the various authors as much as possible.

Policy analysis as information provider

The authors that stress the function of policy analysis as provider of objective information generally emphasize the substantive aspects of policy analysis studies. In addition to the content of the reports, the relevance and the quality of the presentation are main issues from this point of view. Usage of policy analysis studies and changes of the problem situation as a consequence of a study are also seen as success indicators. The success elements provided by these authors are summarized below.

First, to paraphrase Wildavsky (1992):

- good analysis compares alternative programs, neither objectives alone nor resources alone, but the assorted packages of resources and objectives, which constitute its foregone opportunities
- good analysis focuses on outcomes

- good analysis is tentative
- good analysis promotes learning by making errors easy to identify and by structuring incentives for their correction
- good analysis is skeptical; by disaggregating the verifying process
- good analysis is aware of its shortcomings and so it hedges its recommendations with margins of sensitivity to changes in underlying conditions
- good analysis works with historical contexts so that error stands out ready for correction
- good analysis remembers the parties at interest

According to Majone, the quality of a policy analysis study can be assessed in terms of two distinct, but related sets of criteria³ (Majone & Quade 1980): (1) internal criteria of adequacy relating to the technical competence of the work, and (2) external criteria of effectiveness relating to the impact of analysis on the policy process.

Internal criteria are generated within a study. Associated questions are:

- Was uncertainty handled explicitly or assumed away?
- How strong was the evidence?
- Were the conclusions tested for sensitivity to simultaneous changes in the critical parameters, or was sensitivity testing done merely for changes in single parameters separately?
- Were extensive tests undertaken to establish the credibility of the models used?

External criteria are imposed from the outside, e.g., the clients of the study, the general public, or the limitations of time and resources. Associated questions are:

- Were the conclusions of the study presented in a clear and persuasive manner?
- Were the results of the study presented in time to assist the decision maker?
- Did those people for whom the study was carried out actually read the reports?
- Did they give any sign that it affected their reasoning?
- Were all legitimate interests taken into consideration?
- Were the conclusions of the study found acceptable by the implementing organization?

Goeller (1988) distinguishes direct and indirect success of a policy analysis study. Direct success is assessed with respect to the decision and problem situation for which the analysis was commissioned. Indirect success relates to effects on decisions and/or problem situations other than the ones for which the analysis was commissioned. Furthermore, Goeller distinguishes three different kinds of direct success:

- *analytic success*, which considers how the study was performed and presented
- *utilization success*, which considers how the study was used in the policy process
- *outcome success*, which considers what happened to the problem situation as a consequence of the study and its results

Within these three categories, various criteria and approaches may be used to determine the extent of success of a policy analysis study. Analytical success can be determined by formal quality control and approval of selected parties. Formal

³ It should be noted that many of the authors that are referred to in this section, including Majone & Quade, use the term 'criteria' differently than it is defined in this dissertation (see Section 3.2).

quality control includes technical validity, persuasive validity, availability, credibility, timeliness, pertinence, and usefulness. The approval of selected parties is innately subjective. Goeller stresses that, using this way of measuring a study's success, the parties' perspective, possible biases, and the context should be taken into account. While analytic success concerns how the study was performed and presented, utilization success concerns whether and how the results of the study were used. Three components are distinguished: (1) who uses, (2) which elements of the policy analysis study, (3) for what purpose. In terms of outcome success, a policy analysis study may be judged successful if two conditions are satisfied: (1) the implemented policy alternative improves the problem situation, and (2) the selection of that alternative was significantly influenced by the policy analysis study. Obviously, the three types of success are not independent, e.g., outcome success of a study can never occur if the study and its results are not used.

According to some authors, the following conditions are necessary for, or would at least increase the likelihood of, successful policy analysis studies (Goeller et al. 1995):

- a favorable environment for policy analysis work
- the right kind of problem
- the right kind of sponsor, accompanied by the right kinds of colleagues
- the right kind of people on the analysis staff
- effective pursuit of the analysis staff's work
- effective communication with the sponsor and the other actors throughout the study and its follow up
- partnership with the sponsor in pursuing the work and the consequences of its findings
- following up effectively

Miser and Quade (1988a) discuss how to control the quality of analysis work as it is carried out and how a potential user is to evaluate a policy analysis study. Quality control is discussed in light of a three-fold character of a policy analysis study: descriptive, prescriptive, and persuasive. Quality within the light of the descriptive aspect is discussed along the lines of three modes. *The input mode* considers the people involved and the wide variety of material that enters the study, e.g., data, assumptions, models, mathematical procedures, and professional specialists on the analysis teams. *The output mode* focuses on the results of the study and how they relate to reality and to the process of analysis. Furthermore, the focus of this mode is on the prescriptions emerging from the results and, if implemented, possibly on the eventual outcomes. In the third mode, *the process mode*, various process related aspects are considered including the appropriateness of all steps taken in carrying out the study, the basis on which they were chosen, and the effectiveness of communicating the process and the material entering to the actors involved. In terms of the prescriptive, i.e. advisory, character of a policy analysis study, Miser and Quade point out that, if a policy analysis study rests on clearly valid judgments and surrogate models, then conclusions and recommendations may be adequate; however, if the study rests largely on judgments of less confidence and/or offers

only a perspective on the problem situation, the analysts seldom have an adequate basis for conclusions and recommendations. Two questions need to be answered to investigate the persuasive, that is, the argumentative-interactive aspects of a policy analysis study: (1) did the study deal effectively and ethically with the concerns of all actors involved?, and (2) were the findings and their limitations communicated effectively and fairly?.

In addition, Miser and Quade point out a list of general marks of quality in policy analysis, which is referred to by Patton and Sawicki as a useful overview of the characteristics of a successful analysis (Patton & Sawicki 1993). This list is given in Table 3.1. The general quality marks listed by the authors relate mainly to the content and process of a policy analysis study. Some of the marks point at success elements related to the results of the study and to communication aspects.

Table 3.1: General marks of quality by Miser and Quade

- substantial effort devoted to formulating the problem
- an exhaustive search for new ideas and alternatives
- explicit recognition and careful treatment of uncertainties
- substantial testing for sensitivity
- clear statement of the assumptions, the boundaries, and the constraints
- input data scrutinized for accuracy and relevance before being transformed into information and applied as evidence
- models selected and developed so as to be appropriate to the problem
- models verified, with reasonable efforts to test their validity
- subjective judgments made explicit and supported by reasons behind them
- extensive documentation of the work and backup material, including what was done and why
- findings and recommendations, giving adequate attention to other interests
- reports, both written and oral, focused on the audiences, to the end that they can use the findings in their further thinking about the problem situation
- the ability to answer searching questions promptly about the work and its implications
- a preliminary plan for how to undertake an implementation, in case a decision to act is taken
- explicit recognition given to the environment, to future generations, and to interest groups that might be negatively affected
- attention to questions of equity that might arise
- the client's objectives explored for consistency with moral standards and the public welfare
- the leading alternatives investigated for feasibility, political, organizational, and otherwise
- explicit attention to the monetary and other obvious costs, and effort to discover hidden costs
- frequent communication between the analysis team and the client/sponsor and their staff

Hoogerwerf proposes the following criteria for evaluating a policy theory (Hoogerwerf 1984):

- *precision of the formulation*, including precision of terminology, quantification of causal relationships, and specification of time
- *differentiation*, referring to the variety of aspects taken into account, to the distinction made between controllable and non-controllable variables, and to the way causality is taken into account
- *integration*, referring to the internal coherence and consistency
- *empirical quality*, referring to the degree to which evidence is grounded in empirical findings

- *legitimacy of the policy theory*, referring to the degree to which the basic assumptions and goals are in accordance with commonly accepted and formal principles and rules

These criteria also reflect on characteristics of policy analysis studies: the argumentation in a policy analysis and/or in a policy process, the contents of policy analysis reports and policy documents, and mental frames of participants and users of the results of a policy analysis study. The literature in the field of policy theory provides success elements that fit into various categories of the conceptual structure presented in Figure 3.2: the content of the study, e.g., transparency and consistency, the results of the study, e.g., clear and accurate presentation, and the effects of the study, e.g., insights into the problem situation and possible solutions. Some authors refer to the concept of policy theory as a reason to evaluate mental frames before and after a policy analysis study (Vennix 1990; Kenis 1995).

Some authors that stress the function of policy analysis as provider of objective information also devoted attention to evaluating policy processes and policy outcomes, as these evaluations could become inputs to ex ante policy analysis studies (Hatry 1988; Patton & Sawicki 1993). The findings from a policy and/or program evaluation could also serve as a check on the accuracy of a policy analysis study and its results (Hatry 1988). According to these authors, policy evaluation, in the most general sense, involves the examination of the extent to which policy objectives were achieved (Hatry 1988; Patton & Sawicki 1993), and they describe various issues concerning policy evaluation, e.g., the objectives of policy evaluation, types of policy evaluation, and actions to improve the usefulness of such evaluations. The authors do not provide, however, concrete criteria for evaluating policy processes and outcomes that also could be used, in one way or another, for evaluating policy analysis studies.

Policy analysis as participative policy oriented processes

Authors who consider the primary role of policy analysis studies as facilitator of policy processes, define the following set of guidelines for what they consider to be good support (Geurts & Vennix 1989; Geurts & Kasperkovitz):

- A problem has to be explored from as many different segments and from as many actor positions as possible and the relevant actors should be engaged in all phases of a policy analysis study.
- A broad spectrum of policy alternatives and consequences should be taken into account, and statements about these policy alternatives and their consequences should be logically non-disputed.
- A policy analysis study should be based on state of the art scientific insights, showing what is known and also what is not known or uncertain.
- A policy analysis study, and the methods of analysis, should stimulate the communication among a pluriform set of participants with different ideas and backgrounds.
- A policy analysis study should allow integration of different types of data.
- The methods of analysis should allow participants to learn step by step.

- The selection or choice of a solution should be made within the context of all interests.
- A policy analysis study, and the methods of analysis, should fit within the rules and structure of the organization or policy network.

These guidelines provide success elements such as broadness, relevance, quality of argumentation, state of the art knowledge, and various communication aspects.

The concept of policy network theory (Kickert et al. 1997) is based on the assumption of variety and variability in problem definitions. Consequently, evaluation criteria cannot be related to factors such as the degree of attainment of a commonly defined goal. Ex post 'satisficing' is to some extent related to the well-known criterion of achieving win-win situations, which is sometimes proposed for judging the outcomes of negotiations in networks. Furthermore, the theory emphasizes the importance of general process criteria, such as legitimacy, democratic nature, transparency and openness of the process, process continuity and efficiency. The costs of interaction should be kept within reasonable limits to prevent a waste of resources and energy. In addition, the level of commitment to the joint undertaking of those involved is suggested as a criterion. The theory specifically points to the importance of different impacts of cognitive, research-based inputs: the impact of information on the perceptions of individual actors, the contribution of information to the development of shared strategies and action plans, and the degree to which new information has resulted in breaking through cognitive fixations (Klijn et al. 1995; Jasanoff 1990). At the individual actor level, goal attainment, i.e. actors achieving their own objectives, is a measure of the success or failure of interactions within networks (Kickert et al. 1997). The sum of these individual judgments results at a collective level into the criterion of win-win situations, also known as the Pareto-optimum. A policy outcome is successful if it results into a net improvement for all parties involved or at least into an improvement for one of the parties.

In summary, the literature in the field of policy network theory provides various success elements, e.g., willingness to cooperate among parties, use of resources, transparency and openness, satisfaction of actors involved, goal achievement, insights into the problem situation and possible solutions, and commitment of actors involved.

Policy analysis from an actor perspective

According to Meltsner (1976), the success elements a technician focuses on can exist at many levels, ranging from appreciation for one's own work to having an impact through a particular policy. Most technicians see success in personal terms, e.g., in their ability to do work of quality and to develop models that work. From their perspective success is the ability to construct a model that specifies the relevant policy variables and is capable of accurate prediction. Furthermore, technicians measure success in terms of acceptance among peers; if other analysts think it is a good piece of intellectual work, then it is good. The technicians usually put the quality of their work first, after which it is natural to feel even more successful if the

work has some effect, e.g., did people learn something they did not know before, and that brings about a change in their actions. In the short-term, a study is successful if it is correct and useful. Long-term success means that the study resulted in an article that was interesting, creative, path breaking, and would stimulate further research.

The politician kind of analyst is more a bureaucrat than an analyst. Politicians know they are successful when they receive notes from their superiors congratulating them on their work. Most politicians talk about success as involving various levels of acceptance. Typically their levels of acceptance, that is, their criteria for success, involve changing budget allocations or 'raising the level of debate'. The final test of acceptance is when recommendations generated from the analyst's work are transformed into legislative proposals. In line with that, policy analysis studies are successful from the perspective of politician analysts, if the study and its results are responsive to the needs of those responsible for making changes and affect the policy and problem situation.

Meltsner describes an entrepreneur as both a technician and politician. Like the technician, the entrepreneur's criteria of analytical success concern the quality and competence of the work. Like the politicians, the entrepreneurs may see success as getting a grade raise or expanding their influence over "what leaves the office". Like all analysts, entrepreneurs find their work successful if it improves decision making. The distinguishing feature of the entrepreneurs is their balanced concern for short-term demands and the long-term implications of policy analysis. Politicians expect to be fire fighters, technicians anticipate the future payoff of research. Entrepreneurs accommodate both perspectives. Success is not just 'winning' on one issue; it is a relationship that is established with a client over time. It is measured by the number of times a discussion is illuminated and extended by analysis. In addition, the perspective of an entrepreneur contributes success elements that relate to the process of a policy analysis study and to communication aspects.

Clark and Majone (1985) distinguish for the appraisal of science conducted in policy context the following roles: the individual scientists, the peer group, the sponsor, the client, and public interest groups. They also distinguish three general modes of critical appraisal. In the *output* mode, appraisal focuses on the products of inquiry, e.g., scientific facts, problem solutions, and conclusions. In the *input* mode, the emphasis is on the data, methods, and people engaged in the inquiry. In the *process* mode, attention shifts to institutional structures and procedures, provisions for quality control, participation in, and conduct of the inquiry. Combining the roles and critical modes provides a framework that the authors use to classify criteria used by different actors for the appraisal of scientific inquiry in policy contexts. A preliminary sketch is given in Table 3.2. Clark and Majone (1985) emphasize that a more comprehensive review, drawing more extensively from casework in decision and policy analysis per se, would doubtless be more informative.

Table 3.2: Sketch of criteria by Clark and Majone

Role	Input criteria	Output criteria	Process criteria
Scientist	<ul style="list-style-type: none"> - resource and time constraints - institutional support - assumptions - available data 	<ul style="list-style-type: none"> - validation - sensitivity analysis - technical sophistication - acceptance of conclusions - impact on policy debates - imitation - professional recognition 	<ul style="list-style-type: none"> - choice of methodology - communication - implementation - promotion - formalization of analytic activities within organization
Peer group	<ul style="list-style-type: none"> - quality of data - model/theory used - adequacy of tools - problem formulation - input variables chosen - success measures specified 	<ul style="list-style-type: none"> - purpose of the study - conclusions supported by evidence - robustness conclusions - adequate coverage of issues 	<ul style="list-style-type: none"> - standards of practice - documentation - review of validation techniques - style - interdisciplinarity
Sponsor	<ul style="list-style-type: none"> - cost - institutional support - quality of analytic team - type of financing 	<ul style="list-style-type: none"> - rate of use - type of use - contribution to methodology - prestige - can results be generalized 	<ul style="list-style-type: none"> - review of the study - collaboration with users
Policy maker/client	<ul style="list-style-type: none"> - quality of analysis - cost - technical tools used - problem formulation 	<ul style="list-style-type: none"> - is output familiar and intelligible - generation new ideas - are policy indications conclusive 	<ul style="list-style-type: none"> - ease of use - documentation - help with implementation - interaction with agency and interest groups
Public interest groups	<ul style="list-style-type: none"> - competence and intellectual integrity of analysts - problem formulation - normative implications of technical choices 	<ul style="list-style-type: none"> - nature conclusions - equity - use of analysis - all viewpoints taken into consideration 	<ul style="list-style-type: none"> - participation - communication - adherence to strict rules of procedure

Eden and Ackerman (1996) distinguish predominantly user criteria, developer/vendor criteria, and academic criteria. They have built up a list of evaluation criteria derived from considering an approach that is different from the more formal considerations of evaluation. The list provides many success elements, including the amount of information surfaced, the reliability of research methods used, innovative character, the belief of participants that they have been taken seriously and treated as having a useful role, the costs, the level of power exchange, the change of social relations, the satisfaction of potential users, and the improvement of communication aspects.

In conclusion, the overview given above shows that a variety of views exist on what constitutes successful policy analysis studies. The literature has contributed many success elements, which are being, or can be, focused on by various actors in

evaluating the success and failure of the policy analysis study in which they were involved. The proposed elements are listed in Table 3.4 in Section 3.9. This list was used as a basis for identifying and classifying success elements on an empirical basis. The focus of the following three sections is on the factors that might be of influence on the set of elements that actors focus on in evaluating a policy analysis study from their perspective.

3.6 Context

Policy analysis studies are carried out in the context of a policy process and corresponding problem situation. Problems are situations that everyone, including policy- and decision makers, face many times each day. What may be a problem for one person, group, or organization, however, is not necessarily a problem for another. Problems arise over time, remain active for a certain period, and may eventually disappear. Problems get resolved by 'natural' means or through human intervention (Beroggi 1999).

A problem situation is usually described as a mismatch, a gap, or a difference between the existing or expected situation and the desired situation. While a gap between an existing situation and a desired situation is a necessary condition for problem existence, it is not sufficient. The problematic gap must also be difficult to bridge or close. Furthermore, to be a problem, the gap must be important enough to inspire current or prospective solution activities; it must warrant a place on one's agenda (Smith 1988). A policy problem, in particular, is a problematic gap, that is, unrealized values, needs, or opportunities, which may be attained through public action.

Bridging or closing the gap between an existing situation and a desired situation might be difficult for various reasons. First, policy problems in one area frequently affect policy problems in other areas. In reality, policy problems are not independent entities. Second, problem situations are not objective, but products of the subjective judgment of the various actors involved, each with their own interests and ideas about the desired situation. Third, many important policy problems are ill-structured (Ackoff 1974). Ill-structured problem situations typically involve many related problems and many different actors whose utilities and values are either unknown or impossible to rank in a consistent fashion. The main characteristic of ill-structured problems is conflict among competing goals. Future developments, policy alternatives and their outcomes may also be uncertain.

Independent of the view on how policy processes take place (see Section 3.3), some characteristics of a problem situation in which a policy analysis study is carried out might determine the perceptions of success of the different actors with respect to the study. For example, the complexity of a problem situation, that is, the number and variety of interrelated problems and the number and variety of interests of people, with sometimes conflicting interests, may differ per problem situation (Herweijer & Sas 1989), and might influence the set of elements that actors focus on to evaluate a

policy analysis study. It could be expected that, for instance, the question whether the study dealt effectively and ethically with the concerns of all parties at interest appears to be particularly important, when evaluating a study that was carried out in a situation in which numerous parties at interest were involved.

The orientation of a problem situation may also differ and have an influence on the success perceptions. A problem situation can be oriented towards taking action, making a decision, or formulating policy. If the situation is oriented towards taking a concrete action, e.g., building an additional highway in a densely populated area, the actors that are involved in the problem situation might value the success of a policy analysis study differently than when the situation is oriented towards formulating policy on mobility issues. Similarly, the scope of the problem, i.e. whether the problem is of national, regional, or local concern, might be of influence.

The context in which a policy analysis study is carried out inevitably involves various parties at interest, including decision makers and everyone who might be affected by the proposed policy and actions to be implemented (Herweijer & Sas 1989; Miser & Quade 1988a; Nijkamp 1996). The willingness of such actors to cooperate in solving the problem may have an influence on how, and on the basis of which elements, a policy analysis study is evaluated. If a problem situation is at an impasse, because for instance a large resistance to changes exists, or various actors are not willing to talk or negotiate with each other, the success and failure of a policy analysis study might be defined differently than in a problem situation in which people are willing to cooperate. The attitude of the actors with respect to problem solving particularly can have implications on how policy analysis studies are evaluated, when conceiving policy analysis and planning as an ongoing dialogue, in which both governmental and societal actors contest their views on policy issues by exchanging arguments.

Policy processes can be very dynamic and the objectives and values of the multiple actors involved might not be given and immutable (Nijkamp 1996). The policy goals and the interests of various actors are possibly very unstable and unclear as a result of, for example, political influences, new information, changes of political and public opinions, or depletion of various budgets. The clearness of the policy goals and the interests of various actors might have an influence on how, and on the basis of which elements, the success of a policy analysis study is evaluated.

In summary, various characteristics of the problem situation 'out there' might determine the elements on the basis of which actors value the success of a policy analysis study. There are also characteristics of the context referring to the analysts' milieu, which might influence the success perceptions.

According to some authors a favorable environment for policy analysis work to be successful includes a significant recognition by the parties at interest that the problem situation is important, and that it should be addressed thoughtfully (Goeller et al. 1995). From this perspective it could be expected that a study that has a formal status within a particular policy process would be evaluated differently from a study with no formal status. Similarly, the number and variety of decision makers involved

in the problem situation might influence the success perceptions of actors. The analysts' milieu also includes the availability and use of existing knowledge, data, and research methods. Various problem situations are characterized by the fact that knowledge and data is incomplete or not directly available (Tombe 1993). As a result of the existence or non-existence of adequate data and models, different sources for information might be used as an input to the analysis. Whether a study's activities were primarily based on technical analysis of substantive data and theories, or primarily based on stakeholder input and interaction, might be of influence on how, and on the basis of which elements, different actors value the success of the study.

In summary, the characteristics of a study's context, which may determine the elements on the basis of which actors value the degree of success of the study, and which are taken into account in this research, are:

Problem situation

- *Scope*
Was the problem of local, regional, national, or worldwide concern?
Were the phenomena widely distributed in both space and time?
- *Orientation*
Was the problem decision-oriented, action-oriented or policy-oriented?
- *Complexity*
Was a large number and variety of problems, elements and/or variables involved in the problem situation? Was a large number of people, which might have conflicting interests, possibly affected?
- *Uncertainty*
Were the problem elements, future developments and effects of policy measures clear, murky, uncertain, or even unpredictable?
Were the various goals and interests of actors involved in the problem situation clear and stable?
- *Attitude of actors involved with respect to problem solving*
Was the situation at an impasse?
Was there any resistance to changes?

Analyst's milieu

- *Status of the policy analysis study*
Was the study part of an official procedure within a policy process, e.g., an environmental impact assessment?
Who initiated the study and for what reason?
- *Decision makers involved*
Was a large number and variety of decision makers involved in the problem situation?
Were their responsibilities distributed over various organizational units?
Was a large number and variety of decision makers directly involved in the analysis?

- *Availability and use of knowledge, data, and research approaches*

Was relevant and sufficient knowledge and data available?

Did adequate research approaches, e.g., models, exist?

What was the main basis on which the study's activities were performed, e.g., primarily based on technical analysis of substantive data and theories, or primarily based on stakeholder input and interaction?

In practice, the characteristics of the context might be mutually dependent. For the purposes of this research, however, the characteristics were treated as much as possible as independent variables, to analyze the relationship between the set of success elements that actors consider in evaluating the success of a study on the one hand, and the characteristics of the study's context on the other.

3.7 Policy analysis study

Since policy analysis deals with diverse problems and different contexts, it assumes many forms adapted to the problems, the issue studied, and the context. There are some common features, however, that characterize policy analysis studies and that are described by most authors in the field (Dunn 1983; Miser & Quade 1985; Patton & Sawicki 1993; Wildavsky 1992):

- a policy analysis study is a purposeful and systematic activity that can be delimited with respect to subject matter and time
- the objective of a policy analysis study is to assist those responsible for making changes
- the emphasis in a policy analysis study is on the collection, interpretation and communication of information that is of relevance to a policy issue
- a policy analysis study is decision, action, or policy oriented research, which seeks to enlighten policy discussions in a general sense
- the policy issues considered in a policy analysis study typically involve multiple interests, a variety of often conflicting objectives, and uncertainty

Within this broad concept of policy analysis studies, many variations exist, not in the least in terms of the duration of a study, the amount of funding, and the number and variety of analysts involved. Many variations also exist, and are still developing, in terms of the scope and research approach. Furthermore, policy analysis studies may vary in terms of the number and variety of issues and people's interests considered in the study. Moreover, depending on the problem situation, a study may be oriented towards a decision to be taken, towards an action to be implemented, or towards policy to be formulated.

From the literature review outlined in Section 3.3 it appeared that large variations of policy analysis studies exist with respect to the nature of the study and its relation to the policy process. Some authors view policy analysis studies as objective, independent scientific efforts. Others, however, give priority to public participation and acceptance over richness or substantive rationality (Thissen & Twaalfhoven 1999).

For this research, the broad perspective was adopted that a policy analysis study may include content and process related activities, generally aimed at directly supporting the resolution of a complex policy issue. That way, the variety of forms of policy analysis studies outlined above are included.

In summary, the characteristics of a policy analysis study, which may determine the elements on the basis of which actors value the degree of success of the study, and which were taken into account in this research, are:

- *Size*
Was the study large in terms of its duration, the amount of funding, and/or the number and variety of analysts involved, e.g., single analysts versus a large amount of interdisciplinary teams from different organizations?
- *Complexity*
Was a large number and variety of issues considered in the study?
Were different interests of people, which might be conflicting among each other, considered in the study?
- *Nature of the study*
Was the study an analytic, independent and 'value-free' analysis, or was it more directed towards supporting interactive negotiation and learning?
- *Research approach*
What were the central elements or steps, e.g., choice between given alternatives and problem finding, in the study?
What tools and techniques were used, e.g., holding workshops, applying statistics to data bases, using mathematical models for diagnosis and impact analysis?
- *Orientation*
Was the study aimed at providing objective information, or was the study (also) oriented towards improving mutual understanding, and support, of the parties involved in the problem situation?

3.8 Actors

Actor is the general term for people, groups, or organizations, who are involved in a policy analysis study or who are potential users of the study and its results. Actors can be people who analyze the problem, people who have the power to make decisions, people who implement decisions, or anyone else who plays an active or passive role in the policy making process (Beroggi 1999). For example, special interest groups, e.g., environmentalists, political parties, and professional associations, can play a role in a policy analysis study and the related policy making processes.

Different actors have their own values, interests, goals and objectives, which they try to realize by using various instruments to control and to direct the problem situation and other actors (Bruijn & Heuvelhof 1991). In other words, an actor is an acting entity, i.e. an individual, group, or organization, aiming for a particular goal. The motivation for actors to act depends on their interests with respect to the

problem and/or depends on the effects of possible policy measures the actors might be faced with.

Depending on their view on the nature of the policy analysis study and its relation to the policy process, various authors distinguish different actors who are related to the policy analysis study.

With respect to valuing the success and failure of policy analysis studies, the most detailed description of various actors is given by Goeller (1988), as part of his description of his framework for success. Goeller distinguishes actors related to the problem situation and actors related to the analysis. The actors described by Goeller are listed in Table 3.3. According to Goeller, together these actors largely determine the success of an analysis, for their actions and interrelations govern how the analysis is conducted, what is done with the findings, who is affected, and how the effects are perceived.

Table 3.3: List of actors distinguished by Goeller

Actors related to the problem situation:

Policymaker for the problem situation; a policy maker is an individual, group, or organization that can establish or modify policies, which affect problem situations through implementation.

Implementor for the policy of program; the implementor attempts to execute the policy chosen by the policy maker.

Operator of the implemented policy of program; the operator is responsible for managing and maintaining the implemented policy in day-to-day operation.

Decision maker for the problem situation; a decision maker may be either a policy maker or an implementor.

Responsibility taker for the problem situation

Staff member for any of these types of persons

Persons affected by the problem situation; this role includes persons (in-)directly affected by the problem situation.

Lobbyer seeks to influence policymakers toward a particular viewpoint

Advisor on the decision; an advisor is someone who may supply information, conduct analysis, recommend action, suggest political strategy, or provide emotional support. An advisor differs from an analyst in the degree (1) to which their recommendations are based on problem-specific analysis; (2) their assumptions are made explicit; and (3) their personal preferences are set aside.

Evaluator of the implemented policy or program; an evaluator compares the actual effects on the problem situation with the expected effects, using 'established' criteria.

Enforcer for the implemented policy of program; an enforcer is an evaluator with the power to induce policy changes.

Table 3.3: List of actors distinguished by Goeller (continued)

<p>Actors related to the analysis:</p> <p><i>Problem poser</i></p> <p><i>Sponsor</i>; the sponsor is the individual, or organization, who commissions the work and sees to its support.</p> <p><i>Client</i>; the client is a potential user of the study findings, such as decision makers, their staff, or an interest group trying to influence decision making.</p> <p><i>Member of the staff</i> of any of these persons</p> <p><i>User</i></p> <p><i>Policy analysis team</i></p> <p><i>Policy analysis peer group</i></p> <p><i>Research program director</i></p> <p><i>Advisor to the analysis</i>; the analysis team may receive some guidance from selected advisors.</p> <p><i>Formal reviewer</i></p> <p><i>Implementation planner</i>; implementation planners are those who perform analysis specifically to assist implementation planning or decision making.</p>
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At a later stage, types in his discussion with Miser, Walker, and Pulles about important factors in successful systems analysis work, Goeller reduced the number of actors into three main groups (Goeller et al. 1995): (1) the sponsor, (2) people on the analysis staff, and (3) other actors involved.

Viewing a policy analysis study as a scientific inquiry that has some policy implications, Clark and Majone distinguish the following actors, which in their view need to be considered for the appraisal of science conducted in policy contexts (Clark & Majone 1985): the individual scientists performing the inquiry, their disciplinary peer groups, the sponsor or manager of the research program, the client or decision making group for whose use the results of the inquiry are intended, and, in most cases, the interest groups that could be expected to have a stake in the decisions being contemplated.

As mentioned in Section 3.3, some authors distinguish different actors from an evaluative point of view. These authors stress the fact that actors have different roles and objectives, as a consequence of which they may evaluate a policy analysis study from a different perspective. Meltsner (1976) distinguishes three types of analysts, i.e. technicians, politicians, and entrepreneurs, that can carry out a policy analysis study. Eden and Ackerman (1996) consider two rather different groups in their attempt to understand and evaluate the performance of GDSSs from the perspective of a number of actors involved in GDSS events. They distinguish: (1) those not involved as recipients of a GDSS, e.g., management academics, computer science or information system academics, the developers of GDSSs, the developer of the specific GDSS under scrutiny, management consultants, and hardware and software vendors, and (2) those involved as recipients of a GDSS, e.g., the participants in a GDSS event, key actors in the process, the facilitator(s), the client, the organization sponsoring the event, and other individual participants.

Another related field in which significant evaluative research has been done is in the area of Environmental Impact Assessments (EIA). An EIA is a specific form of a policy analysis study. It has a limited focus on environmental issues, but, in general,

an EIA has all the features that characterize a policy analysis study. The following five formal actors are usually distinguished when carrying out and evaluating EIAs (Heuvelhof & Nauta 1996):

- *The initiators* are either the government or a private actor who wants to undertake a project for which the law obliges the initiator to carry out an EIA.
- *The authority* is composed of governmental parties who have the authority to decide upon the project that the initiator wants to carry out and for which the EIA was initiated. The authority decides on the directives for the EIA report and values the report on the basis of its content.
- *The formal advisors* include inspectors of the Ministry of Housing, Physical Planning and Environment, the provincial Director of Agriculture, Nature and Recreation of the Ministry of Agriculture, Nature, and Fishery, and advisors related to the decision for which the EIA was carried out.
- *The commission for an EIA* is an independent commission, which advises the authority in deciding on the directives and the quality of the EIA report.
- *The participants* are those, e.g., individuals, foundations, and associations, invited to give their view on the problem issue, before the proposal and after publication of the EIA report.

Observing the above makes clear that there is no general prescription for identifying and classifying the actors related to a particular policy analysis study, other than making their identification an important early goal in both carrying out and evaluating a policy analysis study. In this research the names of the actors have been used as they were used in the study to which the actors related. The extensive list of Goeller is used as a directive for identifying the actors related to a study.

The above shows that actors differ in terms of the role they play in relation to a policy analysis study. The extent of involvement may also differ; for example, some actors are heavily involved in carrying out the analysis, while others are temporarily involved in supporting and directing the study. Furthermore, different actors have different authority and actual influence with respect to the content and process of a policy analysis study. The interests of the actors in the problem situation and in the policy analysis study also clearly differ among the actors.

In summary, the following characteristics were taken into account for actors related to a policy analysis study; these may determine the set of elements that the actors consider in valuing the success of a study:

- *Role*
What role, e.g., analyst, client, or policy maker, did the actor play with respect to the policy analysis study?
- *Extent of involvement*
To what extent was the actor involved in the analysis?
- *Authority*
What authority did the actor have with respect to the content and process of the policy analysis study?
- *Interest*
What was the interest of the actor in the problem situation and in the policy analysis study?

3.9 Summary and formal description conceptual basis

The main aspects of the conceptual basis, resulting from the observations described in the previous sections are highlighted in this section. The conceptual basis summarized in Table 3.4 and Table 3.5 formed the foundation for this research. The second part of this section contains a description, for those who are interested, of the research questions and the conceptual basis in abstract terms.

The aim of this research was to develop a theory concerning the success perceptions of different actors with respect to a policy analysis study and the factors underlying the various definitions of success. The central question asked was: What are the success elements that actors focus on when evaluating the success of a policy analysis study? Furthermore, what are the relationships between these success elements on the one hand, and the characteristics of the actors, the studies, and the contexts on the other?

The literature provided insights into the different elements that actors can use, or are using, to evaluate a policy analysis study. These elements were described in Section 3.5. Furthermore, a structure for identifying and classifying success elements was introduced in this chapter. An overview of the various elements, in accordance with the conceptual structure, is given in Table 3.4.

The perceptions of the success and failure of a policy analysis study may depend highly on the characteristics of the actor evaluating the study, the characteristics of the study, and on the characteristics of the study's context. The characteristics that were taken into account in this research are summarized in Table 3.5, including the descriptive terms used in the case study research.

Table 3.4: List of elements used as a basis for interviews

<p>INPUT</p> <ul style="list-style-type: none"> • Data and supporting tools <ul style="list-style-type: none"> - Availability - Quality - Completeness • Assignment <ul style="list-style-type: none"> - Analyst and client - Problem formulation <p>CONTENT</p> <ul style="list-style-type: none"> • Alternatives <ul style="list-style-type: none"> - Number - Relevance • Criteria <ul style="list-style-type: none"> - Number - Relevance • Methodology <ul style="list-style-type: none"> - Identification alternatives and criteria - Use of state of the art knowledge - Use of quantitative and qualitative data - Attention for uncertainties - Validity - Verifiability - Adequacy - Applicability in other projects - Transparency, clarity • Depth • Broadness • Innovative character <p>PROCESS</p> <ul style="list-style-type: none"> • Parties involved <ul style="list-style-type: none"> - Reason for involvement - Representativeness of selection - Participation - Cooperation - Commitment and support - Being taken seriously • Working agreements <ul style="list-style-type: none"> - Registration - Clarity • Responsibilities <ul style="list-style-type: none"> - Who, which - Registration - Clarity • Personnel <ul style="list-style-type: none"> - Actual versus planned use • Finance <ul style="list-style-type: none"> - Actual versus planned use • Duration <ul style="list-style-type: none"> - Actual versus planned use 	<ul style="list-style-type: none"> • Internal meetings <ul style="list-style-type: none"> - Frequency - Form - Who with whom - Purpose <p>RESULTS</p> <ul style="list-style-type: none"> • Consistency (internal) • Verifiability • Relevance <ul style="list-style-type: none"> - Match with problem situation - Match with policy process and needs - Match with research objectives - Match with expectations • Presentation <ul style="list-style-type: none"> - Form - Clarity, transparency • Availability <ul style="list-style-type: none"> - Planned versus actual presentation - For whom - Form • Acceptation by parties involved <p>USE</p> <ul style="list-style-type: none"> - Which elements - By whom - For what purpose <p>EFFECTS</p> <ul style="list-style-type: none"> • Decision/policy <ul style="list-style-type: none"> - Quality - Controllability - Reformulation policy goals • Policy process <ul style="list-style-type: none"> - Decision time - Commitment of actors involved - Public support • Implementation <ul style="list-style-type: none"> - Implementation according to analysis • Decision makers <ul style="list-style-type: none"> - Well founded argumentation for decisions • Parties involved <ul style="list-style-type: none"> - Individual and collective insight - Relationship <p>COMMUNICATION</p> <ul style="list-style-type: none"> • Internal (among parties carrying out the study) • External • Informal
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Table 3.5: Characteristics taken into account in this research

Context	
Problem situation	
C 1. Scope	<ul style="list-style-type: none"> • local / regional / national / worldwide
C 2. Orientation	<ul style="list-style-type: none"> • decision / action / policy
C 3. Complexity	<ul style="list-style-type: none"> • complex / not complex, relative to the other case studies, based on: <ul style="list-style-type: none"> - intertwined problems - involved elements and variables - people's interest (potentially) affected
C 4. Uncertainty	<ul style="list-style-type: none"> • clearness, 'murky-ness', uncertainty, or unpredictability, and/or stability of: <ul style="list-style-type: none"> - policy goals - future developments - effects of policy measures
C 5. Attitude of actors involved	<ul style="list-style-type: none"> • ranging from 'impasse' to 'willingness to cooperate and solve problem'
Analyst's milieu	
C 6. Status of policy analysis study	<ul style="list-style-type: none"> • ranging from 'being part of an official procedure within a policy process' to 'an unasked advice'
C 7. Decision makers involved	<ul style="list-style-type: none"> • number and variety of ministries involved in: <ul style="list-style-type: none"> - the problem situation - the policy analysis study
C 8. Availability and use of data and research approach	<ul style="list-style-type: none"> • data sources, e.g., more quantitative, substantive data and theories versus more qualitative stakeholder input • model development
Policy analysis study	
PA 1. Size	<ul style="list-style-type: none"> • duration • number and variety of research organizations involved in carrying out the analysis
PA 2. Complexity	<ul style="list-style-type: none"> • complexity relative to the other case studies, based on: <ul style="list-style-type: none"> - range of aspects and interests related to the problem that were considered in the analysis
PA 3. Nature of the study	<ul style="list-style-type: none"> • ranging from 'content oriented analysis' to 'interactive support to learning and negotiating'
PA 4. Research approach	<ul style="list-style-type: none"> • central elements, e.g., problem finding, identification & choice of alternative policy measures • tools and techniques used
PA 5. Orientation	<ul style="list-style-type: none"> • aim of the study, ranging from providing objective information to improving mutual understanding of the parties involved in the problem situation and increasing their support for the decisions to be made
Actors	
A 1. Role	<ul style="list-style-type: none"> • as defined in the study concerned; Goeller's list in Table 3.3 is used as a directive for identifying actors.
A 2. Extent of involvement	<ul style="list-style-type: none"> • average time spent per week on the study • change over the period in which the study was carried out
A 3. Authority	<ul style="list-style-type: none"> • authority & control over the content & process of the study
A 4. Interest	<ul style="list-style-type: none"> • in the problem situation • in the policy analysis study

It can be seen from this chapter that constructing a theory concerning how actors define the success of policy analysis studies is a complex issue. Different people evaluate the success of policy analysis studies on the basis of different sets of success elements. Furthermore, the reason for an actor to use a particular set of success elements may depend on various factors, including the characteristics of the actor, the characteristics of the study concerned, and the characteristics of the study's context. This issue thus deserved to be described sharply in abstract terms, to provide the opportunity to draw sharply defined conclusions at the end of this research. It should be noted, however, that it is not necessary to read and/or understand the following formal description to grasp the rest of the research presented in this dissertation.

Formal description

Let $E = \{e_1, \dots, e_N\}$ define the set of N elements that actors can focus on, or are focusing on, in evaluating a policy analysis study. It is assumed that the set E is composed of seven sub-sets, see Section 3.5 and Table 3.4:

E^I : represents the set of elements relating to the input to a study

E^C : represents the set of elements relating to the content of a study

E^P : represents the set of elements relating to the process of a study

E^R : represents the set of elements relating to the results of a study

E^U : represents the set of elements relating to the use of a study and its results

E^E : represents the set of elements relating to the effects of a study and its results

E^{Com} : represents the set of elements relating to the communication aspects

Five case studies in the field of transport and infrastructure were analyzed to identify the elements of set E . The case studies are described in Chapter 4 and the set of success elements is constructed in Chapter 5 on the basis of this empirical research. The set of success elements that were identified by interviewing the actors related to the five case studies is indicated by E^{emp} , which is a subset of or equal to E . In other terms,

$$E^{emp} = \bigcup_{i=1}^5 \bigcup_{j=1}^{j_i} \{ \varepsilon_{ij}^I \cup \varepsilon_{ij}^C \cup \varepsilon_{ij}^P \cup \varepsilon_{ij}^R \cup \varepsilon_{ij}^U \cup \varepsilon_{ij}^E \cup \varepsilon_{ij}^{Com} \},$$

where ε_{ij} represents the set of success elements that were mentioned by actor j with respect to case study i , and which are classified in accordance to the categories of the conceptual structure, i.e. input, content, process, results, use, effects, and communication. The total number of success elements in the set E^{emp} is indicated by N^{emp} , which is smaller than or equal to N .

Furthermore, let the context, in which policy analysis study i was carried out, be represented by vector $C_i = (c_i^1, c_i^2, c_i^3, c_i^4, c_i^5, c_i^6, c_i^7, c_i^8)$, whose components represent the following characteristics of the context:

Problem situation

Analyst's milieu

- c^1_i : Scope
- c^2_i : Orientation
- c^3_i : Complexity
- c^4_i : Uncertainty
- c^5_i : Attitude of actors involved

- c^6_i : Status of the study
- c^7_i : Decision makers involved
- c^8_i : Availability of knowledge, data, and research approaches

Let a study i be represented by vector $PA_i = (pa_i^1, pa_i^2, pa_i^3, pa_i^4)$, whose components represent the following characteristics of the policy analysis study:

- pa_i^1 : Size
- pa_i^2 : Complexity
- pa_i^3 : Nature of the study
- pa_i^4 : Research approach

Let vector $A_{ij} = (a_{ij}^1, a_{ij}^2, a_{ij}^3, a_{ij}^4)$ represent an actor j , which is related to study i . The components of vector A_{ij} represent the characteristics of the actor:

- a_{ij}^1 : Role
- a_{ij}^2 : Extent of involvement
- a_{ij}^3 : Authority with respect to study
- a_{ij}^4 : Interest

$j = 1 \dots J_i$, where J_i represents the number of different actors related to study i

Let E_{ij} represent the set of elements mentioned by actor j with respect to case study i ,

thus $E_{ij} = \bigcup_{j=1}^{J_i} \{ \varepsilon_{ij}^I \cup \varepsilon_{ij}^C \cup \varepsilon_{ij}^P \cup \varepsilon_{ij}^R \cup \varepsilon_{ij}^U \cup \varepsilon_{ij}^E \cup \varepsilon_{ij}^{Com} \}$. Then, $E_{ij} = B_{ij} * E^{emp}$,

where B_{ij} is a vector composed of zeros and ones, that is

$$B_{ij} = (b_{ij}^1, b_{ij}^2, \dots, b_{ij}^{N^{emp}-1}, b_{ij}^{N^{emp}}), \text{ where}$$

$$b_{ij}^n = 1, \text{ if } e_n \in E_{ij}$$

$$b_{ij}^n = 0, \text{ if } e_n \notin E_{ij},$$

for $n = 1 \dots N^{emp}$.

The question was studied how, if at all, a set E_{ij} relates to the characteristics of the actor j , i.e. A_{ij} , and/or to the characteristics of the study i , i.e. PA_i , and/or to the characteristics of the context in which study i was carried out, i.e. C_i . The aim of the research was to define a general function f over all i 's and j 's such that

$$B_{ij} = f(C_i, PA_i, A_{ij}), \text{ where}$$

i represents a case study and $j = 1 \dots J_i$, representing an actor, where J_i is the total number of actors related to study i .



4. CASE STUDIES

4.1 Introduction

The following five case studies in the field of transport and infrastructure in the Netherlands are described in this chapter:

1. the Dutch Riverdikes study
2. the FORWARD study
3. the IVR study
4. the SVV Colored In study
5. the CAU study

The descriptions of the case studies are structured in accordance with the conceptual basis outlined in the previous chapter. The order in which the cases are described corresponds to the order in which they were carried out. The descriptions are written such that they can be read independently, consequently, some descriptions overlap slightly, e.g., if the cases were carried out in similar contexts, or if the same organizations were involved in the studies.

Open face-to-face interviews were used to identify the elements that actors focus on when evaluating a policy analysis study. The interviewees were asked to tell their story with respect to the success of the policy analysis to which they related. After the open part of the interview, a more structured approach was used to touch on various elements that the interviewee might have forgotten to mention. The structure followed from the conceptual basis. Different questions were asked, pointing at various aspects to trigger the interviewees to indicate all elements that they considered to be important in evaluating the study.

Personal interviews give the opportunity to ask about complex issues, which is difficult to do using only a questionnaire. Furthermore, face-to-face interviews are the best method for open-ended questions, since it allows a relaxed atmosphere, and longer interviews can be done in person (Czaja & Blair 1996). Another advantage of personal interviews is that respondent questions can be answered, for example, if particular interview questions are misunderstood (Fowler 1993).

The disadvantages, however, of personal interviewing are that it is more costly than alternative survey methods and the data collection period is likely to be longer than, for example, telephone procedures (Czaja & Blair 1996; Fowler 1993; Fowler & Mangione 1990). Furthermore, respondents are likely to provide socially desirable responses in a face-to-face interview. Whether it is possible to overcome this disadvantage by using other survey methods, though, remains an open question (Czaja & Blair 1996). In this research, the possibility of providing socially desirable responses was reduced by starting with, and giving more attention to, the open part of the interviews than to the more structured part. The underlying assumption was

that during the open part of the interview people would be able to tell their story and freely express their opinion, rather than being restrained by, and providing socially desirable responses to, focused questions.

The way interviewers handle the interaction with the respondents may cause errors in survey estimates, e.g., when interviewers bias answers by the way they relate to respondents, and when interviewers record answers inaccurately (Fowler & Mangione 1990). The chance of the occurrence of such interviewer-related errors was decreased by taping all interviews and asking some interviewees to review the written summary of the interview afterwards. Furthermore, all the interviews were conducted by one interviewer.

In this respect it should be noted that, as a result of my involvement in the FORWARD study, the relationship as interviewer with the actors related to the FORWARD study differed from the relationship with the other interviewees, with, or for, whom I had not worked. Consequently, the interviewees related to the FORWARD study in particular might have felt a restricted freedom in expressing their story of the success and failure of the study. Special attention was given at the beginning of the interview to emphasizing the aim of the research, i.e. to identify the elements actors focus on in evaluating a policy analysis study, rather than to identify their personal valuation of the study, to stimulate the openness of the interviewees.

Furthermore, it should be remarked that the research approach used to get insights into the success perceptions of the actors related to the CAU study differed slightly from the research approach used in the other case studies. A consultant organization had already carried out a detailed evaluation research by interviewing a wide spectrum of actors related to the CAU study. Supplementary information for this research was collected by sending a questionnaire to these actors and taking some additional interviews. A more detailed description of this approach is given in Section 4.6.

In this research the terms 'interviewee' and 'actor interviewed' are used to refer to the actors related to a cases study that were contacted, either on a face to face basis via an interview, via a telephone conversation, via email, or via a questionnaire. Appendix A contains a list of the persons contacted.

On the basis of the interviews, elements were added to the initial list of elements (see Table 3.4 in Section 3.9), after each case study. The elements that were mentioned by at least one actor were added to the list to get insights into the broad range of aspects that actors consider when evaluating a policy analysis study. Consequently, no elements were deleted from the list as a result of a case study.

In the initial interviews no explicit attention was given to the failures of the study. Consequently, as a learning effect, the negatively valued elements were explicitly asked for in the following interviews. Furthermore, some actors pointed mainly at improvements of the problem situation as indicators for the success of a policy analysis study. Initially, the actors were not asked explicitly whether, and how, such improvements were direct effects of the study, and/or were influenced by external factors. In later stages, however, the interviewees were asked this question to get

better insights into what such influences might be and into the direct effects of the study.

The people to be interviewed, that is, the actors that played a role in a case study in one way or the other and to a lesser or greater extent, were identified on the basis of various sources. First, the documentation of the studies was used. Goeller's list depicted in Table 3.3 was used as a directive for identifying the relevant actors, and, during the interviews, the respondents were asked whether they had any suggestions to complete the list of actors and representatives to be interviewed. On average, approximately two persons were interviewed per actor, e.g., the client organization or the analysis team of a particular policy analysis study (see Appendix B).

Information about the independent variables, i.e. the characteristics of the actors interviewed, the characteristics of the policy analysis study, and the characteristics of the study's context, was obtained from the study's documentation and from the information provided by the interviewees.

4.2 The Dutch Riverdikes study

4.2.1 Context

After the floods of 1953, national safety standards were specified to form the basis for river dike improvement projects. The implementation of such dike reinforcements and its radical effects caused major concern from society about the landscape of the river area. Rock bottom was reached when many houses were demolished in Brakel in 1974. The growing concern about the effects of dike reinforcements led the Minister of Transport, Public Works and Water Management, hereinafter the Minister, to install a Commission Riverdikes in 1975. This commission was also called the Becht Commission, named after its chairman. The commission was asked to reconsider the safety standards, and, if necessary, recommend new standards. The Second Chamber adopted the recommendations made by the Becht Commission in 1978, i.e. river dikes should be designed to resist water levels that would be exceeded with a frequency of about one year in 1250 (Ministerie van Verkeer en Waterstaat 1993d; Walker 1994b).

In 1984 the design flood levels for the rivers Waal and Merwede were recalculated by the department of the Ministry that is responsible of watercontrol and public works, Directoraat-Generaal Rijkswaterstaat (RWS), in English, the Directorate-General of Public Works and Water Management. Although expected, this recalculation did not result in a decrease of the design flood levels. On the contrary, the design flood levels were increased. The result of this was that the raised dikes had to be raised even further, which led to various protests. The Raad van Waterstaat, in English, the Council of Water Management, however, checked the recalculations and concluded that the calculations were reliable and that no feasible options existed to lower the flood levels.

At the request of the provinces, in 1985 the Minister promised to adjust the safety standards for the river Maas. The implementation of the dike improvements, which were carried out on the basis of the new design flood levels, again, gave rise to large-scale protests due to their harmful impact on the river landscape and on the natural and cultural values in the surrounding areas. The protests, in turn, led Parliament to threaten to withhold funds for future dike building. In an attempt to overcome the impasse, an integral approach was used for the dike reinforcements in the municipality of Sliedrecht, in which various aspects related to, and possible effects of, dike improvements were taken into account. In a letter to the Second Chamber (1987) the Minister stated that such an approach could be used as a model for other dike reinforcement projects.

In April 1991, the Second Chamber urged that high priority should be given to the dike reinforcement projects. The projects should not, however, cause harmful effects on the river landscape and on the natural and cultural values in the surrounding areas.

The large-scale discussions about each individual dike improvement project motivated the Minister to establish the 'River Dike Reinforcement Criteria Testing' Commission and to assign a river dike improvement project. The commission was announced in a letter of 24 July 1992 from the Minister to the Second Chamber. In her letter, the Minister pointed out that the study should address the following three questions (Ministerie van Verkeer en Waterstaat 1993d):

1. Do the considerations underlying the selection of the safety standard for the river dikes contain any elements that have changed to such an extent that this might give rise to a different choice for the safety standard?
2. Are there any new technological/scientific insights that may result in different calculation results?
3. Have new elements come up in recent commentaries that are outside the scope of the previous questions, but that might likewise result in a different choice or other calculation results?

This study, the Dutch Riverdikes study, was carried out under the joint leadership of Waterloopkundig Laboratorium (WL), in English, Delft Hydraulics, and RAND Europe, formerly European American Center for Policy Analysis. Rather than reporting to the Ministry of Transport, Public Works and Water Management, hereinafter *the Ministry*, the study team reported to the five-person commission that the Minister had appointed to supervise the study and to recommend a policy to the government (Walker 1995). After bringing out the results of the study, this commission, called the Boertien Commission, after its chairman, issued its recommendations to the government. The commission recommended not changing the safety level for the majority of the dike rings in the study area, and said that the government might consider a lower safety level only for selected dike rings (Walker 1994b). The recommendations were based entirely on the information in the study reports. A few weeks later, the government announced its policy decision. The government followed basically the lines set out by the Boertien Commission. The

Parliament held public hearings on the government's proposed policy for the river dikes in March 1993, debated the policy in April, and approved it on 4 May 1993.

Problem situation

- *Scope*: national concern.
- *Orientation*: oriented towards formulating policy and implementing policy, i.e. taking action.
- *Complexity*: complex. The problem situation included different intertwined problems, e.g., development of nature, preservation of the cultural landscape, flood protection, many elements and variables were involved, and the interests and responsibilities of various groups of people, e.g., waterboards, environmental groups, city residents, people whose homes are alongside a river dike, could be, or were being, affected.
- *Uncertainty*: The policy with respect to riverdike improvements was liable to changes, and, therefore, did not stand out in terms of clarity. The safety standards and the design flood levels of the rivers were determined taking into account the following aspects that could conflict: the damage by flooding, either personal, or material, the damage caused by dike reinforcements, e.g., loss of functions and values of the river dikes, and the cost of river dike reinforcements. Furthermore, uncontrollable, unpredictable, natural events such as high waters and floods needed to be taken into account. The future developments in terms of climate changes, shipping demand, and/or recreation demand, and the effects of policy measures were also uncertain or even unpredictable. Moreover, the various concerns and interests of the different parties at interest could change over time, as a result of which the various functions of the river dikes would be valued differently.
- *Attitude of actors related to the problem situation*: The problem situation was at an impasse. Riverdike improvement projects had given rise to large-scale protests and the Parliament threatened to withhold funds for future dike building. Furthermore, there were discussions about the (financial) authority and responsibilities of the organizations involved in formulating and implementing river dike policy.

Analyst's milieu

- *Status of the policy analysis study*: The study did not have a formal status within a particular policy process, although, the Minister officially asked for the study. The Ministry had a large interest in having carried out a policy analysis of the problem, and in having it carried out quickly, to overcome the impasse. The Ministry committed significant resources to the study, allocated sufficient funds, made data available, and gave access to personnel both inside and outside the department, because the study was high priority. The study had to be carried out quickly, because of the budget cycle and construction contracts. Delay of the policy analysis study would delay the completion of the dike improvement program, increase the cost of the program, and harm the relationships among the organizations involved. The research organizations and other actors related to the study also felt the importance of the study as a result of its public visibility. The study was even more important to RAND Europe. They were in the midst of

establishing their name in the Netherlands, and the Dutch Riverdikes study was *the* project at that moment for them.

- *Decision makers involved:* The main decision makers involved in the problem situation were members of the Ministry of Transport, Public Works and Water Management. Furthermore, the problem situation was of interest to the Ministry of Agriculture, Nature, and Fishery, and to the Ministry of Housing, Physical Planning, and Environment. The problem situation and the involvement of the various ministries were highly visible to the public. The members of the Ministry did not work on the Dutch Riverdikes study. Some members of the Ministry, however, acted as liaison persons for information on specific issues. The members of the Ministry and the Boertien Commission were kept informed about the status of the study through meetings with the project leader of Delft Hydraulics.
- *Availability and use of existing knowledge, data, and research approaches:* Most technical knowledge required to do the analysis existed in some form (Walker 1995). Even though it was not available in the form needed, the members of the project team were familiar with it, and could pull it together quickly. Most data were available and easy accessible. For example, the Ministry supplied a database and supplementary information from the Dutch Waterboards to clean up the Ministry's database. Three engineering firms provided data and reports about estimating dike improvement costs. Data to estimate the environmental damage were somewhat out of date. The environmental impact assessment was based on data and methods used by the Becht Commission in 1977, because of lack of time to obtain more recent information. Furthermore, various stakeholders provided data and information.

4.2.2 Policy analysis study

The Dutch Riverdikes study was carried out over the four-month period August–November 1992, under the joint leadership of WL and RAND Europe. Several specialized organizations from various disciplines and individual consultants contributed to the study. The multi-disciplinary project team reported to the Boertien Commission, which discharged its supervisory responsibilities by holding regular meetings with the Dutch director of the project team.

The research comprised a number of substudies, which aimed at (Ministerie van Verkeer en Waterstaat 1993d):

1. Finding a method of determining the degree of protection against floods required by society, in the form of either a standard for the entire study region, or one differentiated into subareas.
2. Determining an appropriate safety standard and corresponding design flood level for river dikes, and designing various measures to reduce these water levels.
3. Creating a methodology for constructive design of stable and reliable dikes for protection against floods.
4. Coordinating the flood protection function of the river dikes with other functions and values, and detailing the procedures needed for this coordination.

5. Integrating the various aspects of the research into possible strategic choices and presenting the consequences of these choices.

The analysis was carried out in various phases. The measures to decrease the safety standards and design flood levels were evaluated and screened on the basis of various criteria, e.g., with respect to landscape, culture, nature, and cost. The selected measures were combined into strategies. Ranges of effects of different safety standards, and of different strategies, were presented in the form of scorecards.

The project team needed to clarify the problem formulation early in the study (Walker 1995). The Minister had implied that the only problem was to determine the appropriate tradeoff between safety and the environment. There was another important question, however, that also had to be answered by the study: "Given a safety level, how can the river dikes be built so as not to harm the environment and not cost too much money?" The project team decided early on that it had to address both questions, although, as Walker points out, it had some difficulty at the end when trying to match the answers to the Minister's original question.

Various stakeholders, e.g., local waterboards, city residents, environmental and nature organizations, were consulted by the project team to obtain information. The project team convened five focus groups to feed in the information about the concerns of the stakeholders. A focus group was defined as: A gathering of people with some interest in common that is assembled to discuss that interest in depth. The groups were used to validate existing criteria and to generate new criteria with respect to the landscape, nature, and cultural values. In addition to providing information as an input to the research, this approach made many participants feel that their concerns had been considered in the policy deliberations.

The analysis led to two major conclusions (Walker 1994b):

- lowering the safety standard of that moment would increase potential flood damage
- significantly improved dike designs could preserve many natural and cultural values at little increase in cost and without lowering the safety standard of that moment, but would decrease the damage to natural and cultural values very little

The project team delivered the results of the study to the Boertien Commission in the form of a draft report on 17 December 1992. The results of the study were published on 11 January 1993 in the form of a Dutch report, summarizing the study results. Four supporting volumes provided more detailed information on the various aspects of the study (Ministerie van Verkeer en Waterstaat 1993a, b, c, and d). An article published in English focused on the study's methodology and offered information about what happened in the government and the Parliament after the study was completed (Walker 1994b).

To summarize the characteristics of the policy analysis study:

- *Size*: In terms of its duration (4 months), the Dutch Riverdikes study was a small size study. In terms of the number and variety of analysts involved, however, it was a large size study. The project team, consisting of approximately 40 persons,

was multi-disciplinary. Its members included persons with a range of backgrounds and expertise. Furthermore, many organizations from various disciplines and organizations, other than research organizations, e.g., stakeholders, contributed also to the study.

- *Complexity*: The Dutch Riverdikes study was a complex study. A wide range of aspects related to safety standards and aspects related to designs of dikes that would provide adequate safety and cause less environmental damage were analyzed and integrated into possible strategic policy choices, including a presentation of their consequences. The situation was made even more complex by the fact that some analysts were in the US for a considerable part of their time during the study.
- *Nature of the study*: The study was a formal analytic effort to provide information and to support policy making. The generation and presentation of objective information was not, however, the only function of the activity. The participative process, characterized by interchange of information and consultation of stakeholder groups, was also an important function. The results of the study did not include direct policy recommendations; the choices to be made were explicitly left over to the decision makers.
- *Research approach*: The two central elements of the study were: (1) to analyze the criteria used in establishing a safety standard for dikes along the non-tidal branches of the rivers Rhine and Maas, and (2) to examine ways to design dikes that would provide adequate safety but would cause less environmental damage than traditional designs. The study's activities were mainly performed on the basis of analysis of existing data from various sources, and on the basis of information provided by different stakeholder groups. The study was split into substudies and different organizations were responsible for the various pieces of analysis. Integrating the various aspects of the research onto possible strategic choices and presenting the consequences of these choices was done by WL and RAND Europe.
- *Orientation*: The study was aimed at answering the policy questions asked by the Minister (see subsection 4.2.1). In more general terms, it was aimed at providing objective information to support policy makers in (re-)formulating policy and taking corresponding policy actions. In doing so, however, the study also made an attempt to overcome the impasse.

4.2.3 Actors related to the study

Figure 4.1 shows the actors, which played a role in one way or the other and to a greater or lesser extent in the Dutch Riverdikes study, and, as such, were related to the study. The arrows indicate the mutual relationships in terms of the formal communication patterns. The characteristics of the actors are described below.

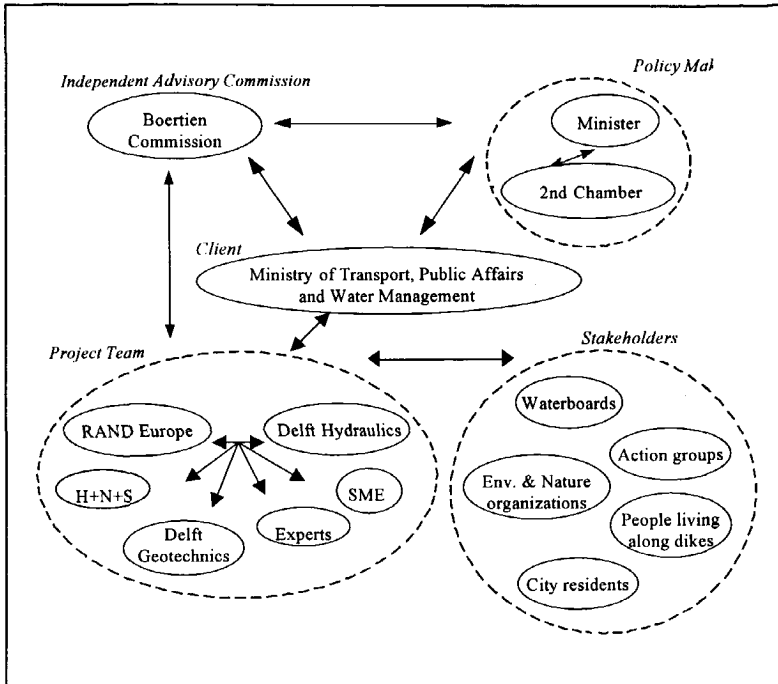


Figure 4.1: Actors related to the Dutch Riverdikes study

- *The project team* carried out the study. The study was carried out under the joint leadership of WL and RAND Europe, with the assistance of Delft Geotechnics. The project team consisted of approximately 40 persons and was multi-disciplinary. Its members included persons with a wide range of expertise, including water management, dike construction, hydrology, geology, morphology, ecology, statistics, database management, mathematical modeling, social psychology, public administration, landscape architecture, and policy analysis. Various specialized bureaus like Delft Geotechnics, SME, H+N+S⁴, and experts contributed to the study. There was a project leader from WL and one from RAND Europe. The Ministry's intention when the study was initiated was for the study to be a true partnership, with joint decision making on all its aspects (Walker 1994b). For ease in drawing up a contractual agreement with the Ministry, however, the prime contractor for the study was WL, with RAND Europe as a subcontractor.
- *The client* commissioned and sponsored the study. In August 1992, the Minister formally appointed the Boertien Commission and requested WL and RAND Europe to carry out the Dutch Riverdikes study. The study was sponsored by RWS. RWS committed resources to the study, allocated funds, made data available, and gave access to personnel both inside and outside the department. Furthermore, some members of the Ministry acted as liaison persons for providing the project team information on specific issues.

⁴ Hamhuis + Nieuwenhuijze + Sijmons

- *The independent advisory commission* was appointed by the Minister to supervise the study and to recommend a policy to the government. The five-person Boertien Commission discharged its supervisory responsibilities by holding regular meetings with the Dutch director of the project team. The Boertien Commission issued its recommendations to the government at a press conference hosted by the Ministry, shortly after the study's results had come out. The members of the Boertien Commission did not help to carry out the study.
- *The stakeholders* were consulted by the project team to collect information, and, as a by-product, to inform them of what was done in the policy analysis study. The project group convened five groups to feed in information about the concerns of the stakeholders. The five groups were members of (1) political action groups, (2) environmental and nature organizations, (3) local waterboards, (4) people whose homes were alongside a river dike, and (5) city residents. The groups were used particularly to validate existing criteria and to generate new criteria with respect to the landscape, nature, and cultural values. Many stakeholders showed their appreciation of being taken seriously and felt that their concerns had been considered in the policy deliberations (Walker 1995).
- *The policy makers*, i.e. the Minister and the members of the Second Chamber, were not directly involved in the study. The project team delivered the results of the study to the Boertien Commission, which issued its recommendations to the government. The concern of the policy makers was to overcome the impasse as quickly as possible.

A summary of the characteristics of the actors related to the Dutch Riverdikes study in terms of their role, their extent of involvement, their authority with respect to the process and content of the study, and their interests, is given in Table 4.1.

Table 4.1: Characteristics of actors related to the Dutch Riverdikes study

	Role	Involvement	Authority	Interest
Project team	WL and RAND Europe: managing and carrying out the analysis Other research organizations: Contributing to the analysis	Heavily involved, on a full-time basis	Authority and control over process and content, including scope and emphasis, of the study	<i>Analysis:</i> Carrying out the analysis <i>Problem:</i> No interest
Client (RWS)	Commissioning and sponsoring the study and providing resources and data	Not heavily involved on a direct basis, but providing resources and data	Authority and control at a high level, mainly limited to budget control	<i>Analysis:</i> Getting useful information <i>Problem:</i> Overcoming the impasse
Boertien Commission	Supervising the study and recommending policy to the government	Hardly involved, a few meetings with the WL director of the project team were held	Authority and control at a very high level	<i>Analysis:</i> Getting useful information <i>Problem:</i> Recommending policy
Stakeholders	Providing information	Temporarily involved, special stakeholder meetings were held	No authority and control over process and content of the study, other than over the information provided	<i>Analysis:</i> Getting information and results matching their own interests <i>Problem:</i> Each their own interests
Policy makers (Second Chamber)	Formulating and implementing (new) policy	Not involved	No influence, other than the initial question asked by the Minister	<i>Analysis:</i> Getting useful information, matching their ideas <i>Problem:</i> Formulating and implementing policy to overcome the impasse

4.2.4 Success perceptions

Representatives of the various actors were interviewed to get insight into how they define the success of the Dutch Riverdikes study. The success perceptions of the various actors outlined below are structured in accordance with the conceptual structure given in Figure 3.2 in Section 3.5. A summary of the variety of success elements mentioned by the different actors is given at the end of this subsection in Table 4.2.

Input

Most actors interviewed mentioned that the context in which the study was carried out and the timing were ideal and favorable for the success of the study. As a person of the client organization put it: "If the research had been carried out earlier, it would not had such an impact, and if the research had been carried out later, the problem would have been even bigger."

Another element, which was mentioned many times during the interviews, is the fact that the research was carried out by WL and RAND Europe. The Ministry deliberately asked an external, independent group of research organizations to carry out the study, instead of asking research units or organizations that were closely attached to the Ministry, to appear credible and trustworthy to the parties involved in the problem situation. WL was, and is, considered to be a prominent research organization within the Netherlands, having the capability to carry out such a complex study within a short time frame. RAND Europe was contracted to have a fresh view of the matter and to emphasize the independence of the analysis team to the outside world. The client, the project team, the Boertien Commission, and the policy makers mentioned the expertise and the independence of the contractors as an important success element. Remarkably, the stakeholders were indifferent with respect to who carried out the research and their relationship with the Ministry.

WL and RAND Europe initially aimed for true partnership with joint decision making on all its aspects. In drawing up a contract with RWS, however, the prime contractor for the study was WL, with RAND Europe as a subcontractor. During the research process this led to some conflicting situations within the project team. The project leader of Delft Hydraulics did not consider RAND Europe to be a true partner (Walker 1995). Differences of opinion were usually not resolved through discussion and negotiation. The position of WL, the project leader's position in particular, prevailed, since WL was the prime contractor. The situation was exacerbated by the fact that the project leader of RAND Europe was in the US for about half of the time. Many actors mentioned this resentment between the two organizations during the interviews. They also mentioned, however, that the disagreements did not prevent the study from being a success.

Some stakeholders pointed out that the administrative status of a policy analysis study might be an important factor for success. The success of a study increases if the formal status of the study is such that the parties involved in the problem situation have to follow the results of the study. The stakeholders did not, however, mention that they valued the success of the Dutch Riverdikes study on the basis of this element. Consequently, this element was not included in Table 4.2.

Content

Not many actors spoke of elements specifically related to the content of the Dutch Riverdikes study, when they were asked to point out the elements they would focus on in evaluating the success of the study. Most actors positively valued the broadness of aspects that were taken into account in the study. That is, all relevant

aspects in terms of alternatives for strengthening dikes, alternatives for lowering the waterlevel, and alternatives for the decision procedures were taken into account according to the interviewees. Some stakeholders, the client organization, and the analysis team, however, mentioned various aspects, e.g., 'ice dams' and international aspects, to which more attention should have been given in the study.

The wide scope of criteria used to assess the various impacts of the alternatives was also valued positively by all interviewees. The project team talked to different stakeholders, listened to them, and took their concerns into account, to identify the criteria. All actors interviewed considered the use of the stakeholder groups to be a success of the study.

In the study three safety levels were considered, i.e. the standard safety level at that moment and two lower safety levels. Most interviewees supported this selection. Some interviewees from the analysis team, the client organization, and the stakeholders, however, approved the selection from a societal point of view, but not from a scientific point of view. From a scientific perspective, a higher safety level should also have been taken into account.

Using and integrating existing knowledge was mentioned by some people of the client organization and the research organizations, as an element they would focus on in valuing the success of the study. Internal consistency appeared to be an important success element to the client and the Boertien Commission.

Verifiability, dealing with uncertainties, and the balance between quantitative and qualitative data are elements about which the opinion of the interviewees needed to be asked for explicitly. Some interviewees had an opinion about whether the study met these criteria. The elements did not, however, seem to be taken into account by the actors in valuing the success of the study.

All analysts fully supported the substantive part of the analysis. Only one analyst doubted whether the results of the study formed a reliable basis for policy decisions.

Process

The Dutch Riverdikes study was an open policy analysis study, particularly compared to some of the other four case studies. During the study there were intensive interactions between the project team and parties whose interests were, or could have been, affected by dike reinforcement programs. This communication was undertaken to obtain information from these parties, and, as a by-product, to inform them about the study. The stakeholders particularly appreciated this openness: they felt they were being taken seriously and that their concerns had been considered in the policy deliberations. The client, the project team, and the Boertien Commission also referred to the openness of the study: it made it easier for the results of the study to be implemented. The Boertien Commission mentioned that it was very good that the stakeholders always directly communicated with the independent research organizations. A direct confrontation with a research unit or organization closely attached to the Ministry, or with the Ministry itself, could have exacerbated the situation.

While the outside world appreciated the openness of the study, various people of the Ministry perceived the study as a closed study. Some people within the Ministry were asked to deliver information at the request of the project team, but they were given little information about the progress of the study. Consequently, they negatively valued the internal openness of the study.

Most people of the project team were happy about the efficient and effective way of working. The working agreements and responsibilities were clear and fulfilled in time. According to some analysts the study was not a 'model-study' in terms of organizational aspects, however, it was sufficiently organized for its purposes.

The Boertien Commission explicitly mentioned their appreciation with respect to the enthusiasm and commitment with which the project team worked on the study.

The duration of the study (4 months) was an important element mentioned by the client to consider when evaluating the success of the study. As one of the interviewees stated: 'If such a study takes longer, people will lose their interest; because of the short duration of the study it was possible to stop all dike improvement projects and to concentrate fully on the underlying policy questions.'

It appeared from the interviews with the client organization and the Boertien Commission that money did not play a role in this policy analysis study. The project team was basically free to do as they liked, as long as they considered all relevant aspects with respect to the river dike problem and delivered the results in time.

Results

The results of the study were published in the form of a Dutch report, summarizing the study's results. Four additional volumes provided detailed supporting information on the various aspects of the study. All interviewees mentioned the fact that the documentation was available in time to be an important success element.

Even though not everybody read the reports thoroughly, most interviewees found the reports clearly structured and well readable. The presentation could have been improved, however, if the time frame had not been so short. The client also commented on the results. These comments, however, related to the substantive part of the results. Some aspects that were taken into account in the study were not presented very well in the reports and should have been given a more prominent position, according to the client. Furthermore, a member of the client organization would have liked a brochure, summarizing the key elements and results of the study, in addition to, or instead of, the five thick reports.

All interviewees were of the opinion that the study's results matched the policy questions initially asked. The project team had some difficulty in the end, however, in trying to match the results to the Minister's original questions (Walker 1995). For the stakeholders it was important that the results matched with their own interests.

The fact that various parties accepted the results of the Dutch Riverdikes study was one of the reasons for the client and the Boertien Commission to consider the study as a success.

Use

After the results of the study became available, the Boertien Commission issued its recommendations to the government, which were based entirely on the information in the study reports. Most actors interviewed mentioned this as *the* success of the study. A few weeks after the Boertien Commission issued its recommendations, the government announced its policy decision. The government basically followed the lines set out by the Boertien Commission, which was mentioned by all interviewees as a big success of the study.

Some analysts, though, questioned whether the results were used, or were mis-used, in the decision procedures. The quantitative data especially seemed to live their own life and appeared to be used, or mis-used, depending on the interests of the actor concerned. Furthermore, some analysts realized, as a consequence of this and other studies, that existing knowledge is hardly used in political discussions.

The fact that the open research approach, which was used in the Dutch Riverdikes study, was subsequently also used in other projects, was seen as an indicator of success by the project leader from the client organization.

Effects

Most actors appeared to focus on the effects of the Dutch Riverdikes study, particularly on the working environment to improve the problem situation, when evaluating the success of the study. Furthermore, it was mentioned that the study helped to bring together parties that were involved in riverdike policy and whose interests and responsibilities could be, or were being, affected. The study changed the mental frames of various actors, i.e. their perceptions of what the problem and feasible solutions were, and put the parties on the same frame of mind. As a result of this, the confidence among the actors increased, and the actors were willing to discuss and negotiate with each other again. In that sense, the study improved the working atmosphere, helped to overcome the impasse, and increased the public support for dike improvement projects. Further political substantive discussions were made possible again, as an effect of the study, according to the policy makers. The study increased the public support for formulating and implementing new policy with respect to river dikes.

The study did not provide much new information: most of the analysis was based on knowledge that already existed. The study gave much insights, however, into the various aspects of the problem situation, the complexity of the problem situation, the tradeoffs to be made, and the consequences of various solutions, by integrating the existing knowledge. The client, the Boertien Commission, and the stakeholders particularly mentioned this as a success of the study.

Some specific suggestions made as a result of the study and were adopted by the Boertien Commission and the 2nd Chamber in their recommendations, were mentioned as successful effects of the study. For example, the institutionalization of the procedure of the Milieu Effect Rapportage (MER), in English, the Environmental Impact Assessment, was valued positively by the analysts and the

client. The client positively valued the transfer of budget responsibilities from the Ministry to the waterboards and provinces. Some stakeholders, however, did not approve this decentralization of budget responsibilities. The Boertien Commission referred to the fact that the money made available for dike improvement projects was increased as an effect of the study.

The study was successful because various authorities were pointed out their responsibilities due to the study, according to a stakeholder. Furthermore, many follow up research projects were suggested and actively initiated as a result of the study. After the study of the Becht Commission this was not done, which was all the more reason for the stakeholders to appreciate these initiatives.

The analysts also observed some other positively valued effects of the study. For example, the study gave much insight into how to manage such complex and highly visible projects. Some analysts learned much from working in an interdisciplinary team, and, for some analysts, the study increased their insights into political decision processes. Furthermore, as another indicator of success, some analysts mentioned the fact that the study was frequently referred to in various documents.

Communication

Many aspects mentioned by the interviewees that related to communication, also related to the content and the process of the study. These aspects are outlined in the corresponding paragraphs, content and process, above. Some additional remarks with respect to communication, however, were made. The stakeholders stated, for example, that informal communication is very important in studies like this. Relationships among the various actors, which allow informal communication, support the feeling of being taken seriously.

The communication within the project team, and the communication between the project team on the one hand, and the client and the Boertien Commission on the other, went well. The project team consisted of members of various research organizations, including members who were frequently abroad (US). Facilities such as email, which can be very useful in such situations, were hardly used, because various members were not familiar with such facilities.

Table 4.2: Success elements mentioned by actors related to the Dutch Riverdikes study

	Project Team	Client	Boertien Commission	Stakeholders	Policy makers
Input	+ Timing + Expertise and independence research org. ± Hierarchical structure	+ Timing + Expertise and independence research org. + Hierarchical structure	+ Expertise and independence research org.	± Timing	+ Timing + Independence research org.
Content	+ Use stakeholder groups + Use and integration existing knowledge ± Broadness of aspects taken into account ± Safety levels considered	+ Broadness of aspects taken into account + Consistency + Use and integration existing knowledge ± Safety levels considered	+ Broadness of aspects taken into account + Use stakeholder groups + Consistency	+ Use stakeholder groups ± Broadness of aspects taken into account ± Safety levels considered	+ Broadness of aspects taken into account
Process	+ Openness (external) ± Cooperation ± Working agreements and responsibilities	+ Openness (external) + Duration - Openness (internal)	+ Enthusiasm researchers + Openness (external) + Contact with stakeholders through project team	+ Openness (external)	
Results	+ Availability + Clearly structured + Match with policy questions ± Presentation	+ Availability + Clearly structured + Match with policy questions + Acceptance of parties involved ± Presentation - Volume	+ Availability + Acceptance of parties involved	+ Availability + Readability + Match with own interest	+ Readability
Use	+ Use by Boertien Commission + Use by 2 nd Chamber ± (Mis-) Use in decision processes	+ Use by Boertien Commission + Use by 2 nd Chamber + Research approach in other projects	+ Use by Boertien Commission + Use by 2 nd Chamber	+ Use by Boertien Commission + Use by 2 nd Chamber	
Effects	+ Bringing parties together + Change and harmonize mental frames + Working atmosphere + Overcome impasse + Public support + Institutionalization MER + Working within interdis. team + Reference to study + Insight into decision processes + Insight into management of complex projects	+ Bringing parties together + Change and harmonize mental frames + Working atmosphere + Overcome impasse + Public support + Institutionalization on MER + Transfer budget responsibilities + Insight in problem situation and tradeoffs + Use research approach in other projects	+ Bringing parties together + Working atmosphere + Overcome impasse + Public support + Increase budget for dike improvement projects + Insight in problem situation and tradeoffs	+ Bringing parties together + Change and harmonize mental frames + Working atmosphere + Public support + Insight in problem situation and tradeoffs + Pointing out responsibilities to authorities + Initiation of follow up research + Being taken seriously	+ Bringing parties together + Overcome impasse + Continuing substantive political discussions
Communication	± Internal communication			+ Informal communication	

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

4.2.5 Concluding remarks

Many actors interviewed appeared to have similar views with respect to the success and failure of the Dutch Riverdikes study; the interviewees commonly considered the study successful.

Many actors valued the success of the study by assessing its results, use, and effects. The availability and presentation of the results were mentioned frequently as important success elements. These elements were particularly important because the situation was at an impasse. From a more substantive point of view, many actors mentioned considering whether the results matched with the initial policy questions asked by the Minister, and, for some actors more importantly, whether the results matched with their own interest.

Many interviewees considered the fact that the recommendations of the Boertien Commission and the policy decision of the government followed the lines, which were set out as a result of the study, as *the* success of the study.

Some equally important success elements were mentioned in terms of the effects of the study. The study helped in bringing together the various actors involved in the problem situation. The study changed the attitude of the actors, and, as a consequence, the actors were willing to discuss and negotiate with each other again. The study improved the working atmosphere, helped to overcome the impasse, and increased the public support for formulating and implementing (new) policy.

It became clear from this case study that an independent position of the research organizations with respect to the problem holder, i.e. the client, and the expertise of the research organizations, is an element that some actors consider in evaluating the success of a policy analysis study. An independent position increases the credibility of the study, according to the client and the analysts.

With respect to the research process, the interviewees frequently referred to the openness of the study. As a consequence of the communication between the project team and the stakeholder groups, the latter felt that they had been taken seriously and that their concerns had been considered in the policy deliberations.

Not many interviewees mentioned elements specifically related to the content of the study or to communication aspects. Furthermore, negatively valued elements were hardly mentioned during the interviews. As a learning effect, in the following case studies the negatively valued elements, i.e. the failure of the study, were explicitly asked for during the interviews.

As a result of this case study various elements were added and changes were made to the initial list of elements. For example, the element 'independent position of the analysis team with respect to the client' and 'the expertise of the research organizations' were added to the list of elements. Furthermore, the timing of the study, the openness, the involvement of parties at interest, and the possibility of informal communication were also added to the list of elements. Various effect related elements, among which 'changed and harmonized mental frames', 'overcome impasse', and 'working atmosphere', were added to the list.

4.3 The FORWARD study

4.3.1 Context

Analyses carried out at the end of the eighties indicated that there would be a large number of problems facing the Dutch transport system over the years to come. In 1990, the Dutch Government published a policy statement on transport called the Tweede Structuur Schema Verkeer en Vervoer (SVV II), in English, the Second Transport Structure Plan, (Ministerie van Verkeer en Waterstaat 1990). The overall purpose of the transport policy described in SVV II is to ensure accessibility; however, as economic growth had brought about even more rapid increases in road transport, the accessibility of industrial and commercial centers was threatened. Moreover, the competitive position of the transport sector was, and is, endangered by congestion problems, which is a 'hot' issue for the Netherlands, where international transport and distribution plays an important role in the economy. Other than causing congestion problems, road transport damages the environment in at least four ways: depletion of energy sources, air pollution, noise nuisance and fragmentation of the countryside. A decline in road safety is another of the resulting problems. The difficulty that Dutch society was, and still is, facing is that solutions, which will allow economic growth, do not fit into the context of a sustainable society. A sustainable society typically implies setting limits on the environmental effects of the transport system, which may conflict with economic growth. Facing these conflicting goals, the Dutch Government decided in 1990 that action needed to be taken and described the policy to be followed to design a sustainable transport system in the SVV II document.

In the SVV II document various targets are defined with respect to (1) environment and amenity, e.g., by 2010 emissions of NO_x and unburned hydrocarbons emitted by road vehicles must be 75% lower than in 1986; the total area disturbed by high noise levels, that is, larger than 55dB(A), should not be greater than in 1986; (2) managing and restraining mobility, e.g., major residential developments will be served by public transport; and (3) accessibility, e.g., the capacity of the public transport system in the main corridors will be doubled compared to 1986; high quality rail links will be established between the main seaport areas and their hinterland for freight transport.

The Government constantly reviews the progress made to monitor the actual developments and move step by step along the desired route. The government reports on this annually since 1993⁵ in the Beleidseffecten Rapportages (BERs), in English, the Policy Assessment Reports. These formal policy assessments and additional analyses of the developments in transport showed, on average, poor

⁵ The first formal Policy Assessment Report was published in 1993, and it contains a report on the progress made in 1992. In 1992 a prototype Policy Assessment Report was published reporting on the developments in 1991.

performance on environmental indicators and good results in relation to the economy and accessibility (Ministerie van Verkeer en Waterstaat 1997).

Despite the fact that SVV II is fairly comprehensive in its policy recommendations, there had been a continued debate about the importance, and the effects, of specific policy options. Part of the continuing public debate was focused on the alternatives to deal with freight transport. Little attention was given to freight transport policy in SVV II, not many policy statements were included about freight transport in particular. Only 13 of the 170 pages of the document were dedicated specifically to freight transport. In these pages it was briefly stated that the various targets defined with respect to environment and amenity, managing and restraining mobility, and accessibility also hold for freight transport (Ministerie van Verkeer en Waterstaat 1990). Most attention was given to policy options to increase, or at least retain, the economic benefits of freight transportation by road, rail, and water, by enlarging its strong market position. Furthermore, attention was given to logistics, improving and expanding the infrastructure, and increasing the transport efficiency. Various parties argued that there could be more attractive alternatives to a number of the policy options suggested in SVV II.

A research study, referred to as the Trendbreuk study (Werkgroep '2duizend 1993), suggested that a combination of policy measures, i.e. direct mitigation of negative effects, efficiency changes, behavioral changes by transporters, and greater mode shift, would come close to meeting the environmental goals of the SVV II, while having a small impact on the economy. Various aspects, e.g., market share and ways to induce the various changes suggested, however, were not taken into account in the Trendbreuk study; the study is a feasibility study.

The continuing public debate about the importance of freight transport to the Dutch economy and about the environmental consequences of freight transport motivated the Ministry of Transport, Public Works, and Water Management, hereinafter the Ministry, to commission a broad study of freight policy options and their impacts and costs.

FORWARD (Freight Options for Road, Water, And Rail for the Dutch) is a freight policy analysis study, which was carried out by the Delft based RAND Europe (formerly the European American Centre), which is part of the California based RAND Corporation. Part of the reason why the Ministry asked RAND Europe to carry out the FORWARD study was to help the European American research organization become established in the Netherlands. Due to this (financial) support, competing research organizations especially looked quite suspiciously and skeptically at the newly established company and at the study they were carrying out. The study was classified under *Anticipating Research* by the Adviesdienst Verkeer en Vervoer (AVV), in English, the Transport Research Center, of the Ministry, because of the anticipatory character of the development of the methodology (Adviesdienst Verkeer en Vervoer 1995).

The research was carried out using an approach developed at RAND to evaluate public policy options specifically for situations involving complex systems with

multiple measures of performance and involving competing interest groups with different, and frequently conflicting goals. A model was developed to assess the impacts of policy options. The FORWARD analysis team had planned to use existing analytic tools to estimate the effects; however, it turned out that no existing model or combination of models could satisfy the broad set of requirements of the study (Tavasszy 1994). As a result a model was developed, which uses data, factors, and relationships from existing Dutch transportation models and databases developed by other groups in the Netherlands.

The characteristics of the context can be summarized as follows:

Problem situation

- *Scope*: national concern.
- *Orientation*: oriented towards policy.
- *Complexity*: complex. The problem situation included different, intertwined, problems, e.g., congestion, noise, safety, many elements and variables were involved, and the interest of various groups of people could be, or were being, affected.
- *Uncertainty*: The policy goals as stated in SVV II and their specification into targets were clear and stable. Furthermore, other than in the Dutch Riverdikes case, uncontrollable natural developments, such as floods or climate changes, did not play a role, and, therefore, were not needed to take into account. The future developments in terms of transport demand and supply of infrastructure, and the effects of policy measures, e.g., congestion, economy, safety, costs, however, were uncertain or even unpredictable.
- *Attitude of actors related to the problem situation*: The problem situation was not at an impasse in the sense that the various actors were not willing to talk or negotiate with each other. The actors also did not show an extreme resistance to changes. The problem situation was in its initial stage: there was an increasing awareness of the problems related to freight transport. So far, not much attention had been given to freight transportation, other than to its economic importance. In parallel to the growing concern about the environment and amenity, the negative effects of freight transportation came into picture.

Analyst's milieu

- *Status of the policy analysis study*: The study did not have a formal status within a particular policy process. The Ministry commissioned the study to get better insights into possible freight policy options and their impacts and costs, and to help RAND Europe become established in Europe. The study was classified under *Anticipating Research* by the AVV.
- *Decision makers involved*: At a policy and political level the problem situation was of concern to members of various ministries, e.g., the Ministry of Transport, Public Affairs and Water Management, the Ministry of Housing, Physical Planning, and Environment, and the Ministry of Economic Affairs. The problem situation and the involvement of the various ministries, however, were not highly visible to the public. The main decision makers involved in the problem situation

were members of the Ministry of Transport, Public Affairs and Water Management, i.e. the Ministry. Various members of the Ministry, including members of AVV, were also directly involved in carrying out the FORWARD study.

- *Availability and use of existing knowledge, data, and research approaches:* The approach taken in the FORWARD study was integrative in the sense of utilizing existing Dutch research and models, and because no existing model or combination of models could satisfy the broad set of requirements of the study, a dedicated model was developed during the study.

4.3.2 Policy analysis study

The FORWARD study was focused on ways of coping with the projected massive growth in road freight transportation in the Netherlands. RAND Europe carried out the study over a two year period from the end of 1992 to the end of 1994. The analysis team was composed of researchers from RAND Europe, RAND Corporation (Santa Monica), and the School of Systems Engineering, Policy Analysis and Management (SEPA) at Delft University of Technology. Staff members of the Directoraat-Generaal Vervoer (DGV), in English, the Directorate General of Transport, of the Ministry, and of the associated AVV, formed a Ministry's team and actively participated in carrying out the study. Three subcontractors, the transportation research organizations NEI and NEA, and the faculty of Civil Engineering at Delft University of Technology also contributed to the study (European-American Center for Policy Analysis 1996a).

The problem originally posed to the analysis team was to find the best ways to shift freight off the highways and onto other transport modes. This was, however, soon realized to be too narrow a problem definition and more of a solution statement than a problem statement. Asking the client why freight should be shifted off the highway revealed a desire to reduce the negative effects of road freight transport. There are other ways of dealing with the negative effects of road freight transport besides shifting it off the highways, such as making better use of the existing infrastructure and truck fleet, or employing cleaner diesel engines.

It was also realized that there were likely to be many optional policy actions for coping with the negative impacts of road freight transport, and that preferences among these actions would depend on the relative importance placed on their effects. People concerned about environmental effects are likely to evaluate policy options differently than people concerned about economic effects. A major component of the problem was how to provide some rationale for choosing among a large number of policy options and making tradeoffs among many measures of effectiveness.

The goal of the research was eventually defined as (European-American Center for Policy Analysis 1996a):

Find the best strategies to mitigate the negative impacts of the growth of freight transport while retaining the economic benefits.

With the support, and active participation, of the Ministry staff members, a set of policy analysis tools were designed and built to assess the impacts of various policy options, called tactics, identify promising tactics, and design promising combinations of tactics, called strategies, to help achieve various policy goals. The study examined as many policy options as possible and evaluated each policy option's effects on a broad range of performance measures, including emissions, noise, safety, congestion, costs, added value to the economy and employment. This was done for three alternative economic scenarios for the year 2015. A spreadsheet model called Policy Analytic Computational Environment for FORWARD (PACE-FORWARD) was developed to assess the impact of the possible changes in the transport system (Carillo et al. 1996). A second model, called the Cost-Effectiveness Model (CEM), was developed to rank the tactics based on their cost effectiveness. The CEM and other tools and information were used to design possible strategies.

The research approach used in the study is depicted graphically in Figure 4.2 (European-American Center for Policy Analysis 1996b). A short description of the steps in the process and the study's main conclusions follow.

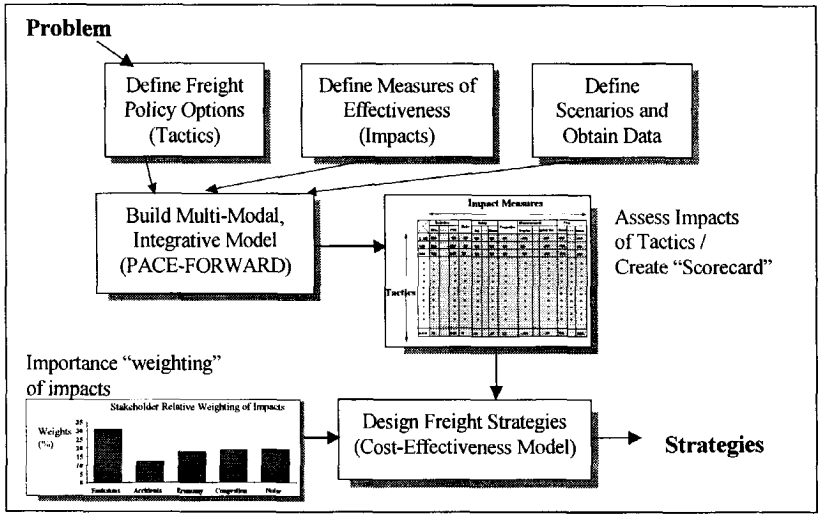


Figure 4.2: Research approach of the FORWARD study

Freight demand scenarios for the year 1990 ('current situation') and for three scenarios for the year 2015 were developed based on freight demand data developed by the Dutch research institute NEA.

The performance measures considered in the FORWARD study were divided into six categories: emissions, noise, safety, congestion, costs, and the national economy. The tactics evaluated fell into three main categories: (1) *Direct Mitigation Tactics*, which seek specifically to reduce one or more of the negative impacts at their source, e.g., the use of soot filters, cleaner engines, low noise tires, and electric vans; (2) *Transport Efficiency Tactics*, which seek to use the truck fleet and transport

infrastructure more efficiently, e.g., the use of city distribution centers and larger trucks; (3) *Mode Shift Tactics*, which were specifically designed to stimulate the shift of freight off the roads and onto other modes of transport, e.g., using a regional dispatching system at ports and having the railroads give priority to freight transport over passenger transport, building multi-modal centers.

A strategy was defined as a combination of promising tactics designed to achieve a certain goal, where promising means that the tactic is beneficial relative to the costs. In the FORWARD study, an approach was developed to design strategies. The approach was based on a cost effectiveness model (CEM) that uses a scorecard for a particular scenario and a given set of weights on the impacts to rank the tactics based on their cost effectiveness. The outcome of this approach was a set of strategies and strategy design tables that can be used by policymakers to design their own strategies based on their own goals, constraints, and weights.

The main conclusions of the FORWARD study were stated as follows (European-American Center for Policy Analysis 1996a):

- Transport efficiency tactics are disproportionately represented at the top of all lists of cost effective tactics for a very broad range of weights. They improve many impact measures, e.g., reducing the amount of truck movements affects all impact measures, and, by their nature, they tend to save money because of their efficiencies.
- Certain direct mitigation tactics, e.g., the use of soot filters, cleaner engines, are cost effective and either produce net reductions in the overall cost of freight transport, or only small increases. The importance of these tactics is that they can 'fill in' for gaps in improvement by focusing on particular impacts not provided by the transport efficiency tactics. Whether direct mitigation tactics are promising or not depends to a great extent on the importance weighting of the impact measures, because they focus on particular negative impacts.
- Mode shift tactics tend to be inferior in both absolute effectiveness and cost-effectiveness to the combination of transport efficiency and direct mitigation tactics. A reason for this is that waterway and rail improvements are relatively expensive, and they can not realize significant mode shifts at a national level.

The results of the FORWARD study were only published at the end of 1996, two years after the analysis was finished. The results were published in the form of a main volume, two supporting volumes, and an executive summary (Carrillo 1996; European-American Center for Policy Analysis 1996a, b, and c). Earlier, a report was produced that described the various models of the Dutch transport system that were available and might be used in the study (Tavasszy 1994). Furthermore, the model PACE-FORWARD was handed over to the Ministry.

To summarize the characteristics of the policy analysis study:

- *Size*: In terms of its duration (2 years) the FORWARD study was an average size policy analysis study, compared to the other case studies. In terms of the number and variety of analysts involved, however, it was a small size study. The study was carried out by a core-team, composed of researchers from RAND Europe, RAND Corporation (Santa Monica, USA), and SEPA, of approximately 10

persons. Staff members of AVV and DGV actively participated in carrying out the study and two subcontractors also contributed to the study.

- *Complexity*: the FORWARD study was a reasonably complex study. In the study many policy measures were examined and each policy measure was evaluated on a broad range of performance measures. Furthermore, as in the Dutch Riverdikes study, the situation was made somewhat more complex by the fact that some analysts were in the US for a considerable part of their time.
- *Nature of the study*: The study was an analytic effort to support policy making. In other words, it was a content oriented analysis, instead of an interactive support to learning and negotiating. No direct policy recommendations were given, choices to be made were explicitly left to those responsible for making changes.
- *Research approach*: The central elements in the study were to identify and specify alternative policy options, and to examine their relative performance on various impacts. The study's activities were mainly carried out on the basis of technical analysis of substantive data and theories. Two models were developed to assess the impact of the possible policy options and to rank these options according to their cost effectiveness.
- *Orientation*: The FORWARD study was aimed at providing information to support policy makers to (re-)formulate freight transportation policy.

4.3.3 Actors related to the study

Figure 4.3 shows the actors, which played a role in one way or the other and to a greater or lesser extent in the FORWARD study, and, as such, were related to the study. The arrows indicate the mutual relationships in terms of the formal communication patterns. The characteristics of the actors are described below.

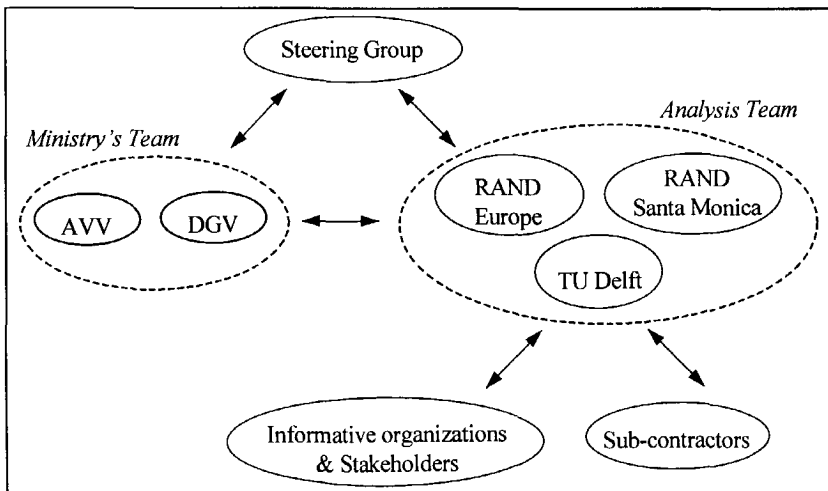


Figure 4.3: Actors related to the FORWARD study

- *The analysis team* carried out the policy analysis study. The team was composed of researchers from RAND Europe, RAND Corporation, and SEPA. Most analysts were heavily, that is, on a full time basis, involved in the study. In carrying out the FORWARD study, the members of the analysis team with the project leader in particular had major control over the process and content of the study. The analysis team's interest lay specifically in carrying out the analysis and they had no particular interest with respect to the problem situation.
- *Subcontractors* made substantial contributions to the study, despite the fact they were brought in on a temporary basis. The Nederlands Economisch Instituut (NEI), in English, the Netherlands Economic Institute, developed a model to estimate macro economic impacts as part of a separate contract with the Ministry, and the research organization NEA was the source of the freight transport demand data. The subcontractors were asked to fulfill a limited set of tasks within a short time frame. Besides a personal interpretation of these tasks, they had no voice in the process and content of the policy analysis study. As for the analysis team, the subcontractors' interest was in performing the (sub-)tasks and not in the problem situation.
- *The Ministry's project team* interacted directly with the analysis team to review the study's status, identify the next steps to be taken, assign responsibilities for the next steps, and liaise with the policy makers. The team provided support and coordination for data collection and work with other contractors, and provided tactical guidance for the study. The team was composed of members of DGV and AVV. Most members were heavily involved in the study, working half to full-time on the FORWARD study. Through their actions, i.e. participation in the study and frequent interaction with the analysis team, they influenced directly, and indirectly, how the study was carried out and used. The Ministry's team had a certain authority, especially at a high level with respect to the scope and emphasis of the research, not in the least because they determined the funding level.

The interests differed for the various members of the Ministry's team. The people from DGV were more policy- and therefore more result oriented, while the people from AVV focused on the analysis. People from DGV had policy making authority and responsibility. Therefore, their interest was in useful information for policy making. AVV's interest was in providing the Ministry with information, conducting analyses, recommending action, and suggesting strategies, on the basis of reliable research.

- *The steering group* provided guidance on the scope and emphasis of the research. The group was composed of representatives from industry, other government ministries, and various offices within the Ministry. The policy conclusions were presented to the steering group. The group had little involvement in the FORWARD study. That is, they did not participate actively in the analysis. Still, the group played a major role in shaping the analysis, by participating in the problem definition process and by continuously reviewing progress and findings. Furthermore, they determined the funding level together with the Ministry's team. The interests of the members of the steering group differed. Representatives from industry have their own particular interest with respect to freight transportation. The members of the ministries are interested in making policy, taking into account the interests of various stakeholders, for which relevant information is needed.

- *Informative organizations and stakeholders* were consulted by the analysis team and the Ministry's team as part of the process of understanding the problems related to the freight transport system, policy options that might be taken to mitigate those problems, and ways of estimating the consequences of these options. In addition to receiving information about the study and its results, the informative organizations and stakeholders, e.g., RIVM, TNO, Bureau Binnenvaart, provided state of the art information to the analysis team. The involvement of the informative organizations and stakeholders was on an ad hoc, consulting basis. Furthermore, they had no control whatsoever over the process or content of the study, other than providing information. Some organizations had a particular interest in the problem situation, e.g., truck companies, organizations concerned with inland shipping, the Nederlandse Spoorwegen (NS), in English, the Dutch Railway Company, while others had an interest in the analysis, e.g., RIVM and TNO.

A summary of the characteristics of the actors related to the FORWARD study in terms of their role, their extent of involvement, their authority with respect to the process and content of the study, and their interest, is given in Table 4.3.

Table 4.3: Characteristics of actors related to the FORWARD study

	Role	Involvement	Authority	Interest
Analysis team	Carrying out the analysis	Heavily involved, on a full time basis	Authority and control over process and content of the study at a detailed level	<i>Analysis:</i> Carrying out the analysis <i>Problem:</i> No interest
Sub-contractors	Contributing to the analysis	Temporarily involved	No authority	<i>Analysis:</i> Contributing to the analysis <i>Problem:</i> No interest
Ministry's team	Supporting and guiding the analysis	Heavily involved, on a half- to full-time basis	Authority and control over process and content of the study at a less detailed level	<i>Analysis:</i> Getting and providing useful information <i>Problem:</i> - Making policy - Representing the public
Steering group	Providing guidance on the scope and emphasis of the research	Hardly involved, a few presentations were given during the study	Authority and control at an aggregated level	<i>Analysis:</i> Getting useful information <i>Problem:</i> - Making policy - Representing the public
Informative org. & stakeholders	Providing information	Involved on an ad hoc, consulting basis	No authority	<i>Analysis:</i> No interest <i>Problem:</i> Each its own interest

4.3.4 Success perceptions

Representatives of the various actors were interviewed to get insight into the different success perceptions with respect to the FORWARD study. The success perceptions of the various actors outlined below are structured in accordance with the conceptual structure given in Figure 3.2 in Section 3.5. A summary of the variety of success elements mentioned by the different actors is given at the end of this subsection in Table 4.4.

Input

The Ministry asked RAND Europe to carry out the FORWARD study. Competing research organizations especially looked quite suspiciously and skeptically at the newly established European American company, in particular at the help they received from the Ministry in their establishment, and at the study they were carrying out. Therefore, for the competing research organizations, criteria related to who initiated the FORWARD study and the reason why the analysis was initiated played a major role in their, sometimes biased, perception of the success of the study.

Content

The Ministry's team and the steering group spoke appreciatively of the content of the FORWARD study. The broad and integrative policy analysis approach was particularly highly valued. In the FORWARD study a broad perspective was taken in terms of the policy actions investigated and the impacts of those actions. As many tactics as possible were considered and their impacts were reflected against the measures of interest of the broad spectrum of stakeholders. In its breadth, the FORWARD study was also multi-modal, in that it considered the interactions among modes, the elasticities of demand for the various modes, and actual intermodal freight transport. Furthermore, another reason why various actors considered the FORWARD study to be successful is the fact that the study was integrative. The study was integrative in two ways: (1) it attempted to bring together multiple tactics to provide robust strategies that would mitigate all negative impacts of freight transport, and (2) it used and integrated existing Dutch research and existing Dutch models. As one of the members of the Ministry's team put it: "Because of FORWARD we know what we know and what we don't know, and that helps us in setting up a new research agenda and steering new research projects."

In addition to the positively valued aspects, members of the Ministry's team and the steering group also mentioned some aspects that they valued negatively. The effects of speed and driving behavior were not worked out well in the study. Furthermore, the cost aspects of policy options and the impacts and cost aspects of combinations of policy options should have been given more attention.

Process

The research and the final results were developed through iterations with the stakeholders and the Ministry's team. From the perspective of the analysts and the Ministry's team, these interactions provided important inputs and more assurance that the conclusions and recommendations would be understood and accepted. The actors involved in carrying out and steering the analysis especially appreciated the openness of the research process, i.e. the willingness to take other peoples visions and knowledge into account. As one of the actors said: "this is an important factor for providing a useful product at the end of the study." Another aspect that formed a basis for the Ministry to value the success of the FORWARD study positively is that the steering group showed their strong and enthusiastic support throughout the study.

Not all process related aspects were highly valued: "In terms of budgetary aspects, FORWARD was not a success." is a statement members from both the analysis team and the Ministry's team made. The same holds for the duration of the study: the FORWARD study took much more time than originally planned. In this sense, "money and time were not used efficiently". The reason for this, as some actors pointed out, were to be found in the cultural differences and in the physical distances: RAND Europe is an American research organization that had little experience within the Dutch research culture and direct communication between RAND Corporation in Santa Monica and the people in Delft, Rotterdam, and the Hague, was limited because of time differences. Notwithstanding the above, the informal communication, the work climate among the actors in the Netherlands and in the US, and the secondary aspects such as trips between the Netherlands and the US and working outings, were highly valued and mentioned as success elements.

Results

The results of the FORWARD study, reflected in a final report, three supporting volumes, an intermediate report, and the model PACE-FORWARD, were well received by the Ministry's project team and the steering group. Members of the analysis team mentioned this as an indicator for success. The reports were clear, well readable, and presented in time to the Ministry's project team and the Steering group. The distribution and presentation of the documents to the outside world, however, was greatly delayed. The fact that it took more than 2 years after finishing the study to distribute widely the reports was mentioned, and valued negatively, by all actors interviewed. As a member of the steering group said: "Because of the delay in distributing the reports and a poor follow up, momentum was lost, particularly within the research world."

Use

The analysis team and the Ministry's team considered the FORWARD study a success, because the insights the study gave were used in formulating policy, implementing policy measures in the form of pilot studies, and initiating new programs. The model that was developed during the study, i.e. the PACE-

FORWARD model, was valued differently by the various actors. The Ministry's team was very enthusiastic about the model, because of its *potential* use. Given appropriate support and data, the model and its architecture provided, and still provide, the Ministry with a capability to reevaluate the policy actions investigated in the FORWARD study as more information on tactics emerges or changes in scenario projections of demand occur. The model can be used to investigate changes in the relative emphasis applied to the various impact measures, and it can be used to evaluate new tactics and strategies once they are fully defined and implemented in the model and data structure. Others actors, informative organizations in particular, however, showed their skepticism because, at the time of the interviews (1998), the model had not been used structurally in policy formulation and related processes. "It is a very expensive toy for a limited number of policy makers."

The way the results of the FORWARD study were used in various important policy documents was valued differently by the actors interviewed. Some actors, i.e. the analysis team and the Ministry's team, considered the fact that the study's results were expressed in policy documents as a success element. Others, informative organizations in particular, pointed out that the policy documents refer incorrectly to the results of the FORWARD study, or even misuse the results.

Effects

When asking the actors what elements they focus on when evaluating the FORWARD study, most actors mentioned effects of the study in terms of implemented policy options, formulated policies, and freshly generated follow up projects, which were significantly influenced by the FORWARD study.

As it became obvious that road transport was not going to meet its environmental targets, the Ministry established a joint project group (IMAGO) with government officials and representatives from the transport industry, consignors and consignees (Ministerie van Verkeer en Waterstaat 1994b). The FORWARD study indicated that improving efficiency in road transport could be very effective; however, in the SVV II document policy actions in the field of mitigation and modal shift prevailed over efficiency measures. As a direct result of the FORWARD study, the instruction for the IMAGO project group was to look for additional policy actions with an emphasis on efficiency measures.

The follow up of IMAGO, the TRANSACTIE program, provided a framework for actions to be taken at the organizational level, which aim at higher occupancy rates in road transport. Efficiency scans, for example, played an important role in this program. As part of the TRANSACTIE program, companies were screened on an individual basis in terms of their transport needs, possible actions to increase efficiency, and the (positive) environmental and financial effects of these actions. Optimization of transport as part of a company's logistical chain also played an important role in the TRANSACTIE program. In this case, the companies were screened at a more general level. The approach proved to be very fruitful: at the time of the interviews, approximately 100 companies had volunteered to be examined at a general level, in the next few years.

Analysis of the developments in freight transport showed a good performance with respect to the economic targets but a poor performance with respect to the environmental indicators. Therefore, in addition to new policy measures, intensifying the existing transport policy was needed, resulting in a focus on environmental policy measures, which would not damage the economic performance of freight transport. The adjusted policy was described in two reports: (1) *Samenwerken aan Bereikbaarheid (SWAB)*, in English, *Working Together towards Accessibility*, focusing on passenger transport and infrastructure (Ministerie van Verkeer en Waterstaat 1996a) and (2) *Transport in Balans (TIB)*, in English, *Transport in Balance*, focusing on freight transport (Ministerie van Verkeer en Waterstaat 1996b).

Various actors saw the FORWARD study as one of the factors leading to more and special attention within the Ministry for freight transport, and, partly due to the FORWARD study, for the first time a separate policy document was published on freight transport! Furthermore, the FORWARD study provided an important input for the TIB document in terms of promising policy measures and its recommendations. The TIB document contains, besides new efficiency measures, common policy actions such as stimulating intermodal transport, more competition in rail and inland waterway transport and innovative city distribution centers. Based upon high expectations of innovations, technology gained priority, and this was approved by Parliament in the budget of 1996.

In summary, many actors mentioned the following two criteria to evaluate the success of the FORWARD study: (1) implemented alternatives improve the problem situation, and (2) the selection of the alternatives was influenced significantly by the analysis. The emphasis put on efficiency measures in the TIB document was mentioned as proof for the second criterion. At the time of the interviews, implementation of these measures already had started and the first results showed a significant reduction in vehicle kilometers and air pollution (Ministerie van Verkeer en Waterstaat 1996a). Due to the enthusiasm of companies wanting to participate in the TRANSACTIE program a further improvement of the current situation was expected. In this sense the first criterion of success would also be met.

Various interviewees also mentioned some other effects of the FORWARD study as indicators of success. First, the study provided many stakeholders with insights into the problems in the field of freight transportation and into promising policy options that can be taken to solve these problems. The FORWARD study increased the awareness of the problems related to freight transportation, particularly within the Ministry. Second, the FORWARD study gave direction to political discussions and to policy to be formulated. It had given policy makers a basis to exercise their judgment on transportation issues. The insights gained through the FORWARD study were said to lead potentially to a more efficient use of time during the policy process. Another success element, mentioned by the steering group, was that the study was a way for them to show other parties with interests in freight transportation that the Ministry was looking very seriously at the problems. "If we had not shown that we are taking the freight transportation problems seriously, we

would be in trouble with the other parties that have interests.”

Communication

Members of DGV and AVV participated in the Ministry’s project team, and because of this joint participation both parties learned much from each other. For example, members of DGV mentioned having gained insights into carrying out such a policy analysis study: “A research project as complicated as FORWARD is no piece of cake!” Members of AVV realized that the question “How do you present information to policy makers?” is not easily answered. These mutual insights were seen as an indicator of the success of the FORWARD study. Furthermore, both parties mentioned that the PACE-FORWARD model has the potential to improve the communication between the Ministry and external parties: by using the model, results can be shown and discussed, and data provided by external parties can easily be integrated into the model and used in its calculations.

Table 4.4: Success elements mentioned by actors related to the FORWARD study

	Analysis Team	Sub-contractors	Ministry's team	Steering group	Inf. org. & stakeholders
Input		- Expertise analysis team - Setting up process study			
Content	+ Broad and integrative approach		+ Broad and integrative approach + Identification of knowledge gaps	+ Broad and integrative approach - Some aspects require more attention	
Process	+ Openness ± Physical distances - Budget - Length of the study	+ Openness	+ Openness + Support of steering group + Secondary aspects ± Physical distances - Budget - Length of the study	+ Openness - Budget - Length of the study	+ Openness
Results	+ Approval of the client - Delayed distribution		+ Clear, readable - Delayed distribution	+ Clear, readable - Delayed distribution	- Delayed distribution
Use	+ Insights used in policy process		+ Insights used in policy process + Potential use model - Use model not institutionalized		- Model is 'expensive toy'
Effects	+ New programs + Referred to in policy document		+ New programs + Referred to in policy document + Insights in problems & solutions	+ New programs + Policy document + Insights in problems & solutions + Show problem is taken seriously	+ Insights in problems and solutions - Referred to in policy documents
Communication	+ Informal communication		+ Joint effort Ministerial departments + Potentially improve ext. communication		

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

4.3.5 Concluding remarks

Many actors mentioned valuing the success of the FORWARD study by assessing its effects on transport policy and the problem situation. At the time the study was carried out, transport policy needed an upgrade. In that sense, the time was right for such a study. The FORWARD study served as an eye opener by indicating that improved efficiency in road transport could be very effective. This idea was worked out and implemented in the adjusted transport policy as described in the TIB document, and in the IMAGO program and its follow up. According to various interviewees, the FORWARD study was a success from this perspective.

Looking at other (categories of) success elements, a richer picture emerges. The content of the study was highly appreciated, albeit that some aspects should have been given more attention. The FORWARD study provided many actors with insight into the freight transport problems and directions in policy making. With respect to the open research process, members of DGV and AVV highly appreciated working closely together and, as a result, learnt much from each other. Another success element that was pointed out by the analysts and the Ministry's team concerned the commitment of the steering group, which lasted the whole study, even though the study took longer and was more expensive than anticipated. The results, issued in various reports, received a warm welcome from the inner circle, i.e. the Ministry's team, the steering group, and the analysts, but were distributed to the outside world with a 2 year delay. According to some actors this was typical for the follow up of the FORWARD study in terms of scientific exposure and limited use of the PACE-FORWARD model: the study lost momentum.

Various elements were added to the initial list on the basis of this case study. It became clear, for example, that some actors focus on the usage of instruments developed during the study, when evaluating a policy analysis study. In the FORWARD case the model PACE-FORWARD was developed and subsequently handed over to the Ministry for their use.

The interactions with various stakeholders and policy makers, and the willingness to take other peoples visions and knowledge into account were mentioned many times, and, therefore, these success elements were added to the list. It also became clear that a distinction should be made between success elements related to internal communication, i.e. communication among the actors involved in carrying out the study, and elements related to the communication between those actors and other parties at interest. Furthermore, the element 'secondary aspects' was added: when asking the interviewees what elements they focus on when valuing the success of the FORWARD study, some actors mentioned the possibilities to travel and working outings.

Some results related success elements were also added to the initial list. Some interviewees mentioned caring about other actors' satisfaction with the results of the study. While some actors interviewed mentioned caring only about whether the results were known by others, other interviewees cared whether consensus was reached among the various actors about the results.

With respect to the use of the study's results, some elements mentioned by the interviewees relate to the current use of the results of the FORWARD study, while other elements referred to the potential use of the results. Furthermore, various actors mentioned they would focus on 'which aspects, for what purpose, are used by whom', and 'to what extent are the aspects used' with respect to the FORWARD study if asked to value its success.

Most elements added to the list relate to the effects of the study. Did the FORWARD study stimulate new ideas in terms of policy measures? Did it provide policy makers with scientific support for existing ideas? These are examples of questions that the interviewees mentioned they would consider if asked to value the success of the study. Other questions that the actors mentioned were: Did the FORWARD study influence the formulation and specification of the problem with respect to freight transportation? Do (important) policy documents refer to the FORWARD study and its results? Did FORWARD have a significant effect on people's awareness of the problem, and on their consciousness of the responsibilities they have for solving the problem? Did the FORWARD study provide, at an individual and/or collective level, insights into the problem situation, and into the adequacy of the existing knowledge?

4.4 The IVR study

4.4.1 Context

The study *Integrale Verkenningen van de Rijntakken (IVR)*, in English, *Landscape Planning for the river Rhine in the Netherlands*, was initiated in 1993. The study was directed at the summer bed and flood plains of the Rhine branches in the Netherlands. Figure 4.4 shows a map of the Netherlands, in which the box indicates the study area of the IVR study. The areas that can be flooded by the main rivers and the sea are indicated in dark grey.

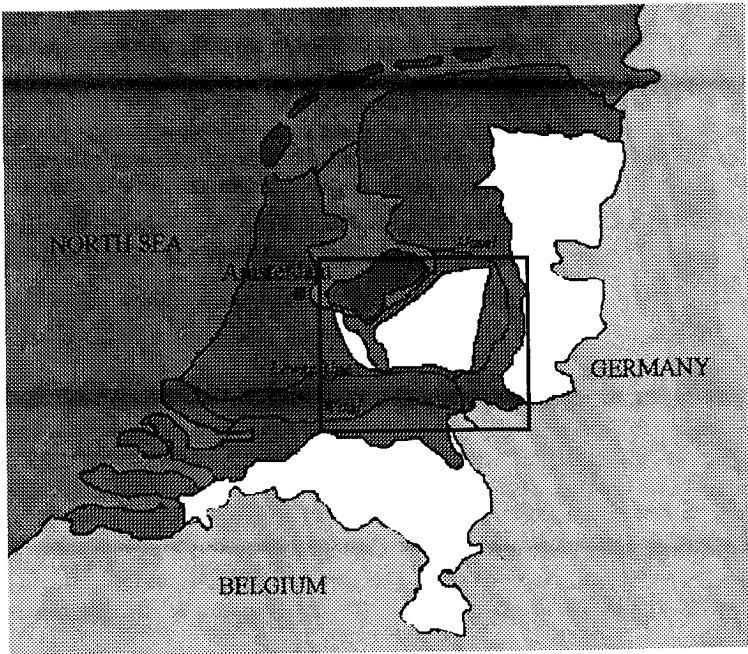


Figure 4.4: Map of the Netherlands

During the early nineties, the Directie Oost Nederland, in English, the Eastern Netherlands Directorate, of RWS was in the middle of a study about the future of the river Waal looking at the possibilities to modernize the river as a shipping route.

During the same period, the *Derde Nota Waterhuishouding*, in English, the Third Policy Document on Water Management, was published (Ministerie van Verkeer en Waterstaat 1989). This document included a plea for an integrated approach towards sustainable use and landscaping of the river areas. RWS observed that, despite the arguments given in the Third Policy Document for an integrated approach, the study about the river Waal was a sectoral study. From this and other studies it also became clear that shipping was not the only issue that should be taken into account. Flood protection, nature, and cultural landscape were also key issues to be taken into account in landscaping river areas.

With respect to the limited area of the river Rhine, which usually is referred to as *the riverine area*, many functions and claims were attached, e.g., modernization of the Waal as a shipping route, an avalanche of initiatives for the development of nature, preservation of the cultural landscape with agriculture as the principal user, clay excavation for dike improvement and brick production, more recreation on the flood plains, sand excavation for the construction industry and infrastructure, water supply for agriculture and drinking water, recovery of sludge, building development on the flood plains, etc.

There was an increasing awareness of the question whether all these functions and all these claims to the limited area could actually be combined, leading to the following questions:

- Will clear choices have to be made?
- Where do interests clash or will coupling of interests offer opportunities?
- What possibilities and limitations are there from a river engineering point of view?
- How to landscape the riverine area for sustainable protection against flooding?
- Does the riverbed have sufficient capacity to break through the spiral of continuously raising the dikes?

There was a growing need for an instrument, i.e. a decision support system (Silva & Kok 1996b), to help in getting insights into these matters and answering such questions coherently. Together with the fact that the study was announced in the Evaluatienota Water (Ministerie van Verkeer en Waterstaat 1994a), in English, the Water Evaluation Document, of the Ministry, this motivated the Eastern Netherlands Directorate of RWS to commission the IVR study beginning 1993. RWS asked the Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalwaterbehandeling (RIZA), in English, Institute for Inland Water Management and Waste Water Treatment, to carry out the policy analysis study. RIZA is a research organization closely attached to the Ministry of Transport, Public Works and Water Management (the Ministry).

The IVR study did not start until beginning 1994, although it was initiated at the beginning of 1993. This was due to the fact that in the same period RWS asked RIZA to evaluate a plan for landscaping the river areas. This plan, called *Levende Rivieren* (Wereld Natuur Fonds 1992), in English, *Living Rivers*, was written by the World Wildlife Fund and given to the Minister of Transport, Public Works and Water Management (the Minister). Members of Parliament asked many questions about the plan, particularly about the feasibility of the suggested plan. Some questions asked by Parliament were passed on to RIZA. Evaluating the plan *Living Rivers* consumed most of RIZA's resources at that time, as a result of which the IVR study started a year later than originally planned.

The formal objectives of the IVR study were to (1) develop an instrument, i.e. decision support system, (2) illustrate the possibilities offered by the instrument, and (3) explore and evaluate the landscape alternatives for the riverine area. The main contractor, RIZA, carried out the study together with other research organizations.

The IVR study started at the beginning of 1994 and in May 1996 the results were presented. During the two and a half years period, the provinces of Gelderland and Overijssel were rudely shaken by high floods in January 1995, after a forerunner flood in December 1993. As a result of these floods, the landscape planning of the rivers in the Netherlands and especially the protection against flooding became even more politically hot issues. Consequently, the IVR project team was asked to extend the IVR study and do some additional research and develop integrated concepts to landscape the riverine area from a safety point of view.

After the IVR study was finished, a new project was set up by the Eastern Netherlands Directorate of RWS: the study *Ruimte voor de Rivier* (RVR), in

English, Space for the River. This project was supposed to start where the IVR study was finished, to discuss further actions with respect to landscaping the riverine area with all parties at interest and to formulate, and implement, a concrete policy plan.

The characteristics of the context can be summarized as follows:

Problem situation

- *Scope*: regional to national concern.
- *Orientation*: oriented towards policy.
- *Complexity*: complex. The problem situation included many different intertwined problems, e.g., shipping, development of nature, preservation of the cultural landscape, clay excavation for dike improvement, water supply for agriculture and drinking water, flood protection. Furthermore, every change in the Rhine could have international consequences; every change in a Rhine branch could have consequences for other branches; every change in the flood plain could have consequences for the summer bed; and every change in the lands outside the dikes could have consequences for the land inside the dikes. In other words, many closely related elements and variables were involved, and the interests of various groups could be, or were being, affected.
- *Uncertainty*: The policy goals as stated in the Third Policy Document on Water Management SVV II were clear. These goals and related policies were, however, subject to changes, because of the dynamics of the rivers, e.g., the floods in 1993 and 1995. Furthermore, uncontrollable, unpredictable, natural events, i.e. floods, needed to be taken into account. The future developments in terms of climate changes, shipping demand, and/or recreation demand, and the effects of policy measures were also uncertain or even unpredictable.
- *Attitude of actors related to the problem situation*: The problem situation was not at an impasse in the sense that the various actors involved were not willing to talk or negotiate with each other. The national discussions, which took place during the late eighties and early nineties about riverdike improvements, had calmed down and dike reinforcements were being carried out to be finished in the year 2000. The floods in 1993 and 1995, however, caused a rude surprise and commotion, and revived the discussions about landscaping the riverine area.

Analyst's milieu

- *Status of the policy analysis study*: The study did not have a formal status within a particular policy process. The study was announced, though, in the Water Evaluation Document of the Ministry, and was seen as one of the steps towards the Vierde Nota Waterhuishouding, in English, Fourth Policy Document on Water Management. The Eastern Netherlands Directorate of RWS commissioned the study because there was a growing need for an instrument to help in integrally exploring landscape options for the riverine areas. The study was not particularly important to the analysts.
- *Decision makers involved*: The main decision makers involved in the problem situation were members of the Ministry, members of RWS in particular. The problem situation was also of interest to the Ministry of Agriculture, Nature, and

Fishery, both ministries were related to the IVR study, but did not participate in carrying out the study.

- *Availability and use of existing knowledge, data, and research approaches:* The object of the study was to develop a new instrument, including (new) databases and applications on the basis of technical and substantive data. The approach taken in the study was integrative in the sense of utilizing existing research, data, and models.

4.4.2 Policy analysis study

The IVR study was focused on the area depicted in Figure 4.4. The upstream boundary was set at Lobith where the Rhine enters the Netherlands. The downstream boundary was set at the transition to the tidal rivers and IJssel Lake where the typical river processes begin to lose ground. The transverse boundaries were formed by the main (winter) dikes.

In the IVR study, RIZA elaborated on the research approach they had used to carry out the evaluation of the plan Living Rivers in 1993 (Silva & Kok 1994). The central part of the study was the development of the decision support system, IVR-DSS, and its use to assess the effects of landscaping alternatives for the riverine area in terms of effects on the river and consequences for the functions fulfilled by the river. A separate model, SOBEK, was developed to simulate water movement and morphology of the Rhine branches in the Netherlands. This SOBEK model can be used as part of the IVR-DSS, or as a stand-alone. The riveraspects of landscaping alternatives are an important issue in view of the responsibilities of RWS. Furthermore, the landscape and ecological aspects may direct landscaping of the river areas, and may therefore form important criteria for assessing landscaping alternatives. Consequently, special attention was given to these two aspects before developing and assessing landscaping alternatives. The structure of the research is depicted in Figure 4.5 (Silva & Kok 1996a).

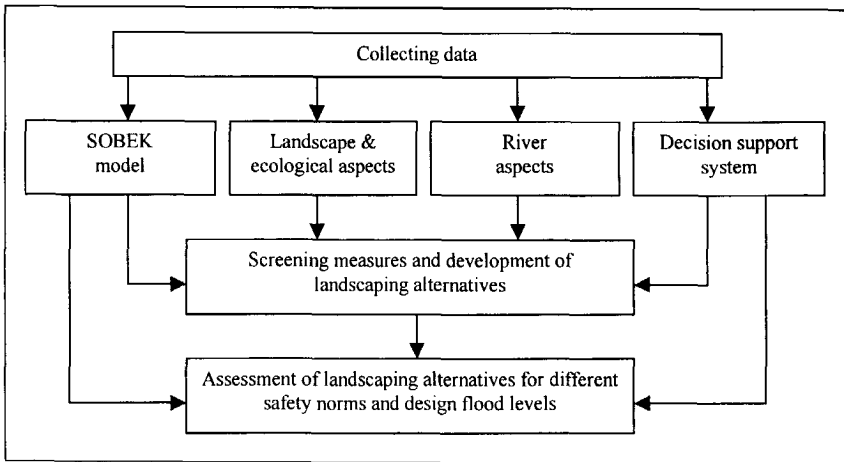


Figure 4.5: Structure of the IVR study

The landscaping alternatives analyzed in the IVR study were composed out of a set of fourteen basic measures, including 'narrowing summer bed', 'lowering groynes', 'redumping of sediment', 'lowering of flood plane' (Silva & Kok 1996b) (see Figure 4.6). The alternatives were assessed, individually and in combinations, on a wide range of effects, e.g., nature and culture, excavation, agriculture, costs. On the basis of experience gained during other studies, the evaluation of the plan Living Rivers in particular, the project team decided which effects and what level of detail were relevant and important to take into account in the IVR study.

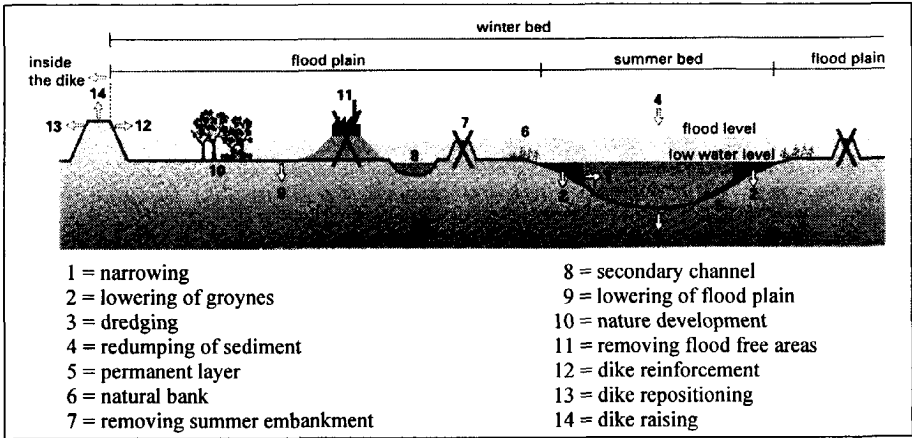


Figure 4.6: Basic measures to landscape the river area

RWS asked the IVR project team to do some additional research and to develop integrated concepts to landscape the riverine area from a safety point of view, as a result of the floods in the provinces of Gelderland and Overijssel in January 1995.

In May 1996 the results of the IVR study were presented during a symposium. They were presented as the key to the discussion on further actions, to be held with all relevant parties at interest. The results were published in the form of a summary brochure, a main report, and eleven supporting volumes, including a separate volume on safety aspects (Silva & Kok 1996a and b). A CD-ROM was also published afterwards (RWS/RIZA 1997).

To summarize the characteristics of the policy analysis study:

- **Size:** In terms of its duration (two and a half years), the IVR study was an average size policy analysis study, compared to the other four case studies. In terms of the number and variety of analysts involved, IVR was a large size study: the project team was composed of members of at least five research organizations, each having their own expertise. Furthermore, other research organizations from various disciplines contributed to the study.
- **Complexity:** the IVR study is a complex study. As part of the study a model was developed to examine many individual and combinations of alternatives to landscape the riverine area. The effects of the alternatives were evaluated on a wide range of performance measures. The study area was directed at the summer

bed and flood plains of the Rhine branches in the Netherlands. The Rhine was considered as a coherent river system in the hydrological, morphological, ecological and functional sense. The IVR study paid attention to this interconnectivity, and to the differences between the Rhine branches.

- *Nature of the study:* The study was an analytic effort to support policy making. It was a content oriented analysis, instead of interactive support to learning and negotiating. Furthermore, the results of the study did not include concrete policy recommendations.
- *Research approach:* The central elements in the study were to develop an instrument for simulation of water movement and morphology of the Rhine branches in the Netherlands, and to use this instrument to assess the effect of landscaping alternatives on the river. The study's activities were mainly carried out on the basis of technical analysis of substantive data and theories.
- *Orientation:* The IVR study was aimed at developing an integrated model to provide policy makers with information to support them in (re-)formulating policy on landscaping the riverine area. The model was developed to construct and assess landscaping alternatives, rather than to weigh the pros and cons of these alternatives against each other.

4.4.3 Actors related to the study

The IVR study was a closed project in the sense that there were no intensive interactions with various parties whose interests could be affected by policy measures taken in the riverine area. RWS and the Eastern Netherlands Directorate of RWS also did not actively participate during the study.

Figure 4.7 shows the actors that played a role in one way or the other and to a greater or lesser extent in the IVR study, and, as such, were related to the study. The arrows indicate the mutual relationships in terms of the formal communication patterns. The characteristics of the actors are described below.

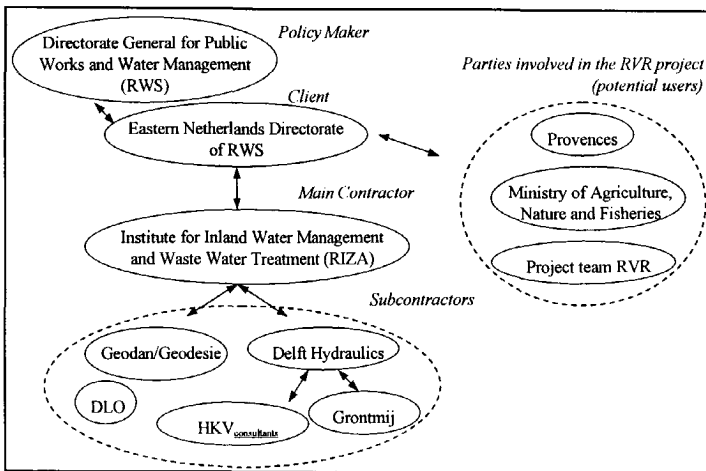


Figure 4.7: Actors related to the IVR study

- *The client*, the Eastern Netherlands Directorate of the RWS commissioned the IVR study and asked RIZA to carry out the study. The Eastern Netherlands Directorate of RWS also sponsored the study. Members of the client organization had little involvement in the IVR study. Their actual influence was limited to determining the funding level, despite their formal authority to influence the process and content of the project. The interest of the client was to get useful information for policy making and to direct discussions on further actions, to be held with the parties at interest.
- *The main contractor*, RIZA, managed and carried out the study, together with the subcontractors. RIZA is a research institute attached to the Ministry and focuses on inland water management and waste water treatment. Most analysts were heavily involved in the study on a full time basis. The project team consisted of members of the main contractor and the subcontractors, and had major control over the content and process of the study. The project leader from RIZA, together with the project leader from Delft Hydraulics, particularly had a great voice in this. RIZA was given much freedom by the client in carrying out the study. Consequently, RIZA had much responsibility and control.
- *The subcontractors* made substantial contributions to the analysis. Delft Hydraulics (WL) managed the initial versions of the SOBEK model. Consequently, WL was contracted by RIZA and involved in the IVR study. The research organization Geodan/Geodesie was also contracted by RIZA, because of their expertise in Geographical Information Systems (GIS). The research organization Grontmij was contracted by Delft Hydraulics because of their knowledge of raw materials. Furthermore, the IJssel Lake Directorate, HKV_{consultants}, and DLO Institute for Forestry and Nature Studies of the Ministry of Agriculture, Nature and Fishery made contributions to the study. Members of some subcontractors, e.g., WL, Grontmij, Geodan/Geodesie, were involved heavily in the study on a full time basis. Other subcontractors were asked to perform a limited set of tasks and, therefore, were not as heavily involved. While the subcontractors with significant involvement in the study had major control over the process and content of the study, other subcontractors had no voice whatsoever. The control of the latter was limited to their personal interpretation of the tasks to be carried out. The interest of all subcontractors was in carrying out the (sub)tasks and not in the problem situation itself.
- *Policy makers*, i.e. members of RWS, were not directly involved in the IVR study. A steering group was composed of various high level people from RWS, which met approximately twice a year. During the initial stages of the study the members of RWS did not show much concern with the process and the content of the study. After the floods in 1993 and 1995, however, people from RWS interfered with the IVR study, and asked the project team to extend the study by including safety aspects, measures for flood protection, and their effects. The members of RWS were interested in making and implementing policy, taking into account the interest of various stakeholders, for which relevant information was needed.
- *Parties involved in the RVR project* were potential users of the IVR study and its results. While the IVR study was aimed at building a model to analyze various measures to landscape the riverine area, the RVR project was aimed at discussing

further actions with the parties at interest, and at formulating and implementing a concrete policy plan on landscaping the riverine area. In contrast to the IVR study, the RVR project was planned to be carried out via an open process and to involve all parties that have a stake in landscaping the riverine area. Such stakeholders were not involved in the IVR study, and, therefore, they had no influence on the process and the content of the IVR study. The parties involved in the RVR project were interested in the problem situation, as a result of which they also had an interest in the IVR study and its results.

A summary of the characteristics of the actors related to the IVR study in terms of their role, their extent of involvement, their authority with respect to the process and content of the study, and their interest, is given in Table 4.5.

Table 4.5: Characteristics of actors related to the IVR study

	Role	Involvement	Authority	Interest
Client (East Netherlands Directorate of RWS)	Providing guidance on the scope and emphasis of the research	Hardly involved	Authority and control at a high level, mainly limited to budget control	<i>Analysis:</i> Getting useful information <i>Problem:</i> Making policy Making it transferable to the public
Main contractor (RIZA)	Managing and carrying out the analysis	Heavily involved, on a full time basis	Authority and control over process and content, including scope and emphasis, of the study	<i>Analysis:</i> Carrying out the analysis <i>Problem:</i> No particular interest
Sub-contractors	Contributing to the analysis	Ranging from hardly and/or temporarily involved to heavily involved	Ranging from much authority and control over process and content, including scope and emphasis of the study to limited control over their tasks	<i>Analysis:</i> Carrying out the analysis <i>Problem:</i> No particular interest
Policy makers (RWS)	Providing guidance on the scope and emphasis of the study	Hardly involved, a few presentations were given during the project	No influence on the process and content of the study up to the floods in 1995. After that the scope of the project was broadened on their request.	<i>Analysis:</i> Getting useful information <i>Problem:</i> Making convincing policy and communicating this to the public
Parties involved in RVR project	No particular role with respect to the IVR project	Not involved	No authority	<i>Analysis:</i> Receiving results <i>Problem:</i> Each its own interest

4.4.4 Success perceptions

Representatives of the various actors were interviewed to get insight into the different success perceptions with respect to the IVR study. The success perceptions of the various actors outlined below are structured in accordance with the conceptual structure given in Figure 3.2 in Section 3.5. A summary of the variety of success elements mentioned by the different actors is given at the end of this subsection in Table 4.6.

Input

The Eastern Netherlands Directorate of RWS asked RIZA, in cooperation with other research organizations, to (1) develop an integrated decision support system and (2) illustrate its possibilities by exploring various landscape options for the riverine area. This two sided purpose of the study led to some disagreement about the main focus of the study and the related allocation of time and money among various actors. RIZA and the client organization stated that the main object of the study was to develop IVR-DSS. Others, members of the subcontractors in particular, however, considered the integrated assessment of various policy measures as the main object of the study. From the latter perspective the development of the IVR-DSS model was a means to an end. Some actors mentioned the aim of the study as an element they would focus on in evaluating the success of the study. Furthermore, the differences in the perception of what the main object of the study was, or should have been, influenced how the actors defined and assessed the success of the study.

The floods in 1993 and 1995 were mentioned many times during the interviews. The floods affected the study significantly: the project team was asked to broaden the study to develop integrated concepts to landscape the riverine area from a safety point of view. Most actors interviewed mentioned this as a success of the IVR study, because the project team was able to leapfrog the study into the affairs of that moment and show the possibilities and usefulness of the IVR-DSS model.

The client organization pointed out that it was important to them that the IVR study was carried out by RIZA, because of their expertise and independence from the political arena. Consequently, "the study's result is objective, scientific, and value free with no political influences". The main contractor RIZA mentioned the importance of the involvement of prominent research organizations to the success of the study. The involvement of these research organizations created support within the scientific/research community.

Some subcontractors were directly contracted by RIZA, while others were contracted through one of the other subcontractors. Some subcontractors pointed out that, as a result of that, no clear and justifiable hierarchical structure existed among the various research organizations, leading to various conflicting situations within the project team.

The project leader of the main contractor mentioned the learning effect of other studies as a success factor for the IVR study. The insights from other studies helped in deciding what elements, and what level of detail, had to be taken into account in

the IVR study. Furthermore, as a result of these insights time was saved in the IVR study.

Content

Not many actors referred to specific content related elements when they were asked to point out the elements they would focus on when valuing the success of the IVR study. One subcontractor mentioned the innovative character of the study: a new model was developed, integrating various elements and effects in a coherent and consistent way, and balancing complexity and simplicity. According to this subcontractor the IVR study was a success because it made a complex problem manageable with the development of software and a model that gave insights into the broadness and complexity of the problem and specified it in more concrete terms.

Some negatively valued elements were also mentioned. For example, time was short and some key persons for carrying out the study dropped out during the study. As a consequence, various aspects were barely touched upon in the study, or not taken into account at all. A subcontractor mentioned that a part of the study completely failed because of using an incorrect methodology.

Most interviewees positively valued the aspects taken into account in the study, that is, the number, variety, levels of detail, and effects of the aspects. The parties involved in the RVR project, however, mentioned that the IVR information was not detailed enough for implementing concrete policy measures. Some of these parties, therefore, did not speak highly of the IVR study. Other parties related to the RVR project, however, had a different interpretation and mentioned the apparent identification of knowledge gaps as a success of the IVR study.

Process

During the IVR study the project team did not intensively interact, or involve, various parties whose interest was being, or could be, affected by policy measures taken in the riverine area. Most interviewees considered this closedness as a positive element: "It is not necessary to involve parties, other than the analysts, in fundamental scientific exploratory research as the IVR study. Furthermore, little to no interaction with and/or involvement of other parties keeps the project focused and up to speed." As a party involved in the RVR project pointed out, however, "The other side of the coin is that some important aspects were hardly taken into account in the IVR study, which probably would had been taken into account if various parties at interest had been consulted."

The project organization and working agreements were valued differently. Most actors interviewed either valued the project organization and working agreements positively, or considered it of minor importance in valuing the success of the IVR study. Some others, however, were left with a bad taste about the study, because of the project organization and working agreements. They pointed out that meetings took rather long, were not very efficient, and the agreements and conflicts were not laid out on paper.

The interviewees considered the cooperation among the research organizations to be very pleasant, despite some problems that were caused by the relocation of WL. The cooperation between RIZA and WL was characterized as "more fraternal than businesslike", which was not appreciated by all the people interviewed. The subcontractors and the client in particular mentioned this as a negatively valued element: "The companionable cooperation between RIZA and WL was one of the reasons why the study cost more time and money than would have been necessary."

Results

Many interviewees mentioned they were pleased with the documentation of the IVR study. They considered the reports clearly structured, accurate and very readable. One interviewee even stated, when referring to the main volume: "A beautiful document that gives answers to many of the questions our department is dealing with." Not every potential user of the study's results, however, valued the reports positively. A party involved in the RVR project said: "The reports are too thick and certainly not attractive for policy makers to read. Too much money was spent on the presentation."

As mentioned above, some actors were in disagreement about the focus of the study, which was reflected in how the actors valued the presentation of the results. A subcontractor put forward that: "In the case where the project is seen as a fundamental, scientific research to develop an integrated model, the results should be presented in a corresponding 'cold', and technical, way. In the case where the study pretends to have public and policy relevance, at least the interpretation, consequences, and reliability of the results, and the underlying assumptions should be pointed out clearly." In other words, some actors valued the presentation of the results negatively, because the presentation did not match with their perception of the purpose of the research.

Various actors considered the IVR study successful, because many individuals and organizations, from within and outside the Netherlands, showed great interest in the study. Interests were shown in the content of the study and in the research approach. The CD-ROM was particularly in great demand. A policy maker mentioned that the results were well received, because "the results were not threatening in the sense that concrete policy actions followed from the IVR study that could affect people's interests."

Various actors interviewed mentioned the visualization of the results as a success element. According to them, "visualizations make the results more understandable, also for non-experts." The client and the policy makers particularly viewed the graphical presentation of the results as a very successful element of the IVR study: "It helps in sending the message to the public in a clear and understandable way." Some potential users of the results also pointed out, however, the risk of "sending out such beautifully packaged messages". According to them, the hard figures only are read, as a result of the graphical presentation, and the nuances, limitations, conditions, and assumptions made in the study, are not read and lost into the background.

Use

Some parties involved in the RVR project received the documents of the IVR study, scanned the main volume and put them away, without using or reading them. Some other parties, however, claimed that they used, and still use, the documents on a regular basis, helping them in finding answers to policy questions.

None of the interviewees appeared to be interested in whether the IVR-DSS model was used to value the success of the study. That is, neither of the interviewees could provide information on whether, and how, the IVR-DSS model was actually used. Various actors assumed that the IVR-DSS model was used within RIZA as part of their research, and outside RIZA as a public relation product. According to some interviewees, the IVR-DSS model could be used potentially in the next steps of the policy process. The project team and the people involved in the RVR project, however, mentioned that the model needed to be revised and extended to make it functional in the policy process.

Overall, the actors hardly mentioned elements related to the usage of the IVR study, and its results.

Effects

One interviewee was very negative about the effects of the IVR study. According to this person, the study did not provide any valuable insights, it did not contribute to the discussions within this person's organization, no policy documents referred to the study and its results, the study did not affect the implementation of policy measures, nor did it have the potency to speed up the policy process. It became clear from the other interviews, however, that this person's opinion was a true stand-alone.

Various interviewees mentioned that the study gave a lot of people many insights into the problems of landscaping the riverine area. The study provided a well-founded input for the RVR project. The interviewees also mentioned that the study played an important role in discussions between ministerial departments and provinces. Moreover, it was mentioned that the policy process could be accelerated as a result of the IVR study: "the IVR-DSS provides the opportunity to answer particular policy questions relatively easily." A party involved in the RVR project even stated, with respect to the effects of the IVR study, that "the IVR study is, as far as I know, the only documented information that lead to a significant policy change within RWS."

The interviewees that followed, or were directly involved in, the political discussions, mentioned that the IVR study was a breakthrough in the sense that certain policy measures were made discussible again. Some actors mentioned that the alternatives assessed in the IVR study even dominated the discussions. Furthermore, many actors considered the IVR study successful because it formed a well-founded and valuable input for the Vierde Nota Waterhuishouding, in English, the Fourth Policy Document on Water Management.

Some other effects were observed by the interviewees, and mentioned as success elements. For example, the IVR study created a 'group-feeling' within RIZA, which was highly valued by its members. The study also helped in getting more people acquainted with GIS, which was highly valued by the subcontractor who developed the GIS part of the model. Some subcontractors perceived the IVR study as successful because it resulted in new research assignments for them.

Communication

Hardly any of the interviewees mentioned success elements that related specifically to communication. Some remarks were made, however, about informing the outside world about the study's intermediate and final results. According to the client and the parties involved in the RVR project, the actors, other than the analysts, should have been better informed about the study. Furthermore, as mentioned above, the actors involved in the policy processes, i.e. the client, the policy makers, and the parties involved in the RVR project, highly valued the visualization of the results of the study. The visualization enabled them to communicate the results and their consequences in an easy and understandable way.

Table 4.6: Success elements mentioned by actors related to the IVR study

	Client	Main contractor	Sub-contractors	Policy makers	Parties involved in RVR project
Input	+ Object of the research + External factors + Experience from other studies	+ Object of the research + External factors + Experience from other studies + Expertise research org.	+ External factors ± Object of the research - Hierarchical structure		+ Expertise research organizations
Content		+ Broadness and depth	+ Innovative character + Balance complexity and simplicity ± Broadness and depth - Use of methodology		+ Identification of knowledge gaps ± Broadness and depth - Some aspects require more attention
Process	+ Involvement of parties at interest + Duration - Cooperation	+ Cooperation + Involvement of parties at interest	+ Timing + Freedom in carrying out tasks ± Cooperation ± Involvement of parties at interest - Allocation money - Working agreements		- Involvement of parties at interest - Allocation money
Results	+ Visualization + Interest shown + Match with purpose of the study + Documentation, clear, readable - Explicit recording of assumptions / conditions - Thickness reports	+ Interest shown + Visualization + Documentation, clear, readable	+ Match with policy needs + Interest shown + Documentation, clear, readable ± Match with purpose of the study	+ Visualization	+ Interest shown + Availability + Visualization + Documentation, clear, readable ± Match with policy needs ± Documentation, clear, readable - Thickness reports - Explicit recording of assumptions / conditions
Use	± Potential use				+ Potential use ± Individual use
Effects	+ Insights + (Re-) formulation policy + Mental frames actors involved	+ Political agenda + Discussion (directing & activating) + (Re-) formulation policy + Relationship actors involved	+ Insights + Policy discussion + Political agenda + New research assignments + Reference in policy documents	+ Public support	+ Directing new research + (Re-) formulating policy + Political agenda + Discussion (directing & activating) + Realization policy ± Individual insights ± Policy discussion - Reference in policy documents - Implementation policy - Speed up policy process
Communication	+ External communication			+ External communication	± External communication

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

4.4.5 Concluding remarks

It appeared that many actors interviewed mentioned that they would focus on the presentation of the results of the IVR study and on the study's effects on the discussions about formulating new policy, if asked to value the study's success. It also became clear, however, that different actors valued these elements differently. Interviewees representing the same actor appeared also to differ on various points in terms of their perception of the success and failure of the IVR study.

On the basis of the presentation and visualization of the IVR results, the client and the policy maker were very positive about the IVR study. The results helped them in formulating convincing policy and communicating the policy to the public in a clear and coherent way. Furthermore, they considered the IVR study successful because it formed an input to the Fourth Policy Document on Water Management. The capabilities and useful results of the IVR-DSS model were pointed out to these actors, as a consequence of the floods in 1995. Moreover, these actors considered the fact that considerable interest was shown in the study by various parties at interest as an indicator of success.

Among the parties involved in the RVR project the perceptions of the success of the IVR study appeared to differ. Most interviewees valued the success of the study positively on the basis of the following elements:

- the broadness and depth of the study
- insights provided into the problem situation
- presentation of the results
- match of the results with the policy process and needs
- effects of the study, in terms of directing and activating policy discussions
- identification of knowledge gaps

One interviewee, however, did not express a positive view on the IVR study: the study did not provide any insights, it was too technical and not well enough written to be used by policy makers, or to have any effect on policy discussions, and/or policy documents.

The interviewees representing the subcontractors also did not mention the same set of elements they would consider in evaluating the success and failure of the IVR study. While some interviewees mentioned a wide range of elements relating to the content, process, results, and effects of the study, other interviewees focused on specific issues related to the individual tasks they fulfilled within the study. Overall, the study was considered a success. Some subcontractors, however, pointed out various comments, as a result of a disagreement and related conflicts, about the main objective of the study.

The main contractor appeared to focus on a wide range of elements when evaluating the study's success, all of which were valued positively.

On the basis of this case study various elements were added to the initial list. It became clear, for example, that various actors consider external factors, such as flood waters, and their effects on the study, when evaluating a policy analysis study.

Furthermore, the hierarchical structure among the research organizations, and the formulated aim of the study, were mentioned as success elements, these had not been mentioned in the previous case studies. With respect to the content of the study no new elements were mentioned. In terms of process, the selection of parties involved in the analysis, which were solely research organizations in this case, was added to the list. Various results related elements were added, e.g., match between the results and the purpose of the study, visualization of the results, and explicit recording of assumptions and conditions. The elements added to the list with respect to the effects of the study relate to the decision and political process: effects on the formulation of policy, effects on the political agenda, and effects on the discussions.

4.5 The SVV Colored In study

4.5.1 Context

The policy context in which the study SVV Ingekleurd, in English, SVV Colored In, was carried out is similar to the context in which the FORWARD study took place. In 1990, the Dutch Government published a policy statement on transport called the Second Transport Structure Plan (SVV II) [Ministry of Transport, Public Works and Water Management, 1990]. The SVV II document was set up to present an integrated position on the relationship between transport, the economy, and the environment. The Government faced the problems that accessibility poses on the environment and amenity, and formulated actions to take to organize the transport system in a sustainable way.

The Government constantly reviews the progress made to monitor the actual developments in the field and move step by step along the desired route. The Government reports on this annually since 1993 in the Policy Assessment Reports (BERs).⁶ These reports contain information about the developments in terms of the targets defined in the SVV II documents. Furthermore, the reports include a description and explanation of the actual developments and a forecast with regard to the defined targets for the year 2010.

A full assessment of the SVV II policy was carried out in 1994. The assessment showed a poor performance on many of the ambitious policy goals stated in the SVV II document. In reaction to the assessment of the SVV II policy, two departments of DGV of the Ministry of Transport, Public Works and Water Management (the Ministry), i.e. the Directie Strategie en Planning, in English, the Directorate Strategy and Planning, and the Directie Individueel Personen Transport, in English, the Directorate Individual Passenger Transport, published a document called *Perspectievennota*, in English, *Perspectives Note*. In this document, these departments formulated their view on the transport problems; they also described

⁶ The first formal Policy Assessment Report was published in 1993, and it contains a report on the progress made in 1992. In 1992 a prototype Policy Assessment Report was published reporting on the developments in 1991.

their ideas about dealing with the difficulties in reaching the policy goals stated in the SVV II document. These difficulties, as mentioned in the Perspective Note, relate to:

- congestion on the highways
- CO₂ emission of freight transport by road
- safety
- policy process in terms of starting points and implementation of the policy

After publication of the Perspectives Note, the Transport Research Center (AVV) of the Ministry initiated and carried out the SVV Colored In study to advise the policy makers. The study was not formally asked for, or sponsored by, any department of the Ministry. The purpose of the study was to provide the various directors within the Ministry with state of the art information, as an input to their debate on the Ministry's budget in October 1994 (Adviesdienst Verkeer en Vervoer 1994a). AVV aimed at contributing to the formulation of (new) policy to solve the identified difficulties in reaching the SVV II goals. In addition, the purpose of the study was to provide the policy makers with background information on possible policy instruments and measures, which could have significant effects on reaching the traffic and transport goals.

AVV had recently been established, and its establishment played an important role in the context in which the SVV Colored In study was carried out. The research center was composed of the former, separate, research units within various departments of the Ministry, and the SVV Colored In study was seen as a proficiency examination for AVV. Members of AVV wanted to prove themselves as a new research center within the Ministry. The study had a priority status within AVV, whilst the study did not have a formal status within a particular policy process.

The SVV Colored In study was carried out during the three-month period from July 1994 until October 1994. Members of AVV had done various ex ante analyses of the effects of the SVV II policy within different scenarios, as part of other studies. These studies also showed various difficulties in reaching the SVV II goals. AVV used these studies as the starting point for the SVV Colored In study.

Problem situation

- *Scope*: national concern.
- *Orientation*: oriented towards policy.
- *Complexity*: Similar to the FORWARD study, the problem situation in which the SVV Colored In study was carried out was complex. The problem situation included different, intertwined, problems, e.g., congestion, noise, safety, many elements and variables were involved, and the interests of various groups of people could be affected.
- *Uncertainty*: The policy goals as stated in SVV II and their specification into targets were clear and stable. Similarly, the Perspectives Note was clear. Furthermore, uncontrollable natural developments, such as floods or climate

changes, did not play a role, and, therefore, were not needed to be taken into account. The future developments in terms of transport demand and supply of infrastructure, and the effects of policy measures, e.g., congestion, economy, safety, and costs, were uncertain or even unpredictable.

- *Attitude of actors involved:* The problem situation was not at an impasse in the sense that the various actors were not willing to talk or negotiate with each other. The actors also did not show an extreme resistance to changes. On the contrary, members of the Ministry were enthusiastic about the plans described in the SVV II document and were working on implementing and making the program concrete. At a political level, however, there was a growing concern about the effects of transport on the environment and amenity, resulting in a continuing debate on how to deal with the transport and traffic problems in the Netherlands.

Analyst's milieu

- *Status of the policy analysis study:* The study did not have a formal status within a particular policy process. The study was not formally asked for, it was initiated solely by AVV. Within AVV the study had a priority status, to the detriment of other studies and regular tasks to be fulfilled.
- *Decision makers involved:* The main decision makers involved in the problem situation were the directors of the various departments within the Ministry. At a political level, the problem situation was also of concern to members of other Ministries, e.g., the Ministry of Housing, Physical Planning, and Environment, and the Ministry of Economic Affairs. Decision makers were not involved in carrying out the SVV Colored In study. The problem situation and the involvement of the decision makers were not very visible to the public.
- *Availability and use of existing knowledge, data, and research approaches:* In the SVV Colored In study state of the art knowledge with respect to policy options, which was available at AVV, was put together and integrated. No new models were developed, or additional research carried out, no extra data was collected, because of the short time frame involved.

4.5.2 Policy analysis study

The SVV Colored In study was initiated and carried out by AVV, in response to the Perspective Note. The study was aimed at (Adviesdienst Verkeer en Vervoer 1994a):

- advising policy makers with respect to (new) policy options in dealing with the difficulties in reaching the SVV II goals
- providing background information about policy options, which could have a significant effect on the transport and traffic goals

The SVV Colored In study was not based on an innovative research method. The study integrated the knowledge that was available at AVV, with respect to transport policy options. Various aspects, such as feasibility, effects, international aspects, economy, public support, were taken into account. No additional research, or data collection, was carried out, and no other research organizations were involved.

The study was presented as an update of the earlier study Menu voor SVV II, in English, Menu for SVV II, which was carried out by the various research units within the Ministry in 1990 (Onderzoeksblok DGV, DVK en DWW 1990). The Menu for SVV II study was also focused on problems in reaching the policy goals. The study provided information, mainly in quantitative terms, about the effects of a wide range of policy options. The SVV Colored In study, however, focused on the way of working of the various policy options, rather than on providing detailed information about possible effects of such options. Furthermore, in the SVV Colored In study attention was paid to various aspects that were not covered in the Menu for SVV II study, e.g., the public support that is needed for a particular policy, international and economic aspects, and administrative instruments.

The results of the study were published in October 1994 in a main document and a supporting volume (Vervoer 1994a; Vervoer 1994b). The main report includes the most important advice from the research center to the policy departments of the Ministry. The report is structured in line with the Perspective Note in the sense that it describes the background of the four types of difficulties in reaching the SVV II policy goals. Furthermore, the report gives various directions for solutions per difficulty. A separate chapter of the main report pays attention to the relationship between the traffic and transport sector and the economy. In the last chapter of the report the SVV II goals are left as they are, and alternative policy goals are discussed. The supporting volume contains a summary of many policy options. For each of the various options, information is given about their possible effects and about various ways to implement the option.

The results of the study were handed over to the various directors within the Ministry, as an input to their debate on the Ministry's budget in October 1994.

To summarize the characteristics of the SVV Colored In study:

- *Size*: In terms of its duration (3 months), the SVV Colored In study was a very small size study. In terms of the number and variety of analysts involved, it was also a small size study, the study was solely initiated and carried out by AVV.
- *Complexity*: The SVV Colored In study was not a complex study, compared to the other case studies. Although many policy options and related aspects were considered in the study, no separate analysis, or data collection, was carried out. The study integrated existing knowledge that was available at AVV.
- *Nature of the study*: The study was a content oriented analysis, and included direct policy recommendations.
- *Research approach*: The central elements in the study were to integrate information that was available at AVV, with respect to a wide range of policy options. No models were developed, or additional research carried out, or new data collected, as part of the study.
- *Orientation*: The SVV Colored In study was directed towards policy making, that is, it was aimed at providing information to support policy makers.

4.5.3 Actors related to the study

Figure 4.8 shows the two actors, which played a role in one way or the other and to a greater or lesser extent in the SVV Colored In study, and, as such, were related to the study. The arrow indicates the mutual relationships in terms of the formal communication patterns. The characteristics of the actors are described below.

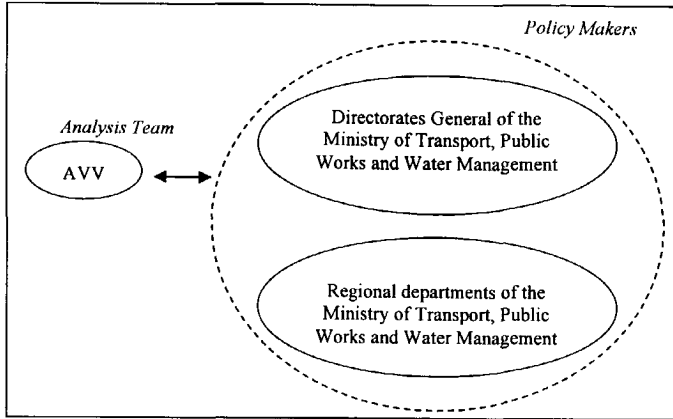


Figure 4.8: Actors related to the SVV Colored In study

- *The analysis team* initiated and carried out the study. Most analysts worked on a full time basis on the study to finish it within three months. The study required much time and effort from various people within AVV because of the strict deadline: AVV aimed at delivering the reports to the various directors in good time for the debate on the Ministry's budget in October 1994. AVV fully pulled the strings in terms of managing and controlling the process and content of the study. No client or sponsor, other than AVV, was involved to steer the scope and emphasis of the study. AVV had no particular stake in the problem situation. Their interest was in feeding the debate on the Ministry's budget, carrying out strategic research, and getting involved particularly in the process of formulating a new policy statement on transport, i.e. a revision of the SVV II policy.
- *The policy makers*, i.e. the members of various departments of the Ministry, were not involved in the study. The reports of the SVV Colored In study were discussed with the directors general of the various departments of the Ministry and the directors of the regional departments of the Ministry, as an input to the debate on the Ministry's budget. The policy makers were interested in getting useful information to formulate (new) transport policy and allocate the associated budget.

A summary of the characteristics of the actors related to the SVV Colored In study in terms of their role, their extent of involvement, their authority with respect to the process and content of the study, and their interest, is given in Table 4.7.

Table 4.7: Characteristics of actors related to the SVV Colored In study

	Role	Involvement	Authority	Interest
Analysis team	Initiating and carrying out the analysis	Heavily involved, on a full time basis	Full control over process and content of the study	<i>Analysis:</i> Carrying out the analysis <i>Problem:</i> No particular interest, though, they were interested in getting involved in the continuing policy process
Policy makers	Potential user	Not involved	No authority	<i>Analysis:</i> Getting useful information <i>Problem:</i> Formulating new policy and allocating budget

4.5.4 Success perceptions

Representatives of the two actors were interviewed to get insight into the different success perceptions with respect to the SVV Colored In study. The success perceptions of the actors outlined below are structured in accordance with the conceptual structure given in Figure 3.2 in Section 3.5. A summary of the variety of success elements mentioned by the interviewees is given at the end of this subsection in Table 4.8.

Before describing the success perceptions, it should be mentioned that various members of AVV that worked on the SVV Colored In study, with the exception of the project leader, had difficulty remembering the study. The study, however, was distinctly present in the minds of the policy makers.

Input

AVV initiated and carried out the SVV Colored In study without structurally consulting the potential users, before, or during the study. In other words, the study included unasked advice to the policy makers. Interviewees from both actors mentioned this initiative as a success element, and appreciated the initiative highly. After all, the tasks of AVV, among others, are to identify transport and traffic problems, and to point out gaps between the current policy and the actual developments. Some policy makers even held the opinion that “AVV should adopt a more pro-active approach, rather than their usual re-active behavior”. Other policy makers, however, believed that a study, such as the SVV Colored In study, is better geared towards the needs of the policy makers if there is consultation between the two parties.

The aim of the study was perceived differently by the various interviewees, and, consequently, the success of the study was perceived differently. AVV stated that

the formal objective of the study, as formulated in the main report, was to provide the policy makers with information they could use in the debate on the Ministry's budget. Furthermore, AVV's underlying purpose of the study was to prove themselves as a newly established research center, and to get the attention of the policy makers as a first step towards a (bigger) role in the process of formulating new transport policy. The policy makers, however, perceived the study's objective as holding a mirror up to their face, confronting them with questions, such as:

- What policy are we, policy makers, aiming for?
- Does the policy have the intended effects?
- How can the policy be improved?

The policy makers considered the study successful, from this point of view. "If the study was intended to contribute to and support internal policy discussion, however, a different research approach should have been used and the results should have been presented differently", as a policy maker put it.

The expertise of the analysts was highly valued by the policy makers. They very much appreciated being informed about the knowledge of the research center. One of the policy makers valued the recommendations given by AVV even higher than recommendations given by an external research organization. According to this person, AVV is in a better position to provide policy makers with useful information, anticipating the needs of the policy makers, because of their close connection to the Ministry.

Content

The interviewees hardly referred to the content of the study when they were asked to point out the elements they consider when evaluating the success of the SVV Colored In study. The project leader mentioned the approach taken to carry out the study, which was based on a study he had been involved in before, i.e. the study Menu for SVV II. This study had appeared to be successful in the sense that it was well received by the policy makers, and "why change a winning formula?"

The study was not innovative in the sense that new information was generated. Various interviewees mentioned this as a negative aspect of the study. Not all interviewees agreed on this, however, because the study was intended to integrate existing knowledge and to provide the policy makers with updated information, rather than to provide new information. Some members of AVV pointed out that they had learned their lesson with respect to providing new, and more controversial, advice to the policy makers. According to them, the results of a study should not turn the policy maker's world upside-down, to increase the likelihood of the acceptance and usage of the study's results.

Process

Members of AVV, the project leader in particular, mentioned that the cooperation within the analysis team was good. The fact that the team was kept together after

finishing the SVV Colored In study to carry out follow up research was seen as an indicator of the success of the study.

According to the project leader, it was relatively easy to allocate the required number of people and budget to the study, because the study had a priority status within AVV. Some analysts mentioned they had expected more attention from the top level people at AVV during the study because of the priority status of the study. This was not the case, however, to the disappointment of various members of the analysis team.

All interviewees were pleased with the timing of the study. The analysts had to work hard over a short period of time, but they were contented because the reports were delivered perfectly in time and appeared to fit well within the policy process.

No other process related elements were mentioned during the interviews, which is not surprising, when realizing that the interviewees that were involved in carrying out the study hardly remembered the study, and the interviewees that did remember the study were not directly involved in the study process.

Results

Many interviewees mentioned focusing on the presentation of the results of the study when valuing its success. The interviewees considered the fact that the study was presented in a written form and discussed with the potential users as a successful element. According to various interviewees, the results of a study, such as the SVV Colored In study, should be discussed with the potential users, either on a direct basis, or via a seminar or colloquium. According to a member of the analysis team, "presenting the results in a written form, and discussing them on a direct basis with the potential users, makes the study more lively and helps in transmitting knowledge and terminology more effectively". Members of the analysis team considered the study a success, because its results, as described in the two reports, were well geared to the potential users.

Both actors, i.e. AVV and the policy makers, mentioned that the results of the study matched with the state of affairs of that moment, and that the results were relevant with respect to the questions the policy makers had to deal with at that moment. Some policy makers pointed out, however, that they would have appreciated a more assertive and confrontive way of presenting the results.

The policy makers were of the opinion that the reports were well readable, and that the main volume includes a clear, and short, summary. Some policy makers liked the supporting volume particularly, because it gives a clear overview of the state of the art knowledge. The analysts, however, were not completely satisfied with the clearness of the supporting volume. All interviewees, with the exception of one, were satisfied with the thickness of the reports. Many interviewees, however, mentioned that AVV could have improved transferring their ideas to the policy makers by visualizing the results.

Use

The analysts mentioned that they focus on whether, and how, policy makers use the results of the SVV Colored In study, when valuing the success of the study. Most analysts, however, lost track of what was done with the study's results after the study was finished and the results were handed over to the various departments. An analyst was pleased to see that the report was used at the regional departments of the Ministry.

None of the analysts interviewed ever used the reports. The policy makers, however, said that they read the information given in the reports, and had used it in one way or the other. They all remember they had used the study's results in their discussion on the Ministry's budget in October 1994. One of the policy makers interviewed put the role the study's result played in that discussion into perspective, by saying: "The SVV Colored In study provided a snapshot of the state of the art knowledge at that moment, and, therefore, it did not play a major role in the policy discussions. Public support, political sensitivity, and the feasibility of policy options play a more weighty role in policy discussions than the information provided by a small study."

The project leader mentioned that the study was also used to trigger the policy makers to ask AVV to do more research, and that as such it succeeded.

Effects

Various analysts did not mention the follow up research, as an effect of the SVV Colored In study. They were satisfied and consider the SVV Colored In study successful, if the study's results were reflected in policy documents, and if policy makers reacted to these results. Other analysts, however, specifically mentioned they focus on the follow up research, when valuing the success of the study. According to them, AVV had shown its capabilities, and passed the proficiency examination, by carrying out the SVV Colored In study. Consequently, the study had its spin-off in terms of additional research. Furthermore, it was mentioned that the policy makers had more attention for AVV and its capabilities, and asked for their help more frequently when dealing with policy questions, as a result of the SVV Colored In study.

The policy makers valued the fact that knowledge gaps were identified as a result of the SVV Colored In study highly, which helped them in structuring the research plans of the various departments of the Ministry.

Policy discussions were initiated, intensified and stimulated, as an effect of the SVV Colored In study; almost all interviewees considered this to be an important success of the study. Some policy makers, however, pointed out that the effects of scientific research, such as the SVV Colored In study, is very limited with respect to the debate on the Ministry's budget. The results of the study were taken into account during various discussions within the departments of the Ministry, but they did not play a major role in the policy process. It was also mentioned that the study stimulated the discussions between AVV and the policy departments of the Ministry, and between the regional departments and the directorates general.

Furthermore, the policy makers mentioned that the study gave them insights into the gaps that existed between the formulated policy goals and the policy strategies. The fact that these insights were provided by an internal research organization was a very important element for one of the policy makers in accepting and reacting upon the provided information. Another policy maker pointed out that he considered studies, such as the SVV Colored In study, important in keeping him on track, when dealing with external influences and political hot issues.

It appeared from the interviews that the analysts focused on the satisfaction of the policy makers and their use of the results of the SVV Colored In study, when valuing the study's success. Some analysts also mentioned internal satisfaction, that is, whether the members from AVV were satisfied with the results of the study, as an important success element. High level people within AVV acknowledged the effort the analysts had put into the SVV Colored In study, thanked them during the New Year's speech, and gave them an extra bonus. A small number of analysts mentioned this as an indicator of success.

Communication

The interviewees did not mention many success elements related to communication aspects, other than that the policy makers were not surprised by the results of the SVV Colored In study, because they were informed informally by the people from AVV during the study. Furthermore, the policy makers and the analysts mentioned that they considered the study successful because of its positive effect on communication and relationship between the two parties.

Table 4.8: Success elements mentioned by actors related to the SVV Colored In study

	Analysis team	Policy makers
Input	+ Pro-active initiative ± Aim of the study	+ Pro-active initiative + Expertise analysis team ± Aim of the study
Content	+ Research approach ± Innovative character	+ Integration of existing knowledge ± Innovative character
Process	+ Cooperation + Availability of recourses + Timing	+ Timing
Results	+ Presentation results in written and oral form + Match with potential use + Match with policy needs - Visualization	+ Presentation results in written and oral form + Match with policy needs + Readability + Clearness + Availability - Visualization
Use	- Individual use	+ Use in policy discussions
Effects	+ Show capabilities of AVV + Acknowledgement of superiors + Policy discussion ± Follow up research	+ Directing new research plans + Discussion (initiating, directing, stimulating) + Insights
Communication	+ Communication and relationship among AVV, policy departments and regional departments of the Ministry	+ Communication and relationship among AVV, policy departments and regional departments of the Ministry

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

4.5.5 Concluding remarks

The actors related to the SVV Colored In study, i.e. the analysts and the policy makers, appeared to base their success perception mainly on elements that related to the results of the study, the usage of the study's results, or the effects of the study on the policy discussions. Various interviewees mentioned such elements, without pointing out how they actually valued the study on the basis of these elements. This was due to the fact that the interviewees, the analysts in particular, had not followed what was done with the study's results, after the study was finished and the results were presented to the directors of the various departments of the Ministry.

Both actors perceived the SVV Colored In study to be a proficiency examination for AVV. AVV had been recently established and was composed of research units from various departments within the Ministry. According to the analysts, AVV had shown its capabilities, passed the proficiency examination, and created a bigger role in supporting the process of formulating (new) transport policy, by carrying out the SVV Colored In study. Passing this 'test' was of great importance to AVV, and the policy makers also valued the success of the study from this perspective. The policy makers valued the pro-active approach taken by AVV highly, and some of them

mentioned preferring this attitude above reactive behavior towards questions asked by the policy makers.

The effects of the SVV Colored In study on the policy discussions within the Ministry, and on the reflection of these discussions in policy documents, are important elements to focus on when valuing the success of the study, according to the analysts. Some analysts also mentioned the appreciation, and acknowledgement, of high level people within AVV as a sign of success.

On the basis of this case study the list of success elements was changed slightly. The following elements were mentioned by one or more interviewees related to the SVV Colored In study, and were not mentioned in the previous case studies:

- Who initiated the study, and for what reason?
- How, and by whom, was the study set up, i.e. was the study formally commissioned by a particular client, or self initiated?

These elements were added to the input category. Furthermore, the form of the presentation (written versus oral) and the appreciation shown by superiors were also added to the list of elements that actors consider when valuing the success of a policy analysis study. The other success elements mentioned by the interviewees related to the SVV Colored In study were already included in the list in one form or the other.

4.6 The CAU study

4.6.1 Introduction

The study on the Amsterdam-Utrecht corridor (CAU) was an extensive Environmental Impact Assessment (EIA), in which various alternative options were considered to develop a sustainable transport system between Amsterdam and Utrecht. An EIA is a particular type of policy analysis study, having all features characterizing such a study, e.g., its purpose is to assist decision makers, the emphasis is on collecting, interpreting and communicating information that is of relevance to a policy issue, and it involves multiple interests, a variety of objectives, and uncertainty.

An EIA is usually limited to environmental issues. The alternatives considered in the CAU study, however, were assessed on a wide range of aspects, including accessibility aspects, environmental and amenity aspects, and safety aspects. Consequently, from that perspective, the study is similar to the studies described in the previous sections and could be used as a case study in this research on successes of policy analysis studies.

4.6.2 Context

A corridor is a combination of infrastructure facilities that are of national and/or international importance, and which provide the possibility to transport passengers and goods via various modes, e.g., road, rail, and water. The Amsterdam-Utrecht corridor is an important connection in the Netherlands, connecting Amsterdam to the national economic center of Utrecht. Further eastwards, the corridor is an important segment of the hinterland connection to Arnhem-Nijmegen and to the economic centers in Germany (Rijkswaterstaat & Nederlandse Spoorwegen 1993d). The corridor includes the following three modes of transport (see Figure 4.9):

- the A2 highway
- the railway between Amsterdam and Utrecht
- the Amsterdam-Rhine canal

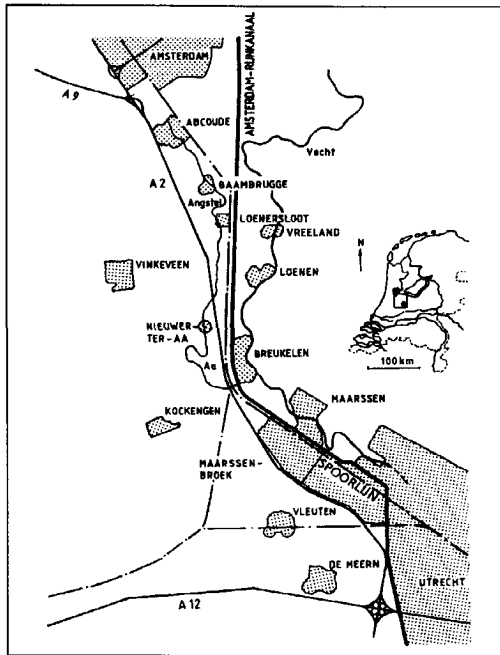


Figure 4.9: The Amsterdam-Utrecht corridor⁷

The movement of goods and people by road and by rail had been growing very fast in the Netherlands, particularly in the Amsterdam-Utrecht area. As a result of lengthening backups, the accessibility of the economic centers increasingly has been put at risk.

During the late eighties, the Directorate General of Public Works and Water Management (RWS) of the Ministry proposed expanding the A2 highway and building two additional lanes to overcome the transport problems in the Amsterdam-Utrecht area. The Nederlandse Spoorwegen (NS), in English, the Dutch Railway

⁷ The railway is indicated by 'spoorlijn' and the Amsterdam-Rhine canal by 'Amsterdam-Rijnkanaal'.

Company, proposed doubling the railways between Amsterdam and Utrecht and building an additional connection between the railway track Amsterdam-Utrecht and the South railway track surrounding Amsterdam, called the Utrechtboog, in English, Utrecht-arch. No changes to the Amsterdam-Rhine canal were proposed (Rijkswaterstaat & Nederlandse Spoorwegen 1993d).

The Dutch law on environmental management required an Environmental Impact Assessment (EIA) to get insight into the environmental consequences of the proposed actions before further decision making would take place, because the actions were likely to lead to significant effects on the environment and amenity. An EIA process consists of an environmental impact analysis, a review, using an Environmental Impact Statement (EIS), and the subsequent monitoring of the environmental consequences of the proposed actions. An EIS is a public document, in which the expected environmental consequences of the proposed activities, and various feasible alternatives, are described.

In 1990, RWS and NS decided to combine their efforts and carry out an EIA with respect to the various options to expand the infrastructure in the Amsterdam-Utrecht corridor. This study is referred to as the CAU study. The decision to combine their efforts and to carry out an EIA was motivated by three facts.

The lack of infrastructure capacity, i.e. the congestion on the highway and railway, was the main reason for RWS and NS to initiate the CAU study. Another reason for RWS and NS to combine their efforts and study the problems with respect to the Amsterdam-Utrecht corridor in a coherent way, was that road and rail transportation and infrastructure are highly interconnected and can have a wide range of interconnected impacts, e.g., in terms of residential environment, culture, and landscape. Finally, the CAU study started during the period in which the policy statement SVV II just had been formalized, and a change of policy was realized. In the SVV II document it was stated that “the expansion of road infrastructure should be considered in relation to the expansion of rail infrastructure at the level of a corridor” (Ministerie van Verkeer en Waterstaat 1990).

The CAU study was aimed at providing information on the national, and international, importance of the corridor, and on the consequences of infrastructure changes at a regional and local level.

The EIA legislation contains requirements for the content of an EIS and provides a formalized procedure for carrying out an EIA. Consequently, the parties that participate in an EIA process have to follow a certain chain of actions. Figure 4.10 gives a schematic overview of the different phases of the EIA procedure for the Amsterdam-Utrecht corridor, and the corresponding time planning (Rijkswaterstaat & Nederlandse Spoorwegen 1993d). For the purpose of this dissertation, the focus was on the policy analysis study, i.e. the CAU study, and not on the full EIA procedure. Nevertheless, the EIA procedure is outlined below to provide insights into the context in which the CAU study was carried out.

The proponents, i.e. RWS and NS, informed the authority about their intended activities at the beginning of 1990, after which the EIA process started with the

publication of a notification of the intended actions by the competent authority. The competent authority was responsible for making a decision on the proposed activity. The Ministry acted as the competent authority and as a proponent, that is, a particular department of the Ministry, i.e. RWS, acted as the proponent, whereas the Minister herself and the directors general acted as the competent authority (decision makers).

After publication of the intended actions, the competent authority established a working group from the EIA Commission. Members of the EIA Commission have the expertise to review an EIS from a scientific/technical point of view (Ministry of Housing Physical Planning and Environment & Ministry of Agriculture and Fisheries 1984). The EIA working group advised the authority and suggested guidelines for the content of the EIS, after which parties at interest, including formal advisors and public groups, could present their views in written form. This phase of the EIA procedure ended with the publication of detailed guidelines for the content of the EIS (Ministerie van Verkeer en Waterstaat 1991), and was followed by the actual policy analysis study by RWS and NS. The type of information that the authority required was pointed out in the published guidelines. After completion of the EIS, RWS and NS submitted the documents to the competent authority. The Overlegorgaan Verkeersinfrastructuur (OVI), in English, The Platform for Transport and Infrastructure, was a consultative body established by the Ministry, and made a first check whether the documents provided the required information, after which the EIS was published and formally reviewed. The EIA working group reviewed the EIS on its scientific and technical quality, keeping the guidelines in mind. During the review, the comments made by other parties at interest during public hearings were also addressed. After the review, the competent authority weighted the evidence on the basis of the provided information and made a decision on the proposed activity. The Minister decided in April 1995 to expand the highway A2 from 2x3 lanes to 2x4 lanes, to double the railtracks between Amsterdam and Utrecht, and to build the Utrechtboog (Minister van Verkeer en Waterstaat 1995a). This alternative was called the B1-alternative in the CAU study. The debates about various bottlenecks, such as at the municipalities of Abcoude, Breukelen, Loenen, and Nieuwer-ter-Aar, however, continued during the following formal procedures for expanding the infrastructure, and led to the introduction of a motion in the Second Chamber in November 1995 (Minister van Verkeer en Waterstaat 1995b). This motion included a request for a deepened construction of the double railways at Abcoude, and was approved by the Second Chamber on 30 November 1995.

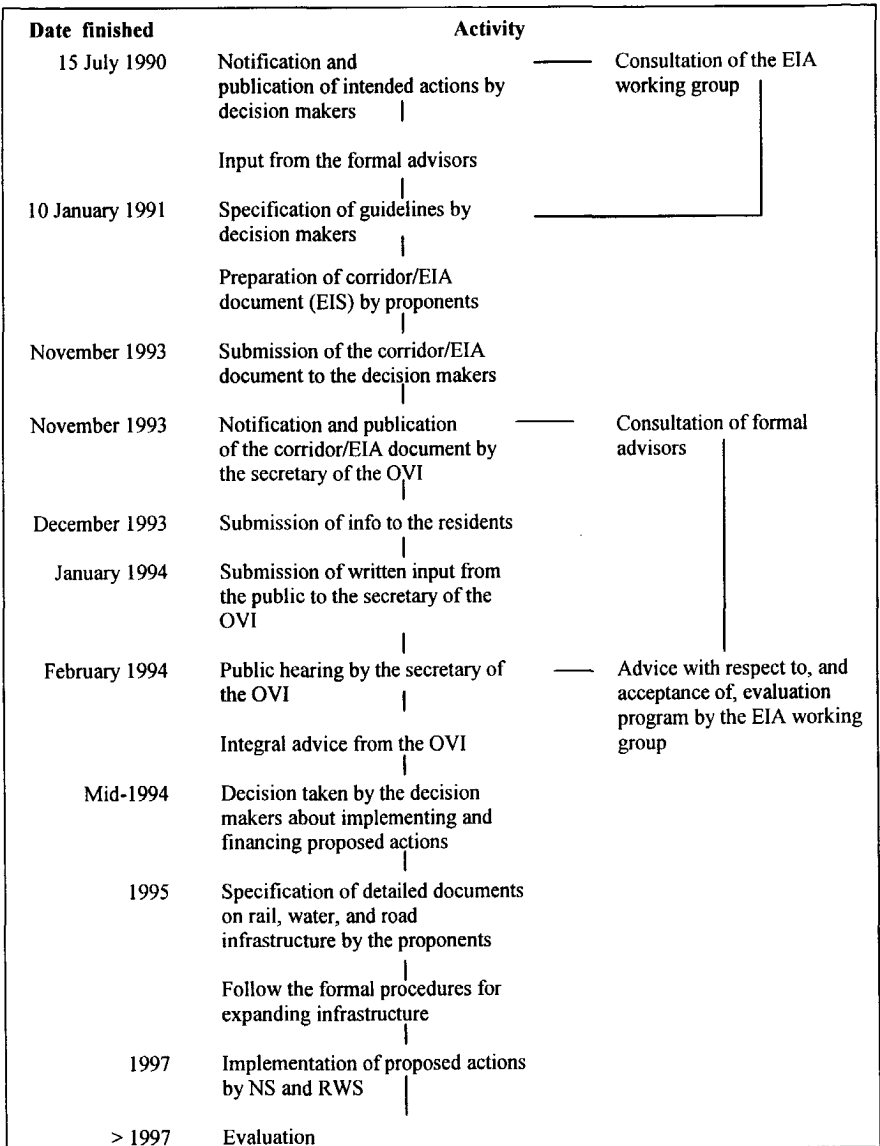


Figure 4.10: EIA procedure for the Amsterdam-Utrecht corridor

The characteristics of the context can be summarized as follows:

Problem situation

- *Scope*: regional to national concern.
- *Orientation*: oriented towards making a decision and taking action.
- *Complexity*: complex. The problem situation included different, intertwined, problems, e.g., accessibility, environment, amenity, many elements and variables

were involved, and the interests of various groups of people could be, or were being, affected.

- *Uncertainty*: The Ministry was in the midst of formalizing the SVV II policy, realizing a change of policy. Therefore, the policy goals, and their specification into targets, were not very clear and stable, as a result of which various strategic issues needed to be considered, although not planned, in the CAU study. Furthermore, uncontrollable natural developments, such as floods or climate changes, did not play a role. The future developments in terms of transport demand and supply of infrastructure, and the effects of policy measures, e.g., congestion, economy, safety, and costs were, however, uncertain or even unpredictable.
- *Attitude of actors involved*: The problem situation was not at an impasse in the sense that the various actors were not willing to talk or negotiate with each other. On the contrary, RWS and NS cooperated with each other, and worked closely together, to carry out the analysis for the EIA, despite their different, and sometimes conflicting, interests. Other parties involved in the problem situation, e.g., provinces, municipalities, and farmers, were willing to talk and negotiate with each other and RWS and NS, although some of them were not very happy with the suggested changes to the infrastructure.

Analyst's milieu

- *Status of the policy analysis study*: The CAU study differs from the previous case studies in the sense that the study had a formal status within a particular policy process. The study was part of the EIA procedure for the Amsterdam-Utrecht corridor, which the Dutch law on environmental management required, to get insights into the environmental consequences of the actions proposed by RWS and NS. Obviously, the study was of a particular importance to RWS and NS, since they proposed the actions to expand the Amsterdam-Utrecht corridor.
- *Decision makers involved*: The main decision maker involved in the problem situation were the Ministry of Transport, Public Works and Water Management (the Ministry) and the Ministry of Housing, Physical Planning and Environment. The problem situation was also of concern to the Ministry of Agriculture, Nature and Fishery. The decision makers, other than members of RWS of the Ministry, were not involved in carrying out the CAU study. Furthermore, the problem situation and the EIA procedure were very visible to the public.
- *Availability and use of existing knowledge, data, and research approaches*: In the CAU study, technical, substantive data from various sources were used. Furthermore, information was obtained from various parties at interest. Various models were developed as part of the study, but model development was not the core interest.

4.6.3 Policy analysis study

The CAU study was carried out as a step towards developing a sustainable transportation system for the Amsterdam-Utrecht corridor and its surrounding area, and towards developing the corresponding infrastructure (Rijkswaterstaat & Nederlandse Spoorwegen 1993d). The study was part of the EIA procedure, and was

carried out during the three year period from January 1991 until November 1993, while the EIA procedure took more than seven years (1990 - 1997).

A distinction was made in the study between a beleids-m.e.r., in English, 'strategic policy EIA', and an inrichtings-m.e.r., in English, 'implementation EIA'. The strategic policy EIA was aimed at supporting decision making at a national policy planning level, focusing on the question whether the consequences of the proposed actions, and possible alternative options, match with the policy goals stated in the policy documents, such as the SVV II document, the Nationaal Milieubeleidsplan Plus, in English, National Environmental Policy Plan Plus, and the Natuur Beleidsplan, in English, Nature Policy Plan. The implementation EIA was focused on providing insights into the regional and local consequences of the proposed actions and possible alternative options.

The approach taken to carry out the CAU study was an integrated approach, in which three modes of transport, i.e. road, rail, and water, were studied in a coherent way, and a wide range of possible consequences of the proposed, and alternative, actions were taken into account, such as accessibility aspects, amenity aspects, and costs. Possibilities for substitution among types of infrastructures were also considered. Furthermore, an open planning process was followed. In other words, the interests of parties, who possibly were affected by the problem situation, were taken into account in the study, and many of these parties at interest participated actively in the study.

Four main alternatives were considered in the study to develop a sustainable transport system, in addition to a reference case. For the reference case the infrastructure was assumed to remain the same compared to the situation in 1990, whereas the developments in transport activities were estimated for a future situation in 2010. The four alternative options varied with respect to the assumed actions taken to control the mobility, the additional highway lanes, and the growth in mobility until 2010 (Rijkswaterstaat & Nederlandse Spoorwegen 1993d).

The alternatives were compared with each other in terms of their consequences. A wide range of aspects were taken into account in assessing the alternatives, ranging from accessibility aspects, e.g., costs of congestion, probability of congestion, modal choice, to environmental and amenity aspects, e.g., nature, landscape, noise, emissions. Safety aspects and the correspondence of the consequences of the alternatives with the formal policy goals were also taken into account.

The results of the CAU study were presented in November 1993, which was later than originally planned, and for which RWS and NS gave four reasons in their documentation (Rijkswaterstaat & Nederlandse Spoorwegen 1993d):

- The long discussion about, and the detailed level of, the guidelines affected the research approach, the depth of the analysis, and the duration of the substudies.
- The corridor study started in a period in which the SVV II policy just was formalized, and this change of policy had its effect on the choice of alternatives to be taken into account in the study.

- The development of a new traffic model took much time, because of various teething troubles.
- The open planning process, i.e. the intensive interactions with various parties at interest, cost more time than initially planned.

The results of the CAU study were presented in the form of an EIS, consisting of a main document and five supporting volumes (Rijkswaterstaat & Nederlandse Spoorwegen 1993a, b, c, and d). The supporting volumes focused on spatial planning, economy, traffic and transport, infrastructure and environment, and nature and landscape.

The main conclusions focused on the reference case, called 0^+ , the alternative B1 in which the highway A2 was assumed to have been expanded to 2x4 lanes, and the environment friendly alternative, called MMA, in which the highway A2 was assumed not to have been expanded. The alternative in which the highway A2 was assumed to have been expanded to 2x5 lanes appeared not to be feasible because of its environmental and accessibility impacts, and was screened out at an early stage of the study.

The alternatives 0^+ , B1, and MMA appeared to differ mainly in terms of their accessibility and environmental consequences. Alternative B1 scored best with respect to traffic management, and it was concluded that the expansion of the highway A2 would have positive effects on the economy, by attracting businesses to the surrounding area. The alternatives 0^+ and MMA appeared not to meet the criterion to limit the congestion on the highway A2. They did cause, however, a shift of traffic and transport off the highway onto rail. Furthermore, it was concluded that the MMA alternative was the best alternative when it comes to aspects related to nature, noise, emissions, and residential environment (Rijkswaterstaat & Nederlandse Spoorwegen 1993d).

On the basis of these results, the project group concluded that it was impossible to combine the accessibility interests together with the environmental and amenity interests into one sustainable transport system. RWS and NS did not express a strong preference for a particular alternative in the EIS. Their aim was to provide insights into the consequences of the alternatives and leave the decision making explicitly to the authority. As pointed out above, the Minister decided in April 1995 to expand the rail and road infrastructure according to the B1 alternative, that is to expand highway A2 from 2x3 lanes to 2x4 lanes, to double the railways between Amsterdam and Utrecht, and to build the Utrechtboog [Minister van Verkeer en Waterstaat 1995a).

To summarize the characteristics of the policy analysis study:

- *Size*: In terms of its duration (approximately 3 years) the CAU study was an average size study, compared to the other case studies. In terms of the number and variety of analysts involved, however, it was a large size study. Various research organizations and parties at interest, e.g., provinces, transport regions, municipalities, and the Chamber of Commerce, participated actively in the study.

- *Complexity*: the CAU study was a complex study. In the study three modes of transport, i.e. road, rail, and waterways, were considered, and various alternative infrastructure changes were evaluated on a wide range of performance measures, including accessibility, environment and amenity. Dutch law provides requirements and guidelines for the content of the EIS, and a formalized procedure, which had to be strictly followed. Furthermore, the situation was somewhat more complex by the fact that it was the first time that RWS and NS, which have their own, sometimes conflicting, interests, carried out an EIA together.
- *Nature of the study*: The study was an analytic effort to support decision making. The study was embedded in an EIA procedure, however, which was focused on interactive support to learning, negotiating, and creating public support for decisions to be taken. Furthermore, no concrete recommendations, or strong preferences for a particular alternative, were expressed in the end reports.
- *Research approach*: The central elements in the study were the intended and alternative actions to change the transportation infrastructure between Amsterdam and Utrecht, and their relative performance on various impacts. The study's activities were performed on the basis of technical analysis of substantive data and theories, and on the basis of information provided by different parties at interest. Model development was not a central element in the study, although models were developed to carry out the analysis.
- *Orientation*: The CAU study was aimed at providing information to support decision makers in making a well founded decision about the intended actions to change the infrastructure between Amsterdam and Utrecht. The EIA procedure also aimed at improving mutual understanding among parties at interest and creating public support for decisions to be taken.

4.6.4 Actors related to the study

Figure 4.11 shows the actors, which played a role in one way or the other and to a greater or lesser extent in the CAU study, and, as such, were related to the study. The arrows indicate the mutual relationships in terms of the formal communication patterns. The characteristics of the actors are described below.

- *The project group* initiated and carried out the CAU study. RWS and NS, i.e. the proponents, initiated the EIA procedure and were responsible for preparing the EIS. Many people from both organizations were heavily, on a full time basis, involved in carrying out the analysis. Furthermore, representatives of various parties at interest, e.g., provinces, transport regions, municipalities, and the Chamber of Commerce, participated actively in different subgroups of the project group. Within the boundaries set by the guidelines provided by Dutch law, the members of the project group had major control over the process and content of the study. RWS and NS had a clear interest in carrying out the analysis. With respect to the problem situation, RWS and NS were interested in creating public support for their proposed actions, where RWS focused mainly on road infrastructure and NS on rail infrastructure.

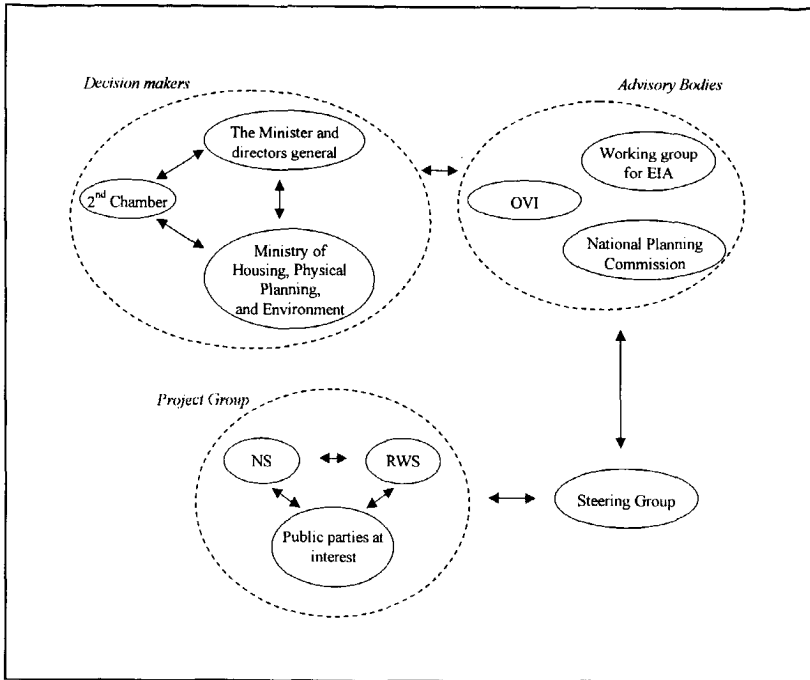


Figure 4.11: Actors related to the CAU study

- *The decision maker*, i.e. the competent authority, refers to the organization that was responsible for making a decision on the proposed activity. In the case of the Amsterdam-Utrecht corridor, the Minister and the directors general of the Ministry of Transport, Public Works and Water Management acted as the decision makers. The Ministry of Housing, Planning, and Environment, and, in the end, the 2nd Chamber were also involved in the decision making process. The decision makers did not actively participate in the analysis. Their interest was in getting relevant information on the basis of which they could make a well founded decision on the proposed actions of the proponents. The decision makers had no control over the content and the process of the analysis at a detailed level, however, they specified guidelines to point out the type of information required.
- *The advisory bodies* advised the competent authorities in making a decision on the proposed actions. In the case of the CAU study three independent commissions advised the decision makers. The working group that was established from the EIA Commission reviewed the EIS from a scientific and technical point of view (Milieu-effectrapportage 1994). The EIA working group consisted of seven independent experts and gave advice to the competent authority; however, the advice was not binding on the execution of the proposed activity. The Overlegorgaan Verkeersinfrastructuur (OVI), in English, The Platform for Transport and Infrastructure, was established by the Ministry, and consisted of representatives of governmental organizations and representatives of

thirteen parties at interest⁸. The OVI kept an eye on the EIA procedure and heard the public during the procedure. After completion of the analysis, the OVI advised the competent authority. The Rijksplanologische Commissie, in English, the National Planning Commission, which was linked to the Ministry of Housing, Planning and Environment, advised their Minister and the other decision makers with respect to the proposed actions in the Amsterdam-Utrecht corridor. The three advisory bodies, i.e. the EIA working group, the OVI, and the National Planning Commission, did not participate in the CAU study, but played a major role in the decision making process. Their role was to form an independent opinion on the basis of the analysis and to advise the decision makers. The interests of the members of the advisory bodies with respect to the problem situation differ among, and within, the advisory bodies.

- *The steering group* provided guidance on the scope and emphasis of the study. The group consisted mainly of people from RWS and NS, and did not actively participate in the analysis.
- *Public interest groups* were, for example, concerned with the well being of the residents of a particular neighborhood or municipality, e.g., Abcoude and Breukelen, and participated in the EIA procedure. Other interest groups, e.g., political parties, local and provincial governments, environmental groups, trade unions, the chamber of commerce, also participated in the EIA procedure and tried to influence the decision makers according to their specific area of concern. The public interest groups were represented in the OVI, and various groups were also involved in carrying out the analysis and participated actively in the subgroups of the project group.

A summary of the characteristics of the actors related to the CAU study in terms of their role, their extent of involvement, their authority with respect to the process and content of the study, and their interests, is given in Table 4.9.

⁸ The following parties at interest were represented in the OVI: Christelijk Nederlands Vakverbond, ondernemers organisatie voor logistiek en transport EVO, fietsersbond ENFB, Interprovinciaal Overleg, Koninklijke Nederlandse Toeristenbond ANWB, Landbouwschap NV Luchthaven Schiphol, NV Nederlandse Spoorwegen, Nederlands Instituut voor Ruimtelijke Ordening en Volkshuisvesting, RAI vereniging, Stichting Natuur en Milieu, Transport en Logistiek Nederland, and Vereniging van Kamer van Koophandel en Fabrieken in Nederland (Overlegorgaan Verkeersinfrastructuur 1994).

Table 4.9: Characteristics of actors related to the CAU project

	Role	Involvement	Authority	Interest
Project group (mainly RWS and NS)	<ul style="list-style-type: none"> - Proposing road and rail infrastructure changes - Initiating and carrying out EIA procedure 	Heavily involved, on a full-time basis	Authority and control over process and content of the study at a detailed level	<p><i>Analysis:</i> Carrying out the analysis</p> <p><i>Problem:</i> Creating public support for proposed actions</p>
Steering group	<ul style="list-style-type: none"> - Providing guidance on scope and emphasis of the analysis 	Not directly involved in the analysis, involved at a more general level	Authority and control at a high level	<p><i>Analysis:</i> Get and provide useful information</p> <p><i>Problem:</i> Create public support for proposed actions</p>
Decision makers	<ul style="list-style-type: none"> - Making decisions about the proposed actions 	Not involved in the analysis	Authority and control at a high level, through guidelines	<p><i>Analysis:</i> Getting relevant information</p> <p><i>Problem:</i> Making decisions</p>
Advisory body: EIA working group	<ul style="list-style-type: none"> - Suggesting guidelines - Reviewing EIS - Giving independent advice to the decision makers 	Not involved in the analysis	Control at a high level, through guidelines	<p><i>Analysis:</i> Controlling quality of EIS adherent to guidelines</p> <p><i>Problem:</i> Giving advice to decision makers from environ. perspective</p>
Advisory body: OVI	<ul style="list-style-type: none"> - Keeping an eye on EIA procedure - Checking EIS - Giving independent advice to the decision makers 	Not involved in the analysis	Control over scope and emphasis of the study	<p><i>Analysis:</i> Controlling quality and checking whether all interests were taken into account</p> <p><i>Problem:</i> Giving advice to decision makers</p>
Advisory body: National planning commission	<ul style="list-style-type: none"> - Giving independent advice to the decision makers 	Not involved in the analysis	No authority	<p><i>Analysis:</i> Including spatial planning aspects</p> <p><i>Problem:</i> Giving advice to decision makers</p>
Public interest groups	<ul style="list-style-type: none"> - Informing other actors about their particular interest - Influencing the decision to be taken 	Some involved as members of the OVI, others participated in the analysis	See OVI, or proponents, depending on their involvement	<p><i>Analysis:</i> Matching with their interest(s)</p> <p><i>Problem:</i> Each its own interest</p>

4.6.5 Success perceptions

The research approach used to get insights into the different success perceptions of the actors related to the CAU study differed from the research approach used in the other case studies. In the other case studies representatives of the actors were interviewed. The Utrecht Directorate of RWS, however, commissioned the organization *Rijnconsult* to carry out a detailed evaluation research, the results of which were published beginning 1995 (Rijnconsult 1995). Rijnconsult interviewed a variety of parties related to the CAU study and asked their opinion about specific aspects. The evaluation research was not so much focused on the content of the CAU study; it was focused on specific process and organization related aspects of the study. The evaluation research provided insights into how the actors interviewed valued these specific aspects, and, therefore, provided valuable information to this dissertation. Figure 4.12 shows schematically the type of information provided by the evaluation research. Appendix C includes a summary of the evaluation research and its results.

Aspect	Value attribution by actors interviewed
Process	0
-	--
-	++
Organization	+
-	...
-	...
-	...

Figure 4.12: Results evaluation research of Rijnconsult

For the purpose of this dissertation, additional evaluation research was needed to get a better understanding of the different elements that actors focus on when valuing the success of the CAU study. For example, different actors might consider the CAU study successful, but base their judgment on different elements. That is, one actor might focus on the richness of the substantive information provided by the CAU study, while another actor focuses on process related aspects, e.g., public participation and acceptance, when valuing the success of the study. Such insights were not provided by the evaluation research of Rijnconsult. The various aspects that Rijnconsult considered in their research, and put forward during the interviews, were not necessarily the elements that actors would consider in evaluating the CAU study. Consequently, additional research was carried out to get better insights into these matters. Figure 4.13 shows schematically the kind of information provided by the additional evaluation research.

		Aspect	Value attribution	Relevance for success perception
<i>Actor 2</i>		- Process	0	...
<i>Actor 1</i>	Aspect	Value attribution	Relevance for success perception	...
	- Process	0
	-	--
	-	++
	- Organization
	-
	-
	Other aspects, e.g., content, results, effects			...
	-
	-
-	
-	
-	
-	

Figure 4.13: Additional evaluation research (grey) in relation to the evaluation research of Rijnconsult

A questionnaire was sent to the people interviewed by Rijnconsult, that is, to the 41 representatives of the actors related to the CAU study, including members from RWS, NS, municipalities, the EIA working group, and public interest groups. Questionnaires were used so as not to bother the persons concerned with a second interview, and for reasons of time.

The questionnaire consisted of two parts. In the first part the representatives were asked whether they considered the CAU study successful, and they were asked to give at least three reasons for their statement. Furthermore, the representatives were asked, if they felt the CAU study was successful, to specify at least three aspects that were less successful from their point of view. Similarly, the representatives were asked, if they felt the CAU study was not successful, to specify at least three aspects that were quite successful from their point of view.

The second part of the questionnaire included a list of elements that could be used by the actors when evaluating the success of the CAU study. The elements were structured according to the categories input, content, process, results, use, and effects. The representatives were asked to state whether they would, or would not, focus on the element when evaluating the CAU study. The representatives were also asked to value the elements on a three-point scale. Furthermore, space was left free on the questionnaire for the respondents to make remarks and indicate nuances.

Five representatives were interviewed, either on a face to face basis, or by telephone, in addition to the questionnaire research. The interviews were carried out to check whether the questionnaire research gave a reasonable idea of the success perceptions of the actors. It appeared that not much additional information was gained from the interviews. Consequently, it was concluded that the questionnaire research gave a reasonable idea of the elements that actors focused on when valuing the success of the CAU study.

Approximately 50% of the 41 representatives responded to the questionnaire. The group of respondents consisted mainly of members of the project group, members of the steering group, members of public interest groups, and decision makers. All respondents considered the CAU study successful. The arguments given for this statement, however, differed per respondent. The success perceptions of the various actors outlined below are structured in accordance with the conceptual structure given in Figure 3.2 in Section 3.5.

A summary of the variety of success elements pointed out by the different actors is given at the end of this subsection in Table 4.10.

Input

The cooperation between RWS and NS was highly valued by the people who worked on the study, because the cooperation emphasized the integrated approach to find a solution for the transport and traffic problems between Amsterdam and Utrecht. The detailed specification of the EIA guidelines, however, was not valued positively by members of the project group. Furthermore, the steering group and the project group mentioned that the availability of data and models, and the match between the data and models and the requirements of the study, were unsuccessful elements. The steering group referred also to the fact that the study started at a time when the Ministry was in the midst of changing the transport and infrastructure policy, as a consequence of which the project group was obliged to consider various strategic issues in the CAU study, making for extra effort and difficulty. The project group considered the transparency of the political decision process, and the feelings of trust and reliability among the actors, prior to the study, as successful elements. The public interest groups that were not involved in carrying out the study pointed out that the time was right for a study such as the CAU study. They did not, however, appreciate the long duration of the decision process. These public interest groups also did not appreciate the fact that the Minister was not receptive to new ideas; as an interviewee pointed out: "She was not very willing to listen to our ideas and arguments." The decision makers considered the CAU study successful because it was fully embedded in an open, interactive, EIA procedure.

Content

An integrated approach was used in the CAU study to formulate the problem and search for possible solutions. Furthermore, three modes of transport, i.e. road, rail, and water, were studied in a coherent way. All respondents mentioned this integrated approach as one of the most successful elements of the CAU study. The

broadness and depth of the study were also valued positively and mentioned as important elements to consider when evaluating the CAU study. The attention given to the environmental, economic, accessibility, and amenity aspects, was particularly highly valued. Some public interest groups and members of the project group pointed out that the agricultural aspects, and aspects related to surface and water, should have been given more attention. They also pointed out that the CAU study was restricted by the SVV II policy: a full realization of the SVV II policy was assumed in all scenarios that were considered in the CAU study. Additional scenarios should have been taken into account, according to the project group. Various respondents, who were involved in carrying out the study, valued the screening of alternatives negatively. In their opinion, some alternatives should have been screened out in an earlier stage of the study. Another element, which some members of the project group mentioned that they focus on when evaluating the success of the study, was that the study was not geared very well to other ongoing projects and developments.

Process

Most elements brought forward in reaction to the question to point out at least three positive and three negative elements relate to the study's process. All respondents highly valued the openness of the process and the fact that various parties at interest were interactively involved from the beginning of the study. Some public interest groups and people who were involved in carrying out the study, however, made some remarks in this respect. Local, and regional, governmental organizations particularly should have participated more actively in the study, and should have informed the project group more accurately about ongoing projects and developments. Furthermore, various respondents pointed out that the agricultural sector, similar to other interest groups, should have been involved in the study, right from the start of the study. Members from RWS and NS mentioned the cooperation between the two organizations as an element to focus on when valuing the success of the CAU study. Some members valued the cooperation positively in the sense that it saved time and resources. Furthermore, they pointed out that the two organizations acted as one party towards the outside world, thus improving the transparency of the process and the communication with interest groups. The steering group, however, valued the cooperation negatively; differences in organizational cultures between RWS and NS caused some conflicting situations. All respondents referred to the duration of the EIA procedure. The procedure and the study, which was included in the EIA procedure, took too much time and, as a result of that, it cost too much money. Furthermore, the complexity and the duration of the study made the study less transparent for those who were not directly involved in the CAU study. Members of the project group also mentioned the frequent changes of personnel and the late availability of information among researchers as elements they would consider in formulating their success perception of the CAU study.

Results

It appeared that the decision makers highly valued the results of the CAU study. The results provided them, and other actors, with relevant information, insights into the problem situation, and a well founded basis for further decision making. The volume of the documentation, however, was valued negatively by the decision makers: "too much!" Members of the project group pointed out that they considered the CAU study successful because the results fulfilled the needs for integrated decision making. Some of these members pointed out that the results of the study matched with the ongoing developments. Others, however, held the opinion that the results should have been better geared to the ongoing developments and projects, such as the Leidsche Rijn. In the study it was analyzed to what extent transport and traffic could be moved from one mode to another, and what policy measures are needed for such a modal shift. The respondents, members of the project group in particular were not very enthusiastic, however, about the study's results in terms of modal shift possibilities. They pointed out that much time and energy was put into researching this issue, but that it had not led to promising modal shift possibilities. Some public parties at interest considered the CAU study successful because various solutions for Abcoude, which is a bottleneck in the Amsterdam-Utrecht corridor, were provided. The public parties at interest considered the information from the CAU study to be too much to handle during the short period in which the public hearings were held, and during which they could point out their opinion with respect to the problem situation.

Use

The representatives did not point out elements related to the usage of the CAU study and its results in the first part of the questionnaire. Furthermore, it should be mentioned that approximately 50% of the respondents did not understand what was meant by the elements listed in the second part of the questionnaire that related to the use of the study and its results, e.g., who used which elements of the study for what purpose.

Effects

Many respondents considered the CAU study successful because it positively affected the public support and the support from the governmental organizations. A majority of the actors supported the decision taken by the competent authority to build the B1 alternative. This support was increased by the insights provided into the problem situation, the various solutions and their effects, and the interactive, open process. The steering group also mentioned that less time was needed for the following phases in the decision making process, as an effect of the CAU study. The public interest groups appreciated the insights given into the problem situation and into the various environmental effects of different infrastructure changes. They pointed out, however, that they would have liked to have had a stronger influence on the Minister's opinion and her ideas about how to solve the problem situation.

Communication

Most elements that relate to communication, and that were mentioned by the respondents, were categorized as process related elements, e.g., the communication with the agricultural sector and the communication between RWS and NS, and were described in the corresponding paragraph above. The only additional element worth mentioning here is that the information gained from the CAU study was well communicated to the outside world, according to some public parties at interest.

Advisory Bodies

The group of respondents included only one member of an advisory body. The advisory bodies, i.e. the EIA working group, the OVI, and the National Planning Commission, however, published their advice to the decision makers after the CAU study (Commissie voor de Milie-effectrapportage 1994; Rijksplanologische Commissie 1995; Overlegorgaan Verkeersinfrastructuur 1994). These documents were used to describe the success, and failure, of the CAU study from the perspective of the advisory bodies, and to identify the elements they focused on to come to their conclusions.

Platform for Transport and Infrastructure (OVI)

OVI was a consultative body that consisted of representatives of governmental organizations and representatives of various other parties that have an interest in transport and infrastructure, between Amsterdam and Utrecht in particular. OVI advised the competent authority in a written report about how to solve the problem situation with respect to the Amsterdam-Utrecht corridor in September 1994, after completion of the CAU study (Overlegorgaan Verkeersinfrastructuur 1994).

OVI spoke highly of the results of the CAU study in their advice, and pointed out that the results of the CAU study are presented in a clear and structured way. It was mentioned that the documentation of the CAU study is well readable, not in the least because of the illustrative tables and photographs. Furthermore, the separate set of maps was mentioned as being of high quality. OVI also made some critical remarks, however, with respect to the presentation of the results. For example, they mentioned that a map, depicting how the landscape between Amsterdam and Utrecht was used, would have provided valuable insights. Unfortunately, such map was not produced. A map depicting the various alternatives considered in the CAU study was also an omission, according to OVI.

OVI emphasized the importance of the integrated approach taken in the CAU study, considering the three transport modes, i.e. rail, road, and water, and accessibility, environmental and amenity aspects in a coherent way. OVI pointed out, however, that the modal shift possibilities did not live up to their promise. With respect to the modal shift from road to rail, only physical expansion of the rail infrastructure was considered in the study. Furthermore, OVI pointed out that the study should have paid more attention to bicycle possibilities.

OVI considered the CAU study successful because it led to an increase of public and governmental support for expanding the infrastructure capacity. OVI also pointed out, however, that the intended actions had caused much resistance from the agricultural sector. This sector probably would have supported the intended actions more if they had been involved in the open planning process right from the beginning, according to OVI.

EIA working group

A working group of seven independent experts reviewed the EIS from a scientific/technical point of view. Their review was focused particularly on inaccuracies, the guidelines for the content of the study, and the formal requirements for an EIS. The findings of the working group were published in May 1994 (Commissie voor de Milieu-effectrapportage 1994).

The working group was pleased by the high content of information, and the clear and structured presentation of the results of the study. The working group concluded that the decision makers were provided with sufficient information to make a well founded decision about infrastructure changes in the Amsterdam-Utrecht corridor. The working group made some critical remarks, however, with respect to the integrated approach and content of the study, which were similar to the comments given by OVI. The working group additionally mentioned that none of the alternatives, which were considered in the CAU study, met the policy goals defined for accessibility and the environment. The working group considered this to be a valuable insight from the CAU study, but also concluded that the alternatives could not be reviewed in light of *the* national policy. The alternatives could only be reviewed in light of parts of the policy. The working group considered the study limited in terms of the number of policy actions considered that seek to use the traffic and transport infrastructure more efficiently. Furthermore, the working group pointed out that the results of the CAU study did not match very well with ongoing developments and policy statements, e.g., Integraal Beleidsplan voor het Amsterdam-Rijnkanaal, in English, Integrated Policy Plan for the Amsterdam Rhine Canal, Utrecht Stadsplan, in English, Cityplan of Utrecht, and Randstadspoor⁹, other than the SVV II policy statement. The working group also pointed out that no insights were provided into certain feasibility aspects related to additional rail infrastructure, e.g., the energy supply for electrical traction for new rails and the costs and benefits of new platforms. Various other comments were made by the working group, including that the project group did not justify the use of particular research methods very well, and that the study was focused on the north-south connection, while many residents were concerned about the accessibility of the east-west connection. Furthermore, the working group questioned some of the assumptions made in the CAU study, e.g., it was assumed that no impact could be expected from lowering the maximum speed on highways to 80 km/h. The secretary

⁹ Randstadspoor refers to plans for the rail in the Randstad. The Randstad is the horseshoe shaped urban area that stretches from Dordrecht in the south, through Rotterdam and The Hague to Haarlem and Amsterdam in the north and Utrecht in the east.

of the working group pointed out that the cooperation between RWS and NS was valued highly by the group, particularly because road and rail options were studied at an equally detailed level in the CAU study, as a result of this cooperation.

National Planning Commission

At the request of the Minister of Transport, Public Works and Water Management, the National Planning Commission advised the Minister of Housing, Planning and Environment with respect to the proposed infrastructure changes in the Amsterdam-Utrecht corridor in February 1995 (Rijksplanologische Commissie 1995). The advice was concentrated on particular infrastructure changes, and not so much on the success and failure of the CAU study.

The commission mentioned the innovative, and integrated, approach that was used to study the different modes of transport in a coherent way, particularly the possibilities to shift traffic and transport from one mode to another. According to the National Planning Commission, a clear need for additional road and rail infrastructure was shown by the CAU study, and the resulting insights provided a well founded basis for further decision making. The National Planning Commission agreed in principle with the actions proposed by RWS and NS.

Table 4.10: Success elements mentioned by actors related to the CAU study

	Decision makers	OVI	National Planning Commission	EIA working group
Input	+ Study and process			
Content		± Integral approach	+ Integral , innovative approach	+ Integral approach + Road & rail options equally detailed - Attention given to transport efficiency policy actions - Justification given for using certain methods - Feasibility of extra rail infrastructure - Assumptions made
Process	- Involvement agricultural sector	- Involvement agricultural sector		+ Cooperation NS & RWS
Results	+ Relevant info for policy makers and public - Volume	+ Clear, structured presentation + Maps are of high quality + Readable - Map of agricultural use - Map of alternatives	+ Well founded basis for decision making + Shows clearly need for extra infrastructure	+ High content of information + Clear, structured presentation + Sufficient info for decision making - Modal shift possibilities - Integral environmental assessment - Match with ongoing developments & policy statements
Use				+ Integral approach in other projects
Effects		+ Support for decision		+ Insights into match alternatives and policy goals
Communication				

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

Table 4.10: Success elements mentioned by actors related to the CAU study (continued)

	Steering group	Project group	Public interest groups
Input	<ul style="list-style-type: none"> - Including strategic component - Availability adequate models 	<ul style="list-style-type: none"> + Cooperation NS & RWS, which emphasized integral approach + Transparency political decision process + Trust and reliability among actors - Detailed EIA guidelines - Availability data and match with requirements 	<ul style="list-style-type: none"> + Timing - Long decision process
Content	<ul style="list-style-type: none"> + Integral approach - No technical integration of rail / road 	<ul style="list-style-type: none"> + Integral, innovative, approach + Decent EIA approach + Broadness and depth + Attention given to environmental and economic aspects - Attention given to agricultural aspects - Restricted by SVV II - Screening alternatives - Match ongoing developments and projects 	<ul style="list-style-type: none"> + Integral approach + Attention given to accessibility and amenity - Attention given to agricultural aspects - Attention given to surface and water aspects - Restricted by SVV II
Process	<ul style="list-style-type: none"> + Open and interactive process - Cooperation NS & RWS - Duration - Costs 	<ul style="list-style-type: none"> + Open process + Involvement governmental org + NS and RWS acted as one team towards others ± Early involvement and communication parties at interest ± Cooperation NS & RWS (use of time, different cultures) - Availability of information among researchers before meetings - Duration (incl. decision process) - Change of personnel - Participation certain, governmental, parties - Complex and long, which was not transparent for public 	<ul style="list-style-type: none"> + Open process ± Involvement of governmental organizations - Duration - Transparency for public
Results		<ul style="list-style-type: none"> + Match with needs for integral decision making ± Match with ongoing developments and projects - Modal shift possibilities - Well thought through solutions 	<ul style="list-style-type: none"> + Alternative solutions for Abcoude - Too much material to handle in short period of public hearings
Use			
Effects	<ul style="list-style-type: none"> + Support for decision + Less time needed for following phases in decision process 	<ul style="list-style-type: none"> + Public and governmental support + A decision was taken + Insights into problem situation + Insights into environmental aspects 	<ul style="list-style-type: none"> + Increase of public support - Minister hardly listened to recommendations
Communication		<ul style="list-style-type: none"> + Info well communicated ± Communication with parties at interest - Communication between NS & RWS (org. cultures) 	<ul style="list-style-type: none"> - Communication with agricultural sector

Note: - indicate negatively valued elements; + indicate positively valued elements; ± indicate elements that are positively and negatively valued (by the same or different persons)

4.6.6 Concluding remarks

The insights gained from the additional research appeared to match with the insights gained from the evaluation research of Rijnconsult, i.e. how different actors value process and organization related aspects of the CAU study. It appeared from the additional research, however, that the actors also consider elements other than those related to the process and organization of the CAU study, when valuing the success of the study.

For example, the respondents mentioned they would consider input related elements, such as the problem formulation and the administrative status of the study, when valuing the success of the CAU study. With respect to the content of the study, most respondents considered the broadness of the study, i.e. the range of alternatives performance measures taken into account. The respondents also mentioned that they evaluate the success of the CAU study on the basis of the openness of the process, the internal and external communication, and which actors were involved in the process for which purpose. Furthermore, it was pointed out that the results should be consistent, correct, reliable, and clearly presented. The results also have to match with the underlying problem and they have to be geared to the ongoing developments and projects. Virtually all respondents considered the CAU study successful because it affected the decision process, the insights gained were used by the decision makers, and the support of the governmental and public parties at interest was increased.

With respect to the second part of the questionnaire it was striking how few elements of the list were marked as unimportant. The budget, follow up research, and changes of the balance of power among the actors, were the only elements that some respondents pointed out not to consider when valuing the success of the CAU study. It appeared from the questionnaires that the indicated importance of the elements is highly correlated to the value placed on the elements. Many elements that were indicated as important to consider when valuing the success of the study were also valued positively. Examples of such elements are: the problem formulation, the broadness of the study, the openness of the process, who is involved in the process for what purpose, the consistency and presentation of the results, and the match between the results and the underlying problem. This high correlation, however, appeared not to hold for the effect related elements. Furthermore, it appeared that no elements were valued extremely negatively.

Various elements were added to the initial list on the basis of this case study. It became clear, for example, that many actors focus on various characteristics of the EIA procedure, when evaluating a policy analysis study. As a decision maker put it: "It is not only a study, it is also the whole process around it." Various elements that were added to the list relate to the input of the study, for example:

- intention of organizations to cooperate
- trust and reliability among, and attitude of, the actors involved in carrying out the study, preceding and during the study
- transparency of the political decision process

- level of detail of the EIA guidelines
- receptivity of decision makers with respect to the ideas/opinions of other parties at interest

With respect to the content of a policy analysis study, the elements 'justification of the methodology used', 'assumptions made', and 'screening of the alternatives' were added to the list. With respect to the process, 'interactiveness' and 'transparency' were added. Hardly any element was added to the list with respect to the results of the study, or its use, since the elements mentioned by the respondents were already included in the list in some form. It was important in case of the CAU study, however, that the results matched with ongoing developments and projects. Consequently, this element was added to the list. The elements that were mentioned by the respondents with respect to effects and communication were already included in the list in some form.

5. ANALYSIS AND SYNTHESIS OF THE EMPIRICAL DATA: TOWARDS A THEORY?

5.1 Introduction

This chapter contains an analysis and synthesis of the results of the five case studies in an attempt to construct a theory concerning how actors define the success of a policy analysis study and the factors underlying the various definitions. The focus of this chapter is on the question: How, if at all, is an actor's definition of success of a policy analysis study determined by the characteristics of the actor, the characteristics of the policy analysis study, and/or by the characteristics of the context of the study?

As a first step towards answering this question, a structured list of elements that actors use, or might use, in evaluating the success of a policy analysis study is constructed on the basis of the empirical data. This list of elements is presented in Section 5.2. Section 5.2 also contains a clarification of which success elements were added and why, and which structural changes were made to the initial list given in Section 4.1.

An approach was developed and applied to identify and describe possible relationships between the sets of success elements that actors consider and the presumably underlying factors observed in this research. The approach included the following two main steps (see Figure 5.1):¹⁰

1. Define and identify the differences and similarities among actors in terms of the set of elements they consider in evaluating the success of a study. Specify the differences, and similarities, among the actors in terms of their characteristics. Identify and describe the relationships between these two types of differences and similarities.
2. Define and identify the differences and similarities among cases in terms of the set of elements that actors consider in evaluating the success of a study. Specify the differences and similarities among cases in terms of the characteristics of the studies and the characteristics of the studies' contexts. Identify and describe the relationships between these two types of differences and similarities.

¹⁰ The same method was used to analyze the relationships between the sets of success elements and the characteristics of the study, and between the sets of success elements and the characteristics of the study's context. Consequently, these relationships were identified and described in the same step of the approach, i.e. *Step 2*.

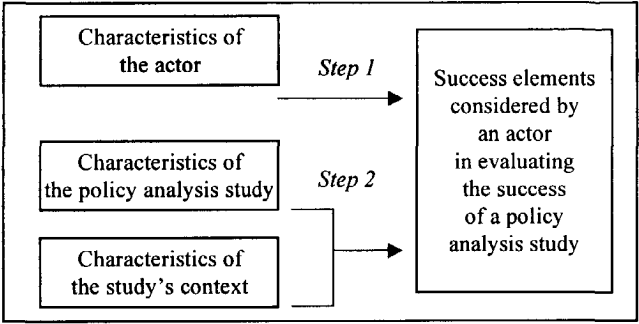


Figure 5.1: Two step approach for analyzing the empirical data

The first step of the approach is described in Section 5.3. The focus of Section 5.4 is on the second step of the approach. The results of the analysis are summarized and synthesized in Section 5.5.

5.2 List of success elements

The initial list of success elements, which was used as a basis for the case studies and is given in Section 4.1, includes the elements identified from the literature survey and internal discussions. This list was expanded on the basis of the empirical data, i.e. the success elements mentioned by the actors interviewed. A success element was added if (1) the element was mentioned by at least one actor, (2) the element was not included in the initial list, and (3) the element was not a synonym for one of the elements included in the initial list.

The expanded list was re-structured compared to the list given in Section 4.1. The expanded and structured list, hereinafter called *the list*, consists of 6 main categories, e.g., input, content, process, results, use, and effects, each of which contains various elements and subelements that actors may focus on in valuing the success of a particular policy analysis study (see Table 5.1 at the end of this section). The success elements related to communication were integrated in the category ‘process’ and ‘effects’, resulting in a revised conceptual structure depicted in Figure 5.2.

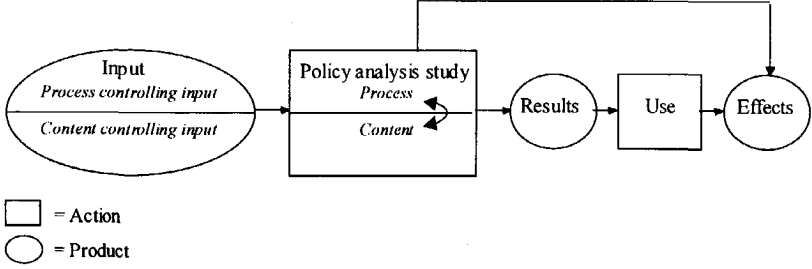


Figure 5.2: Revised conceptual structure

Appendix D includes the empirical data, i.e. the list of success elements that were mentioned by the persons interviewed. This appendix also includes, for each element, an indication of which actor mentioned the element. Finally, the construction of the list from the empirical data is outlined in Appendix D, i.e. if, and how, some elements were reformulated, restructured, and/or combined before they were added to the list in Table 5.1.

It should be noted in this respect that for most actors more than one individual was interviewed. If at least one individual mentioned an element, the element was added to the list. When more than one individual mentioned the element, no extra weight was given to the element. This was done to avoid any bias towards actors for which more than one individual was interviewed.

In appendix E the list of success elements is specified in question form. The restructuring of the list and the major changes made compared to the initial list, in terms of added and/or reformulated success elements, are outlined below.

Changes made to the initial list

Various elements were added to the input category, e.g., the timing of the study and elements related to the parties involved in carrying out the study. The elements related to the assignment were restructured under, and additional elements were added to, 'the initial stages of the study'. Furthermore, the actors interviewed mentioned some additional elements of the data and supporting tools. Characteristics of the formal context and external factors were also added to the list since various actors mentioned that they consider these elements when they value the success of a study.

When referring to the content of a study, the interviewees spoke in terms of 'aspects taken into account', and not in terms of 'alternatives taken into account' and 'criteria taken into account' separately. The two elements were, thus, combined into one. Furthermore, some elements related to the methodology/research approach of the study were added to the initial list. Various other elements were also added to the list, e.g., match between the content of the study and the current state of affairs, balance between complexity and simplicity, and consistency. The applicability of the research approach was moved to the category 'use', since the interviewees mentioned it as such.

The openness, the transparency, and the interactiveness of a policy analysis process appeared to be elements that many actors focus on when valuing the success of a study, and, therefore, the elements were added to the list. The elements 'working agreement' and 'responsibilities' were combined into one, since the interviewees mentioned them in the same breath. Furthermore, the elements under 'finance' and 'personnel' were combined under 'resources'. The actors that mentioned 'being taken seriously' as a success element considered the element to be an effect of the study rather than a process related element, as a result of which the element was recategorized under 'effects'. In terms of the parties involved in the policy analysis study, the interviewees mentioned various elements, including the timing of

involvement, and the selection of the parties. Furthermore, secondary aspects, such as trips to foreign countries and working outings, appeared also to have an impact on whether a study was valued successful.

Most actors referred to the relevance of the results in terms of 'match with policy process and policy needs'. Furthermore, 'match with individual interests', 'match with potential use', and 'match with ongoing developments and current policy' were also added to the list. With respect to the presentation of the results, the form and the clearness appeared not to be the only elements that actors consider in formulating their success perception. The volume of the documents, the readability, the visualizations, and the structure were also mentioned frequently. Furthermore, some actors mentioned the interest shown for, and the valuing of, rather than the acceptance of, the results by various parties at interest. The following elements were also added to the list: the completeness of the results, whether the assumptions and conditions were recorded explicitly, and the content of information in terms of its richness, the presentation of solutions, and the integrality.

It appeared from the interviews that the actors, which mentioned the usage of the study as an indicator for the study's success, referred mainly to the research approach, the insights provided by the study, and the model(s) developed during the study being used by various parties at interest and/or in other studies. With respect to who used the aspects of the study, a distinction could be made between usage by individuals and usage by official organizations. Moreover, various interviewees mentioned the potential use of the study and its results as a success element. The extent of usage and whether the use of a particular model was institutionalized was also added to the list.

Various elements were added to the category 'effects'. Most of these success elements concern the parties at interest:

- Did the study change and harmonize their mental frames?
- Did the study give insights on a wide range of aspects?
- Did the study increase the awareness of responsibilities of the parties involved?
- Did the relationship and communication change among the actors?
- Did the study help in showing the capabilities of particular actors?
- Did the parties that were involved in the problem situation feel that they, and their interests, were taken seriously by the decision makers, as an effect of the study?
- Did the study show others that the problem was taken seriously?

Furthermore, various actors pointed out that they consider the following questions when formulating their success perception of a particular study:

- Did the problem situation change as a result of the study?
- Did important policy documents refer to the results of the study?
- Did the study lead to follow up research?
- Did the study affect the decision and political process, for example by affecting the policy agenda, speeding up the decision process, and/or by directing the policy discussions?

As mentioned above, communication was not retained as a separate category. The communication aspects mentioned by the interviewees directly relate either to the process of the study or to the effects of the study. Consequently, these success elements were classified under 'process' or 'effects'. The communication aspects that were classified under 'process' concerned the availability of information for the actors during the research process, who communicated with whom, and the internal, external, and informal communication. The communication aspects that were classified under 'effects' concern the changes of communication patterns among the parties at interest in the problem situation.

In addition to the changes made to the initial list, two general observations were made. First, various elements related to the methodology and research approach of the study, which are pointed out in the literature as being of great importance to the analytic success of a study, e.g., validity, adequacy, transparency, and clarity of the methodology used (Goeller 1988; Majone & Quade 1980), were not mentioned, or were taken for granted, by the interviewees. Similarly, the consistency and verifiability of the results of a study were not mentioned by the interviewees as elements they consider in valuing the success of a study. The interviewees tended to assume that these aspects were taken care of and did not worry about them when valuing the success of a study. Secondly, the interviewees had a tendency to point out the effects of the study, rather than to focus on who used which aspects of the study for what purpose. In other words, the interviewees mentioned relatively little elements that related to the use of the study or its results.

The next sections contain a description of the analysis of the empirical data. Before this, however, it should be remarked that the elements were treated equally in identifying the differences and similarities among the actors and cases in terms of the success elements mentioned. That is, no distinctions were made among the elements by a hierarchical order or weights assigned to the elements. Moreover, the analysis of the differences and similarities among the actors and cases was focused on individual elements, rather than on categories of elements. As a result of this, the analysis and its findings are independent of the classification of the success elements.

Table 5.1: Structured list of success elements based on the cases and literature

<p>Input</p> <p>Timing</p> <p>Initial stages of setting up the study</p> <p>Reason for initiating the study</p> <p>Process of setting up the study</p> <p>Aim/object of the study</p> <p>Problem formulation</p> <p>Data and supporting tools</p> <p>Availability</p> <p>Quality</p> <p>Completeness</p> <p>Relevance</p> <p>Level of detail</p> <p>Parties involved</p> <p>Trust and reliability among each other</p> <p>Independence among each other</p> <p>Intention to cooperate</p> <p>Expertise</p> <p>Location with respect to each other</p> <p>Hierarchical structure</p> <p>Formal context of the study/surrounding policy process</p> <p>Interwovenness of study and policy process</p> <p>Transparency and clearness of policy process</p> <p>Duration of policy process</p> <p>External factors</p> <p>Content</p> <p>Methodology / Research approach</p> <p>Use of state of the art knowledge</p> <p>Integrating state of the art knowledge</p> <p>Use of input from (public) parties at interest</p> <p>Identification of knowledge gaps</p> <p>Justification</p> <p>Assumptions made</p> <p>Screening alternatives</p> <p>Identification of alternatives and criteria</p> <p>Use of quantitative and qualitative data</p> <p>Attention for uncertainties</p> <p>Validity</p> <p>Verifiability</p> <p>Adequacy</p> <p>Transparency, clarity</p>	<p>Aspects taken into account</p> <p>Broadness</p> <p>Depth</p> <p>Relevance</p> <p>Integrative</p> <p>Completeness</p> <p>Equally treated</p> <p>Match with ongoing developments and projects</p> <p>Innovative character</p> <p>Consistency</p> <p>Balance between complexity and simplicity</p> <p>Process</p> <p>Openness</p> <p>Parties involved</p> <p>Extent of involvement</p> <p>Representativeness of selection</p> <p>Cooperation</p> <p>Attitude towards others</p> <p>Timing of involvement</p> <p>Participation</p> <p>Commitment and support</p> <p>Reason for involvement</p> <p>Interactiveness</p> <p>Duration</p> <p>Transparency</p> <p>Resources</p> <p>Availability</p> <p>Actual versus planned budget</p> <p>Change of personnel</p> <p>Allocation of resources</p> <p>Working agreements and responsibilities</p> <p>Communication</p> <p>Availability of info. among parties involved</p> <p>Who with whom</p> <p>Informal communication</p> <p>Internal communication</p> <p>External communication</p> <p>Secondary aspects</p>
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Table 5.1: Structured list of success elements based on the cases and literature (continued)

Results	Effects
Availability	Parties at interest
Relevance	<ul style="list-style-type: none"> Changed and harmonized mental frames Insights into problem situation and trade offs Insights into match between alternative policy actions and policy goals Insights into decision process Insights into other disciplines Insights into management of complex studies
<ul style="list-style-type: none"> Match with policy process and needs Match with individual interests Match with purpose of the study Match with potential use Match with ongoing developm./current policy Match with problem situation Match with expectations 	<ul style="list-style-type: none"> Increase of awareness of responsibilities Relationships among parties at interest Communication among parties at interest Show ones capabilities Show problem is taken seriously Show one's appreciation Support Being taken seriously Commitment
Presentation	
<ul style="list-style-type: none"> Structured Volume Readability Visualization Form Clearness 	
Explicit recording of assumptions and conditions	Problem situation
Completeness	<ul style="list-style-type: none"> Overcome impasse Working atmosphere
Parties at interest	Implementation policy actions according to analysis
<ul style="list-style-type: none"> Interest shown Value 	Referred to in policy documents
Content of information	Follow up research
<ul style="list-style-type: none"> Richness Solutions presented Integrity 	<ul style="list-style-type: none"> Initiation Directing
Consistency	Decision and political process
Verifiability	<ul style="list-style-type: none"> (Re)formulation policy Political agenda New programs Discussion Speed Decision was taken
Use	Decision/policy
What	<ul style="list-style-type: none"> Quality
<ul style="list-style-type: none"> Research approach Insights Model 	Decision makers
By whom	<ul style="list-style-type: none"> Well founded argumentation for decision
<ul style="list-style-type: none"> Individual level Official organizations 	
Potential use	
Institutionalization	
Extent of usage	
Purpose	

5.3 Actors and success elements

The relationships between the characteristics of the actors interviewed and the success elements they said to consider when evaluating the success of a policy analysis study are explored in this section. The actors interviewed are listed per case study in Table 5.2.

Table 5.2: Actors interviewed per case study

<p>The Dutch Riverdikes study</p> <ol style="list-style-type: none"> 1. Project team 2. Client 3. Boertien Commission 4. Stakeholders 5. Policy makers <p>The FORWARD study</p> <ol style="list-style-type: none"> 6. Analysis team 7. Sub contractors 8. Ministry's team 9. Steering group 10. Informing organizations and stakeholders <p>The IVR study</p> <ol style="list-style-type: none"> 11. Client 12. Main contractor 13. Sub contractors 14. Policy makers 15. Parties involved in RVR 	<p>The SVV Colored In study</p> <ol style="list-style-type: none"> 16. Analysis team 17. Policy makers <p>The CAU study</p> <ol style="list-style-type: none"> 18. Project group 19. Steering group 20. Decision makers 21. Advisory body: EIA working group 22. Advisory body: OVI 23. Advisory body: National Planning Commission 24. Public interest groups
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The empirical data showed that the actors mentioned a broad range of success elements. None of the actors' focus was limited to a particular category of elements, i.e. input, content, process, results, use, and effects. A thorough analysis was carried out to identify relationships between the success elements that the actors mentioned and the characteristics of the actors. As part of the analysis two questions were asked, which are further elaborated in the following two subsections:

1. Which actors are similar in terms of the success elements they mentioned and how, if at all, are these similarities determined by the characteristics of the actors?
2. Which elements were mentioned mutually by actors who have particular characteristics in common?

5.3.1 Similarities among actors

It was expected that, for example, the actors who were involved in carrying out a study, i.e. actors no. 1, 6, 7, 12, 13, 16, and 18, would focus on fairly equal sets of success elements. Similarly, it was expected that the public parties at interest, i.e.

actors no. 4, 10, and 24, would be similar in terms of the success elements they mentioned. Such similarities and/or differences among the actors were studied by comparing the actors in pairs.

Let E_A define the set of success elements that were mentioned by actor A, and E_B the set of success elements that were mentioned by actor B. Then, the similarity and/or difference between actor A and actor B in terms of the success elements they mentioned, is defined as:

$$D_{Ac}(A, B) = |E_A \cap E_B| / |E_A \cup E_B|$$

The size of a set, that is, the number of success elements included in a set, is indicated by $|\dots|$.

In words, the similarity between actor A and actor B was expressed in terms of the number of success elements mentioned by both A and B, relative to the total number of elements mentioned by A and/or B (see Figure 5.3). For example, $D_{Ac}(A, B) > 0,5$ indicates that more than 50% of the success elements that were mentioned by actor A or B were mentioned by both actors.

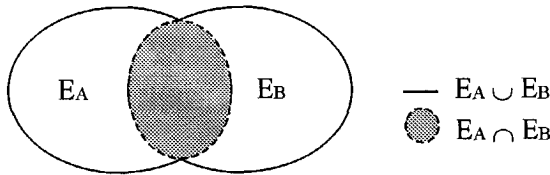


Figure 5.3: Similarity between actors: $D_{Ac}(A, B) = |E_A \cap E_B| / |E_A \cup E_B|$

On the basis of this criterion, however, the empirical data showed few similarities among the actors. Applying a less stringent criterion, $D_{Ac}(A, B) > 0,3$, gave the picture shown in Figure 5.4. The grey blocks indicate the pair of actors (A, B) that are similar according to the criterion $D_{Ac}(A, B) > 0,3$. The values of $D_{Ac}(A, B)$ are given for each pair (A, B), that is, for A, B = 1...24, in appendix F.

Figure 5.4 shows few similarities among the actors over the various cases. No pair of actors, for which the actors related to different studies, showed an overlap of at least 30% of the total set of elements that the two actors mentioned. Using this criterion of similarity, $D_{Ac}(A, B) > 0,3$, only some actors that related to the same case study appeared to be similar in terms of the success elements they mentioned.

Initially, from the literature and from various discussions, it was expected that actors, who have a similar role and involvement in a policy analysis study, would value the success of a policy analysis study, for a large part, on the basis of similar criteria. The results from this research, however, did not confirm this expectation. On the contrary, it showed that none of the actors that related to different studies were very similar in terms of the set of success elements they mentioned. Only actors that related to the same study showed significant similarities.

	Dikes					FORWARD					IVR					SVV CI		CAU						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	■	■	■	■																				
2		■	■	■																				
3			■	■																				
4				■																				
5					■																			
6						■				■	■													
7							■				■	■												
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17																	■	■						
18																		■	■					■
19																			■	■				
20																				■	■			
21																					■	■		
22																						■	■	
23																							■	■
24																								■

Figure 5.4: Similar actors on the basis of $D_{Ac}(A, B) > 0,3$

5.3.2 Common elements within particular groups of actors

Although no large overlaps appeared to exist among the various actors in terms of the success elements they mentioned, it was still possible that a small number of elements typify a particular group of actors. That is, it could be that many actors with similar characteristics mentioned some specific success elements. The focus of this subsection is on identifying the success elements that typify the following groups of actors:

- Actors that were involved in carrying out the analysis, specifically the actors 1, 6, 7, 12, 13, 16, and 18.
- Actors that commissioned and/or steered the study, specifically the actors 2, 8, 9, 11, and 19.
- Actors that were potential users of the results of the study, in particular the policy makers and their advisors, specifically the actors 3, 5, 14, 15, 17, 20, 21, 22, and 23.
- Actors that have a particular interest in the problem situation, specifically the actors 4, 10, and 24.

An element was defined to be typical of a group of actors, if more than 50% of the actors of the group pointed out that they take the element into account in evaluating

the success of a study. Table 5.3 gives an overview of the typical elements of the four groups of actors.

Table 5.3: Typical elements of four particular groups of actors

<p style="text-align: center;">Group I: Actors involved in carrying out the analysis (No. 1, 6, 7, 12, 13, 16, and 18)</p>	<p style="text-align: center;">Group III: Actors that were potential users (No. 3, 5, 14, 15, 17, 20, 21, 22, and 23)</p>
<p>Input</p> <ul style="list-style-type: none"> • Parties involved <ul style="list-style-type: none"> - Expertise <p>Content</p> <ul style="list-style-type: none"> • Aspects taken into account <ul style="list-style-type: none"> - Broadness - Depth <p>Process</p> <ul style="list-style-type: none"> • Parties involved <ul style="list-style-type: none"> - Cooperation <p>Results</p> <ul style="list-style-type: none"> • Relevance <ul style="list-style-type: none"> - Match with policy process and needs <p>Effects</p> <ul style="list-style-type: none"> • Parties at interest <ul style="list-style-type: none"> - Insights into problem situation and trade offs 	<p>Results</p> <ul style="list-style-type: none"> • Relevance <ul style="list-style-type: none"> - Match with policy process and needs
<p style="text-align: center;">Group II: Actors that commissioned and/or steered the study (No. 2, 8, 9, 11, and 19)</p>	<p style="text-align: center;">Group IV: Actors with an interest in the problem situation (No. 4, 10, and 24)</p>
<p>Content</p> <ul style="list-style-type: none"> • Aspects taken into account <ul style="list-style-type: none"> - Broadness <p>Process</p> <ul style="list-style-type: none"> • Openness • Parties involved <ul style="list-style-type: none"> - Cooperation • Duration <p>Results</p> <ul style="list-style-type: none"> • Availability <p>Effects</p> <ul style="list-style-type: none"> • Parties at interest <ul style="list-style-type: none"> - Insights into problem situation and trade offs - Support 	<p>Input</p> <ul style="list-style-type: none"> • Timing <p>Content</p> <ul style="list-style-type: none"> • Aspects taken into account <ul style="list-style-type: none"> - Broadness <p>Process</p> <ul style="list-style-type: none"> • Openness • Duration <p>Results</p> <ul style="list-style-type: none"> • Availability <p>Effects</p> <ul style="list-style-type: none"> • Parties at interest <ul style="list-style-type: none"> - Changed and harmonized mental frames - Increase of awareness of responsibilities - Support

Within the group of actors that carried out the analysis, more than 50% of the actors mentioned the broadness and the depth of the aspects taken into account in the analysis. More than 50% of the actors also focused on the expertise of the involved research organizations. With respect to the process, the cooperation among the actors, in particular among the research organizations and between the analysts and

the client organization, was identified as a typical element of the analysts. Furthermore, according to more than 50% of the actors of this group, a study is successful if its results match with the policy process and with the needs of the policy makers. The study should also provide insights into the problem situation and the possible trade offs to be made.

Similar to the analysts, more than 50% of the actors, who commissioned and/or steered a study, focus on the broadness of the aspects taken into account in a study. With respect to the process, more than 50% of these actors mentioned that the openness, the duration, and the mutual cooperation are success elements that need to be considered. The results of the study should be available in time according to more than 50% of the actors of this group, and the study should provide insights into the policy situation and into possible trade offs to be made. More than 50% of the actors also mentioned that the study should increase public support for decisions and actions to be taken by the competent authorities.

The actors that were potential users of the results of a study, in particular the policy makers and their advisors, did not show much similarity. Although these actors individually mentioned a broad range of success elements, only one element was mentioned by more than 50% of these actors: the results of the study should match with the policy process and the needs of the policy makers.

Most actors that have a particular interest in a problem situation held the opinion that the timing of the study makes a difference to the success of the study. Similar to the other actor groups, these actors mentioned that a study is successful if a broad range of relevant aspects is taken into account. This group agreed with group II, i.e. the actors who commissioned and/or steered a study, that the openness of the study, the duration of the study, and the availability of the results should be considered in evaluating a study's success. In terms of effects, more than 50% of this group of actors mentioned the following success elements: whether the study changed and harmonized the mental frames of the parties involved, whether the study increased the awareness of the responsible organizations, and whether the study increased the public support for policy actions to be implemented.

For the groups I, II, and IV, approximately 7 typifying success elements were identified, while for the potential users, i.e. group III, only one typifying success element was identified. Furthermore, Table 5.3 shows that there are overlaps over the typifying elements of the four groups of actors. For example, the openness of the study, the duration of the study, and the availability of the results were mentioned by more than 50% of the actors within the groups of clients and steering groups and public interest groups. Similarly, more than 50% of the actors of group I, II, and IV mentioned that a broad range of aspects should be taken into account in a study. In addition, in both group I and group II, more than 50% of the actors measured the success of a study in terms of the cooperation among the parties involved and whether the study provided insights into the problem situation and the possible trade offs to be made. In other words, many of the identified typifying elements appeared not to be distinguishing among the four groups of actors.

There are only a few discriminating typical elements for the actor groups: the expertise of the involved research organizations and the depth of the analysis distinguish group I from the other groups, and the timing of the study and whether the study changed and harmonized the mental frames distinguish group IV from the other groups.

5.3.3 Conclusions

Overall, the empirical data showed minor similarities among the actors in terms of the success elements they mentioned. A more significant similarity was shown among actors related to the same study (see Figure 5.4).

Furthermore, the typical elements of four groups of actors were analyzed: (I) actors that were involved in carrying out the analysis, (II) actors that commissioned and/or steered the study, (III) actors that were potential users of the results of the study, and (IV) actors that had a particular interest in the problem situation. For each group, the success elements were identified that were mentioned by more than 50% of the actors within the group.

It was shown from the empirical data that the set of typifying elements of each group is small; for three groups approximately seven typifying elements were identified, while for the other group only one typical success element was identified (see Table 5.3). Many elements that were mentioned by more than 50% of the actors in a particular group also appeared to be mentioned by more than 50% of the actors of one or more of the other groups, particularly the broadness of the aspects taken into account, the cooperation among parties involved, the openness and duration of the study, the availability and relevance of the results, and the insights provided by the study in the problem situation. These elements were not found to be discriminating among the four groups of actors; there are very few discriminating typical elements for the actor groups.

5.4 Cases and success elements

The empirical data led to an overview of elements that actors use, or might use, to evaluate the success of a study, and of which actors mentioned which success elements (see Figure 5.5). The central question analyzed in this section is whether, and if so, how the set of success elements that an actor considers is determined by the characteristics of the study concerned, and/or by the characteristics of the study's context.

Such relationships were identified and described by the following two phases:

1. describe the differences, and similarities among the cases in terms of the characteristics of the studies and the studies' contexts
2. define and identify the main differences, and similarities among the cases in terms of the success elements that were mentioned by the actors interviewed

The characteristics of the cases, i.e. the characteristics of the studies and the characteristics of the studies' contexts, were described in Chapter 4. Thus, the first phase was carried out in the previous chapter. In Table 5.4 a summary of these characteristics is given.

It should be noted that some extra characteristics were taken into account in addition to the characteristics listed in Table 3.5. On the basis of the empirical research it appeared that some additional characteristics might be of influence on the set of success elements that actors consider. Consequently, the status of a policy analysis study was expressed in terms of the importance of the study to the analysts, in addition to the formal status within a particular policy process. Furthermore, the visibility of the problem situation and the involvement of various ministries to the public were added to the list of characteristics. The size of a policy analysis study was also measured in terms of the direct involvement of other, non-research organizations in carrying out the study. The nature of the study was also expressed in terms of whether the study's results included concrete policy recommendations.

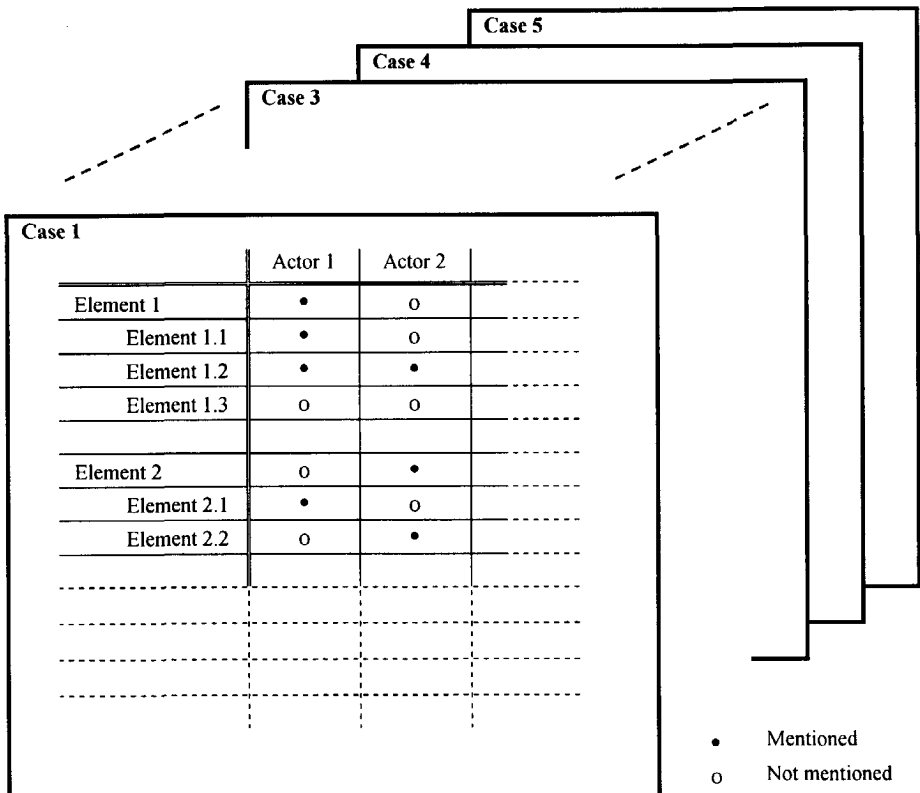


Figure 5.5: Overview of the five case studies

Table 5.4: Overview of the characteristics of the five case studies

	Dutch Riverdikes	FORWARD	IVR	SVV Colored In	CAU
Context					
<i>Problem situation</i>					
• Scope	National concern	National concern	Regional to national concern	National concern	Regional to national concern
• Orientation	Policy & action	Policy	Policy	Policy	Decision & action
• Complexity	Complex	Complex	Complex	Complex	Complex
• Uncertainty: - Clarity policy goals - Future developments - Effects of policy measures	- Unclear - Uncontrollable natural developm - Uncertain	- Clear & stable - No uncontrollable natural developm. - Uncertain	- Clear, but unstable - Uncontrollable natural developm. - Uncertain	- Clear & stable - No uncontrollable natural developm. - Uncertain	- Unclear - No uncontrollable natural developm. - Uncertain
• Attitude of actors	Impasse	No impasse	No impasse	No impasse	No impasse
<i>Analyst's milieu</i>					
• Status of the study: - Formal status - Importance to analysts	- No formal status - Particular importance	- No formal status - Particular importance	- No formal status - No particular importance	- No formal status / 'unasked advice' - Particular importance	- Formal status - Particular importance
• Decision makers involved - Problem situation - Analysis - Visibility	- Various ministries - No direct involvement - Very visible	- Various ministries - Involved - Not very visible	- Various ministries - No direct involvement - Not very visible	- Various ministries - No direct involvement - Not very visible	- Various ministries - Involved - Very visible
• Availability/use data & research approach - Data sources - Model development	- Technical data & from parties at interest - Not central	- Technical, substantive data - Central	- Technical, substantive data - Central	- Technical, substantive data - Central	- Technical data & from parties at interest - Not central

Table 5.4: Overview of the characteristics of the five case studies (continued)

	Dutch Riverdikes	FORWARD	IVR	SVV Colored In	CAU
Policy analysis study					
<ul style="list-style-type: none"> • Size - Duration - Research organizations - Others involved in the study 	<ul style="list-style-type: none"> - Small: 3-4 months - Large variety - Others: stakeholders 	<ul style="list-style-type: none"> - Average: 2-3 years - Small variety - Others: members of the ministry 	<ul style="list-style-type: none"> - Average: 2-3 years - Large variety - No others 	<ul style="list-style-type: none"> - Small: 3-4 months - Small variety - No others 	<ul style="list-style-type: none"> - Average: 2-3 years - Large variety - Others: parties at interest
<ul style="list-style-type: none"> • Complexity 	Complex	Complex	Complex	Not complex	Complex
<ul style="list-style-type: none"> • Nature of the study - Openness 	<ul style="list-style-type: none"> - Analytic effort & open, interactive process 	<ul style="list-style-type: none"> - Closed, analytic effort 	<ul style="list-style-type: none"> - Closed, analytic effort 	<ul style="list-style-type: none"> - Closed, analytic effort 	<ul style="list-style-type: none"> - Analytic effort & open, interactive process
<ul style="list-style-type: none"> - Recommending 	<ul style="list-style-type: none"> - No recommendations 	<ul style="list-style-type: none"> - No recommendations 	<ul style="list-style-type: none"> - No recommendations 	<ul style="list-style-type: none"> - Concrete policy recommendations 	<ul style="list-style-type: none"> - No recommendations
<ul style="list-style-type: none"> • Research approach 	All cases are different in terms of the research approach				
<ul style="list-style-type: none"> • Orientation 	Providing objective information & improving mutual understanding, relationships, support, etc.	Providing objective information	Providing objective information	Providing objective information	Providing objective information & improving mutual understanding, relationships, support, etc.

A thorough approach was developed and applied to carry out the second phase. First, the possible groupings of the five cases, i.e. clusters of cases, were identified (see Section 5.4.1). Second, a quantity for measuring the differences and similarities among the clusters of cases in terms of the success elements that actors mentioned was defined (see Section 5.4.2). Third, the measure was applied to the various clusters of cases to identify the cases that differ the most, and the cases that are very similar, in terms of the success elements that actors consider in evaluating the success of a study (see Section 5.4.3). A synthesis of the results of these three steps, together with the characteristics of the cases as summarized in Table 5.4, is given in Section 5.4.4. The question how, if at all, the set of success elements that an actor

considers relates to the characteristics of the study concerned, and/or the characteristics of the study's context is answered in Section 5.4.4.

5.4.1 Clusters of cases

The five case studies can be clustered into fifteen groupings of case studies. Table 5.5 shows the fifteen possible clusterings, represented by cluster X versus cluster Y. Furthermore, in Table 5.5, and hereinafter, the following abbreviations are used:

- D = the Dutch Riverdikes study
- F = the FORWARD study
- I = the IVR study
- S = the SVV Colored In study
- C = the CAU study

Table 5.5: Clusterings of cases

No.	Cluster X	↔	Cluster Y
1	D	↔	F, I, S, C
2	F	↔	D, I, S, C
3	I	↔	D, F, S, C
4	S	↔	D, F, I, C
5	C	↔	D, F, I, S
6	D, F	↔	I, S, C
7	D, I	↔	F, S, C
8	D, S	↔	F, I, C
9	D, C	↔	F, I, S
10	D, F, I	↔	S, C
11	D, F, S	↔	I, C
12	D, F, C	↔	I, S
13	D, I, S	↔	F, C
14	D, I, C	↔	F, S
15	D, S, C	↔	F, I

The aim was to identify the clusterings for which the two clusters of case studies show significant differences in terms of the success elements mentioned.

Some clusterings relate to the differences in the characteristics observed of the studies and the studies' contexts (see Table 5.6). As shown in Table 5.6, for example, various characteristics underlie the clustering D and C versus F, I, and S. The cases D and C differ from the other three cases in terms of the orientation of the problem situation, the clarity of the policy goals, the visibility of the involvement of the decision makers, the types of data sources used, the openness of the research process, and the orientation of the study. Consequently, it was intuitively expected that clustering 9 (D and C versus F, I and S) would show a large difference in terms of the elements that actors consider in valuing the success of a policy analysis study. For example, on the basis of the differences in characteristics between the two

clusters, it could be assumed that the actors of D and C would emphasize, more than the other actors, process and effects related elements.

In the next subsection a measure is defined for analyzing the differences and similarities between clusters of cases in terms of the success elements that actors mentioned.

Table 5.6: Clusterings of cases in relation to the characteristics of the cases

No.	Clusterings	Distinction in terms of the characteristics of the cases
1	D ↔ F, I, S, C	<ul style="list-style-type: none"> Attitude of actors (<i>Impasse ↔ No impasse</i>)
2	F ↔ D, I, S, C	
3	I ↔ D, F, S, C	<ul style="list-style-type: none"> Status of the study: <ul style="list-style-type: none"> Importance to analysts (<i>No particular importance ↔ Particular importance</i>)
4	S ↔ D, F, I, C	<ul style="list-style-type: none"> Nature of the study: <ul style="list-style-type: none"> Recommending (<i>Concrete policy recommendations ↔ No recommendations</i>) Complexity of the study (<i>Not complex ↔ Complex</i>)
5	C ↔ D, F, I, S	<ul style="list-style-type: none"> Status of the project in policy process: <ul style="list-style-type: none"> Formal status (<i>Formal status ↔ No formal status</i>)
6	D, F ↔ I, S, C	
7	D, I ↔ F, S, C	<ul style="list-style-type: none"> Uncertainty: <ul style="list-style-type: none"> Controllability nature developments (<i>Uncontrollable events ↔ No uncontrollable events</i>)
8	D, S ↔ F, I, C	<ul style="list-style-type: none"> Size: <ul style="list-style-type: none"> Duration (<i>3-4 months ↔ 2-3 years</i>)
9	D, C ↔ F, I, S	<ul style="list-style-type: none"> Orientation of the problem situation (<i>Action ↔ Policy</i>) Uncertainty: <ul style="list-style-type: none"> Clarity policy goals (<i>Unclear ↔ Clear</i>) Decision makers: <ul style="list-style-type: none"> Visibility of problem situation and involvement decision makers (<i>Visible ↔ Invisible</i>) Availability & use data and research approach: <ul style="list-style-type: none"> Data sources (<i>From parties at interest ↔ Technical, substantive data</i>) Nature of the study: <ul style="list-style-type: none"> Openness (<i>Open, interactive process ↔ Closed, analytic effort</i>) Orientation of the study (<i>Improving mutual understanding ↔ Providing objective info.</i>)
10	D, F, I ↔ S, C	
11	D, F, S ↔ I, C	<ul style="list-style-type: none"> Scope (<i>National concern ↔ Regional to national concern</i>)
12	D, F, C ↔ I, S	<ul style="list-style-type: none"> Size: <ul style="list-style-type: none"> Organizations other than research organizations involved (<i>Yes ↔ No</i>)

Table 5.6: Clusterings of cases in relation to the characteristics of the cases (continued)

13	D, I, S ↔ F, C	<ul style="list-style-type: none"> Decision makers: <ul style="list-style-type: none"> Involvement in analysis (<i>Not directly involved ↔ Directly involved</i>)
14	D, I, C ↔ F, S	<ul style="list-style-type: none"> Size: <ul style="list-style-type: none"> Variety of research organizations involved in study (<i>Large variety ↔ Small variety</i>)
15	D, S, C ↔ F, I	<ul style="list-style-type: none"> Availability & use data and research approach: <ul style="list-style-type: none"> Model development (<i>Model development not central ↔ Model development central</i>)

Note: D = the Dutch Riverdikes study; F = the FORWARD study; I = the IVR study; S = the SVV Colored In study; C = the CAU study

5.4.2 Measures for the difference between clusters of cases

The sets of success elements formed the starting point for defining a quantity to measure differences and similarities between clusters of cases. For a particular clustering of cases, represented by cluster X versus cluster Y, let

E_X = the set of elements that were mentioned by the actors related to the cases of cluster X

E_Y = the set of elements that were mentioned by the actors related to the cases of cluster Y

For example, X represents the grouping of the cases D and C, and Y represents the grouping of the other three cases, i.e. F, I, and S. The two sets E_X and E_Y might overlap. In other words, it is possible that various success elements that were mentioned by one or more actors of cluster X were also mentioned by one or more actors of cluster Y (see Figure 5.6).

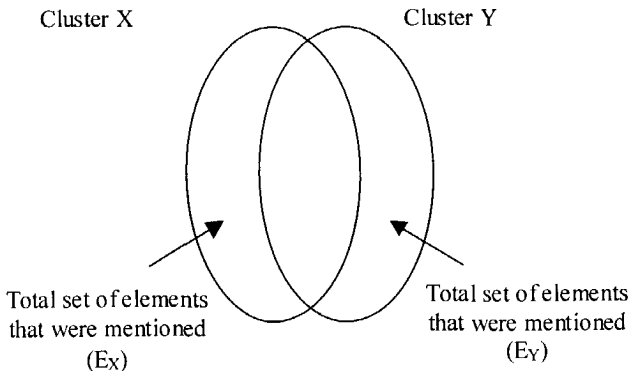


Figure 5.6: Clusters of cases and the sets of success elements mentioned

Within a cluster, the number of actors that mentioned a particular element can differ. Some elements were mentioned by various actors, while other elements were mentioned by only one actor of the cluster. The set of elements that were frequently mentioned, that is, by various actors, is a subset of E_X and indicated by E_{Xf} . Let

E_{Xf} = the set of elements that were mentioned frequently by actors related to the cases that are part of cluster X; $E_{Xf} \subseteq E_X$

E_{Yf} = the set of elements that were mentioned frequently by actors related to the cases that are part of cluster Y; $E_{Yf} \subseteq E_Y$

The set E_{Xf} is the set of elements that is representative of the cases that are part of cluster X, while the set E_{Yf} is the set of elements that is representative of the cases that are part of cluster Y (see Figure 5.7).

The sets E_{Xf} and E_{Yf} were used as a basis for measuring the difference between a cluster X and corresponding cluster Y. The sets E_{Xf} and E_{Yf} were used, rather than the sets E_X and E_Y , to exclude ‘accidental’ elements, that is, success elements that were mentioned by only a very small number of actors.

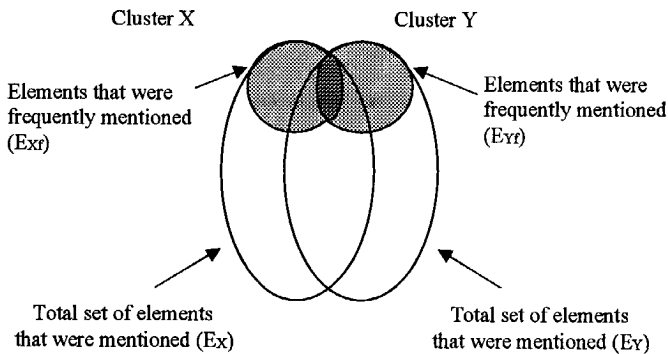


Figure 5.7: Clusters of cases and the sets of (frequently) mentioned success elements

The subset of E_{Xf} and E_{Yf} (shown by the dark grey area in Figure 5.7) represents the overlap of success elements that were frequently mentioned. Consequently, the size of the overlap, i.e. the number of elements in the subset of E_{Xf} and E_{Yf} , indicates the difference and/or similarity between the clusters X and Y. To give an indication of the relative size of the subset and form a good quantity for measuring the difference and/or similarity between cluster X and Y, the size of the overlap needs to be normalized. Two possible normalizations are:

- Compare the size of the subset of E_{Xf} and E_{Yf} to the size of the total set of elements that were mentioned (indicated by the total area in Figure 5.7).
- Compare the size of the subset of E_{Xf} and E_{Yf} to the size of the total set of elements that were mentioned by various actors belonging to either X or Y (indicated by the light grey area in Figure 5.7).

In abstract terms, the following measures to indicate the difference and similarity between X and Y were defined:

$$D_1(X, Y) = |E_{Xf} \cap E_{Yf}| / |E_X \cup E_Y|$$

$$D_2(X, Y) = |E_{Xf} \cap E_{Yf}| / |E_{Xf} \cup E_{Yf}|$$

No clear advantages or disadvantages of one measure above the other could be determined. Therefore, both measures were used in the following steps. Before applying the measures $D_1(X, Y)$ and $D_2(X, Y)$, however, the sets E_X and E_{Xf} (respectively, E_Y and E_{Yf}) needed to be specified in more detail:

$E_X(E_Y)$ = the set of elements that were mentioned by at least M_c actors per case in cluster X (Y)

$E_{Xf}(E_{Yf})$ = the set of elements that were mentioned by at least F_c actors per case in cluster X (Y)

where $F_c > M_c$.

A problematic aspect with respect to these specifications was that different numbers of actors were interviewed per case. Five different actors were interviewed concerning the cases Riverdikes, FORWARD, and IVR; only two actors related to the SVV Colored In study were interviewed; seven actors were contacted with respect to the CAU study. For example, let cluster X consist of the SVV Colored In study and $M_c = 2$. The definition of E_X given above, implies that an element is part of E_X , only if two of the two actors interviewed concerning the SVV Colored In study, i.e. 100% of the actors, mentioned the element. If cluster X consisted of the CAU study, however, only two of the seven, that is, only 29% of the actors related to the CAU study need to have mentioned the element to be part of E_X . Therefore, the specifications of the sets E_X and E_{Xf} (respectively, E_Y and E_{Yf}) were adjusted to account for the relative number of actors that mentioned a particular success element, and the following definitions were used:

$E_X(E_Y)$ = the set of elements that were mentioned by at least M_a % of the actors related to cluster X (Y)

$E_{Xf}(E_{Yf})$ = the set of elements that were mentioned by at least F_a % of the actors related to cluster X (Y)

Appendix G includes tables that show for each clustering (X, Y), for each element of the list, the percentage of the actors of cluster X and the percentage of the actors of cluster Y that mentioned the element. For a given M_a and F_a , the sets E_X and E_{Xf} (respectively, E_Y and E_{Yf}) can be constructed from these tables for each of the fifteen clusterings.

An example

Let cluster X represent the cases Riverdikes, SVV Colored In, and the CAU study, and, consequently, let cluster Y represent the cases FORWARD and IVR. The cases of cluster X are cases in which either no model was developed during the study, or in which the model development was not a central element of the study. The cases of cluster Y are cases in which model development was a central element. The clustering is indicated by no. 15 in Table 5.6. In total, 14 (=5+2+7) actors were interviewed with respect to the cases of cluster X and 10 (=5+5) actors were interviewed with respect to the cases of cluster Y.

Let $M_a = 5$, implying that the set E_X includes the elements that were mentioned by at least 5% of the actors of cluster X. In absolute terms this is equal to at least 1 of the

14 actors of cluster X. The set E_Y includes, on the basis of $M_a = 5$, the elements that were mentioned by at least 1 out of the 10 actors of cluster Y. Furthermore, let $F_a = 30$, which means that the sets E_{Xf} and E_{Yf} include the success elements that were mentioned by at least 30% of the actors of cluster X, respectively cluster Y. This implies that an element is part of the set E_{Xf} if at least 4 actors mentioned the element, and an element is part of the set E_{Yf} if at least 3 actors mentioned the element.

Using these figures, then

$$\begin{array}{ll}
 |E_X| & = 93 & |E_{Xf}| & = 10 \\
 |E_Y| & = 66 & |E_{Yf}| & = 31 \\
 |E_X \cup E_Y| & = 115 & |E_{Xf} \cap E_{Yf}| & = 6 \\
 |E_X \cap E_Y| & = 44 & |E_{Xf} \cup E_{Yf}| & = 35
 \end{array}$$

and

$$D_1(X, Y) = |E_{Xf} \cap E_{Yf}| / |E_X \cup E_Y| = 0,05$$

$$D_2(X, Y) = |E_{Xf} \cap E_{Yf}| / |E_{Xf} \cup E_{Yf}| = 0,17$$

These indicators for the difference between the clusters X and Y do not have any meaning without comparing them with the values of D_1 and D_2 of the other fourteen clusterings. After all, the question is which of the clusterings lead to a large and demonstrable difference in terms of the set of elements that actors use to evaluate the success of a study. Table 5.7 shows, in ranking order, the values of D_1 and D_2 of the fifteen clusterings. The smaller $D_1(X, Y)$, respectively $D_2(X, Y)$, the larger the difference between cluster X and cluster Y in terms of the success elements mentioned by the actors.

**Table 5.7: Clusterings in ranking order on the basis of D_1 and D_2 ;
 $M_a = 5, F_a = 30$**

No. Clustering	$D_1(X, Y)$	No. Clustering	$D_2(X, Y)$
3	0,04	6	0,14
5	0,04	4	0,15
6	0,04	3	0,16
1	0,05	15	0,17
2	0,05	2	0,18
8	0,05	11	0,21
11	0,05	7	0,23
12	0,05	1	0,23
15	0,05	12	0,25
7	0,06	9	0,26
10	0,06	5	0,28
14	0,06	14	0,28
4	0,06	8	0,29
9	0,07	13	0,31
13	0,07	10	0,35

From this analysis it appeared that, using either D_1 or D_2 , clustering 15 does not appear at the top 3 of the clusterings with the largest difference. From this it may be concluded that the discriminating characteristic between the two clusters, i.e. whether or not model development was a central element in the study, is not one of the leading factors influencing the set of elements that actors consider in valuing the success of a policy analysis study.

Furthermore, the table shows that the clusterings 1, 2, 3, 4, and 5 appear in the top 5 of at least one of the lists. These clusterings represent single cases, i.e. Riverdikes, FORWARD, IVR, SVV Colored In, and CAU, versus the other four case studies. The Riverdikes study differs from the other four cases because of the attitude of the parties at interest; for the Riverdikes study the situation was at an impasse. The IVR study differs from the other four cases because the study was of no particular importance to the analysts, while the other four cases were. The SVV Colored In study differs from the other four cases because concrete policy recommendations were given, and the study was not very complex compared to the other four case studies. The CAU study had a formal status within a policy process, while the other studies had not. The FORWARD study does not differ from the other studies in terms of the characteristics observed. The fact that clusterings representing individual cases opposed to the other cases appear on the top might indicate that each case is unique, including its characteristics and the set of elements that actors consider to value the study's success. Clustering 6, which appeared at the top 3 of both lists, does not relate to a difference in the characteristics that were observed in this study. Clustering 9 was expected to show the largest difference because the clusters differ in terms of many characteristics, and, therefore, was to appear on top of the lists. The clustering appeared, surprisingly, below on the list that is based on measure D_1 and halfway on the list that is based on measure D_2 .

In the example above, a particular combination of values for M_a and F_a was used. It is conceivable, however, that different values for M_a and F_a lead to different rankings of the clusterings. The next subsection includes a description of a sensitivity analysis, using various values of M_a and F_a in applying the measures D_1 and D_2 to the fifteen clusterings, to study whether, and if so, how the values of M_a and F_a influence the ranking of the clusterings.

5.4.3 Application of the measures for the difference between clusters of cases

A cluster is a grouping of 1, 2, 3, or 4 cases. The number of actors interviewed with respect to a particular case is 2, 5, or 7 actors, depending on the case. Consequently, the number of actors related to a cluster ranges from 2 to 22.

For various values of M_a and F_a the measures $D_1(X, Y)$ and $D_2(X, Y)$ were calculated for the fifteen clusterings. The measure $D_2(X, Y)$ was calculated for various values F_a ranging from 20 to 55 (see Table 5.8). The measure $D_1(X, Y)$ was calculated for the same values of F_a , where M_a takes the values of 5, 10, and 15.

Table 5.8: Values for F_a

F_a
20
25
30
35
40
45
50
55

Using $M_a = 5$ implies that the set E_X consists of the elements that were mentioned by at least 1 actor related to cluster X. For $M_a = 10$, respectively for $M_a = 15$, the 'exceptions' are eliminated. That is, for $M_a = 10$ and for $M_a = 15$ the elements were filtered out of the set E_X that were mentioned by only 1 actor related to a cluster for which more than 10 actors were interviewed. For $M_a = 15$, the elements that were mentioned by up to 3 actors related to the largest cluster with 22 actors are filtered out additionally from E_X .

The larger the value for F_a , the smaller the subset E_{Xf} . For example, for cluster 7, $M_a = 5$ and $F_a = 20$, the set E_{Xf} includes approximately 40% of the success elements in E_X . For $M_a = 5$ and $F_a = 55$, the set E_{Xf} includes approximately 5% of the elements in E_X . For $F_a > 55$, the set E_{Xf} becomes empty for various clusters, implying that no elements were mentioned by more than 55% of the actors related to cluster X.

Table 5.9 shows the list of clusterings (X, Y) in ranking order on the basis of $D_2(X, Y)$ for the eight values of F_a . The tables 5.10 - 5.12 show the lists of clusterings (X, Y) in ranking order on the basis of $D_1(X, Y)$. The clusterings that show the largest difference between cluster X and cluster Y appear on top of the lists. (The smaller $D_1(X, Y)$, respectively $D_2(X, Y)$, the larger the difference between cluster X and cluster Y in terms of the success elements mentioned by the actors.)

Table 5.9: Clusterings (X, Y) in ranking order on the basis of $D_2(X, Y)$

$F_a = 20$	$F_a = 25$	$F_a = 30$	$F_a = 35$	$F_a = 40$	$F_a = 45$	$F_a = 50$	$F_a = 55$
12	3	6	6	6	10	4	1
3	4	4	15	3	4	6	4
5	6	3	2	1	1	7	6
11	12	15	4	2	6	9	7
6	5	2	9	4	8	10	9
4	1	11	3	15	11	12	10
1	2	7	11	9	12	14	12
15	11	1	1	7	9	1	14
9	8	12	12	11	13	3	3
2	7	9	14	8	14	2	2
10	15	5	10	12	15	8	8
13	14	14	13	14	3	5	5
14	10	8	7	10	5	11	11
8	9	13	5	13	2	15	15
7	13	10	8	5	7	13	13

Note: The numbers refer to the numbers of the clusterings (X, Y) given in Table 5.5.

Table 5.10: Clusterings (X, Y) in ranking order on the basis of $D_1(X, Y)$; $M_a = 5$

$F_a = 20$	$F_a = 25$	$F_a = 30$	$F_a = 35$	$F_a = 40$	$F_a = 45$	$F_a = 50$	$F_a = 55$
3	3	3	6	6	10	4	1
1	1	5	9	1	1	6	4
5	5	6	10	2	5	7	6
12	11	1	11	3	6	9	7
2	2	2	15	7	7	10	9
6	6	8	2	10	8	12	10
11	12	11	13	15	9	14	12
4	9	12	1	9	11	1	14
10	13	15	3	11	12	2	2
13	4	7	5	5	13	3	3
15	7	10	7	8	14	5	5
8	8	14	8	13	15	8	8
9	10	4	12	12	4	11	11
7	15	9	14	14	2	13	13
14	14	13	4	4	3	15	15

Note: The numbers refer to the numbers of the clusterings (X, Y) given in Table 5.5.

**Table 5.11: Clusterings (X, Y) in ranking order on the basis of $D_I(X, Y)$;
 $M_a = 10$**

$F_a = 20$	$F_a = 25$	$F_a = 30$	$F_a = 35$	$F_a = 40$	$F_a = 45$	$F_a = 50$	$F_a = 55$
5	3	5	10	6	10	4	1
3	5	6	11	10	5	6	4
1	1	3	9	1	8	7	6
11	12	8	15	2	14	9	7
2	2	1	2	3	1	10	9
4	10	10	6	15	12	12	10
12	4	2	5	7	13	14	12
10	11	15	13	11	11	5	14
8	8	4	1	9	9	8	5
13	13	12	3	5	4	1	8
9	14	7	8	8	15	2	2
6	6	14	14	13	6	3	3
14	9	11	4	4	7	13	13
15	15	13	12	14	2	11	11
7	7	9	7	12	3	15	15

Note: The numbers refer to the numbers of the clusterings (X, Y) given in Table 5.5.

**Table 5.12: Clusterings (X, Y) in ranking order on the basis of $D_I(X, Y)$;
 $M_a = 15$**

$F_a = 20$	$F_a = 25$	$F_a = 30$	$F_a = 35$	$F_a = 40$	$F_a = 45$	$F_a = 50$	$F_a = 55$
3	3	3	11	6	10	4	1
1	1	1	9	1	13	6	4
2	11	2	10	2	1	7	6
11	2	11	15	3	11	9	7
12	5	5	6	10	9	10	9
5	13	6	13	15	12	12	10
13	9	15	2	7	15	14	12
4	12	12	1	11	14	13	14
6	4	4	3	9	5	1	13
9	6	8	5	13	6	2	2
10	10	13	4	5	8	11	11
15	8	9	12	8	7	3	3
8	15	10	14	4	4	15	15
14	7	14	8	12	2	5	5
7	14	7	7	14	3	8	8

Note: The numbers refer to the numbers of the clusterings (X, Y) given in Table 5.5.

The tables 5.10 through 5.12 show that the different values for M_a , i.e. 5, 10, and 15, did not change the clusterings that appear on top very much, when using the measure D_I . That is, for a particular value of F_a the ranking, in particular the top 5 of

clusterings, is fairly robust. For example, for $F_a = 35$, the clusterings 6, 9, 10, 11, and 15 appeared on top for $M_a = 5, 10$ and 15.

A comparison of the rankings on the basis of the two different measures, D_1 and D_2 , also did not show large contrarities. For most values of F_a , at least 4 of the clusterings that appeared in the top six on the basis of measure D_1 , appeared also in the top six on the basis of measure D_2 . For example, for $F_a = 50$, the clusterings 4, 6, 7, 9, 10, and 12 appeared on top, even in the same ordering.

Changing the values of F_a , however, had a larger impact on the ordering of the clusterings. Increasing the value for F_a moved the clusterings of single cases, i.e. clustering 1, 2, 3, 4, and 5, downwards on the list. A plausible explanation is that a large value for F_a implies that an element is part of the set E_{Xf} , if a large percentage of the actors of cluster X mentioned the element. For example, in the case where the cluster consists of only 1 case study for which 5 actors were interviewed, the value $F_a = 45$ implies that an element is part of the set E_{Xf} , if at least 3 of the 5 actors mentioned the element. It is very likely that 9 of the 19 actors of the corresponding cluster Y also mentioned the elements, leading to an overlap between E_{Xf} and E_{Yf} as large as the set E_{Xf} . Consequently, the relatively large overlap between the two sets made the clustering move down the list.

Looking over all the values of F_a , the clusterings 1, 2, and 3 appeared frequently on top, indicating that the three individual cases, i.e. R, F, and I, are dissociated from the other cases in terms of the sets of elements that were mentioned by the corresponding actors. Clustering 4, which distinguishes the SVV Colored In study from the other four cases, moved down on the list for increasing F_a , up to $F_a = 50$. From that point, clustering 4 jumped to the top of the list, indicating a large difference between the individual case S and the other four cases. The jump can be explained by the fact that only 2 actors were interviewed concerning the SVV Colored In study. Consequently, the values 0, 50, and 100 were the only relevant values for F_a with respect to this case study; an element was mentioned by only 0%, 50%, or 100% of the 2 actors interviewed. Setting F_a to 50, showed that the individual case S is also dissociated from the other cases in terms of the sets of elements that were mentioned by the corresponding actors. Clustering 5 stayed relatively low on the list, in particular for larger values of F_a . This can be explained by the fact that the actors interviewed with respect to the CAU study were not so much in line with each other as the actors within the other studies (see Section 5.3). Not many success elements were mentioned by a large percentage of the actors of the CAU study.

In addition to the clusterings in which an individual case is distinguished from the other cases, clustering 6 appeared frequently on top of the list. This clustering groups the cases D and F versus the others. The clustering does not relate, however, to a difference or similarity among the characteristics observed in this research. Looking at the data in more detail, it appeared that, surprisingly, no large overlap existed between the set of elements mentioned by the actors interviewed with respect to the Dutch Riverdikes study and the set of elements mentioned by the

actors interviewed with respect to the FORWARD study. Upon closer inspection, the reason why clustering 6 still came into view on top of the list appeared to be that, within each of the two individual cases, many actors mentioned the same elements. For example, 80% of the five actors related to the Dutch Riverdikes study mentioned timing as a success element. None of the five actors related to the FORWARD study mentioned this element. When the two cases were combined into a cluster X, 40% of the actors related to cluster X still mentioned the element timing. Consequently, the element was included in the set E_{Xf} for $F_a \leq 40$. In other words, the similarity *within* the individual cases, and not the similarity *between* the two cases, explains why clustering 6 appeared frequently on top of the list.

5.4.4 Conclusions

A summary was given of the characteristics of the studies and their context in this section. The differences and/or similarities among the cases were defined and analyzed in terms of the sets of success elements that actors mentioned during the interviews.

The analysis of the empirical data did not reveal clear relationships between the sets of success elements on the one hand, and the characteristics of the studies and their context on the other. The factors observed did not appear to determine the set of success elements that actors focus on when evaluating a study. Rather, the individual cases are dissociated from the other cases in terms of the success elements.

In Section 5.3 it was shown that there are minor similarities among the actors in terms of the success elements they mentioned. Only actors that relate to the same study showed significant similarities, leading to the same conclusion that individual cases are dissociated from the other cases.

As a result, the empirical data gave reason to believe that each case is unique and that the unique characteristics of a case determine the success elements that actors consider. Furthermore, the success perceptions of the actors result from their observations, which are constructed and reconstructed in communication with other actors related to the same study. This might be the reason that only actors that relate to the same study showed similarities.

The focus of the next section, Section 5.5, is on the uniqueness of the case studies and the plausible relationship between the uniqueness of a case and the set of success elements that actors consider when valuing the study's success.

5.5 Singular aspects of the case studies

5.5.1 Introduction

As a result of the observations made in Section 5.3 and Section 5.4, it was concluded that no predictions can be made about how a particular actor defines the success of a

study, neither on the basis of the characteristics of the actor, nor on the basis of the characteristics of the policy analysis study or its context.

For the five case studies analyzed, it seemed that the uniqueness of a case study dominates the similarities among the cases, leading to the question: What makes a case unique? In more detail: What characteristics discriminate an individual case study from the other studies? The following, related, question is whether it is plausible that such unique characteristics determine the set of success elements that actors consider in valuing the success of a policy analysis study.

From the factors taken into account in this research, some characteristics discriminate a particular case study from the others (see Table 5.6). For example, the attitude of the actors with respect to the problem situation is the characteristic that discriminates the Dutch Riverdikes study from the other studies; from the five case studies it was the only study that was carried out in a situation that was at an impasse. The CAU study differs from the other cases on the basis of the status of the study; it was the only study with a formal status in the policy process. The IVR study differs from the other four cases because the study was of no particular importance to the analysts, while the other four cases were. The SVV Colored In study differs from the other four cases because concrete policy recommendations were given, and the study was not very complex compared to the other four case studies. The other characteristics observed appeared not to be discriminating at an individual case level, i.e. unique for a particular case study.

The focus of the next subsection (5.5.2) is on the identification of additional unique characteristics of the five case studies. Subsection 5.5.3 includes a discussion, for each case study, of the plausible relationships between the identified unique characteristics of the study and the set of success elements that actors mentioned they would consider when evaluating the study's success. It should be noted, however, that the uniqueness of a characteristic implies that no other case studies were analyzed with such a characteristic. Consequently, no conclusive pronouncements could be made about the relationships between such characteristics and the success elements. Thus, carefully worded hypotheses were formulated for each case.

5.5.2 Unique characteristics of the five case studies

The unique characteristics that were identified on the basis of the descriptions in Chapter 4 are outlined below per case. A characteristic was considered unique for a particular case, if the case clearly differs from the other four cases on the basis of that characteristic.

It should be noted that the source for identifying the unique characteristics and the source for identifying the success elements are not independent. The unique characteristics and the success elements both followed mainly from the interviews and the documentation of the case studies, which created a grey area between the unique characteristics and the elements. Nevertheless, this research step was carried out to get insights into the question whether the factors determining the sets of

success elements that actors focus on in evaluating the success of a study have to be found in the unique characteristics of the study concerned.

The Dutch Riverdikes case

In April 1991, the Second Chamber urged that high priority should be given to the dike reinforcement projects. The projects, however, should not cause harmful effects on the river landscape and on the natural and cultural values in the surrounding areas. The situation was at an impasse, which distinguishes the Dutch Riverdikes study from the other cases. The impasse and the large-scale discussions about the individual dike improvement projects 'forced' the Minister of Transport to 'do something'. As a result, the Minister initiated a study to (1) analyze the criteria used in establishing a safety standard for dikes along the non-tidal branches of the rivers Rhine and Maas, and (2) examine ways to design dikes that would provide adequate safety but would cause less environmental damage than traditional designs.

Being the administrator of the dikes and, as a result of that, being one of the parties at interest, the Ministry's research units were not the obvious organizations for carrying out the requested research. For the research and its results to be worthy of trust, it had to be carried out by independent, highly respected, and high quality research organizations. On the basis of the interviews it seemed that the independence and the expertise of the research organizations played a much bigger role in this study than in any of the other studies.

The study was carried out under the joint leadership of Delft Hydraulics and RAND Europe. They had to generate and present objective information within the four-month period from August to November 1992. The problem formulation was broad and the research organizations were told that 'everything' had to be taken into account, no matter what it would cost. The explicit order of taking 'everything' into account and the lack of budget limitations are unique to the Dutch Riverdikes study. The time frame was very short and the public visibility of the problem faced by the Ministry was very high. The high pressure for finding a solution quickly also put the Dutch Riverdikes study apart from the others.

The generation and presentation of objective information was not the only function of the study. The involvement of various parties at interest, giving them the opportunity to express their points of view, was also an important function. Throughout the study various stakeholder groups were consulted to provide the project group with information, which made it easier to implement the study's results. The CAU study was also an open study. The Dutch Riverdikes study differs, however, because specific, focused, stakeholder meetings were organized. In the CAU study various stakeholders were directly involved in various working groups of the study; others were heard during large-scale public hearings.

The results of the Dutch Riverdikes study were taken over by the Boertien Commission and translated into concrete recommendations for the Minister and the 2nd Chamber. The recommendations were taken over by the 2nd Chamber and concrete changes with respect to dike improvements and with respect to the

responsibilities of the organizations involved were implemented. The Dutch Riverdikes study was the only study of which the results were almost completely taken over by the competent authorities in a very short time frame.

Table 5.13 contains a summary of the identified unique characteristics of the Dutch Riverdikes case.

Table 5.13: Unique characteristics of the Dutch Riverdikes case

- | |
|--|
| <ul style="list-style-type: none">- the situation in which the study was carried out was at an impasse- the independence and the expertise of the research organizations was very important- the problem was broadly formulated ('you may do anything as long as you take everything into account')- the budget was not strictly limited- high pressure to find a solution quickly- specific, focused, stakeholder meetings were held- the results were almost completely, in a very short time frame, taken over by the competent authorities |
|--|

The FORWARD case

Until 1992, not much attention was given to freight transportation. In that sense, FORWARD differs from the other case studies. It is the only study that was focused on a policy area to which, until then, not much attention had been given, but which was coming slowly into the picture for the public and various policy makers. Furthermore, most of the research in the field of freight transportation had focused on a particular segment of freight, e.g., hazardous goods, bulk, or on a particular mode of transport, e.g., road, rail, waterways, or on a particular aspect of transport, e.g., economy, noise, emissions, congestion. The increasing discussion about the negative effects of freight transportation and the importance of this transport to the Dutch economy motivated the Ministry to commission a study of freight policy options and their impacts and costs: the FORWARD study.

The Ministry asked RAND Europe to carry out the study because of its expertise in setting up and carrying out broad policy analysis studies. The FORWARD study was one of the first integrative policy analysis studies in the area of freight transportation. The fact that the FORWARD study was a broad, integrative policy analysis study is not a unique characteristic, compared to the other case studies. The fact that it was one of the first broad, integrative studies in the related problem area, however, is a unique characteristic.

An additional reason for the Ministry to ask RAND Europe to carry out the project was to help the research organization become established in Europe, in particular in the Netherlands. Due to this (financial) support, competing research organizations especially looked quite suspiciously and skeptically at the newly established company and at the study they were carrying out. The support of the Ministry and the suspicious attitude of other research organizations in the field are unique characteristics of the FORWARD case.

During the project a model was developed and, as a product of the study, handed over to the Ministry. Initially, the model was not meant to be handed over to the Ministry; it was not intended that a model should be built in the first place. The model became, however, the hobbyhorse of some people within the Ministry. One of the reasons for the popularity of the model was that it was developed for Macintosh computers. Some people within the Ministry, in particular the people involved in the FORWARD case, were strong supporters of Macintosh computers. In none of the other case studies was a large policy analysis model, as one of the results of the study, handed over to the client. The devotion of the people from the client organization to the model and to the type of computer the model was built for is also unique to the FORWARD case.

FORWARD cost more time and money than originally planned. Going over deadlines and budget limitations, however, is not a unique characteristic of the FORWARD case; it is rather a rule than an exception with respect to the case studies analyzed. The FORWARD case is unique, however, with respect to the distributions of the final reports; the distribution of the reports was delayed by almost 2 years.

After the FORWARD study more attention was given to freight transportation by the policy makers. A separate policy document on freight transportation was published and efficiency tactics seem to have taken an important place in formulating new policy and setting up new programs. It is hard to justify or even make plausible, however, that these effects typify the FORWARD case.

Table 5.14 contains a summary of the identified unique characteristics of the FORWARD case.

Table 5.14: Unique characteristics of the FORWARD case

- | |
|---|
| <ul style="list-style-type: none">- the study focused on a policy area to which, until then, not much attention had been given- the study was one of the first broad, integrative studies in the related problem area- the Ministry asked RAND Europe to carry out the study for two reasons- other research organizations acted suspiciously and skeptically towards RAND Europe- a policy analysis model was handed over to the client as one of the results of the study- the model became the hobbyhorse of some people of the client organization- the final reports were distributed almost 2 years after the research was finished |
|---|

The IVR case

The IVR study was carried out in the period from the beginning of 1993 to the middle of 1996. There was a growing need for an instrument (a decision support system) that would help in getting insights into various aspects related to the riverine area. The main object of the IVR project was (1) to develop an integral instrument and (2) to illustrate its possibilities by exploring various landscape options for the riverine area.

The IVR study differs from the other four cases because the study was of no particular importance to the analysts, while the other four cases were. For example, the SVV Colored In study was seen as a proficiency examination for the AVV, and the FORWARD study was important to RAND Europe to become established in Europe, in particular in the Netherlands.

The IVR study was the most technical and analytical study of the five cases. Some of the research organizations, however, had a different perception of what the aim of the study was and/or should have been. The study was a mixture between an analytic/scientific effort and a more policy oriented study. According to some of the actors interviewed no clear choice was made between the two sided purpose of the study, and some of the research organizations involved did not agree upon the main focus (and the related allocation of time and money) of the study. This disagreement and its effects on the cooperation and communication among the various research organizations are typical for the IVR case.

As a result of the floods in 1994, the IVR project team was asked to do some extra research on safety issues. In the end, a separate volume of the final reports was devoted to safety issues. The floods gave the project team the opportunity to show the capabilities of the instrument that they had developed. This combination of circumstances is unique to the IVR case.

The results of the IVR study were presented with much fanfare; many people were invited to a symposium and they were handed over the numerous, colorful, volumes of the final report. Later a CD-ROM was made. In none of the other cases so much attention was given to the presentation of the results. Furthermore, many individuals and organizations, nationally and internationally, showed their interest in the study, which is also typical for the IVR study.

Table 5.15 contains a summary of the identified unique characteristics of the IVR case.

Table 5.15: Unique characteristics of the IVR case

- | |
|---|
| <ul style="list-style-type: none">- the study was of no particular importance to the analysts- the study was very technical and analytical- there was a disagreement among the research organizations about the main focus of the study and the related allocation of time and money, which disturbed the cooperation and communication among the research organizations- external factors had a high impact on the study- much attention was given to the presentation of the results of the study- much interest was shown in the study by individuals and organizations, nationally and internationally |
|---|

The SVV Colored In case

The SVV Colored In study was not formally asked for, which is unique to this case. The study was initiated and carried out solely by the AVV. In other words, the study was carried out by one research organization, which distinguishes the SVV Colored

In study from the other case studies. Furthermore, the research organization is attached to the Ministry, which was the potential user of the results of the study.

The policy analysis study had to be carried out within a short time frame and the results needed to be delivered in time to the various directors within the Ministry, as an input to their debate on the Ministry's budget in October 1994.

The formal objective of the study was to provide the policy makers with relevant information, matching with their needs and the policy process. The SVV Colored In study was not a complex study, compared to the other case studies. Although many policy options and related aspects were considered in the study, no separate analysis, or data collection, was carried out. The study integrated existing knowledge that was available at AVV.

The SVV Colored In study was also seen as a proficiency examination for the AVV. The AVV had been recently established and was composed of research units from various departments within the Ministry. One of the reasons for AVV to carry out the SVV Colored In study, was to demonstrate its capabilities, improve the relationship and communication with the policy makers, and, in the end, create a bigger role in supporting the process of (re-) formulating transport policy. RAND Europe had similar ambitions in carrying out the FORWARD study. The SVV Colored In case, however, is unique from this perspective, because it was seen as a proficiency examination for an internal organization.

The results were presented in a small report and they were discussed in a separate meeting with each of the policy makers. In none of the other cases were the results presented and discussed with each potential user individually. Furthermore, the SVV Colored In study differs from the other four cases because the results included concrete policy recommendations.

Table 5.16 contains a summary of the identified unique characteristics of the SVV Colored In case.

Table 5.16: Unique characteristics of the SVV Colored In case

- | |
|--|
| <ul style="list-style-type: none">- the study was not formally asked for by a particular client- the study was carried out by one research organization, without the involvement of any other research organization- the study was carried out by a research organization that is attached to the organization that is the potential user of the results of the study- the study was not very complex- the study was seen as a proficiency examination for the AVV- the results were presented and discussed with each potential user individually- the results included concrete policy recommendations |
|--|

The CAU case

In 1990 the RWS and the NS decided to combine their efforts, and jointly carried out an EIA to get insights into the consequences of various options to expand the infrastructure in the Amsterdam-Utrecht corridor (CAU). It was the first time that a

combined corridor/EIA was carried out. It was also the first time that the RWS and the NS, which each have their own, sometimes conflicting, interests, carried out an EIA together. From this perspective the CAU study is unique: the other studies were carried out by research organizations which did not have a particular interest in the problem situation, while the RWS and the NS did have a particular interest in the problem situation.

The Dutch law provided requirements and guidelines for the content of the EIS and provided a formalized procedure. The CAU study was the only study of the five cases that had a formal status within a particular the policy process.

The study focused on concrete actions that could affect various groups of people. Many of these groups of people were directly involved in the project and/or were heard during public hearings. The involvement of the parties at interest is unique, compared to the other cases. In the other cases no public interest groups were represented in working groups of the project and no public hearings were held.

Table 5.17 contains a summary of the identified unique characteristics of the CAU case.

Table 5.17: Unique characteristics of the CAU case

- the study was carried out by organizations with a particular interest in the problem situation
- the study had a formal status within a particular policy process and, therefore, the Dutch law provided requirements and guidelines for its content
- public parties at interest were represented in working groups of the project and public hearings were held

5.5.3 Unique characteristics and success elements

The focus of this subsection is on the question whether it is possible to formulate carefully worded hypotheses about the relationships between the unique characteristics, as identified in the previous subsection, and the success elements that actors focus on when valuing a study's success.

As the aim was to get insights into the uniqueness of the studies, the relationships were identified between unique characteristics and success elements that characterize the study concerned in one way or the other. Accordingly, for each case, the following two subsets of the success elements were focused on in identifying the relationships between the unique characteristics and the success elements.

1. Typical elements

Typical elements typify a case study. In other words, typical elements are elements that were mentioned by more than 50% of the actors related to the case concerned.

Remark: The level of 50% was not chosen arbitrarily. A larger threshold dramatically decreased the number of typical elements. A lower threshold, i.e. 40%, did not change the set of typical elements of the Dutch Riverdikes study,

the FORWARD study, the IVR study, and the CAU study. For the SVV Colored In study, however, a threshold of 40% implied that all elements mentioned were typical elements. (Only 2 actors were related to the SVV Colored In study.) Consequently, a threshold of 50% was chosen.

2. *Unique elements*

Unique elements are unique to a case study and, thus, these elements were not mentioned by actors related to any of the other four cases. In other words, unique elements are elements that were only mentioned by (one or more) actors related to the case concerned.

Table 5.18 shows the typical elements of the five case studies. For example, from Table 5.18 it can be read that more than 50% of the actors interviewed with respect to the Dutch Riverdikes study mentioned 'timing' as a success element. More than 50% of the actors interviewed with respect to the SVV Colored In study also mentioned this element.

From Table 5.18 it becomes clear that many (more than 30%) of the typical elements were mentioned by actors of various cases. Such typical elements are not discriminating among cases. Consequently, it was not possible to identify unequivocal relationships between these success elements and the unique characteristics. As a result, the typical elements that appeared to be discriminating among the cases were the only typical elements that were taken into account for identifying possible relationships with the unique characteristics.

Table 5.18: Typical elements of the five cases

<p>Input</p> <ul style="list-style-type: none"> ▪ Timing (D, S) ▪ Parties involved <ul style="list-style-type: none"> - Independence among each other (D) - Expertise (D, F) ▪ Initial stages of setting up the study <ul style="list-style-type: none"> - Aim/object of the study (I, S) - Reason for initiating the study (S) ▪ External factors (I) 	<p>Results</p> <ul style="list-style-type: none"> ▪ Availability (D, F) ▪ Presentation <ul style="list-style-type: none"> - Visualization (I, S) - Clearness (I) - Form (S) ▪ Parties at interest <ul style="list-style-type: none"> - Interest shown (I) ▪ Relevance <ul style="list-style-type: none"> - Match with policy process & needs (S, C)
<p>Content</p> <ul style="list-style-type: none"> ▪ Methodology / Research approach <ul style="list-style-type: none"> - Use of input from parties at interest (D) - Integrate state of the art knowledge (F) ▪ Aspects taken into account <ul style="list-style-type: none"> - Broadness (D, F, I, C) - Integrative (F) - Depth (I) ▪ Innovative character (S, C) 	<p>Use</p> <ul style="list-style-type: none"> ▪ By who <ul style="list-style-type: none"> - Official organizations (D) ▪ What <ul style="list-style-type: none"> - Insights (F) ▪ Extent of usage (F) ▪ Purpose (F)
<p>Process</p> <ul style="list-style-type: none"> ▪ Openness (D, F) ▪ Parties involved <ul style="list-style-type: none"> - Commitment and support (F) - Representativeness of selection (I, C) - Cooperation (I) ▪ Duration (F) ▪ Resources <ul style="list-style-type: none"> - Actual versus planned budget (F) ▪ Communication (I) 	<p>Effects</p> <ul style="list-style-type: none"> ▪ Parties at interest <ul style="list-style-type: none"> - Changed & harmonized mental frames (D) - Insights into problem and trade offs (D, F, I) - Support (D, C) - Relationships among parties (S) - Communication among parties (S) ▪ Problem situation <ul style="list-style-type: none"> - Overcome impasse (D) - Working atmosphere (D) ▪ Implementation policy actions according to analysis (D) ▪ Decision and policy process <ul style="list-style-type: none"> - (Re)formulation of policy (I) - Political agenda (I) - Discussion (I, S)

Note: D = the Dutch Riverdikes study, F = the FORWARD study, I = the IVR study, S = the SVV Colored In study, C = the CAU study

The fact that no unequivocal relationships could be identified between the non discriminating typical elements and the unique characteristics is illustrated by the following example. The availability of the results of the study was mentioned by more than 50% of the actors related to the Dutch Riverdikes study and also by more than 50% of the actors related to the FORWARD study. It is plausible that many actors that referred to the Dutch Riverdikes study mentioned this element because of

the high pressure of finding a solution within a very short time frame (see Table 5.13 for the unique characteristics of the Dutch Riverdikes study). It is plausible that many actors related to the FORWARD study, however, mentioned this element because of a different reason: the final reports were distributed almost 2 years after the research was finished (see Table 5.14 for the unique characteristics of the FORWARD study). Similarly, the aim of the study was mentioned by many actors related to the IVR study and by many actors related to the SVV Colored In study. It is plausible that the actors of the IVR study mentioned 'the aim of the study' because there was a disagreement among the research organizations about what the main focus of the study should be (see Table 5.15 for the unique characteristics of the IVR study). For the actors related to the SVV Colored In study, however, a different characteristic might have played a role to consider 'the aim of the study' as a success element: in addition to the formal aim of the study, the study was seen as a proficiency examination for the research organization that carried out the study (see Table 5.16 for the unique characteristics of the SVV Colored In study).

In addition, the set of unique elements, i.e. the elements that were mentioned only by actors related to that case, was taken into account in identifying possible relationships between the unique characteristics and the success elements. Note that the set of unique elements and the set of typical elements might overlap, that is, typical elements can be unique and visa versa.

The possible relationships between the two sets of success elements, i.e. the typical elements that discriminate the cases among each other and the unique elements, and the unique characteristics are elaborated on by case in the following paragraphs. At the end of each paragraph, a table is given containing a summary of the unique characteristics, the typical elements, the unique success elements, and the possible links between the characteristics and the success elements for the study concerned.

The Dutch Riverdikes study

Table 5.18 and Table 5.13 together show that the independence of the research organizations is a direct translation of a unique characteristic of the Dutch Riverdikes study. The unique characteristic of using specific stakeholder meetings seemed to be reflected in the methodological element of using input from parties at interest. Furthermore, the Dutch Riverdikes study is the only study of which the results were almost completely taken over by the competent authorities. Consequently, many actors mentioned they consider whether official organizations used the results of the study, and whether policy actions were implemented according to the analysis, when evaluating the success of the study. It seemed plausible that the fact that the situation was at an impasse is a strong determining factor for the success elements that the actors mentioned about the effects of the study.

Table 5.19 contains a summary of the unique characteristics, the typical and the unique elements, and the links between the characteristics and the elements for the Dutch Riverdikes study. It is indicated, for each element, whether it is a typical element (T), a unique element (U), or whether it is both (T + U). Some

characteristics were not linked to an element and some elements were not linked to a characteristic. This is indicated by ‘/’.

Many unique elements were also identified as typical elements of the Dutch Riverdikes study (see Table 5.19). That is, almost half of the unique elements were mentioned by more than 50% of the actors. For the unique elements that were mentioned by less than 50% of the actors, the relationships with the unique characteristics were not abundantly clear. It might be plausible that the elements ‘informal communication’ and ‘match with individual interests’ stem from the fact that the situation was at an impasse. The insights into the decision process and into other disciplines, however, originate from the cooperation among the research organizations and the lack of prior involvement in highly visible political process. These characteristics, however, were not identified as unique characteristics of the Dutch Riverdikes study. The relevance of the aspects taken into account in the study and the consistency of the study’s results are elements for which it was not clear whether they stemmed from a particular characteristic of the case.

Table 5.19: Unique characteristics and success elements of the Dutch Riverdikes study

Unique characteristics	Success elements mentioned (T = Typical; U = Unique)
- the problem situation was at an impasse	- overcome impasse (T + U) - working atmosphere (T + U) - changed and harmonized mental frames (T) - implementation of policy action according to analysis (T) - informal communication (U) - match with individual interest (U)
- specific, focused, stakeholder meetings	- use input from parties (T + U)
- the results were taken over by the competent authorities	- use results by official org. (T + U)
- the independence & expertise of the research organizations were very important	- independence among parties involved (T + U)
- the problem was broadly formulated	- /
- the budget was not strictly limited	- /
- high pressure to find a solution quickly	- /
- /	- insights into decision process (U)
- /	- insights into other disciplines (U)
- /	- consistency of the results (U)
- /	- relevance of aspects (U)

The FORWARD study

Table 5.18 and Table 5.14 together show that the integrative character of the study is almost a direct translation of a distinguishing characteristic, i.e. FORWARD was one of the first integrative studies in the problem area of freight transportation. The extent and purpose of usage refer to the fact that the model was the hobbyhorse of only some people of the Ministry. Although ‘going over deadlines’ and ‘going over

budget limitations' were not identified as unique characteristics of the FORWARD case, the duration of the project and the actual versus planned budget were mentioned as success elements by more than 50% of the actors related to the study. The commitment and support of the parties involved might, partly, result from the fact that, after finishing the research, it took almost 2 years to finish and distribute the reports. The FORWARD study was focused on a policy area to which, until then, not much attention had been given. This was probably reason for most actors to mention that they measure the success of the study in terms of the provided insights used in formulating new policy and programs.

Table 5.20 contains a summary of the unique characteristics, the typical and the unique elements, and the links between the characteristics and the elements for the FORWARD study. It is indicated, for each element, whether it is a typical element (T), a unique element (U), or whether it is both (T + U). Some characteristics were not linked to an element and some elements were not linked to a characteristic. This is indicated by '/'.

Some unique elements appeared to overlap with the set of typical elements (see Table 5.20). In particular, the elements related to the content of the study and the use of its results, are typical and unique to the FORWARD study. The unique element 'process of setting up the study', which was mentioned by less than 50% of the actors, most probably followed from the fact that the Ministry asked RAND Europe to carry out the FORWARD study for two reasons, and to the fact that other research organizations acted suspiciously and skeptically towards RAND Europe. Some people mentioned the location with respect to each other as an element to consider when valuing the success of the study. This had to do with the fact that a part of the analysis team was located in the US, as a result of which direct communication was hindered. This is not, however, a unique characteristic of FORWARD; the people related to the Dutch Riverdikes study had to deal with a similar situation. The element 'use of the model', similar to the elements 'purpose and extent of the usage', probably related to the fact that the model was handed over to the client organization and that it was only used on a small basis. The unique elements with respect to the effects of the FORWARD study could be traced back to the first two unique characteristics of FORWARD given in Table 5.14: the FORWARD study was focused on a policy area to which, until then, not much attention had been given and FORWARD was one of the first broad, integrative studies in the related problem area. The consistency with respect to the content of the study is an element for which it was not clear whether it stemmed from a particular characteristic of the FORWARD case.

Table 5.20: Unique characteristics and success elements of the FORWARD study

Unique characteristics	Success elements mentioned (T = Typical; U = Unique)
- not much attention had been given, until then, to the problem area	- use of insights (T) - show that problem is taken seriously (U) - well founded argumentation for the decision makers (U)
- the study was one of the first broad, integrative studies in the problem area	- integrate state of the art knowledge (T) - integrativeness aspects taken into account (T + U)
- the Ministry asked RAND Europe to carry out the study for two reasons	- process of setting up the study (U)
- other research organizations acted suspiciously and skeptically	-
- a policy analysis model was handed over to the client	- use of the model (U) - extent of usage (T + U) - purpose of usage (T)
- the model became the hobbyhorse of some people of the client organization	-
- the final reports were distributed almost 2 years after the research was finished	- commitment and support (T)
- /	- location with respect to each other (U)
- /	- consistency of the content (U)
- /	- duration of the study (T)
- /	- actual versus planned budget (T)

The IVR study

Some elements shown in Table 5.18, i.e. the external factors, the cooperation and communication among the parties involved, and the interest shown by various organizations, appeared to relate directly to the unique characteristics of the IVR study given in Table 5.15. The attention given to the presentation of the results is reflected by the fact that actors mentioned the clearness of the presented results as a success element. The IVR study was a technical and analytical study, which might explain why more than 50% of the actors mentioned 'depth' as a success element. Many actors mentioned elements related to the effects of the IVR study on the decision and political process. It is hard to justify, however, that these elements relate to unique characteristics of the case.

All but two of the unique elements were also identified as typical elements of the IVR study (see Table 5.21). The unique element 'allocation of resources', which was mentioned by less than 50% of the actors interviewed, is directly related to the second characteristic given in Table 5.15: the research organizations disagreed about what the main focus of the study and the corresponding allocation of resources should be. For the element 'assumptions and conditions made clear' with respect to

the results of the study, the relationship with the unique characteristics was not abundantly clear.

Table 5.21 contains a summary of the unique characteristics, the typical and the unique elements, and the links between the characteristics and the elements for the IVR study. It is indicated, for each element, whether it is a typical element (T), a unique element (U), or whether it is both (T + U). Some characteristics were not linked to an element and some elements were not linked to a characteristic. This is indicated by '/'.

Table 5.21: Unique characteristics and success elements of the IVR study

Unique characteristics	Success elements mentioned (T = Typical; U = Unique)
- the study was very technical and analytical	- depth of the aspects (T)
- the research organizations disagreed about the main focus of the study and the related allocation of time and money, which disturbed the cooperation and communication among parties	- cooperation among parties (T) - communication among parties (T) - allocation of resources (U)
- external factors had a high impact on the study	- external factors (T + U)
- much attention was given to the presentation of the results	- clearness of presentation (T)
- many people showed their interest in the study	- interest shown by parties (T)
- the study was of no particular importance to the analysts	- /
- /	- assumptions and conditions are made clear in results (U)
- /	- (re)formulation of policy (T + U)
- /	- political agenda (T + U)

The SVV Colored In study

From Table 5.18 it becomes clear that only four typical elements of the SVV Colored In study were identified. The SVV Colored In study was the only study of which the results were presented and discussed with each potential user individually (see Table 5.16 for the unique characteristics of the SVV Colored In study). Consequently, the actors related to the SVV Colored In study mentioned the form in which the results were presented as a success element. The fact that SVV Colored In was carried out by a research organization that is closely attached to its potential client organization and the fact that the study was seen as a proficiency examination might be determining factors for the actors to consider the effects of the study on the relationships and communication among the parties as success elements.

Similar to the typical elements, few unique elements of the SVV Colored In study were identified (see Table 5.22) compared to the other cases. Two unique elements, 'reason for initiating the study' and 'the form of the presentation', are also typical elements.

The analysts stated that they would consider the appreciation of superiors and the availability of resources during the project, if asked to evaluate the success of the

study. These unique elements possibly relate to the fact that the study was seen as a proficiency examination for the AVV. Furthermore, it is conceivable that the unique element 'match between the results and their potential use' relates to the fact that the study's results included concrete policy recommendations.

Table 5.22 contains a summary of the unique characteristics, the typical and the unique elements, and the links between the characteristics and the elements for the SVV Colored In study. It is indicated, for each element, whether it is a typical element (T), a unique element (U), or whether it is both (T + U). Some characteristics were not linked to an element and some elements were not linked to a characteristic. This is indicated by '/'.

Table 5.22: Unique characteristics and success elements of the SVV Colored In study

Unique characteristics	Success elements (T = Typical; U = Unique)
- the research organization is closely attached to the organization for which the study was carried out	- effects on relationships among parties (T) - effects on communication among parties (T)
- the study was seen as a proficiency examination for the AVV	- availability of resources (U) - appreciation of superiors (U)
- the results were presented and discussed with each potential user individually	- form of presentation (T + U)
- the results of the study included concrete policy recommendations	- match between results and potential use (U)
- the study was not very complex	- /
- the study was not formally asked for	- /
- the study was carried out by one research organization	- /

The CAU study

Table 5.18 shows elements that were mentioned by more than 50% of the actors related to the CAU study. These elements were also mentioned, however, by 50% of the actors related to other cases. So, none of the typical elements of the CAU study discriminates the study from the other studies. In contrast, Table 5.23 shows a large set of unique elements with respect to the CAU study.

The set of typical elements of the CAU study appeared to be relatively small compared to the sets of the other studies. This matches with the fact that most actors related to the CAU study did not appear to be similar to each other in terms of the success elements they mentioned (see Figure 5.4 in subsection 5.3.1). The set of unique elements is large compared to the other sets of the other studies, pointing to the uniqueness of the CAU study. It might be thought that this is caused by the fact that more actors, i.e. seven actors, were related to the CAU study than to the other studies. Most unique elements, however, were pointed out by a small subset of the actors: the project team mentioned 10 elements and the EIA working group pointed

out 5 other elements. Apparently, these actors had their own, unique, way of valuing the success and failure of the study.

The unique elements with respect to the policy process in which the CAU study was carried out appeared to relate clearly to the fact that the CAU study had a formal status within the policy process (see Table 5.17 for the unique characteristics of the CAU study). The participation of the parties involved, the interactiveness, and the transparency of the research process are unique success elements that might stem from, among others, the characteristic that parties at interest were represented in working groups of the project and that public hearings were held. The element 'attitude among the parties involved' probably has to deal with the fact that the study was carried out by two organizations, which had particular, sometimes conflicting interests in the problem situation.

The other unique elements might be explained by a set of various characteristics of the CAU study. No clear relationship was identified, however, between these elements and the unique characteristics given in Table 5.17. For example, some people mentioned considering whether the study provided insights into the match between alternative policy actions and policy goals. This element might stem from the combination of two characteristics: the study was policy and action oriented, and the study could not build upon clearly formulated policy goals. These characteristics are not, however, unique to the CAU study. The Dutch Riverdikes study also has these characteristics, but the actors related to this study did not mention the match between alternative policy actions and policy goals as a success element.

Table 5.23 contains a summary of the unique characteristics, the typical and the unique elements, and the links between the characteristics and the elements for the CAU study. It is indicated, for each element, whether it is a typical element (T), a unique element (U), or whether it is both (T + U). Some characteristics were not linked to an element and some elements were not linked to a characteristic. This is indicated by '/'.

Table 5.23: Unique characteristics and success elements of the CAU study

Unique characteristics	Success elements (T = Typical; U = Unique)
- the study was carried out by organizations which had particular interests in the problem situation	- attitude of parties involved (U)
- the study had a formal status within the policy process	- interwovenness of study and policy process (U) - transparency and clearness of policy process (U) - duration of policy process (U)
- public parties at interest were represented in working groups of the project and public hearings were held	- participation of parties (U) - interactiveness study process (U) - transparency of study process (U)
- /	- availability of data and tools (U)
- /	- justification research approach (U)
- /	- assumptions made (U)
- /	- screening alternatives (U)
- /	- completeness aspects (U)
- /	- aspects equally treated (U)
- /	- match study content with ongoing developments and projects (U)
- /	- change of personnel (U)
- /	- availability of information (U)
- /	- completeness results (U)
- /	- integrality of results (U)
- /	- decision was taken (U)

5.5.4 Conclusions

Unique characteristics of the case studies were identified in this section on the basis of the descriptions given in Chapter 4. It appeared that various detailed characteristics of the case studies, on the basis of which individual studies differ from the other case studies, could be identified in addition to the characteristics observed in this research.

Furthermore, the question whether the identified unique characteristics determine the elements that the actors consider when valuing the success of a study was addressed in this section. Two subsets of the elements were taken into account to identify, for each case, these relationships: the set of typical elements and the set of unique elements.

It appeared that some typical elements and some unique elements of a case study are clearly linked to a unique characteristic of the case. For example, the context of the Dutch Riverdikes study was at an impasse, which made the actors focus on the study's effects on the problem situation, the working atmosphere, the mental frames, and on the study's effects on the implementation of policy actions, when evaluating the study's success. In the FORWARD case, for example, many people mentioned the integration of state of the art knowledge, because the FORWARD study was one of the first broad and integrative studies in the field of freight transportation.

Some elements appeared to be almost a direct translation of the characteristic, pointing out the grey area between characteristics and success elements. For example, many actors related to the IVR study mentioned the interest shown by other parties. This success element is almost a direct translation of the fact that the IVR study is unique in terms of the national and international interest shown in the study, compared to the other case studies. Similarly, the element 'independence among actors involved', which was mentioned by many actors of the Dutch Riverdikes study, is almost a direct translation of one of the unique characteristics of the study: the independence and expertise of the research organizations were very important in the Dutch Riverdikes study, compared to the other studies.

It is also clear from this section that the relationships between unique characteristics and success elements are not necessarily '1 to 1' relationships: some elements appeared to relate to more than one characteristic and some characteristics appeared to lead to more than one element. For example, the CAU study is the only study of the five studies that had a formal status within the policy process. It is suggested that this might be a reason for actors to focus on the interwovenness of the study and the policy process, on the transparency and clearness of the policy process, and on the duration of the policy process as success elements in evaluating the success of the CAU study. An example of elements that were linked to more than one characteristic can be given from the SVV Colored In study. The effects of the study on the relationships and communication among parties may stem from the fact that the research organization that carried out the study was closely attached to the organization for which the study was carried out. This success element may also stem from the fact that the study was seen as a proficiency examination for the research organization that carried out the study.

Furthermore, no patently obvious relationships were identified for various elements and characteristics. For example, it is unclear whether the fact that some actors related to the Dutch Riverdikes study mentioned the consistency of the results, has anything to do with any of the unique characteristics of the case study. Similarly, it is unclear whether some actors related to the FORWARD study mentioned 'the actual and planned budget' as a success element because of a unique characteristic of the FORWARD study. An example of the reverse, that is a unique characteristic of a study that seemed to have no influence on the typical and unique elements, can be given from the SVV Colored In study: the fact that the SVV Colored In study had not been formally commissioned seemed not to be reflected in the success elements that the actors mentioned.

In summary, this subsection showed that there is reason to believe that the unique characteristics of a policy analysis study and the context in which it was carried out strongly influence the set, or subset, of elements that actors focus on in valuing the success of a study.

6. OVERALL CONCLUSIONS AND REFLECTION

6.1 Introduction

The research described in this dissertation was focused on evaluating policy analysis studies from an actor perspective, addressing the question: How do different actors define the success and failure of policy analysis studies and what are the factors underlying the various definitions? The main objective was to construct a theory concerning the definitions of success. In studying the actors' definitions of success, the central research question was divided into the following four questions:

- What are the elements on the basis of which different actors value, from their perspective, the success of a policy analysis study?
- What is the relationship between the set of success elements that an actor considers and the characteristics of the actor?
- What is the relationship between the set of success elements that an actor considers and the characteristics of the context in which the study was carried out?
- What is the relationship between the set of success elements that an actor considers and the characteristics of the study?

The findings of the research are summarized and the area of application is discussed in the Section 6.2. The research approach, particularly data collection, and the possible implications for the research findings are reviewed in Section 6.3.

A broad conceptual basis was used to carry out the exploratory research and to develop a theory. As a result of the exploratory character, no strong hypotheses about what such a theory should look like were formulated as a starting point of the research. The literature, however, shows a diversity of perspectives and hypotheses that follow from these perspectives on what constitutes good policy analysis. Such hypotheses are elaborated on in Section 6.4, and the question is asked whether the empirical data support or refute these views and hypotheses. Various suggestions for further research are outlined in Section 6.5.

Some issues of concern have emanated with respect to setting up and carrying out an evaluation of a policy analysis study, in studying how different actors define the success of a policy analysis study. These issues are discussed in Section 6.6.

At the end of this chapter the insights of the research are used to give some thoughts on designing and carrying out policy analysis studies for success.

6.2 Research findings

The research findings concern three aspects: (1) the conceptual structure that was developed in this research and the list of identified success elements, (2) the relationship between the set of success elements that an actor considers and the factors observed, and (3) the relationship between the set of success elements that an actor considers and the uniqueness of the case concerned. Each of these aspects is described in the following paragraphs. The area of application of the research findings is discussed at the end of this section.

Conceptual structure and list of success elements

The conceptual structure that was developed in this research (see Section 3.6) reflects the broad set of aspects that can be used as a basis for evaluating policy analysis studies. The conceptual structure appeared generally to be exhaustive for identifying and classifying the different elements that actors consider in valuing the success of a policy analysis study. The initial conceptual structure was only slightly modified on the basis of the empirical data: communication aspects were classified under process and effect related aspects. Consequently, in the revised structure, as depicted in Figure 5.2, six categories of elements are distinguished: input, content, process, results, use, and effects.

A list of elements that are used, or can be used, by actors to evaluate policy analysis studies was identified in this research on the basis of a literature survey and five case studies. The structured list of success elements is presented in Table 5.1 in Section 5.2 and the list is specified in question form in Appendix E. The list of elements and the corresponding questions can be used to provide evaluators of policy analysis studies with a helping hand to select success elements and formulate evaluation criteria depending on the objectives of their research. Designers of policy analysis studies may use the list as a starting point to determine the specific objectives that a study should aim for.

Success elements and factors observed

As part of this research, the actors interviewed were characterized in terms of their role, authority, involvement, and interest. Similarly, for each case the characteristics were determined of the study and the study's context. The question was asked whether, and if so how, the set of success elements that an actor considered is determined by the factors observed, i.e. the characteristics of the actor, and/or the characteristics of the study, and/or the characteristics of the context of the study. It is not possible to answer this question with a straightforward 'yes' on the basis of the empirical data.

It appeared that similar actors do not necessarily focus on similar success elements in evaluating the success of a study. The sets of success elements mentioned by actors who had similar characteristics, but were related to different policy analysis studies, appeared not to show large overlaps. Such actors mentioned only a very small number of the same elements. For example, the potential users of a policy

analysis study only agreed that the results of a study should match with the policy process and needs for a study to be successful. The actors carrying out a policy analysis study agreed upon the following success elements: the expertise of the research organizations, the broadness and depth of the aspects taken into account, the cooperation among the parties involved, the relevance of the results, and the insights provided by the study into the problem situation. It might not be surprising that these types of actors agreed upon these elements. It has to be noted, though, that 'agree' does not necessarily mean that 100% of the actors interviewed within the group of similar actors mentioned the element; at least 50% of the actors mentioned the element. Furthermore, the sets of success elements that similar actors agree upon are very small subsets of the total set of elements the group of actors mentioned. For example, the actors carrying out a policy analysis study mentioned more than 80 different success elements and only 6 of these elements were mentioned by 50%, or more, of the actors within that group.

The factors observed with respect to the study and its context also appeared not to be discriminating in terms of the success elements that actors consider. That is, no clear similarities were identified among the case studies with similar characteristics in terms of the success elements that actors mentioned.

Considering the above, it has to be concluded that it is not possible to identify different types of actors on the basis of their definition of success from the findings of this research. The driving forces for actors to focus on particular success elements to value the success and failure of a policy analysis study seem not to originate from the characteristics taken into account in this research. Consequently, the empirical research did not provide evidence to develop a theory as originally intended. No direction can be given towards which subset of the set of success elements listed in Table 5.1 needs to be taken into account in carrying out an evaluation of a policy analysis study from the perspective of a particular actor.

In the following text block the conclusions outlined above are described in the abstract terms introduced in Section 3.9. It is not necessary, however, to read and/or understand this formal description to understand the rest of this chapter.

Similarities among the characteristics of actor k related to study i and the characteristics of actor l related to study j , that is, similarities between the vectors A_{ik} and A_{jl} , do not necessarily lead to similarities between the set E_{ik} and the set E_{jl} (for $i \neq j$).

Furthermore, similarities between the vectors PA_i and PA_j and similarities between the vectors C_i and C_j do not necessarily result into similarities between the set E_i and E_j (for $i \neq j$).

This leads to the conclusion that no general function f over all i 's can be defined, such that

$$B_i = f(C_i, PA_i, A_{ij}), \text{ where}$$

i represents a case study and $j = 1 \dots J_i$ represents an actor related to the study, where J_i is the total number of actors related to study i .

B_i is a vector composed of zeros and ones, that is

$$B_i = (b_i^1, b_i^2, \dots, b_i^{N^{emp}-1}, b_i^{N^{emp}}), \text{ where}$$

$$b_i^n = 1, \text{ if } e_n \in E_i$$

$$b_i^n = 0, \text{ if } e_n \notin E_i,$$

for $n = 1 \dots N^{emp}$

E^{emp} represents the set of elements that were identified by carrying out the five case studies and N^{emp} indicates the number of elements in set E^{emp} . Following these definitions, the set of elements identified on the basis of case study i , i.e. the set E_i , equals $B_i * E^{emp}$.

Note: The abstract terms are defined and described in more detail in Section 3.9.

Success elements and uniqueness of a case

The analysis of the empirical data did not reveal clear relationships between the sets of success elements on the one hand, and the factors observed on the other. Rather, the individual cases appeared to be dissociated from the other cases in terms of the success elements.

Elaborating on that, this research showed that each of the case studies is unique in terms of how different actors define and assess the success and failure of the study. It is shown that it is plausible that the driving forces for actors to focus on particular success elements originate from the *unique* characteristics of the study and the study's context. In other words, the empirical data gave reason to believe that each case is unique and that the unique characteristics of a case determine the success elements that actors consider.

Furthermore, within a case study, the sets of elements mentioned by the actors showed a significant overlap. In other words, the actors related to the same case study tend to 'speak the same language'. The success perceptions of the actors result from their observations, which are constructed and reconstructed in communication

with other actors related to the same study. This socialization process might be the reason that only actors related to the same study showed similarities.

In abstract terms (as introduced in Section 3.9), the research showed that a set ε_{ik} and set ε_{ij} are more likely to have various elements in common than a set ε_{ik} and set ε_{jl} for which $i \neq j$. Moreover, this research gives reason to believe that a set E_i is determined by the unique characteristics of the study i and of the study's context.

Application area

It has to be noted that the empirical data, which forms the basis of this research, are limited to the field of transport and infrastructure. Consequently, no general conclusions can be drawn about how different actors define the success of a policy analysis study, and about the dependence of such definitions on the characteristics of the actor concerned, the characteristics of the study, and the characteristics of the study's context. In other areas, e.g., health care and the telecommunication sector, the problems differ from the ones in the field of transport and infrastructure, and the policy and research culture may differ from the field of transport and infrastructure. As a result of this, different parties might be involved in the problem situations and the analyses carried out to support policy makers might be characterized differently. Hence, in these areas, different factors might play a role in the success perceptions of policy analysis studies. It can also be argued, however, that policy analysis studies generally involve similar actors: analysts, policy makers, and others who have a stake in the problem situation. Furthermore, case studies generally can be characterized in terms of the factors taken into account in this research. Thus, the conclusions that follow from this research might be more generally applicable. In any case, the conceptual basis including the structured list of elements provides general support to evaluation research of policy analysis studies. The conceptual basis can be applied, or at least forms a basis for evaluating studies in other areas. It would be interesting to research whether the conclusions following from this research differ from other areas.

The empirical data is also limited in terms of the number of case studies analyzed. Five case studies do not provide a firm basis for sweeping generalizations. They do offer, however, a useful cross section of experiences, showing various similar and different characteristics and representing the scope of policy analysis studies in the field of transport and infrastructure. Furthermore, a richness of factors is taken into account that might play a role in how different actors define the success of a policy analysis study. None of these factors appeared to be discriminating in terms of the success elements that actors consider. The richness of factors supports the conclusion that no theory can be derived concerning actors' definitions of success. One has to realize, however, that the number of cases is relatively small compared to the number of factors observed. It is possible that analyzing additional case studies would provide more insights into the definitions of success and the relationships with the determining factors. The richness of factors, in combination with the small number of case studies, might be exactly the reason that no theory could be derived

from the empirical data. If any relationships exist, though, such relationships are not strong, at least not strong enough to appear clearly from analyzing five case studies.

6.3 Research approach

A common theory with respect to the definition of success of policy analysis studies from an actor perspective is lacking. Therefore, it was necessary to set up the research in an inductive and explorative way. Five case studies were analyzed to get insights into how different actors define the success of a policy analysis study and into the factors underlying the various definitions. Interviews were used to identify the elements on the basis of which the actors value the success of the study. Issues of concern related to data collection and the possible impacts on the findings of the research are outlined in this section.

Different actors were interviewed to identify their definition of success. The interviews were open to avoid putting words into the actors' mouths. After the open part of an interview, a more structured approach was used to refresh people's memories and to touch on various aspects that the interviewees might have forgotten to mention (see Section 4.1). In the analysis no distinction was made between the elements that were mentioned in the open part of the interview and the elements that were mentioned in the second part of the interview. After all, the research was not aimed at identifying and quantifying the relative importance of the success elements. The aim of the research was to identify the elements that actors consider in evaluating a policy analysis study (see Section 3.1).

As noted in Chapter 2 and Chapter 4, as a result of my involvement in the FORWARD study, the interviewees related to this study in particular might have felt a restricted freedom in expressing their view on the study's success. Figure 6.1 shows clearly, however, that these interviewees did not feel any restriction, compared to the other interviewees, in pointing out success elements that they negatively valued. The figure shows per case study the elements that were valued negatively, positively, or negatively and positively (by the same or different actors), as a percentage of the total number of different success elements that were mentioned by the related actors.

It was also noted in Chapter 4 that the research approach used to get insights into the success perceptions of the actors related to the CAU study differed slightly from the approach used in the other case studies. From Figure 6.1 it might be reasoned that people feel less restricted to point out negatively valued elements when responding to a questionnaire than during an interview. Furthermore, it might be the case that these people had become somewhat more critical as a result of their participation in an earlier evaluation research of the CAU study (see Subsection 4.6.5).

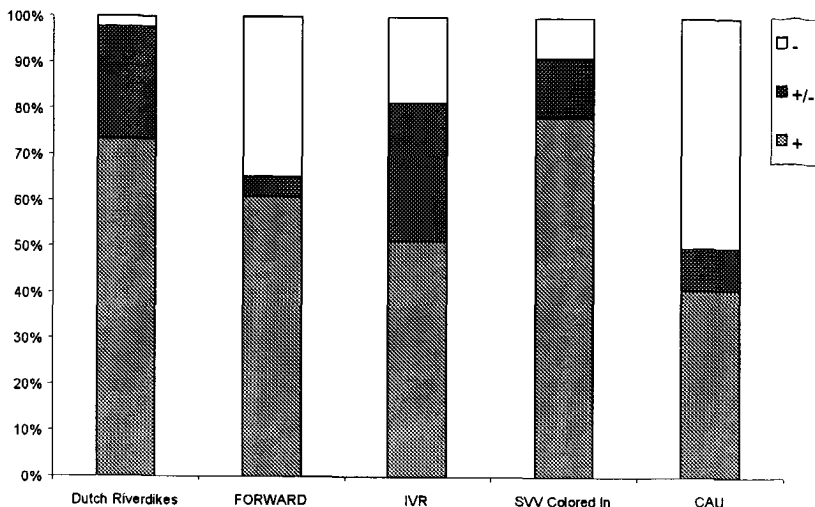


Figure 6.1: Percentage success elements that were negatively, positively, or negatively and positively (by the same or different actors) valued

The definitions of success of policy analysis studies were studied in relation to a single point in time after the study was carried out. The elapsed time between the completion of the study and interviewing the actors might have had an impact on how actors define the success of a study (see Section 2.3). For example, it can be hypothesized that, when a study has been finished some time ago, the actors will concentrate on the ultimate results and effects of the study, and when a study is still in process or only recently carried out, the actors will concentrate on the content and process of the study. On the basis of the empirical data nothing can be said about this hypothesis with respect to individual actors or individual cases. The empirical data, however, may provide insights into this matter across the cases.

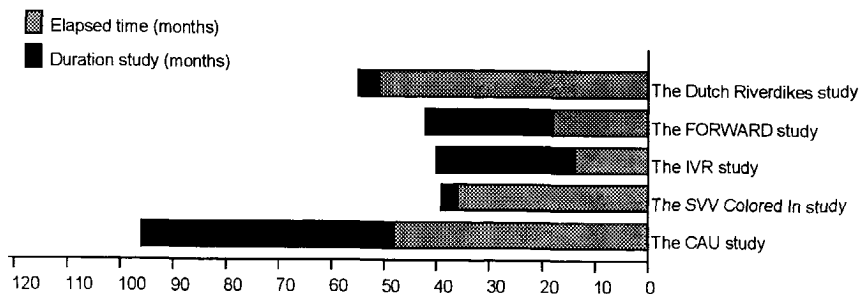


Figure 6.2: Duration of the studies and elapsed time until interviews were held

Figure 6.2 shows the duration of the study for each case and the time between when the study was finished and the actors were interviewed, i.e. the elapsed time. It appeared from the empirical data that the results and the effects of the study seem to

be critical to the final evaluation for most of the actors, particularly for those related to the Dutch Riverdikes study, the FORWARD study, the IVR study, or the SVV Colored In study (see Figure 6.3 in Section 6.4). For these cases, the actors concentrated less on elements with respect to the content of the study, the research process and the input to the study. The elapsed time in the case of the IVR study and the FORWARD study, however, were the smallest compared to the other studies. Thus, the empirical data point in an opposite direction to the hypothesis. Similarly, with respect to the CAU study most of the elements mentioned by the actors relate to the content, process and results of the study, while the elapsed time is almost the largest for this study. It might be that, for the IVR study and the CAU study, the effects of the length of the elapsed time are overruled by other factors. For example, the nature of the CAU study, an open interactive process that was highly intertwined with the policy process, and the duration of the study (~ 4 years) might be the determining factors for actors to focus on the content, process, and results of the CAU study in evaluating its success. The high impact of external factors on the IVR study might be the determining factor for the actors to focus on the effects of the IVR study in evaluating the success of the study. The empirical data show that, indeed, the elapsed time might have an impact on the identification of success elements, however, the impact might have been overruled by other factors that determine the success perceptions of actors.

In light of the above, it is interesting to question how the actors' definitions of the success of a policy analysis study change over the period in which the study was carried out. Elaborating on this, it would be interesting to analyze the requirements that a policy analysis study should meet to be successful from an actor perspective before the starting point of the study, and compare these requirements with the success perceptions of the actors some time after the study. The actors' requirements on forehand and their definition of success afterwards might be very different.

6.4 Empirical data and hypotheses from the literature

This exploratory research rests on a broad conceptual basis, including characteristics of the actors, characteristics of a policy analysis study, characteristics of the study's context, and a conceptual structure for classification of success elements. Literature on evaluation of policy analysis studies and relevant literature on other, related areas of research were used to set up the conceptual basis. The conceptual basis was developed to identify how different actors define the success and failure of policy analysis studies and to analyze factors that possibly determine these definitions of success.

Differences in the success criteria proposed in the literature can, to a large extent, be attributed to differences in normative views on what is considered good policy, a good policy process, and good support of policy processes. For example, when the instrumental rationality of policy analysis studies is stressed, content related criteria are central to the evaluation. When criteria for good policy focus on agreement,

support and process related elements come to the forefront to evaluate a policy analysis study. This research was not set up with the intention to provide a normative view on successful policy analysis studies. The empirical data, however, provide the opportunity to analyze hypotheses that stem from such normative views. The following subsections elaborate on the question whether the empirical data from the five case studies support or refute such views and hypotheses.

The focus of subsection 6.4.1 is on the hypotheses that follow from the normative views described in Section 3.3, i.e. the paradigm of policy analysis as information provider and the paradigm of policy analysis as participative processes. The hypotheses that result from evaluating policy analysis studies from the perspective of different types of analysts are discussed in Subsection 6.4.2. The focus of the following subsections is on paradigms that are not introduced in Section 3.3, but which possibly provide an understanding of the results of this research. Subsection 6.4.3 contains a discussion of various strategic reasons, other than the formal reason, for initiating a study and their possible influence on how different actors define the success of a study. Finally, the paradigm of research utilization in public policy making, which generally indicates that government policy makers rarely utilize the information that is specifically generated for them is considered in subsection 6.4.4.

6.4.1 Policy analysis as information provider versus process facilitator

The paradigm of policy analysis as information provider emphasizes the substantive aspects of a policy analysis study (see Section 3.3). The generation and presentation of objective information are at the core of a study (Miser & Quade 1985 and 1988a). From this perspective policy analysis studies are independent scientific efforts producing value free information for policy makers. The paradigm of policy analysis as participative policy-oriented processes, however, focuses on interactive processes, characterized by active interchange of information and points of views among the participants. From this perspective policy analysis studies have a role as process facilitator.

From these points of view, the nature of the study seems to play a large role in successful analyses. The FORWARD study, the IVR study, and the SVV Colored In study particularly fit into the 'policy analysis as information provider' view of what constitutes a good policy analysis study. These three studies were analytic efforts aiming at gathering, integrating, and structuring information for debate. Furthermore, in the three studies technical, substantive data was used and there were almost no interactions with parties at interest, so as not to interfere with the policy processes. Consequently, from the perspectives described above, it might be hypothesized that the actors related to the information oriented studies focus more on content related elements than the actors related to the other two studies, i.e. the Dutch Riverdikes study and the CAU study. After all, the Dutch Riverdikes study and the CAU study were more open interactive processes aiming at improvement of mutual understanding, relationships, support, etc.

The analysis in Chapter 5 showed that the nature of the study is not a factor that clearly distinguishes the cases in terms of the elements that actors consider in evaluating a study's success. The empirical data even point in an opposite direction to the hypothesis. It has to be noted in this respect that in Chapter 5 the differences and similarities among cases were analyzed at a detailed level of elements. As outlined below, however, the empirical data also do not support the hypotheses when a more aggregated level of information, i.e. categories of elements, is considered.

The charts depicted in Figure 6.3 show, for each case, per category of elements, the average number of elements mentioned by the actors interviewed. That is, the number of elements is divided by the number of actors interviewed.¹¹ For example, in the CAU study every actor mentioned, on average, 2 elements with respect to the process of the study, whereas they mentioned, on average, 1 element with respect to the effects of the study. The charts clearly show that there is no significant difference between, on the one hand, the Dutch Riverdikes study and the CAU study, and on the other hand the FORWARD study, the IVR study, and the SVV Colored In study in terms of the average number of content related elements mentioned by the actors. The charts also show that the actors related to the technical, analytical studies do not mainly focus on content related elements. On the contrary, their main focus is on the effects of the study, something that would be expected from the actors related to the Dutch Riverdikes study and the CAU study. After all, the focus of these studies was more explicitly on improving mutual understanding, relationships, and support.

¹¹The average number of elements mentioned by actors of study i is expressed by: $\left(\sum_{j=1}^{N_j} E a_{ij} \right) / n a_i$,

where $E a_{ij}$ is the number of actors related to study i that mentioned element j , N_j is the total number of elements mentioned by at least one actor related to study i , and $n a_i$ is the total number of actors interviewed with respect to study i .

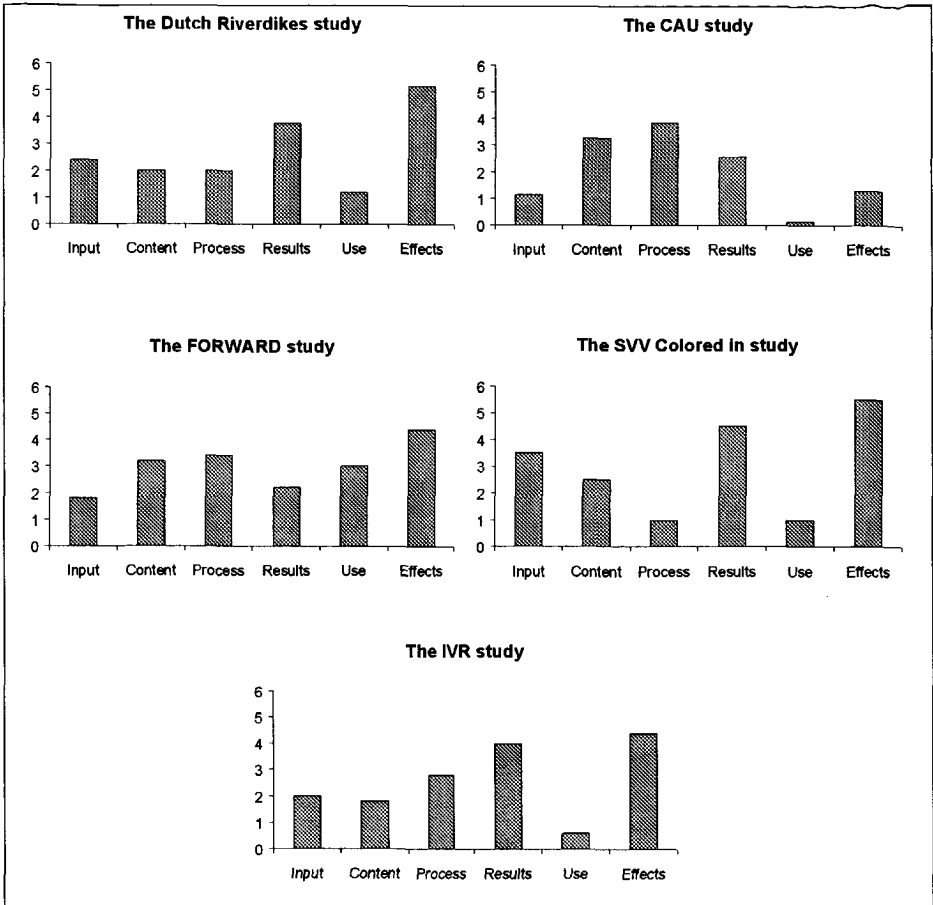


Figure 6.3: Average number of elements mentioned by the actors interviewed, for each category

Figure 6.3 does not provide insights into what elements actually were mentioned. Actors of different cases may focus on similar categories of elements, but may not focus on similar elements within the category. For example, as is known from the FORWARD study, the actors focus on new projects being set up and the increased attention given to freight transportation in general by the Ministry. The actors interviewed with respect to the Dutch Riverdikes study also mentioned many effect related elements, but then in terms of bringing parties together, overcoming the impasse, and increasing public support.

Furthermore, it should be noted that the average number of elements mentioned by the actors is one of the various proxies for testing the hypothesis that follows from these paradigms. Other proxies, for example, could focus on the relative importance of the various success elements. It might be possible that such a proxy would show that the actors related to the CAU study consider the effects of the study of much more importance in evaluating the study than the process related aspects. The

empirical data, however, do not provide the information for applying such a proxy. It may be assumed, though, that people only mention many elements about issues that they consider important. Making this assumption implies that the average number of elements the actors mentioned within a category also provides an indication of the relative importance of the various categories of success elements.

6.4.2 Types of analysts

In his book 'Policy Analysts in the Bureaucracy', Meltzer classified analysts by their political and analytical strengths or skills (Meltzer 1976). Analysts with high political and high analytical skills were classified as *entrepreneurs*. Analysts with high political and low analytical skills as *politicians*, and analysts with low political and high analytical skills as *technicians*.

Meltzer described the success of a policy analysis study from the perspective of the three types of analysts. According to Meltzer, the technician focuses on the content of the analysis and the learning effect it has on parties involved. The politician focuses mainly on the acceptance of the results and the effects of the analysis on the policy and problem situation. The entrepreneur considers criteria from both the technician and politician. Entrepreneurs additionally focus on process and communication aspects. Meltzer's view is described in more detail in Section 3.3 and Section 3.5.

In this research no distinction was made among these three types of analysts. The characteristics on the basis of which the analysts can be classified in one of the three categories, i.e. political and analytical strengths or skills, are not explicitly considered in this research. Consequently, the empirical data gathered in this research do not provide a sound foundation for making conclusive statements about Meltzer's paradigm.

Nevertheless, a rough classification was made of the analysts related to the five case studies to investigate whether it is worthwhile to do more research into this direction. The rough classification is made on the basis of the descriptions of the actors given in Chapter 4. Table 6.1 gives an overview of the classification. The actors are numbered as in Table 5.2 in Section 5.3; the letters refer to the case study to which the particular actor was related: D = the Dutch Riverdikes study; F = the FORWARD study; I = the IVR study; S = the SVV Colored In study; C = the CAU study.

Table 6.1: Classification of analysts

Technicians	Politicians	Entrepreneurs
7. Sub contractors (F)	8. Ministry's team (F)	1. Project team (D)
13. Sub contractors (I)	19. Steering group (C)	6. Analysis team (F)
		12. Main contractor (I)
		16. Analysis team (S)
		18. Project group (C)

Figure 6.4 shows, for the three types of analysts, per category of elements, the average number of elements mentioned by the analysts.¹²

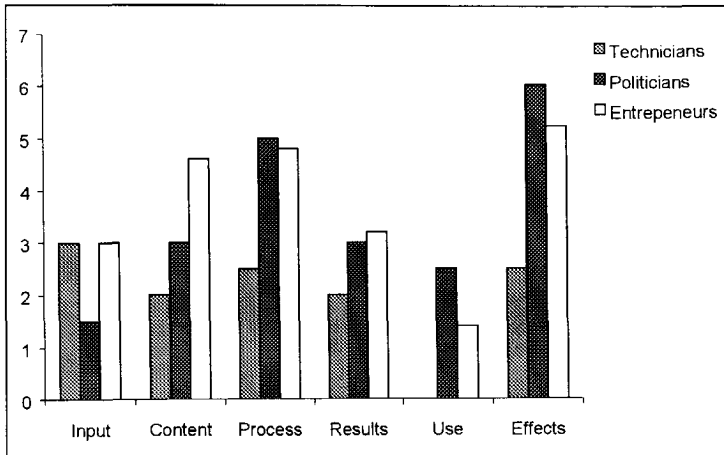


Figure 6.4: Average number of elements per type of analysts, for each category

The figure clearly shows that the politicians focus mainly on effect related elements, which is in line with Meltsner's paradigm. The figure also shows that the entrepreneurs mentioned many elements and spread their attention over the full scope of elements. The technicians mentioned significantly fewer elements than the other analysts did. Similar to the entrepreneurs, however, they do spread their attention over the full scope of elements, with a slight emphasis on input related elements, e.g., the expertise of the research organizations, the aim of the study, and the process of setting up the study. Furthermore, the entrepreneurs stand out in terms of the content related elements. The fact that the entrepreneurs mentioned many

¹²The average number of elements mentioned by analysts of type t is expressed by: $\left(\sum_{j=1}^{N_t} Ea_{jt} \right) / na_t$,

where Ea_{jt} is the number of analysts in group t that mentioned element j , N_t is the total number of elements mentioned by at least one analyst in group t , and na_t is the total number of analysts interviewed in group t .

process related elements is in line with Meltsner's paradigm. The politicians, however, mentioned on average even more process related elements, which is not indicated by Meltsner.

As said above, the classification given in Table 6.1 is not based on a measurement of the political and analytical skills of the analysts, and, in that sense, the classification is subjective. The classification of the analysis team of the FORWARD study (no. 6) and the main contractor of the IVR study (no. 12) in particular is doubtful, they can also be classified as technicians. Doing so results in an average number of elements, per category, mentioned per type of analyst as depicted in Figure 6.5.¹³

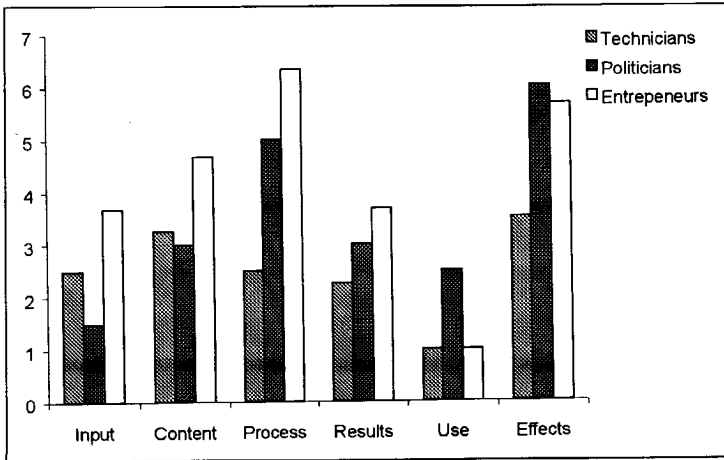


Figure 6.5: Average number of elements per type of analysts, classifying actors 6 and 12 as technicians, for each category

Similar observations can be made from Figure 6.5 as from Figure 6.4: the politicians focus mainly on effect related elements; the entrepreneurs mentioned many elements and spread their attention over the full scope of elements; the technicians also spread their attention over the full scope of elements, but mentioned significantly fewer elements than the other analysts did. Figure 6.5, however, is more in line with Meltsner's paradigm in the sense that the technicians focus on content related elements, that is, more than the politicians, and the entrepreneurs focus more than the politicians on process related elements in valuing the success and failure of a policy analysis study.

In summary, this research and its findings do not provide a sound basis for either rejecting or confirming the hypotheses that follow from Meltsner's paradigm. Using a rough and subjective classification of the analysts, however, indicates that it might be worthwhile to do more research into this direction to answer the question whether, and if so, how, the political and analytical skills of analysts determine their vision on what constitutes a successful policy analysis study.

¹³ The same expression is used as for Figure 6.4.

6.4.3 Strategic functions of policy analysis studies

The reports of a policy analysis study generally describe the formal reason for initiating the study. This reason might be geared at providing information or facilitating a particular policy process. For example, the FORWARD reports point out that the study was formally initiated to gain insights into various policy options, and their effects, to mitigate the negative effects of freight transportation, while retaining the economic benefits. The Dutch Riverdikes study was initiated to provide information and facilitate the political process, which was at an impasse.

Various authors point out that strategic reasons might play a role in initiating and valuing a study, in addition to the formal reason for setting up a study (Jong 1985; Weiss 1979; Twist & Edelenbos 1997). These functions and underlying motives are usually not described in the reports or pronounced by the actors. This paradigm is described by Twist and Edelenbos (1997). They distinguish the following strategic functions of policy analysis studies:

- *Shelving function*

A policy analysis study can be initiated to delay or even postpone certain processes. For example, a study can be used to remove particular issues from the political agenda, or to delay changing plans to avoid a touchy subject.

- *Rationalization function*

A client organization might initiate a policy analysis study to find arguments and justify the policy plans, upon which the organization already decided. As a result of that, a line of defense is created to take the wind out of the sails of critical persons and to show that the suggested policy plans are really necessary.

- *Hedging function*

Policy analysis studies are sometimes initiated by client organizations to gain immunity from criticism. Involving critical outsiders in, and giving them responsibility for, a part of, a policy analysis study and the corresponding policy processes neutralizes the influence of these outsiders.

- *Shirking function*

One of the strategic functions might be to pass the problems on to someone else. Initiating a policy analysis study gives the problem holder the opportunity to hand over temporary the responsibility for the problem to the policy analysts and to tell the outside world that the problem is being worked upon.

- *Ventriloquizing function*

Policy analysts might be (mis-)used by the client organization to propagate the opinions and policy of the organization. Although these are the opinions and policy of the client organization, the organization would like these to appear as neutral, objective and professional results of a policy analysis study.

- *Scapegoat function*

From this perspective, the policy analysts fulfill the role of lightning rod. They are asked to facilitate a process of change, which is generally experienced as unpleasant and for which the client would rather not be responsible.

According to Twist and Edelenbos (1997), in addition to the formal functions of a policy analysis study, strategic functions play a major role in the outcome, and consequently in the success perceptions with regard to policy analysis studies. It might be expected that the strategic functions particularly are reflected in the success definitions of client organizations.

The strategic functions and their influence on how actors define the success of a policy analysis study is very hard, if not impossible to identify, not in the least because these functions are usually not described in any public documentation and because the actors generally are non-committal about this. Still, this research identified various elements that possibly relate to strategic functions of a policy analysis. For example, in the Dutch Riverdikes study many actors interviewed pointed out that the expertise of the research organizations, the independence of the research organizations, and the involvement and input from various parties with interests in the policy analysis study are three important elements to consider in valuing the study's success. Considering these success elements might be based on an intended hedging and ventriloquizing function for the policy analysis study. Another example arises from the FORWARD study. One of the reasons of the client organization, i.e. the Ministry, considered the FORWARD study to be a successful policy analysis study, was that carrying out the study was a way for them to show other parties with interests in the field of freight transportation that the Ministry was looking very seriously at the problems. It may be that this success perception is based on a shirking function, which the client organization assigned to the FORWARD study. The rationalization function might have played a role in the IVR study. According to the client and the policy makers, the graphical presentation of the results of the study in particular was a very successful element of the study, because, as they put it, "it helped in sending out the message clearly and understandably to the public". For the SVV Colored In study it was clear that other functions were assigned to the study, aside from the formal function of providing information to the policy makers. The study was also seen as a proficiency examination for AVV. AVV wanted to prove itself within the Ministry, to draw the attention of the policy makers to its capacity, and to enlarge its input to following policy processes.

In summary, from the empirical data it can be concluded that, in some cases, some actors assigned strategic functions to the policy analysis study to which they were related and that these functions play a role in forming their view on the success and failure of the study. The strategic functions, however, are the only factors determining the elements that actors focus on in evaluating a policy analysis study. For example, for the Dutch Riverdikes study, the three elements mentioned above seem to stem from strategic functions that actors assigned to the study. For the other 40 elements, including availability of the results and the effects on the problem situation, it is not obvious whether they directly or indirectly relate to strategic functions. They might stem from other determining factors. Similarly, for the FORWARD study one element seems to be explained from a strategic function that an actor assigned to the study. The other, almost 50 elements mentioned are not

patently obviously related to a strategic function assigned to the study. Consequently, a very small percentage of the total elements mentioned seem to be explained by the model of strategic functions. It remains true, though, that this research does not provide insights into the relative importance of the strategic functions and the related success elements.

6.4.4 Research utilization in public policy making

Much is written about research utilization in public policy making. The literature on knowledge utilization contains an increasingly rich body of conceptual frameworks in an attempt to explain and to understand the use and role of information in policy making (Greenberg & Mandell 1991). Despite these attempts, there is no generally accepted and well defined framework that explains the full range of conditions under which policy analysis studies are utilized (Lester 1993). Furthermore, various and often not explicitly stated meanings are attached to the term 'utilization'. Some authors refer to situations in which policy studies and their findings directly affect specific decisions that policy makers make, while other authors refer to situations in which the information changed the way the policy makers see the world (Lester 1993; Shulock 1999; Weiss 1979). Although different authors may focus on different notions of use, it becomes clear from the literature that knowledge utilization is generally viewed as a broad concept, including various stages and types of utilization, e.g., potential users receiving the information, potential users reading, digesting, and understanding the information, influencing the actions of policy makers, changing the mental frames of policy makers, affecting policy outcomes and implementation, and improving the problem situation.

Despite a growth of attention to the importance of information in policy making processes, many authors point out that recent studies generally indicate that government policy makers rarely utilize information. There is an apparent paradox: The last two decades have seen tremendous growth in the policy analysis profession, yet there is substantial documentation that analysis is not used by policy makers to solve problems or even to choose among alternatives in the design of public policies (Shulock, 1999). There is a gap between the analysts' presumption that the information that they produce should be used and the actual behavior of decision makers (Hupe 1987; Oh & Rich 1996).

The findings of the present research, however, give the impression that the utilization of policy analysis studies and their results is not as low as suggested in the literature. In this research the terms 'use' and 'effects' (see Section 3.6) reflect the utilization aspects indicated in the literature. The research showed that many actors focus on effect related elements to value, from their perspective, a study's success. Furthermore, these elements are generally valued positively (see in Chapter 4 Table 4.2 for the Dutch Riverdikes study, Table 4.4 for the FORWARD study, Table 4.6 for the IVR study, Table 4.8 for the SVV Colored In study, and Table 4.10 for the CAU study).

It is true that the success elements, which relate to who uses which aspects of the study for what purpose, score lowest for all case studies in terms of the number of elements mentioned (see Figure 6.3 in subsection 6.3.1), i.e. the actors do not focus on elements related to the use of the study, in evaluating a study's success. Figure 6.3 in subsection 6.3.1 also shows, however, that the actors mentioned many different effects of the study. Apparently, the actors are not so much interested in who uses which aspects of a study for what purpose. They are more interested in the effects of the study to value the success and failure of the study.

Different factors may have played a role in utilizing the information provided by the five case studies. The Dutch Riverdikes study was carried out in a situation that was at an impasse. Consequently, the decision makers and other parties at interest received the results of the study with open arms as a starting point for improving the problem situation. During the period in which the IVR study was carried out parts of the Netherlands were rudely woken up by floods. As a result of that the IVR study got more attention from, and was utilized by the policy makers. The SVV Colored In study was especially carried out as an input to the policy makers' discussion about the Ministry's budget. The results of the study were delivered and discussed with the potential users, just before the discussion on the Ministry's budget, to maximize the chances that the results would be utilized in the policy making process. The CAU study had a formal status, which guaranteed that the results of the study were used in the policy making processes. For the FORWARD study no clear factor can be identified for the utilization of the results, other than that the study was drawn into a need and provided clear insights into the problem situation and into possible solutions.

In summary, this research showed that many actors, including the analysts and the potential users of a study, focus on and positively value various utilization aspects in evaluating a study. It has to be noted, though, that the literature that points to research utilization in public policy making usually refers to a general and broadly defined set of policy studies, rather than to policy analysis studies in particular. In addition, the settings of the studies considered in this research were particularly beneficial for utilizing the studies and their results. Most of the five case studies were carried out for a particular client, were considered relevant, focused on topical policy issues, and were drawn into a need.

6.5 Issues of concern in evaluating policy analysis studies

In this research elements were identified on the basis of which actors value the degree of success of a policy analysis study. Furthermore, the question asked was whether, and how, the definition of success is determined by the characteristics of the actor concerned, and/or by the characteristics of the study, and/or by the characteristics of the study's context. The resulting list of success elements and the corresponding questions (see Appendix E) provide a helping hand in evaluating the success and failure of policy analysis studies from different perspectives. In studying

how different actors define the success of policy analysis studies some issues of concern emerged with respect to setting up and carrying out an evaluation of a policy analysis study. These issues are outlined below.

Formal or actor based evaluation

There are two general ways to evaluate a study: a formal evaluation and an actor based evaluation. The formal evaluation attempts to apply a clearly defined process and explicit criteria to determine the extent to which a study is a success. Some of the success elements may be directly and objectively observable, e.g., the thickness of the reports and whether the policy documents refer to the findings of a policy analysis study. The selection and valuation of the success elements, however, is entirely based on the perspective of the evaluator.

The study may also be evaluated from the perspective of the actors that were related to the study. Such actor based evaluation is by its nature subjective. As seen from this research, the actors may focus on different elements to value the success of a study. Furthermore, the actors may differ in terms of the valuation of such elements, and in terms of how the actors relate the elements and values to formulate their success perception.

Evaluators should make a distinct choice about the type, or combination of types of evaluations, depending on the objectives of their research.

Value assignment and success perceptions

In this research, elements related to policy analysis studies that provide a relevant basis for success assessment were identified. As indicated above, clear choices need to be made about which elements to focus on in defining and assessing the success of a policy analysis study. Aside from these choices, the values assigned to these elements need to be considered to score a policy analysis study on the selected success criteria. Furthermore, a function of the elements and values needs to be specified to formulate an overall judgement about the success caliber of a study.

Values can be specified in various gradations, either in qualitative or in quantitative terms, ranging from very negative to very positive. A function of the elements and values to express the success of a study can also be specified in various terms (see Section 3.2). Using a formal method to evaluate the success of a policy analysis study, the valuation method and the function of the elements and values to express the success of a study are designed and applied by the evaluators. In the actor based evaluation the values and success function are assigned by the actors, possibly leading to an actor dependent judgement of the study's success.

Observability

Operationalization and observability have to be taken into account in setting up and carrying out evaluation research of policy analysis studies. Evaluation of the success and failure of policy analytic studies, from whatever perspective, requires that the success elements and the corresponding evaluation criteria be operationalized into

measurable variables (Andersen 1997). The thickness of the reports of a policy analysis study can be observed directly, but changes in relationships among actors as a result of a policy analysis study can only be measured indirectly. Surveys or interviews could be set up to detect such effects, but considerable attention should be paid to the design of the questions and the operationalization of the rating scales and/or indicators.

For success elements that are not directly observable, proxies need to be defined and the underlying assumptions about the relationship between the elements and the proxies should be made explicit. For example, if one is not able to observe the ultimate effects of a policy analysis study on the mental frames of the policy makers, observation and evaluation of the usage of arguments from the analysis reflected in policy documents may be used as a proxy. The underlying assumption would be that, if the findings of a policy analysis study were reflected in policy documents, the study changed the way policy makers see the world, particularly the problem situation and possible solutions. If it is also not possible to observe whether and how the findings of a policy analysis study are reflected in policy documents, a proxy related to the study's results may be used, e.g., the innovative character of the results. Using such a proxy would be based on the assumption that new, innovative information affects the mental frames of policy makers in one way or the other. The potential pitfall of using such a proxy, however, is that this presumed relationship may not be true and that innovative information does not affect, or has a contrary effect on, the mental frames of policy makers. In more general terms, a high valuation of elements related to the characteristics of the results of the study may not automatically lead to a high score on effect related elements.

This research was focused on the identification of success elements and not on the observability and operationalization of these elements into measurable variables. During the interviews different questions were asked pointing at various elements to trigger the interviewees to indicate all the elements that they consider in evaluating a study's success. Such questions might be used as a first step towards operationalization of the elements. Examples of such questions are given in Appendix E.

Comparing studies

It would be interesting to compare various policy analysis studies in terms of their success and failure. It would also be interesting to gain insights from such *comparative research into the conditions that determine the success and failure of such studies*. Such insights would, in the end, provide a basis for setting up and carrying out policy analysis studies geared at improving the successfulness of such studies. Comparing the success of various policy analysis studies, or the success of specific aspects of policy analysis studies, however, requires using the same measuring rod for evaluating each study. That is, a common, generally applicable set of operationalized elements, a standardized method for valuing the elements, and a predefined success function of the elements and values are required to pronounce

upon the mutual differences and similarities in terms of the success and failure of the policy analysis studies.

This research showed that there is no basis to compare the success and failure of different studies using an actor based evaluation method. It appeared that different actors focus on different elements in evaluating the success of a study. Furthermore, on the basis of this research it is not possible to identify different standardized success definitions as a function of the characteristics of the actor whose perspective is concerned, and/or the characteristics of the study concerned, and/or the characteristics of the study's context. Even if a group of actors uses the same set of elements to evaluate a study, a complication emerges in comparing the success of different studies. The different actors in the group might value the elements differently and express the success of a study in terms of a different function of the elements and values. If this is the case, no general statements can be made about the extent of success of a study. It is only possible to compare the success and failure of policy analysis studies at an actor level if they use the same measuring rod for evaluating the successfulness of a study.

Applying a formal evaluation method, i.e. using a specified set of success elements, a specified valuation method, and a specified success function of the elements and values, however, implies that the same measuring rod is used for each study to evaluate its success. Consequently, it is possible to compare the differences and similarities among policy analysis studies in terms of the success and failure of the studies by using a formal evaluation method.

6.6 Future research

Indications for various directions for future research have been given in the previous sections of this chapter. Section 6.3 indicates that it is interesting to analyze how and why the actors' definitions of success of a policy analysis study change over the period in which the study was carried out. In terms of generalization it is suggested to do a similar study on the success perceptions with respect to policy analysis studies in other areas, e.g., health care or the telecommunication sector, to analyze whether the conclusions drawn upon this research also hold in other areas. Furthermore, the conceptual basis and the corresponding list of success elements may prove to be valuable in evaluating other types of research or policy processes.

In Section 6.4 various hints for future research are given in light of the paradigms discussed. For example, it might be worthwhile to do systematic research on the strategic functions that actors attach to the policy analysis study to which they are related and to analyze the influences these functions have on the success perceptions of these actors. Furthermore, Meltsner's paradigm on different types of analysts and the hypotheses that follow from it would be worthwhile to investigate in more detail.

Section 6.5 showed that various issues of concern, which emerge in setting up and carrying out an evaluation of a policy analysis study, need more attention from the

scientific world. The operationalization and observability of success elements particularly need more attention. Measuring the values assigned to success elements and formulating the success of a study as a function of the elements and values also need more attention.

The most interesting question to be addressed in future research focuses on how policy analysis studies should be designed and carried out to maximize the probability of reaching the success from a particular perspective. This research was not designed to answer this question. Still, some speculations are given in the next section on the basis of the empirical data from the five case studies.

6.7 Designing policy analysis studies for success

Identifying the elements that actors focus on in valuing the success of a policy analysis study from their perspective is a first step towards answering the question how policy analysis studies should be designed and carried out to maximize the probability of reaching success from a particular point of view. This section elaborates on some success elements that many actors mentioned during the interviews and on the possible implications for designing policy analysis studies.

The broadness of a study appeared to be one of the elements that many people focus on in evaluating the success and failure of a policy analysis study. Almost all actors related to one of the five case studies mentioned this element during the interviews. From this perspective, policy analysis studies should devote a substantial effort to identifying all aspects that are relevant to the problem situation. This includes an exhaustive search for new ideas and alternatives, paying adequate attention to all interests, and possibly an investigation of related problems. This is in line with the normative views of various authors, e.g., Geurts, Vennix, Hoogerwerf (Geurts & Vennix 1989; Hoogerwerf 1984 and 1992), in particular of those who consider the role of policy analysis studies as participative learning processes and of authors within the research area of policy theory. Authors who consider policy analysis studies to be mainly information providers also point at the broadness of a study.

This research also showed that actors focus on the presentation of the results as a success element. This element did not play so much of a role in the studies that were highly visible, i.e. the Dutch Riverdikes study and the CAU study. The element was mentioned, however, by many actors related to studies that did not 'automatically' get so much attention, i.e. the FORWARD study, the IVR study, and the SVV Colored In study. For such studies it is important to devote a substantial effort to the presentation of the results. From the empirical research it appeared that the presentation should be clear, well structured, delivered in time, and adequately illustrated with figures and tables. The presentation may be written or oral and should focus on the audiences, to the end that they can use the findings in their further thinking about the problem situation. Authors such as Goeller, Miser and Quade, who stress the function of policy analysis studies as information provider, also recognize the importance of the presentation of a study and its results (Goeller

1988; Goeller et al. 1995; Miser & Quade 1985 and 1988a). They do not, however, relate the extent of importance to the 'automatic' visibility of the study as a result of its context.

Furthermore, the results should match with the policy process and needs, according to the actors related to particularly the SVV Colored In study, the CAU study, and the Dutch Riverdikes study. Reaching success from this perspective implies the following necessary conditions, as stated by Goeller (Goeller et al. 1995), (1) effective communication with the sponsor and the other actors involved throughout the study and its follow up, and (2) partnership with the sponsor in pursuing the work and the consequences of its findings. It should be noted, though, that the actors related to the other studies, which were less intertwined with and geared towards the surrounding policy process, i.e. the FORWARD study and the IVR study, focused less on this element in evaluating the study's success.

The empirical data showed that many actors also mentioned that they would focus on various effects of the study to value its success. More than 40% of the interviewees considers in their evaluation the increased insights into the problem situation and into the trade offs to be made. Furthermore, at least 50% of the interviewees who were related to the Dutch Riverdikes study and more than 50% of the interviewees who were related to the CAU study mentioned the increased support of parties at interest. In both studies many parties at interest were involved in the policy analysis process. When viewing a policy analysis study as a participative learning process, reaching success implies that (1) the methods of analysis should stimulate the communication among the actors with different ideas and backgrounds, (2) the study should show what is known and what is not known or uncertain, (3) the screening of alternative policy options should be made considering all interests, and (4) the study should fit within the rules and structure of the policy network (Geurts & Kasperkovitz 1994; Geurts & Vennix 1989). In addition, analysts have the opportunity to increase the success in terms of the effects of a study, e.g., improving the problem situation, changing the mental frames of the policy makers, and/or affecting the policy processes, by frequently communicating with the potential users of the study's results. As mentioned above, the analysts should particularly communicate frequently with the client and/or sponsor organization before, during, and after the study.

From the research it appeared that the unique characteristics of the context in which a study was carried out might influence how actors define and assess the success of a policy analysis study. For example, the situation in which the Dutch Riverdikes study was carried out was at an impasse, which made people focus on the effects of the study on this impasse. People were very pleased with the study because of its positive effects on the situation. Furthermore, in the IVR study, the flood waters caused much attention for the study and allowed a demonstration of the capabilities of the model that was developed during the study. In general, the analysts do not have much control over the context in which the study is carried out. Consequently, it may be concluded that the analysts also have no control over such effect related success. Still, in designing a research approach for a policy analysis study, the

analysts can create the ability to leap into new issues, which suddenly become relevant as a result of changes in the context. What is known in policy analysis as iteration, that is, a circular reasoning from objectives to alternatives to data and back again as many times as necessary (Archibals 1980), may increase the likelihood of effect related success. According to Archibals, problems, objectives, alternatives, data, and information are mutually interdependent and mutually interdependent with the continuing changing context that produces them. Iteration is a way of creating a flexible research design and the possibility to react upon a changing context.

Actors appeared not to consider many content related elements in formulating their opinion about the success and failure of a study (this is indicated in Figure 6.3). The methodological aspects in particular were rarely mentioned during the interviews. The interviewees tended to assume that the content of the study was correct and did not worry about it in valuing the success of a study. Those who design and/or carry out policy analysis studies should still be aware of the fact that, although actors generally do not measure the success of a study in terms of content related elements, these elements might be necessary conditions for the study's success as perceived by the various actors. As Goeller pointed out, there is a hierarchy among the different types of success, and, in Goeller's terminology, analytic success is the foundation for utilization and outcome success (Goeller 1988). Consequently, internal inconsistency or the use of an invalid model may have disastrous effects on the success of a study in terms of its use by policy makers and effects on the problem situation. Therefore, it is important to carry out an analytically sound study. The authors who stress the function of policy analysis studies as information providers especially focus on the content of a study. According to them, a study should, for example, explicitly recognize and carefully treat uncertainties. The input data should be scrutinized for accuracy and relevance before being transformed into information and applied as evidence. Models should be selected and developed so as to be appropriate to the problem, and the models should be verified to test their validity.

In summary, analysts have many opportunities when designing and carrying out a policy analysis study to increase the probability of the study's success from a particular perspective. The broadness of the study, the presentation of the results, its match with the policy process and needs, iteration, communication, and the research methodology particularly require special attention in setting up a policy analysis study.

GLOSSARY

English	Dutch	Abbreviation
Amsterdam-Utrecht corridor	Corridor Amsterdam-Utrecht	CAU
CAU study	Studie 'Corridor Amsterdam-Utrecht'	C
Cityplan of Utrecht	Utrecht Stadsplan	
Cost-Effectiveness Model		CEM
Council of Water Management	Raad van Waterstaat	
Decision support instrument developed in the IVR study		IVR-DSS
Delft Hydraulics	Waterloopkundig Laboratorium	WL
Directorate Individual Passenger Transport of the former Directorate-General of Transport	Directie Individueel Personen Transport van het voormalig Directoraat-Generaal Vervoer	
Directorate Strategy and Planning of the former Directorate-General of Transport	Directie Strategie en Planning van het voormalig Directoraat-Generaal Vervoer	
Directorate-General of Public Works and Water Management	Directoraat-Generaal Rijkswaterstaat	RWS
Dutch Railway Company	Nederlandse Spoorwegen	NS
Dutch Riverdikes study	Studie 'Toetsing Uitgangspunten Rivierdijkversterking'	D
Eastern Netherlands Directorate of RWS	Directie Oost Nederland van Rijkswaterstaat	
Environmental Impact Assessment		EIA
Environmental Impact Statement	Milieu Effect Rapportage	in Dutch: MER in English: EIS
Former Directorate-General of Transport of the Ministry of Transport, Public Works and Water Management	Voormalig Directoraat-Generaal Vervoer van het Ministerie van Verkeer en Waterstaat	DGV
FORWARD study	Studie 'FORWARD'	F
Fourth Policy Document on Water Management	Vierde Nota Waterhuishouding	

English	Dutch	Abbreviation
Freight Options for Road, Water And Rail for the Dutch		FORWARD
Geographical Information Systems		GIS
Group Decision Support Systems		GDSS
Implementation EIA	Inrichtings-m.e.r.	
Institute for Inland Water Management and Waste Water Treatment of the Ministry of Transport, Public Works and Water Management	Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalwaterbehandeling van het Ministerie van Verkeer en Waterstaat	RIZA
Integrated Policy Plan for the Amsterdam Rhine Canal	Integraal Beleidsplan voor het Amsterdam-Rijnkanaal	
IVR study	Studie 'Integrale Verkenningen van de Rijntakken'	I
Landscape Planning for the river Rhine in the Netherlands	Integrale Verkenningen van de Rijntakken	IVR
Living Rivers (a plan written by the World Wildlife Fund)	Levende Rivieren	
Menu for SVV II study	Studie 'Menu voor SVV II'	
Minister of Transport, Public Works and Water Management	Minister van Verkeer en Waterstaat	the Minister
Ministry of Transport, Public Works and Water Management	Ministerie van Verkeer en Waterstaat	the Ministry
National Environmental Policy Plan Plus	Nationaal Milieubeleidsplan Plus	
National Planning Commission	Rijksplanologische Commissie	
Nature Policy Plan	Natuur Beleidsplan	
Netherlands Economic Institute	Nederlands Economisch Instituut	NEI
Perspectives Note (policy document)	Perspectievennota	
Plans for the rail in the Randstad.	Randstadspoor	
Platform for Transport and Infrastructure (a consultative body established by the Ministry)	Overlegorgaan Verkeersinfrastructuur	OVI

English	Dutch	Abbreviation
Policy Analytic Computational Environment for FORWARD		PACE-FORWARD
Policy Assessment Report	Beleids-effecten Rapportage	BER
School of Systems Engineering, Policy Analysis and Management at Delft University of Technology	Technische Bestuurskunde	SEPA
Second Transport Structure Plan (a policy statement on transport)	Tweede Structuur Schema Verkeer en Vervoer	SVV II
Space for the River study	Studie 'Ruimte voor de Rivier'	RVR
Strategic Policy EIA	Beleids-m.e.r	
SVV Colored In study	Studie 'SVV Ingekleurd'	S
Third Policy Document on Water Management	Derde Nota Waterhuishouding	
Transport in Balance (a policy document focusing on freight transport)	Transport in Balans	TIB
Transportation Research Center of the Ministry of Transport, Public Works and Water Management	Adviesdienst Verkeer en Vervoer van het Ministerie van Verkeer en Waterstaat	AVV
Urban area in the Netherlands that stretches from Dordrecht in the south, through Rotterdam and The Hague to Haarlem and Amsterdam in the north and Utrecht in the east	Randstad	
Utrecht-arch (an additional connection between the railway track Amsterdam-Utrecht and the southern railway track surrounding Amsterdam)	Utrechtboog	
Water Evaluation Document	Evaluatienota Water	
Working Together Towards Accessibility (a policy document focusing on passenger transport and infrastructure)	Samenwerken aan Bereikbaarheid	SWAB



APPENDIX A: PERSONS CONTACTED

The following persons were contacted, either on a face to face basis via an interview, via a telephone conversation, via email, or via a questionnaire, to identify the elements they focus on when evaluating the success of the study to which they related, i.e. the Dutch Riverdikes study, the FORWARD study, the IVR study, the SVV Colored In study, or the CAU study. All are thanked for their input into the research.

Altena, drs. P.J.	Knoester, ir. H.
Baanders, drs. A.	Kok, dr. M.
Baarspul MBA, drs. E.	Kroon, mr. M.C.
Bergmans, ing. J.P	Kruishoop, ing J.
Beyers, mr. J.P.A.J.	Laar, H. van
Bladeren, ir. C van	Leusen, G. van
Blikman, ir. G.	Lichtendahl, mw. drs. M.E.
Blom, dr. ir. G.	Louise, C.
Bos, ir. M.	Nieuwenhuizen, ing. J.
Buruma, ir. M.J.	Noordhof, A.
Carrillo, dr. M.J.	Odijk, drs. M.
Danhof, mr. J.J.T.	Pedroli, dr. G.B.M.
Dekker, drs. J.A.J.	Polak, ir. P.C.M.
Diris, drs. J.M.F.	Rademakers, ir. J.G.M.
Dun, A. van	Remmen, ir. J.P.J.M.
Eijl, mr. drs. M.M. van	Rest, ir. J. van der
Feenstra, J.J.	Riet, mw. drs. O.A.W.T. van de
Gaag, drs. P.B. van der	Scheffe, ir. L.J.
Haan, ir. Tj. de	Schoofs, R.
Hartog, ing. H. de	Siebers, R.
Havinga, H.	Silva, ir. W.
Hertog, mr. E.P. den	Struik, ir. P.
Hillestad, dr. R.J.	Swildens, G.R.
Hoek, ir. A.W. van der	Timmerman, ir. G.
Hoeven, ir. L. van de	Tjarks, J.
Houtman, ir. J.W.	Veeke, ing. P.J.A.M.
Janse, ir. E.	Verwoerd, D.T.
Jol, ir. C.	Waard, ir. J. van der
Keuning, ir. J.	Walker, dr. W.E.
Keyts, ir. L.H.	Wee, dr. G.P. van
Klok, drs. M.	Zeeman, drs. M.
Kneepkens, drs. J.A.J.M.	

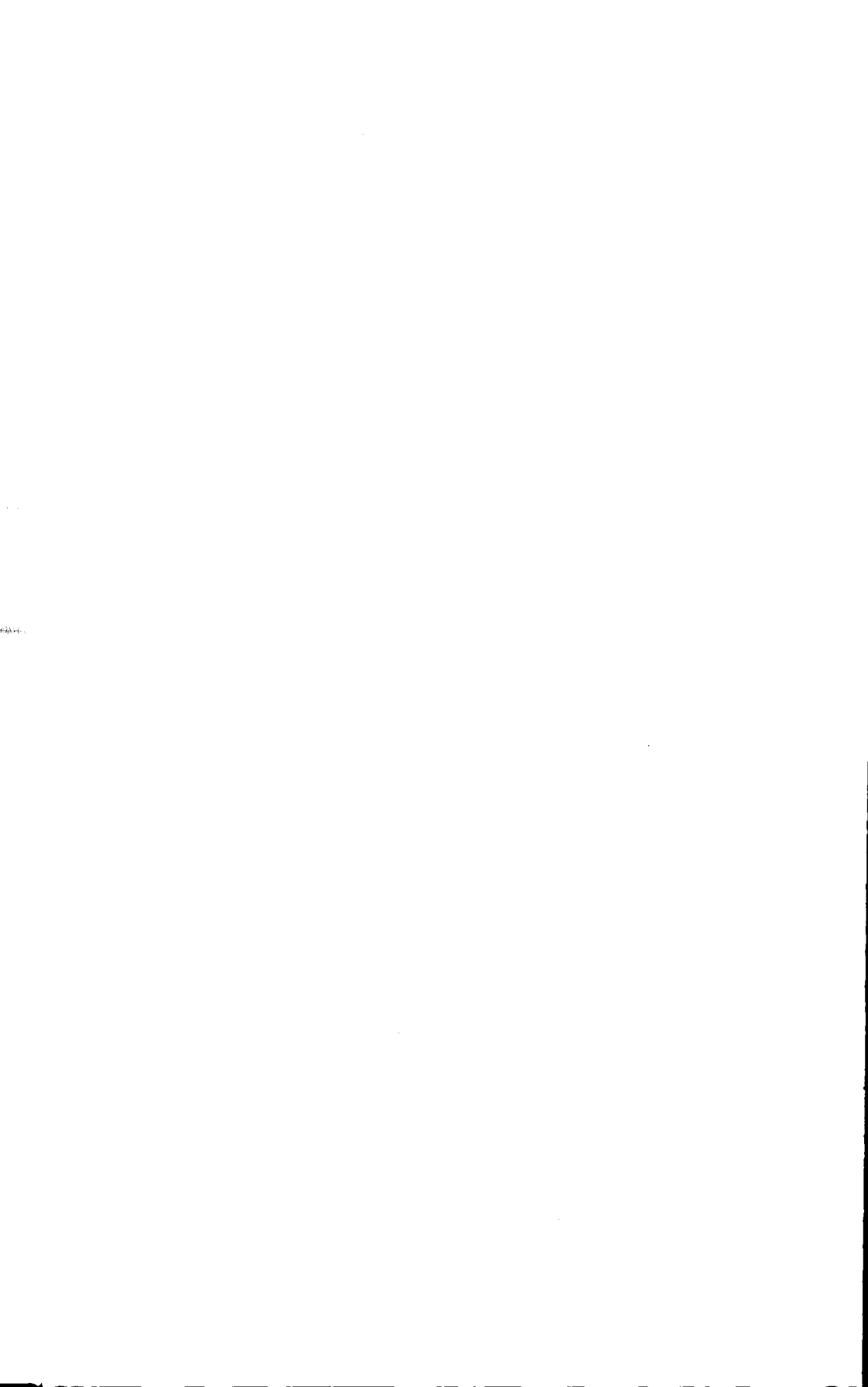


APPENDIX B: NUMBER OF PERSONS CONTACTED PER ACTOR

Table B.1 shows the number of representatives contacted per actor to identify the elements they focus on in evaluating the success of the study. Most persons were contacted via a face to face interview. Two persons related to the FORWARD study, who were located in Santa Monica (California, USA), were contacted via email. Some persons related to the SVV Colored In study were contacted via a telephone conversation because of time reasons. The persons related to the CAU study were asked to fill out a questionnaire. Furthermore, five representatives were interviewed, either on a face to face basis, or by telephone, in addition to the questionnaire research, and documentation was used for data collection.

Table B.1: Number of persons contacted per actor

Actors	Number of persons contacted
<u>The Dutch Riverdikes study</u>	
Project team	4
Client	2
Boertien Commission	1
Stakeholders	2
Policy makers	1
<u>The FORWARD study</u>	
Analysis team	3
Sub contractors	1
Ministry's team	4
Steering group	2
Inf. org. and stakeholders	2
<u>The IVR study</u>	
Client	1
Main contractor	1
Sub contractors	3
Policy makers	1
Parties involved in RVR	3
<u>The SVV Colored In study</u>	
Analysis team	5
Policy makers	6
<u>The CAU study</u>	
Project group	11 (questionnaire + 3 interviews)
Steering group	2
Decision makers	1
Advisory body: EIA working group	1 (questionnaire + interview) + doc.
Advisory body: OVI	documentation
Advisory body: Nat. Planning Com.	documentation
Public interest groups	7 (questionnaire + 1 interview)



APPENDIX C: EVALUATION RESEARCH OF RIJNCONSULT AND ITS RESULTS

Rijnconsult carried out a detailed research to evaluate the CAU study. The results of the evaluation research were published in May 1995 (Rijnconsult 1995). Rijnconsult interviewed 41 representatives of parties at interest, including NS, RWS, municipalities, the Commission EIA, and public interest groups. The evaluation research was focused on specific process and organizational related aspects. As a basis for the interviews a list of evaluation aspects was used. This list is given in Table C.1 at the end of this appendix.

The overall conclusion of the evaluation research was that the corridor approach was a success. Many respondents pointed out that NS and RWS grew closer to and learned much from each other as a result of this approach. Furthermore, the approach was valued positively, because many parties at interest were involved in the EIA procedure (see Figure 4.10) in an efficient and effective way. In addition, the approach resulted into a high quality, broadly supported decision. The results of the evaluation of the process and organizational aspects are outlined below.

The evaluation was focused on three key elements with respect to the process aspects of the CAU study: the open planning process, substitution, and the integral approach. The open planning process referred to the process used, in which various governmental organizations and other parties at interest participated and were involved in developing the EIS. The overall goal of the open process was to consider all relevant aspects and to increase public support for the decision to be taken. The respondents were generally very positive about the open planning process and, in their view, the intended goal of increasing public support was reached. Various respondents, however, made remarks about the duration of the study. The study took too long and the information provided during the EIA process, particularly the information provided after the public hearings, left much to desire. In addition, it was mentioned that the agricultural people and some other parties should have been involved in an earlier stage of the process. According to the respondents, the subsequential phases of the decision making process were accelerated, as a result of the increased public support. Thereby, the long duration of the study was compensated.

The second element considered in the evaluation of the process aspects, i.e. substitution, referred to the fact that the CAU study considered the three modes, i.e. road, rail, and water, in a coherent way. The project group analyzed to what extent transport and traffic could be moved from one mode to another, and which policy measures were needed for such a modal shift. The CAU study showed that the modal shift possibilities were very limited, and that additional policy measures were needed to realize a modal shift. The respondents were not very enthusiastic about substitution as an end result of the study. Much time and energy were put into

researching this aspect, but it did not lead to promising modal shift possibilities. The question remains whether the respondents based their negative opinion on the research approach or on the unwelcome outcome.

The third element considered in the evaluation of process aspects was the integral approach. This referred to the fact that the CAU study considered accessibility impacts, together with environmental and amenity impacts of alternative infrastructure changes. The study was aimed at developing a sustainable transport system for the Amsterdam-Utrecht corridor, reaching the policy goals of accessibility, environment, and amenity. All respondents valued the integral approach positively. The integral approach changed their view on, and appreciation of, the organizations RWS and NS that used to focus mainly on accessibility aspects. According to the respondents the integral approach was essential in getting more insights into the tradeoffs, that unavoidably had to be made in the decision process. These insights helped in increasing the public support. Various respondents, however, made remarks about the depth in which particular aspects were studied compared to others, e.g., relatively much attention was given to the environmental aspects.

With respect to the organizational aspects, Rijnconsult concluded on the basis of the interviews that the organization of the CAU study worked fine in the sense that the open planning process was stimulated and the substantive part of the study was made transparent for all actors related to the study. Presenting the unique character of the CAU study increased its transparency and broke down barriers for people to show their point of view. The respondents from RWS and NS, however, mentioned unanimously that the project management should have been thought through better before the start of the study. At the beginning of the study it was unclear what the intermediate results and the contributions of the different research groups should be. The role and contribution of the various actors involved in the study was also unclear. No estimates were made about personnel and their contributions to the project. As a result of that, there was no good basis for setting priorities to particular tasks and to the usage of personnel.

Rijnconsult also asked about the timing as part of the organization of the study. The respondents from RWS and NS pointed out that the study plan was too optimistic: the study took more time than originally planned. Various reasons were mentioned for the delay, e.g., the unique character of the project, the development and application of a new model, the interpretation of SVV II, and changes of personnel throughout the study.

The cooperation between RWS and NS was valued positively. After the initial stages of the project, the cooperation improved continuously. According to the respondents the cooperation was very strong during the period of public hearings, which was after the publication of the EIS. As a result of the intensive cooperation both organizations learnt much from each other. Furthermore, it was mentioned by persons from RWS and NS that much time and energy was saved by combining their efforts.

Table C.1: List of evaluation aspects used by Rijnconsult

Process evaluation

Increasing (public) support

How is the open planning process experienced?

Were the right parties involved in the process; too many or few; did they send the right representatives?

Did it result into more insight in the problem?

Did it result into more involvement?

Is the public support increased, that is, is the level of acceptance increased by recognition of the ideas of actors, in relation to similar trajectories if possible; did it result into more influence?

How is the integral approach valued?

Is the approach experienced differently, in terms of what aspects (in relation to a closed planning process)?

What are the strengths and weaknesses of the approach?

External factors

Which external factors did influence the opinion- and decision making?

What and how did they influence, and how is this valued?

In case of an open planning process, would this influence be prevented?

Substitution

Was there more substitution among modalities than in other situations, if yes, is this because of the open planning process?

Are parties more aware of the substitution-aspect; to what extent is the substitution-aspect taken into account in the analysis?

In case substitution possibilities are a critical success factor, how to realize that in other situations?

Integral approach

Was the integral approach noticeable, if so, in what?

Is more completeness and integrality a critical success factor?

Information and treatment objections

Way of informing (timeliness, completeness, accessibility)?

Were the objections taken into account?

How was the quality and the speed of the procedures of objection?

How was the intermediate information?

Participation

What were the strengths and weaknesses of the procedure of objection?

Is the procedure of objection improved, based on the open planning process, why?

How is the precision of the objection being assessed?

How were the results of the objections being taken into account?

Did the procedure of objection pass quicker, more efficient and effective?

Advice

What were the strengths and weaknesses of the procedure of advice?

Is the procedure of advice improved, based on the open planning process, why?

How is the precision of the advice being assessed?

Did the procedure of advice pass quicker, more efficient and effective?

The outcome (incl. publication of the proposals and the advice)

Are people satisfied with the CAU proposals?

To what extent is the satisfaction based on: the process, the parties involved, precision, openness, the outcome?

Overall judgment, motivation

Table C.1: List of evaluation aspects used by Rijnconsult (continued)

Organization evaluation

Organization

- What were the strengths and weaknesses (beforehand)?
- What were the strengths and weaknesses (afterwards)?
- What were the intentions during the initial phases of the organization?
- Are people satisfied with the original organization?
- Are people suggesting new corridor trajectories?
- What is the opinion about the participation within the aspect groups and other external actors?

Cooperation

- What were the strengths and weaknesses?
- How is distribution of responsibilities and authorities judged?
- How is the judgment of the distribution by effort and result (collectively for RWS and NS)?
- Suggestions for improvement?

Steering en instrumentation

- Is the decision making adequate?
- Where the ways of working efficient?
- What is your opinion about the support and administration?

Costs

- Do you have any insight in the budgeted and actual financial items (completeness, temporary, accessibility)?
- What's your opinion about the cost/benefit ratio?

Overall opinion, motivation

APPENDIX D: EMPIRICAL DATA

Table D.1 includes the empirical data, that is, the list of elements that were mentioned by the actors interviewed. The table also includes an indication of which actor mentioned the element for each element. Table D.2 shows the construction of the list from the empirical data. That is, this table shows how some elements were reformulated, restructured, and/or combined into the list.

Table D.1: Success elements mentioned by the actors interviewed

Success element	Case ¹⁴ :	Actor(s)	[valuation]
Input			
I 1. Pro-active initiative	S:	Analysis team, policy makers	[+]
I 2. Study and process	C:	Decision makers	[+]
I 3. Cooperation NS & RWS -> emphasized integral approach	C:	Project groups	[+]
I 4. Transparency political decision process	C:	Project groups	[+]
I 5. Trust and reliability among actors	C:	Project groups	[+]
I 6. Timing	C:	Public interest groups	[+]
	D:	Project team, client, stakeholders, policy makers	[±]
I 7. Including strategic component	C:	Steering group	[-]
I 8. Availability adequate models	C:	Steering group	[-]
I 9. Detailed EIA guidelines	C:	Project group	[-]
I 10. Availability data and match with requirements	C:	Project group	[-]
I 11. Long decision process	C:	Public interest groups	[-]
I 12. Expertise analysis team	F:	Subcontractors	[-]
	S:	Policy makers	[+]
	I:	Main contractor, parties RVR	[+]
	D:	Project team, client, Boertien Commission	[+]
I 13. Process setting up project	F:	Subcontractors	[-]
I 14. Aim of the study	S:	Analysis team, policy makers	[±]
I 15. Object of the research	I:	Client, main contractor, subcontractors	[±]
	I:	Client, main contractor, subcontractors	[+]
I 17. Experience from other studies	I:	Client, main contractor	[+]
I 18. Hierarchical structure	I:	Subcontractors	[-]
	D:	Project team, client	[±]
I 19. Independence research organization	D:	Project team, client, Boertien Commission, policy makers	[±]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

¹⁴ D = the Dutch Riverdikes study; F = the FORWARD study; I = the IVR study; S = the SVV Colored In study; C = the Corridor Amsterdam Utrecht study

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ¹⁵ :	Actor(s)	[valuation]
Content			
C 1. Use stakeholder groups	D:	Project team, Boertien Commission, stakeholders	[+]
C 2. Using and integrating existing knowledge	D: S:	Project team, client Policy makers	[+] [+]
C 3. Broadness of aspects taken into account	D:	Project team, client, Boertien Commission, stakeholders, policy makers	[±]
C 4. Safely levels considered	D:	Project team, client, stakeholders	[±]
C 5. Consistency	D:	Client, Boertien Commission	[+]
C 6. Broadness and depth	I:	Main- & subcontractor, parties RVR Project group	[±]
C 7. Innovative character	C: I: S:	 Subcontractors Analysis team, policy makers	[+] [+] [±]
C 8. Balance complexity and simplicity	I:	Subcontractors	[+]
C 9. Use of methodology	I:	Subcontractors	[-]
C 10. Identification of knowledge gaps	I: F:	Parties RVR Ministry's team	[+] [+]
C 11. Some aspects require more attention	I: F:	Parties RVR Steering group	[-] [-]
C 12. Research approach	S:	Analysis team	[+]
C 13. Broad and integrative approach	F:	Analysis team, Ministry's team, steering group	[+]
C 14. Integral, innovative approach	C:	Advisory bodies, steering group, project group, public interest groups	[+]
C 15. Rail and road options equally detailed	C:	EIA working group	[-]
C 16. Attention given to transport efficiency policy actions	C:	EIA working group	[-]
C 17. Justification given for using certain methods	C:	EIA working group	[-]
C 18. Attention given to feasibility aspects of additional rail	C:	EIA working group	[-]
C 19. Assumptions made	C:	EIA working group	[-]
C 20. Technical integration of rail and road	C:	Steering group	[-]
C 21. Decent EIA approach	C:	Project group	[+]
C 22. Attention given to some environmental and economic aspects	C:	Project group	[+]
C 23. Attention given to agricultural aspects	C:	Project group, public interest groups	[-]
C 24. Restricted by SVV II	C:	Project group, public interest groups	[-]
C 25. Screening alternatives	C:	Project group	[-]
C 26. Match with ongoing developments and projects	C:	Project group	[-]
C 27. Attention given to accessibility and amenity	C:	Public interest groups	[-]
C 28. Attention given to surface and water	C:	Public interest groups	[-]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

¹⁵ Idem.

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ¹⁶ :	Actor(s)	[valuation]
Process			
P 1. Involvement agricultural sector	C:	Decision makers, OVI	[-]
P 2. Cooperation NS & RWS	C:	EIA working group, steering group, project group	[±]
P 3. Open and interactive process	C:	Steering group, project group, public interest groups	[+]
P 4. Duration	C:	Steering group, project group, public interest groups	[-]
	F:	Analysis team, Ministry's team, steering group	[-]
	I:	Client	[+]
P 5. Costs	D:	Client	[+]
P 6. Involvement governmental organizations	C:	Steering group	[-]
	C:	Project group, public interest groups	[±]
P 7. NS and RWS acted as one team towards others	C:	Project group	[±]
P 8. Early involvement and communication parties at interest	C:	Project group	[±]
P 9. Availability of information among researchers before meetings	C:	Project group	[-]
P 10. Change of personnel	C:	Project group	[-]
P 11. Participation certain, governmental parties	C:	Project group	[-]
P 12. Transparency for public	C:	Project group, public interest groups	[-]
P 13. Openness	F:	All	[+]
	D:	Project team, client, Boertien	[±]
		Commission, stakeholders	
P 14. Budget	F:	Analysis team, Ministry's team, steering group	[-]
		Ministry's team	[+]
P 15. Support of steering group	F:	Ministry's team	[+]
P 16. Cooperation	S:	Analysis team	[+]
	I:	Client, main contractor, sub-contractors	[±]
	D:	Project team	[±]
P 17. Availability of recourses	S:	Analysis team	[+]
P 18. Timing	S:	Analysis team, policy makers	[+]
	I:	Subcontractors	[+]
P 19. Involvement of parties at interest	I:	Client, main contractor, subcontractors, parties RVR	[±]
		Subcontractors	[+]
P 20. Freedom in carrying out tasks	I:	Subcontractors, parties RVR	[-]
P 21. Allocation money	I:	Subcontractors	[-]
P 22. Working agreements	I:	Subcontractors	[-]
P 23. Working agreements and responsibilities	D:	Project team	[±]
		Boertien Commission	[+]
P 24. Enthusiasm researchers	D:	Boertien Commission	[+]
P 25. Contact with stakeholders through project team	D:	Boertien Commission	[+]
P 26. Secondary aspects	F:	Ministry's team	[+]
P 27. Location with respect to each other	F:	Analysis team, Ministry's team	[±]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

¹⁶ Idem.

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ¹⁷ :	Actor(s)	[valuation]
Results			
R 1. Availability	D:	Project team, client, Boertien Commission, stakeholders	[+]
	S:	Policy makers	[+]
R 2. Clearly structured	D:	Project team, client	[+]
	C:	OVI, EIA working group	[+]
R 3. Match with policy questions	D:	Project team, client	[+]
R 4. Presentation	D:	Project team, client	[±]
R 5. Acceptance of parties involved	D:	Client, Boertien Commission	[+]
R 6. Thickness	D:	Client	[-]
	I:	Client, parties RVR	[-]
	C:	Decision makers	[-]
R 7. Readability	D:	Stakeholders, policy makers	[+]
	S:	Policy makers	[+]
	F:	Ministry's team, steering group	[+]
	C:	OVI	[+]
R 8. Match with own interest	D:	Stakeholders	[+]
R 9. Visualization	I:	Client, main contractor, policy makers, parties RVR	[+]
	S:	Analysis team, policy makers	[-]
R 10. Interest shown	I:	Client, main & subcontractors, RVR	[+]
R 11. Match with purpose of the study	I:	Client, subcontractors	[±]
R 12. Documentation, clear, readable	I:	Client, main & subcontractors, RVR	[±]
R 13. Explicit recording of assumptions / conditions	I:	Client, parties RVR	[-]
R 14. Match with policy needs	I:	Subcontractors, parties RVR	[±]
	S:	Analysis team, policy makers	[+]
R 15. Presentation: written and oral	S:	Analysis team, policy makers	[+]
R 16. Match with potential use	S:	Analysis team	[+]
R 17. Clearness	S:	Policy makers	[+]
R 18. Approval of the client	F:	Analysis team	[+]
R 19. Delayed distribution	F:	Analysis team, Ministry's team, steering group, inf. org. and stakeholders	[-]
R 20. Relevant info for policy makers and public	C:	Decision makers	[+]
R 21. Maps are of high quality	C:	OVI	[+]
R 22. Maps missing	C:	OVI	[-]
R 23. Well founded basis for decision making	C:	National Planning Commission, project group	[+]
R 24. Shows the need for more infra.	C:	National Planning Commission	[+]
R 25. High content of information	C:	EIA working group	[+]
R 26. Sufficient info for policymaking	C:	EIA working group	[+]
R 27. Modal shift possibilities	C:	EIA working group, project team	[-]
R 28. Integral environ. assessment	C:	EIA working group	[-]
R 29. Match with ongoing developments and policy	C:	EIA working group	[±]
R 30. Well thought through solutions	C:	Project team	[-]
R 31. Alternative solutions for Abcoude	C:	Public interest groups	[+]
R 32. Too much to handle in a short period of public hearings	C:	Public interest groups	[-]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

¹⁷ Idem.

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ¹⁸ :	Actor(s)	[valuation]
Use			
U 1. Integral approach in other projects	C:	EIA working group	[+]
U 2. Insights used in policy process	F:	Analysis team, Ministry's team	[+]
U 3. Potential use of model	F:	Ministry's team	[+]
U 4. Use of model not institutionalized	F:	Ministry's team	[-]
U 5. Model is 'expensive toy'	F:	Inf. org. and stakeholders	[-]
U 6. Individual use	S:	Analysis team	[-]
	I:	Parties RVR	[+]
U 7. Use in policy discussions	S:	Policy makers	[+]
U 8. Potential use	I:	Client, parties RVR	[±]
U 9. Used by Boertien Commission	D:	Project team, client, Boertien Commission, stakeholders	[+]
U 10. Used in 2 nd Chamber	D:	Project team, client, Boertien Commission, stakeholders	[+]
U 11. (Mis)use in decision process	D:	Project team	[±]
U 12. Research approach in other projects	D:	Client	[+]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

¹⁸ Idem.

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ¹⁹ :	Actor(s)	[valuation]
Effects			
E 1. Bringing parties together	D:	All	[+]
E 2. Change and harmonize mental frames	D: I:	Project team, client, stakeholders Client	[+] [+]
E 3. Working atmosphere	D:	Project team, client, Boertien Commission, stakeholders	[+]
E 4. Overcome impasse	D:	Project team, client, Boertien Commission, policy makers	[+]
E 5. Public support	D:	Project team, client, Boertien Commission, stakeholders	[+]
E 6. Institutionalization MER	I: D:	Policy makers Project team, client	[+] [+]
E 7. Working within interdisciplinary team	D:	Project team	[+]
E 8. Reference to study	D:	Project team	[+]
E 9. Insights into decision process	D:	Project team	[+]
E 10. Insights into management of complex projects	D:	Project team	[+]
E 11. Transfer budget responsibilities	D:	Client	[+]
E 12. Insights in problem situation and tradeoffs	D:	Client, Boertien Commission, stakeholders	[+]
E 13. Use research approach in other projects	D:	Client	[+]
E 14. Increase budget for dike improvements	D:	Boertien Commission	[+]
E 15. Pointing authorities at their responsibilities	D:	Stakeholders	[+]
E 16. Initiation of follow up research	D:	Stakeholders	[+]
E 17. Continuing substantive political discussion	D:	Policy makers	[+]
E 18. Insights	I: S:	Client, subcontractors Policy makers	[+] [+]
E 19. (Re)formulation policy	I:	Client, main contractor, parties RVR	[+]
E 20. Political agenda	I:	Main contractor, subcontractors, parties RVR	[+]
E 21. Discussion (directing and activating)	I: S:	Main contractor, parties RVR Policy makers	[+] [+]
E 22. Relationship actors involved	I:	Main contractor	[+]
E 23. Policy discussion	I: S:	Subcontractors, parties RVR Analysis team	[±] [+]
E 24. New research assignments	I:	Subcontractors	[+]
E 25. Reference in policy documents	I: F:	Subcontractors, parties RVR Analysis team, Ministry's team, steering group	[±] [+]
E 26. Directing new research	I: S:	Parties RVR Policy makers	[+] [+]
E 27. Realization policy	I:	Parties RVR	[+]
E 28. Individual insights	I:	Parties RVR	[±]
E 29. Implementation policy	I:	Parties RVR	[+]
E 30. Speed up policy process	I:	Parties RVR	[+]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

¹⁹ Idem.

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ²⁰ :	Actor(s)	[valuation]
Effects			
E 31. Show capabilities of AVV	S:	Analysis team	[+]
E 32. Acknowledgement of superiors	S:	Analysis team	[+]
E 33. Follow up research	S:	Analysis team	[±]
E 34. New programs	F:	Analysis team, Ministry's team, steering group	[+]
E 35. Insights into problems and solutions	F:	Ministry's team, steering group, inf.org. and stakeholders	[+]
E 36. Show others problem is taken seriously	F:	Steering group	[+]
E 37. Support for decision	C:	OVI, steering group	[+]
E 38. Insights into match alternatives and policy goals	C:	EIA working group	[+]
E 39. Less time needed for following phases in decision process	C:	Steering group	[+]
E 40. Public and governmental support	C:	Project group, public interest groups	[+]
E 41. A decision was taken	C:	Project group	[+]
E 42. Insights into problem situation	C:	Project group	[+]
E 43. Insights into environmental aspects	C:	Project group	[+]
E 44. Minister hardly listened to recommendations	C:	Public interest groups	[-]
E 45. Being taken seriously	D:	Stakeholders	[+]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

Table D.1: Success elements mentioned by the actors interviewed (continued)

Success element	Case ²¹ :	Actor(s)	[valuation]
Communication			
Co 1. Information well communicated	C:	Project group	[+]
Co 2. Communication with parties at interest	C:	Project group	[±]
Co 3. Communication between NS and RWS	C:	Project group	[-]
Co 4. Communication with agricultural sector	C:	Public interest groups	[-]
Co 5. Joint effort Ministerial departments	F:	Ministry's team	[+]
Co 6. Potential improvement of communication with external parties	F:	Ministry's team	[+]
Co 7. Communication and relationship between AVV and (regional) policy departments of the Ministry	S:	Analysis team, policy makers	[+]
Co 8. External communication	I:	Client, policy makers, parties RVR	[±]
Co 9. Internal communication	D:	Project team	[±]
Co 10. Informal communication	D:	Stakeholders	[+]

Note: - indicates a negatively valued element; + indicates a positively valued element; ± indicates an element that is positively and negatively valued (by the same or different persons)

²⁰ Idem.

²¹ Idem.

Table D.2: Construction of the list from the empirical data

Elements	No.²²
Input	
Timing	I6, P18
Initial stages of setting up the study	
Reason for initiating the study	I1
Process of setting up the study	I13
Aim/object of the study	I14, I15
Problem formulation	
Data and supporting tools	
Availability	I8, I10
Quality	
Completeness	
Relevance	I10
Level of detail	I10
Parties involved	
Trust and reliability among each other	I5
Independence among each other	I19
Intention to cooperate	I3
Expertise	I12, I17
Location with respect to each other	P27
Hierarchical structure	I18
Formal context of the study: surrounding policy process	
Interwovenness of study and policy process	I2
Transparency and clearness of policy process	I4
Duration of policy process	I11
External factors	I16

²² The numbers correspond with the numbers given in Table D.1, i.e. the numbers of the elements that followed from the empirical research.

Table D.2: Construction of the list from the empirical data (continued)

Elements	No.²³
Content	
Methodology / Research approach	C9, C12, C21
Use of state of the art knowledge	C2
Integrating state of the art knowledge	C2
Use of input from (public) parties at interest	C1
Identification of knowledge gaps	C10
Justification	C17
Assumptions made	C19
Screening alternatives	C25
Identification of alternatives and criteria	
Use of quantitative and qualitative data	
Attention for uncertainties	
Validity	
Verifiability	
Adequacy	
Transparency, clarity	
Aspects taken into account	
Broadness	C3, C4, C6, C13, C16, C18, C20, C22, C23, C24, C27, C28
Depth	C6, C11
Relevance	
Integrative	C13
Completeness	C14
Equally treated	C15
Match with ongoing developments and projects	C26
Innovative character	C7, C14
Consistency	C5
Balance between complexity and simplicity	C8

²³ Idem.

Table D.2: Construction of the list from the empirical data (continued)

Elements	No.²⁴
Process	
Openness	P3, P13
Parties involved	
Extent of involvement	
Representativeness of selection	P1, P6, P19
Cooperation	P2, P16
Attitude towards others	P7
Timing of involvement	P8
Participation	P11
Commitment and support	P15, P24
Reason for involvement	
Interactiveness	P3
Duration	P4
Transparency	P12
Resources	
Availability	P17
Actual versus planned budget	P5, P14
Change of personnel	P10
Allocation of resources	P21
Working agreements and responsibilities	P20, P22, P23
Communication	P8, Co1
Availability of information among parties involved	P9
Who with whom	P25, Co2, Co3, Co4
Informal communication	Co10
Internal communication	Co9
External communication	Co8
Secondary aspects	P26

²⁴ Idem.

Table D.2: Construction of the list from the empirical data (continued)

Elements	No.²⁵
Results	
Availability	R1, R19
Relevance	
Match with policy process and needs	R3, R14, R20, R23, R24, R26
Match with individual interests	R8
Match with purpose of the study	R11, R27
Match with potential use	R16
Match with ongoing developments/current policy	R29
Match with problem situation	
Match with expectations	
Presentation	R4
Structured	R2
Volume	R6, R32
Readability	R7, R12
Visualization	R9, R21
Form	R15
Clearness	R12, R17
Explicit recording of assumptions and conditions	R13
Completeness	R22
Parties at interest	
Interest shown	R10
Value	R5, R18
Content of information	
Richness	R25, R26, R32
Solutions presented	R30, R31
Integrity	R28
Consistency	
Verifiability	
Use	
What	
Research approach	U1, U12, E13
Insights	U2
Model	U3, U4
By whom	
Individual level	U6
Official organizations	U9, U10
Potential use	U3, U8
Institutionalization	U4
Extent of usage	U5
Purpose	U2, U7, U11

²⁵ Idem.

Table D.2: Construction of the list from the empirical data (continued)

Elements	No. ²⁶
Effects	
Parties at interest	
Changed and harmonized mental frames	E1, E2, E44
Insights into problem situation and trade offs	E12, E18, E28, E35, E42, E43
Insights into match between alternative policy actions and policy goals	E38
Insights into decision process	E9
Insights into other disciplines	E7
Insights into management of complex studies	E10
Increase of awareness of responsibilities	E15
Relationships among parties at interest	E22, Co7
Communication among parties at interest	Co5, Co6, Co7
Show ones capabilities	E31
Show problem is taken seriously	E36
Show ones appreciation	E32
Support	E5, E37, E40
Being taken seriously	E45
Committment	
Problem situation	
Overcome impasse	E4
Working atmosphere	E3
Implementation policy actions according to analysis	E6, E11, E14, E27, E29, E34
Referred to in policy documents	E8, E25
Follow up research	
Initiation	E16, E24, E33
Directing	E26
Decision and political process	
(Re)formulation policy	E19
Political agenda	E20
New programs	E27, E34
Discussion	E17, E21, E23
Speed	E30, E39
Decision was taken	E41
Decision/policy	
Quality	
Decision makers	
Well founded argumentation for decision	

²⁶ Idem.

APPENDIX E: SUCCESS ELEMENTS AND QUESTIONS

In this appendix the success elements are specified in question form. During the interviews different questions were asked pointing at various elements to trigger the interviewees to indicate all the elements that they consider in evaluating a study's success. Such questions might be used as a first step towards operationalization of the success elements. Examples of such questions are given below.

Input

- Timing
 - Was the time right for carrying out the analysis?*
 - Was the timing ideal and favorable for the success of the study?*
- Initial stages of setting up the study
 - Reason for initiating the study
 - Were the reasons for initiating the study appropriate?*
 - Did strategic/unspoken reasons play a role in initiating the study?*
 - Process of setting up the study
 - How, and by whom, was the study set up, i.e. was the study formally commissioned by a particular client, or self initiated?*
 - Was a formal bidding process used, or were particular research organizations directly asked to carry out the study?*
 - Aim/object of the study
 - Was the aim of the study clear to the people involved from the beginning?*
 - Was the policy question correctly translated into one or more research questions?*
 - Were the research questions ambiguous?*
 - Problem formulation
 - Was the problem formulation part of the study, or was the problem already clearly defined and given as an input to the study?*
- Data and supporting tools
 - Availability
 - Were the appropriate analytic tools available?*
 - Quality
 - Did the available data and supporting tools satisfy the requirements of the analysis?*
 - Completeness
 - Did all knowledge required to do the analysis exist in some form?*
 - Relevance
 - Were the available data and supporting tools relevant and up to date?*
 - Level of detail
 - Was the level of detail of the available data appropriate?*
- Parties involved in setting up and carrying out the study
 - Trust and reliability among each other
 - How was the feeling of trust and reliability among the parties, and the attitude of the parties, preceding and during the study?*
 - Independence among each other
 - Was the research carried out by an organization closely related to the client organization?*
 - What was the relationship among the actors?*
 - Intention to cooperate
 - Were the parties willing to cooperate with each other?*

- Expertise
Were the organizations that carried out the research known for their expertise in the research area? Were they well established?
- Location with respect to each other
Were the parties located closely to each other?
- Hierarchical structure
*Was there a hierarchical structure among the organizations that carried out the research?
Did all parties agree upon this structure?*
- Formal context of the study: surrounding policy process
 - Interwovenness of the study and policy process
Was the study part of, and intertwined with, the surrounding policy process, or was it an 'isolated' study?
 - Transparency and clearness of policy process
Was the policy process in the context of which the study was carried out clear in terms of the steps to be taken, the decisions to be made, the beginning and the end, etc.?
 - Duration of policy process
*Was it clear how long the process would take?
Did the process take longer than originally planned?*
- External factors
*Was the study affected significantly by external factors, e.g., was the scope of analysis changed?
Was it possible to leapfrog the study into the affairs of that moment?*

Content

- Methodology / Research approach
 - Use of state of the art knowledge
*Was the analysis adequately grounded in state of the art knowledge?
Were existing, and up to date, researches, models, and empirical data used?*
 - Integrating state of the art knowledge
Were existing, and up to date, researches, models, and empirical data from various sources brought together in the study?
 - Use of input from public parties at interest
*Was information obtained from parties involved in the problem situation, i.e. parties whose interests could be, or were being, affected by the problem situation?
Did the analysis use data from various sources?*
 - Identification of knowledge gaps
Were knowledge gaps, i.e. information that would be relevant for policy making but is not known, identified as a consequence of integrating knowledge?
 - Justification
Were the research approach, the use of the data, and analytic tools, justified?
 - Assumptions made
Were basic assumptions explicitly recorded and supported by reasons behind them?
 - Screening alternatives
*How were the various alternatives selected that were taken into account in the analysis?
Were the alternatives screened as to be appropriate to the problem?*
 - Identification of alternatives and criteria
How were the aspects, e.g., the alternatives and criteria, identified that were taken into account in the analysis?
 - Use of quantitative and qualitative data
Was an appropriate mixture of quantitative and qualitative data used in the analysis?
 - Attention for uncertainties
*Was adequate attention paid to what is not known or uncertain, and to the consequences for the outcomes of the analysis?
Were uncertainties explicitly recognized and dealt with in an appropriate way?*

- Validity
Were reasonable efforts put into testing the validity of the methods, tools, and data used?
- Verifiability
*Were the methods, tools, and data used verifiable?
Was the work, including what was done, why, and the methods, tools, and data used extensively documented?*
- Adequacy
Were the methods, tools, and data selected and developed so as to be appropriate to the problem?
- Transparency, clarity
Were the research approach, methods, tools, and data transparent and clear for all relevant parties?
- Aspects taken into account
 - Broadness
*Were various perspectives on what the problem was, and on what possible solutions could be, considered in the study?
Was a sufficiently broad spectrum of policy options considered, not limited by political reasons?
Were the impacts of the policy options considered on the measures of interest to the broad spectrum of various parties?
Was explicit recognition given to the environment, to future generations, and to interest groups that might be negatively affected?
Were external effects considered in the analysis?*
 - Depth
Were all relevant aspects studied in sufficient depth?
 - Relevance
*Were all relevant aspects studied?
Were all aspects studied relevant?*
 - Integrative
Were results from other researches, models, and data from various sources, integrated in a coherent way?
 - Completeness
See questions under 'relevance'
 - Equally treated
Were all relevant aspects equally treated in the analysis in terms of the attention given to them and the depth in which they were analyzed?
- Match with ongoing developments and projects
*Were ongoing developments in the area of study, and in related areas, taken into account in the study?
Were the (results of) studies that were focused on the same, or related, research area considered in the study?*
- Innovative character
Was the research approach innovative or original in comparison with prior studies?
- Consistency, coherence
*Was the analysis consistent, without any internal contradictions?
Was the approach balanced, i.e. was the attention paid to various aspects in accordance with their relevance?*
- Balans between complexity and simplicity
Was the research balanced in terms of complexity versus simplicity, level of detail?

Process

- **Openness**

Were the parties that played a role, in one way or the other and to a lesser or greater extent, in the problem situation consulted during the study, or even directly involved in carrying out the analysis?
Were the research organizations willing to listen to parties whose interest were, or could be, affected by the problem situation, and were the research organizations willing to take these interests into account in the analysis?
- **Parties involved in the analysis**
 - **Extent of involvement**

Were the parties involved on a full time basis in the study?
Were some parties involved on a temporary basis?
 - **Representativeness of selection / Reason for involvement**

Which parties were selected for participating in the policy analysis study, and why?
Was the selection of parties adequate?
 - **Cooperation**

Did the parties involved in carrying out the study actually cooperate during the study?
 - **Attitude towards others**

Were people willing to listen to each other and open for new ideas and other perceptions?
 - **Timing of involvement**

Was the timing adequate for involving the parties in the study, or were some of them involved too late or too early?
 - **Participation**

Did all parties equally participate in the research process?
Did some parties do just the bare minimum, or even less?
 - **Commitment and support**

Did all participants commit themselves to, and support, the research?
- **Interactiveness**

Did the research organizations frequently, and actively, interact with public and governmental parties that were involved in the problem situation?
- **Duration**

Was sufficient time available in light of the size and complexity of the study?
Did the study take more time than originally planned?
- **Transparency**

Was the research process clear to all parties involved?
- **Resources**
 - **Availability**

Were funds and qualified staff sufficiently available for the study?
 - **Actual versus planned budget**

Did the study cost more money than originally budgetted?
 - **Change of personnel**

Did changes of people take place among those who were working on the study?
Did these changes affect the study significantly?
 - **Allocation of resources to tasks**

Were the resources, i.e. funds and qualified staff, allocated properly to the different subtasks that needed to be carried out as part of the study?
- **Working agreements and responsibilities**

The parties know what their responsibilities and the agreements were?
Did the parties correctly fulfill their tasks in time?
- **Communication**
 - **Availability of information**

Did all parties involved in carrying out the analysis receive the required information from each other in time?

*Were other parties regularly informed about the progress of the study?
Was information about the study and its (intermediary) results easily released for parties interested?*

- Who with whom

Did the right parties communicate with each other?

- Informal communication

Was informal communication an important element in the process?

- Internal communication

Did the parties communicate on a sufficiently regular basis?

Was the frequency of interactions adequate?

Were adequate forms of communication used, e.g., meetings, telephone, and email?

Did the parties exchange relevant information, or was it just 'formal talk'?

Was the exchange of information sufficiently rich in content?

Did the parties communicate efficiently, without nonsense?

Did particular argumentation patterns dominate others?

Did all parties equally participate in the communication processes?

- External communication

See questions under 'internal communication'

- Secondary aspects

Did secondary aspects, such as trips to foreign countries and working outings, have an impact on whether the study was valued successful?

Results

- Availability

Were the results published/delivered in time, as originally planned?

Were the results available to those for whom they were intended, e.g., the public, or a selected group of people?

- Relevance

- Match with policy process and needs

Were the results in line with the policy process and policy goals?

- Match with individual interests

Did the results match with the interests of the various people who were involved in the problem situation, and of those related to the policy analysis study?

- Match with purpose of the research

Did the results meet the objectives of the study?

- Match with potential use

Were the results potentially useful?

- Match with ongoing developments and current policy

Were the results in line with the ongoing developments with respect to the problem situation and the policy at that moment?

- Match with problem situation

Did the results of the analysis match with people's perceptions of the underlying problem(s)?

Did the results match with the initial problem formulation and questions asked?

Did the results apply to the client's concerns and spheres of responsibility?

- Match with individual expectations

Did the results match with the expectations of the various people who were involved in the problem situation, and of those related to the policy analysis study?

- Presentation

Was the documentation of the analysis accurately written?

- Structured

Were the reports well structured?

Could the various aspects studied, and the corresponding findings, easily be found in the documentation?

- Volume
 - Were the reports (too) much to read?*
 - Was the documentation too extensive or too compact?*
- Readability
 - Was the documentation very readable?*
 - Were the reports, both oral and written, focused on the audiences?*
- Visualization
 - Were adequate visualizations of the results provided?*
 - Did the visualizations make the results more understandable?*
- Form
 - Were the results presented in an adequate form, i.e. written reports, oral briefings, cd-roms, etc.?*
- Clearness
 - Could the various parties at interest easily understand the presented results?*
- Explicit recording of assumptions and conditions
 - Were basic assumptions and conditions explicitly recorded in the reports and supported by reasons behind them?*
- Completeness
 - Did the presented results include all relevant aspects that were studied?*
- Parties at interest
 - Interest shown
 - Did many individuals and organizations, from within and outside the Netherlands, show great interests in the study?*
 - Which individuals and organizations showed interests in the study?*
 - In what aspects of the study were the interests shown?*
 - Value
 - How did the parties involved in the problem situation value the results of the study, e.g., did they accept the results, were they satisfied with the results, were they impressed by the results, did the client approve the results?*
- Content of information
 - Richness
 - Was the content of information provided by the results of the study rich enough to the end that the various parties at interest can use the findings in their further thinking about the problem situation?*
 - Solutions presented
 - Did the results include well thought through solutions to the problem situation?*
 - Did the results include alternative solutions to the problem, or parts of the problem?*
 - Integrality
 - Did the results include integral insights into the problem situation?*
 - Were existing insights integrated and presented coherently?*
- Consistency
 - Were the results of the analysis consistent, without any internal contradictions?*
 - Did the results explicitly follow from the analysis?*
- Verifiability
 - Were the results verifiable and correct?*
 - Was the work, including what was done, why, and the methods, tools, and data used documented in the reports?*

Use

- What
 - Research elements
 - Were elements of the analysis, e.g., the problem formulation, alternative policy options analyzed, assessment results, specific outcomes, and/or the methodological approach, used in other studies or in the policy process?*

- Insights
 - Were the insights provided by the study used by various parties in their further thinking about the problem situation?*
 - Were the insights used in other studies or in the policy process?*
- Model
 - Were the models that were developed as part of the study structurally used for the analysis during the study, and for additional analyses after the study was finished?*
 - Were the models used as originally intended?*
- By whom
 - Individuals
 - Were the various elements provided by the study and its results used on an individual basis?*
 - Official organizations
 - Were the various elements provided by the study and its results taken over, and used, by official organizations, e.g., the client organization, political parties, commissions, in their further thinking, giving advice, and policy making?*
- Potential use
 - Did the various elements provided by the study and its results have a change of being used by various parties involved in the problem situation?*
 - Were possibilities seen to utilize the study and its findings in future times, other than the study and its results were used at that moment?*
- Institutionalization
 - Were the various elements that were provided by the study and its results structurally used in policy, and related processes; was the utilization institutionalized?*
- Extent of usage
 - Did many parties use elements that were provided by the study and its results?*
 - Were the elements that were provided by the study and its results used often?*
- Purpose
 - For what purpose were the elements that were provided by the study and its results used, e.g., to support individual or collective decision making, reframe discussions, reject or support alternatives, set up other analysis, sell one's tool or product, mobilize new actors and resources, etc.?*

Effects

- Parties at interest
 - Changed and harmonized mental frames
 - Did the analysis and its findings change the individual and/or collective, positions towards the policy problem and process?*
 - Did the analysis and its findings bring these positions together?*
 - Insights into problem situation and trade offs
 - Did the study and its results increase the insights into the problem situation, possible solutions, and trade offs to be made, of the various actors at an individual and/or organizational level?*
 - Did the parties that were involved in the problem situation, and/or related to the study, learn from each other?*
 - Did the analysis provide insights into the expected costs and benefits of policy options that could possibly be implemented?*
 - Insights into match between alternative policy actions and policy goals
 - Did the study and its results provide insights into alternative policy actions and into how these alternatives would help in meeting the policy goals?*
 - Insights into decision process
 - Did the study and its results provided insights into the decision process with respect to the problem situation?*
 - Insights into other disciplines
 - Did people get insights into various disciplines, other than their own, as an effect of the study?*

- Insights into management of complex studies
Did people, project leaders in particular, get insights into how complex policy analysis studies should be managed?
- Increase awareness of responsibilities
Did the sense of urgency of the problem situation and the awareness of the responsibilities of the various parties increase as an effect of the study?
- Relationship among the parties
Did the analysis, and/or the act of participating in the analysis, have any effect on the relationships among the parties involved in the problem situation?
- Communication among the parties
Did the analysis, and/or the act of participating in the analysis, have any effect on the communication patterns among the parties involved in the problem situation?
- Show ones capabilities
Were the parties, the research organizations in particular, able to show their capabilities to the parties at interest?
- Show problem is taken seriously
Was the study a way for some parties to show other parties with interests in the problem situation that they were looking very seriously at the problems?
- Show ones appreciation
*Did superior individuals or organizations acknowledge the time and effort that researchers put into carrying out the study?
Did these superiors express their acknowledgement in one way or another?*
- Support
Did the study increase the public and governmental support for decisions to be made, actions to be taken, and formulating and implementing new policy?
- Being taken seriously
Did various parties that were involved in the problem situation feel that they, and their interests, were taken seriously by those responsible making changes, as an effect of the study?
- Commitment
Did the study and its results affect the commitment that parties made to solve the problem situation?
- Problem situation
Was the original problem situation ameliorated or resolved as a result of decisions taken based on the study and its findings?
 - Overcome impasse
*Did the study contribute to continuity and/or to breaking deadlocks in the policy process?
Were conflicts made controllable and/or solved as a consequence of the analysis?*
 - Working atmosphere
Did the study affect the atmosphere in which the various parties involved in the problem situation were working?
- Implementation policy actions according to analysis
Were the policy options implemented as suggested in the analysis?
- Referred to in policy documents
Did (important) policy documents refer to the study and its findings?
- Follow up research
 - Initiation
Did the study have its spin-off in terms of additional research?
 - Directing
Did the study and its results help those responsible for initiating new research in directing new research programs?

- Decision and political process
 - Formulation policy and policy goals
 - Did the study and its results help those responsible for making policy in formulating (new) policy and policy goals?*
 - Were the study and its results reasons to change the policy, and the policy goals, at that time?*
 - Policy agenda
 - Did the study and its results affect the policy/political agenda?*
 - Were new items added to the agenda, and others removed?*
 - New programs
 - Were new policy programs initiated as an effect of the study?*
 - Discussion
 - Did the study and its results affect the discussions about the problem situation?*
 - Were certain issues stopped being taboo to talk about because of the study?*
 - Speed
 - Did the study and its results contribute to a reduction of time needed to complete the decision process concerned?*
 - Decision was taken
 - Did the study and its results have any impact on the decisions that were taken during the related decision process?*
- Decision/policy
 - Quality
 - Did the study and its findings affect the policy such that it matched the network of parties involved in the problem situation?*
 - Did the study and its findings contribute to the selection of a lower cost or more efficient alternative policy option?*
 - Did the quality in terms of the robustness and the broadness of the formulated policy increase as an effect of the study?*
 - Did the study increase (the insights into) the technical feasibility of policy options to be implemented?*
 - Did the study increase the controllability of the policy, for example by translating the policy goals into measurable targets?*
- Decision makers
 - Well founded argumentation for decision
 - Did the study and its results provide the decision makers with a well founded basis for thinking further about the problem situation, and with a well founded argumentation for making particular decisions?*



APPENDIX F: SIMILARITIES AMONG ACTORS

The similarity between actor A and actor B, expressed in terms of the number of elements mentioned by A and B, relative to the number of elements mentioned by A and/or B, is given at the end of this appendix in Table F.2. The table shows the values of

$$D_{Ac}(A, B) = \frac{|E_A \cap E_B|}{|E_A \cup E_B|}$$

where E_A defines the set of success elements that were mentioned by actor A, and E_B defines the set of success elements that were mentioned by actor B.

The actors A and B are indicated by the numbers 1...24. For reasons of completeness the corresponding names of the actors are given below in Table F.1 (see also Table 5.2).

Table F.1: Actors interviewed per case study

<p>The Dutch Riverdikes study</p> <ol style="list-style-type: none"> 1. Project team 2. Client 3. Boertien Commission 4. Stakeholders 5. Policy makers <p>The FORWARD mstudy</p> <ol style="list-style-type: none"> 6. Analysis team 7. Sub contractors 8. Ministry's team 9. Steering group 10. Informative organizations & stakeholders <p>The IVR study</p> <ol style="list-style-type: none"> 11. Client 12. Main contractor 13. Sub contractors 14. Policy makers 15. Parties involved in RVR 	<p>The SVV Colored In study</p> <ol style="list-style-type: none"> 16. Analysis team 17. Policy makers <p>The CAU study</p> <ol style="list-style-type: none"> 18. Project group 19. Steering group 20. Decision makers 21. Advisory body: EIA working group 22. Advisory body: OVI 23. Advisory body: National Planning Commission 24. Public interest groups
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Table F.2: Similarity in terms of $D_{Ac}(A, B)$

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
D																								
Project team	0.47	0.32	0.31	0.15	0.17	0.07	0.21	0.15	0.17	0.10	0.08	0.17	0.07	0.07	0.13	0.07	0.15	0.14	0.12	0.03	0.11	0.06	0.03	0.14
Client		0.37	0.31	0.17	0.15	0.08	0.20	0.17	0.15	0.11	0.06	0.10	0.04	0.04	0.15	0.05	0.11	0.13	0.13	0.08	0.15	0.07	0.04	0.23
Beerten Commission			0.32	0.13	0.16	0.06	0.18	0.14	0.21	0.07	0.08	0.06	0.06	0.06	0.12	0.00	0.07	0.13	0.09	0.00	0.04	0.05	0.00	0.21
Stakeholders				0.12	0.12	0.06	0.15	0.13	0.15	0.07	0.04	0.13	0.06	0.06	0.05	0.06	0.10	0.10	0.13	0.00	0.03	0.10	0.00	0.20
Policy makers				0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.04	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Analysis team				0.04	0.29	0.04	0.03	0.10	0.32	0.12	0.09	0.10	0.04	0.04	0.24	0.03	0.11	0.11	0.14	0.00	0.03	0.00	0.00	0.06
Sub contractors				0.03	0.10	0.06	0.00	0.03	0.10	0.06	0.00	0.06	0.00	0.00	0.04	0.00	0.05	0.03	0.08	0.00	0.00	0.00	0.00	0.06
Ministry's team				0.22	0.24	0.09	0.10	0.18	0.03	0.22	0.14	0.14	0.03	0.22	0.14	0.14	0.14	0.15	0.11	0.03	0.10	0.03	0.03	0.07
Steering group				0.42	0.06	0.06	0.08	0.00	0.08	0.00	0.08	0.00	0.00	0.00	0.08	0.03	0.16	0.14	0.15	0.00	0.03	0.04	0.05	0.10
Inf. org. and stakeholders				0.11	0.16	0.13	0.06	0.08	0.06	0.08	0.06	0.14	0.10	0.13	0.08	0.06	0.14	0.10	0.24	0.00	0.07	0.05	0.00	0.11
I				0.36	0.28	0.12	0.33	0.10	0.13	0.15	0.08	0.11	0.07	0.09	0.06	0.07	0.10	0.09	0.09	0.11	0.07	0.09	0.00	0.11
Client				0.40	0.06	0.36	0.19	0.23	0.10	0.23	0.10	0.23	0.10	0.09	0.06	0.06	0.23	0.10	0.09	0.06	0.07	0.10	0.00	0.07
Main contractor				0.00	0.32	0.26	0.22	0.21	0.10	0.22	0.21	0.10	0.09	0.15	0.09	0.15	0.09	0.21	0.10	0.09	0.15	0.07	0.09	0.13
Sub contractors				0.08	0.05	0.05	0.05	0.06	0.08	0.00	0.22	0.00	0.22	0.00	0.22	0.00	0.22	0.06	0.08	0.00	0.00	0.22	0.00	0.06
Policy makers				0.11	0.20	0.13	0.06	0.12	0.33	0.10	0.13	0.06	0.12	0.05	0.07	0.04	0.05	0.11	0.20	0.13	0.12	0.05	0.07	0.04
Parties in RVR				0.38	0.09	0.07	0.05	0.10	0.08	0.11	0.06	0.06	0.12	0.05	0.07	0.04	0.05	0.38	0.09	0.07	0.05	0.10	0.08	0.11
Analysis team				0.07	0.04	0.05	0.06	0.15	0.12	0.10	0.32	0.07	0.04	0.05	0.06	0.13	0.11	0.07	0.04	0.05	0.06	0.13	0.11	0.06
Policy makers				0.28	0.06	0.15	0.12	0.10	0.32	0.07	0.04	0.05	0.06	0.13	0.11	0.06	0.13	0.07	0.04	0.05	0.06	0.13	0.11	0.06
Project group				0.00	0.18	0.19	0.17	0.37	0.06	0.09	0.17	0.07	0.04	0.05	0.06	0.15	0.12	0.28	0.06	0.15	0.12	0.10	0.10	0.32
Steering group				0.06	0.09	0.17	0.06	0.06	0.09	0.17	0.06	0.06	0.09	0.17	0.06	0.09	0.17	0.06	0.09	0.17	0.06	0.09	0.17	0.06
Decision makers				0.15	0.20	0.15	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22
Advisory body: EIA group				0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Advisory body: OVI				0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21	0.22
Advisory body: NP Com.				0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Public interest groups				0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

APPENDIX G: SETS OF SUCCESS ELEMENTS

Table G.1 shows the fifteen possible clusterings, represented by cluster X versus cluster Y (see also Table 5.5). Table G.2 – G.9 show for these clusterings, for each element of the list, the percentage of the actors of cluster X and the percentage of the actors of cluster Y that mentioned the elements. The tables can be used to construct, for a given M_a and F_a , the sets E_X and E_{Xf} (respectively, E_Y and E_{Yf}) for each of the fifteen clusterings.

Table G.1: Clusterings of cases²⁷

No.	Cluster X	↔	Cluster Y
1	D	↔	F, I, S, C
2	F	↔	D, I, S, C
3	I	↔	D, F, S, C
4	S	↔	D, F, I, C
5	C	↔	D, F, I, S
6	D, F	↔	I, S, C
7	D, I	↔	F, S, C
8	D, S	↔	F, I, C
9	D, C	↔	F, I, S
10	D, F, I	↔	S, C
11	D, F, S	↔	I, C
12	D, F, C	↔	I, S
13	D, I, S	↔	F, C
14	D, I, C	↔	F, S
15	D, S, C	↔	F, I

²⁷ D = the Dutch Riverdikes study; F = the FORWARD study; I = the IVR study; S = the SVV Colored In study; C = the CAU study

Table G.2: Actors that mentioned an element (%), clustering 1 and 2

ELEMENTS	Clustering 1		Clustering 2	
	D	F, I,S,C	F	D,I,S,C
Input				
Timing	80	21		42
Initial stages of setting up the study				
Reason for initiating the study		11		11
Process of setting up the study		5	20	
Aim/object of the study		32	20	26
Problem formulation				
Data and supporting tools				
Availability		11		11
Quality				
Completeness				
Relevance		5		5
Level of detail		5		5
Parties involved				
Trust and reliability among each other		16	40	5
Independence among each other	80			21
Intention to cooperate		5		5
Expertise	60	37	80	32
Location with respect to each other		11	40	
Hierarchical structure	20	5		11
Formal context of the study: surrounding policy process				
Interwovenness of study and policy process		5		5
Transparency and clearness of policy process		5		5
Duration of policy process		5		5
External factors		16		16
Content				
Methodology / Research approach		16		16
Use of state of the art knowledge	20	5		11
Integrating state of the art knowledge		21	60	5
Use of input from (public) parties at interest	60			16
Identification of knowledge gaps		16	40	5
Justification		5		5
Assumptions made		5		5
Screening alternatives		5		5
Identification of alternatives and criteria				
Use of quantitative and qualitative data	20	5	20	5
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Broadness	80	53	60	58
Depth		32	40	21
Relevance	20			5
Integrative		16	60	
Completeness		32		32
Equally treated		5		5
Match with ongoing developments and projects		5		5
Innovative character		53	20	47
Consistency		5	20	
Balance between complexity and simplicity				

Table G.2: continued

ELEMENTS	D	F, I,S,C	F	D,I,S,C
Process				
Openness	60	32	60	32
Parties involved				
Extent of involvement				
Representativeness of selection		42		42
Cooperation	20	47	40	42
Attitude towards others		5		5
Timing of involvement		11	20	5
Participation		5		5
Commitment and support	20	16	60	5
Reason for involvement				
Interactiveness		16		16
Duration	20	37	60	26
Transparency		11		11
Resources				
Availability		5		5
Actual versus planned budget		21	60	5
Change of personnel		5		5
Allocation of resources		11		11
Working agreements and responsibilities	20	11	20	11
Communication		16	20	10
Availability of information among parties involved		5		5
Who with whom	20	11		16
Informal communication	20			5
Internal communication	20			5
External communication		10		10
Secondary aspects		5	20	
Results				
Availability	80	21	80	21
Relevance				
Match with policy process and needs	40	47	20	53
Match with individual interests	20			5
Match with purpose of the study		21		21
Match with potential use		5		5
Match with ongoing developments/current policy		11	20	5
Match with problem situation	20	5	20	5
Match with expectations				
Presentation	40	5	20	11
Structured	40	11		21
Volume	20	16		21
Readability	20	11		16
Visualization		37		37
Form		11		11
Clearness		26		26
Explicit recording of assumptions and conditions		11		11
Completeness		5		5
Parties at interest				
Interest shown		26	20	21
Value	40	11	40	11
Content of information				
Richness	20	11		16
Solutions presented	20	11		16
Integrity		5		5
Consistency	20			5
Verifiability				

Table G.2: continued

ELEMENTS	D	F, I,S,C	F	D,I,S,C
Use				
What				
Research approach	20	5		11
Insights		21	80	
Model		5	20	
By whom				
Individual level		11		11
Official organizations	80			21
Potential use		21	40	11
Institutionalization		5	20	
Extent of usage		21	80	
Purpose	20	26	80	11
Effects				
Parties at interest				
Changed and harmonized mental frames	100	11		37
Insights into problem situation and trade offs	80	42	60	47
Insights into match between alternative policy actions & goals		5		5
Insights into decision process	20			5
Insights into other disciplines	20			5
Insights into management of complex studies	20			5
Increase of awareness of responsibilities	20	11	40	5
Relationships among parties		21	20	16
Communication among parties		16	20	11
Show one's capabilities		11	20	5
Show problem is taken seriously		5	20	
Show one's appreciation		5		5
Support	80	37	40	47
Being taken seriously	20			5
Commitment				
Problem situation				
Overcome impasse	60			16
Working atmosphere	60			16
Implementation policy actions according to analysis	60	11	20	21
Referred to in policy documents		21	40	11
Follow up research				
Initiation	20	21	40	16
Directing		16	20	11
Decision and political process				
(Re)formulation policy		16		16
Political agenda		16		16
New programs		16	40	5
Discussion		26		26
Speed		16	20	11
Decision was taken		5		5
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision		11	40	

Table G.3: Actors that mentioned an element (%), clustering 3 and 4

ELEMENTS	Clustering 3		Clustering 4	
	I	D,F,S,C	S	D,F,I,C
Input				
Timing	20	37	100	27
Initial stages of setting up the study				
Reason for initiating the study		11	100	
Process of setting up the study		5		5
Aim/object of the study	60	16	100	18
Problem formulation				
Data and supporting tools				
Availability		11		9
Quality				
Completeness				
Relevance		5		5
Level of detail		5		5
Parties involved				
Trust and reliability among each other		16		14
Independence among each other		21		18
Intention to cooperate		5		5
Expertise	40	42	50	41
Location with respect to each other		11		9
Hierarchical structure	20	5		9
Formal context of the study: surrounding policy process				
Interwovenness of study and policy process		5		5
Transparency and clearness of policy process		5		5
Duration of policy process		5		5
External factors	60			14
Content				
Methodology / Research approach	20	11	50	9
Use of state of the art knowledge		11	50	5
Integrating state of the art knowledge		21	50	14
Use of input from (public) parties at interest		16		14
Identification of knowledge gaps	20	11		14
Justification		5		5
Assumptions made		5		5
Screening alternatives		5		5
Identification of alternatives and criteria				
Use of quantitative and qualitative data		11		9
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Broadness	60	58		64
Depth	60	16		27
Relevance		5		5
Integrative		16		14
Completeness		32		27
Equally treated		5		5
Match with ongoing developments and projects		5		5
Innovative character	20	47	100	36
Consistency		5		5
Balance between complexity and simplicity				

Table G.3: continued

ELEMENTS	I	D,F,S,C	S	D,F,I,C
Process				
Openness		47		41
Parties involved				
Extent of involvement				
Representativeness of selection	80	21		36
Cooperation	60	37	50	41
Attitude towards others		5		5
Timing of involvement		11		9
Participation		5		5
Commitment and support		21		18
Reason for involvement				
Interactiveness		16		14
Duration	20	37		36
Transparency		11		9
Resources				
Availability		5	50	
Actual versus planned budget		21		18
Change of personnel		5		5
Allocation of resources	40			9
Working agreements and responsibilities	20	11		14
Communication	20	11		14
Availability of information among parties involved		5		5
Who with whom		16		14
Informal communication		5		5
Internal communication		5		5
External communication	40			9
Secondary aspects		5		5
Results				
Availability		42		36
Relevance				
Match with policy process and needs	40	47	100	41
Match with individual interests		5		5
Match with purpose of the study	40	11		18
Match with potential use		5	50	
Match with ongoing developments/current policy		11		9
Match with problem situation		11		9
Match with expectations				
Presentation		16		14
Structured		21		18
Volume	40	11		18
Readability		16	50	9
Visualization	80	16	100	23
Form		11	100	
Clearness	80	5	50	18
Explicit recording of assumptions and conditions	40			9
Completeness		5		5
Parties at interest				
Interest shown	80	5		23
Value		21		18
Content of information				
Richness		16		14
Solutions presented		16		14
Integrality		5		5
Consistency		5		5
Verifiability				

Table G.3: continued

ELEMENTS	I	D,F,S,C	S	D,F,I,C
Use				
What				
Research approach		11		9
Insights		21		18
Model		5		5
By whom				
Individual level	20	5	50	5
Official organizations		21		18
Potential use	40	11		18
Institutionalization		5		5
Extent of usage		21		18
Purpose		32	50	23
Effects				
Parties at interest				
Changed and harmonized mental frames	20	32		32
Insights into problem situation and trade offs	60	47	50	50
Insights into match between alternative policy actions & goals		5		5
Insights into decision process		5		5
Insights into other disciplines		5		5
Insights into management of complex studies		5		5
Increase of awareness of responsibilities		16		14
Relationships among parties	20	16	100	9
Communication among parties		16	100	5
Show one's capabilities		11	50	5
Show problem is taken seriously		5		5
Show one's appreciation		5	50	
Support	20	53		50
Being taken seriously		5		5
Commitment				
Problem situation				
Overcome impasse		16		14
Working atmosphere		16		14
Implementation policy actions according to analysis	20	21		23
Referred to in policy documents	40	11		18
Follow up research				
Initiation	20	21	50	18
Directing	20	11	50	9
Decision and political process				
(Re)formulation policy	60			14
Political agenda	60			14
New programs	20	11		14
Discussion	60	11	100	14
Speed	20	11		14
Decision was taken		5		5
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision		11		9

Table G.4: Actors that mentioned an element (%), clustering 5 and 6

ELEMENTS	Clustering 5		Clustering 6	
	C	D,F,I,S	D,F	I,S,C
Input				
Timing	14	41	40	29
Initial stages of setting up the study				
Reason for initiating the study		12		14
Process of setting up the study		6	10	
Aim/object of the study		35	10	36
Problem formulation				
Data and supporting tools				
Availability	29			14
Quality				
Completeness				
Relevance	14			7
Level of detail	14			7
Parties involved				
Trust and reliability among each other	14	12	20	7
Independence among each other		24	40	
Intention to cooperate	14			7
Expertise		59	70	21
Location with respect to each other		12	20	
Hierarchical structure		12	10	7
Formal context of the study: surrounding policy process				
Interwovenness of study and policy process	14			7
Transparency and clearness of policy process	14			7
Duration of policy process	14			7
External factors		18		21
Content				
Methodology / Research approach	14	12		21
Use of state of the art knowledge		12	10	7
Integrating state of the art knowledge		24	30	7
Use of input from (public) parties at interest		18	30	
Identification of knowledge gaps		18	20	7
Justification	14			7
Assumptions made	14			7
Screening alternatives	14			7
Identification of alternatives and criteria				
Use of quantitative and qualitative data		12	20	
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Broadness	57	59	70	50
Depth	14	29	20	29
Relevance		6	10	
Integrative		18	30	
Completeness	86			43
Equally treated	14			7
Match with ongoing developments and projects	14			7
Innovative character	86	24	10	64
Consistency		6	10	
Balance between complexity and simplicity				

Table G.4: continued

ELEMENTS	C	D,F,I,S	D,F	I,S,C
Process				
Openness	43	35	60	21
Parties involved				
Extent of involvement				
Representativeness of selection	57	24		57
Cooperation	43	41	30	50
Attitude towards others	14			7
Timing of involvement	14	6	10	7
Participation	14			7
Commitment and support		24	40	
Reason for involvement				
Interactiveness	43			21
Duration	43	29	40	29
Transparency	29			14
Resources				
Availability		6		7
Actual versus planned budget	14	18	30	7
Change of personnel	14			7
Allocation of resources		12		14
Working agreements and responsibilities		18	20	7
Communication	14	12	10	14
Availability of information among parties involved	14			7
Who with whom	29	6	10	14
Informal communication		6	10	
Internal communication		6	10	
External communication		12		14
Secondary aspects		6	10	
Results				
Availability		47	80	
Relevance				
Match with policy process and needs	57	41	30	57
Match with individual interests		6	10	
Match with purpose of the study	29	12		29
Match with potential use		6		7
Match with ongoing developments/current policy	14	6	10	7
Match with problem situation		12	20	
Match with expectations				
Presentation		18	30	
Structured	29	12	20	14
Volume	14	18	10	21
Readability	14	12	10	14
Visualization	14	35		50
Form		12		14
Clearness		29		36
Explicit recording of assumptions and conditions		12		14
Completeness	14			7
Parties at interest				
Interest shown		29	10	29
Value		24	40	
Content of information				
Richness	29	6	10	14
Solutions presented	29	6	10	14
Integrity	14			7
Consistency		6	10	
Verifiability				

Table G.4: continued

ELEMENTS	C	D,F,I,S	D,F	I,S,C
Use				
What				
Research approach	14	6	10	7
Insights		24	40	
Model		6	10	
By whom				
Individual level		12		14
Official organizations		24	40	
Potential use		24	20	14
Institutionalization		6	10	
Extent of usage		24	40	
Purpose		35	50	7
Effects				
Parties at interest				
Changed and harmonized mental frames	14	35	50	14
Insights into problem situation and trade offs	14	65	70	36
Insights into match between alternative policy actions & goals	14			7
Insights into decision process		6	10	
Insights into other disciplines		6	10	
Insights into management of complex studies		6	10	
Increase of awareness of responsibilities		18	30	
Relationships among parties		24	10	21
Communication among parties		18	10	14
Show one's capabilities		12	10	7
Show problem is taken seriously		6	10	
Show one's appreciation		6		7
Support	57	41	60	36
Being taken seriously		6	10	
Commitment				
Problem situation				
Overcome impasse		18	30	
Working atmosphere		18	30	
Implementation policy actions according to analysis		29	40	7
Referred to in policy documents		24	20	14
Follow up research				
Initiation		29	30	14
Directing		18	10	14
Decision and political process				
(Re)formulation policy		18		21
Political agenda		18		21
New programs		18	20	7
Discussion		29		36
Speed	14	12	10	14
Decision was taken	14			7
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision		12	20	

Table G.5: Actors that mentioned an element (%), clustering 7 and 8

ELEMENTS	Clustering 7		Clustering 8	
	D,I	F,S,C	D,S	F,I,C
Input				
Timing	50	21	86	12
Initial stages of setting up the study				
Reason for initiating the study		14	29	
Process of setting up the study		7		6
Aim/object of the study	30	21	29	24
Problem formulation				
Data and supporting tools				
Availability		14		12
Quality				
Completeness				
Relevance		7		6
Level of detail		7		6
Parties involved				
Trust and reliability among each other		21		18
Independence among each other	40		57	
Intention to cooperate		7		6
Expertise	60	36	57	41
Location with respect to each other		14		12
Hierarchical structure	20		14	6
Formal context of the study: surrounding policy process				
Interwovenness of study and policy process		7		6
Transparency and clearness of policy process		7		6
Duration of policy process		7		6
External factors	30			18
Content				
Methodology / Research approach	10	14	14	12
Use of state of the art knowledge	10	7	29	
Integrating state of the art knowledge		29	14	18
Use of input from (public) parties at interest	30		43	
Identification of knowledge gaps	10	14		18
Justification		7		6
Assumptions made		7		6
Screening alternatives		7		6
Identification of alternatives and criteria				
Use of quantitative and qualitative data	10	7	14	6
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Broadness	70	50	57	59
Depth	30	21		35
Relevance	10		14	
Integrative		21		18
Completeness		43		35
Equally treated		7		6
Match with ongoing developments and projects		7		6
Innovative character	10	64	29	47
Consistency		7		6
Balance between complexity and simplicity				

Table G.5: continued

ELEMENTS	D,I	F,S,C	D,S	F,I,C
Process				
Openness	30	43	43	35
Parties involved				
Extent of involvement				
Representativeness of selection	40	29		47
Cooperation	40	43	29	47
Attitude towards others		7		6
Timing of involvement		14		12
Participation		7		6
Commitment and support	10	21	14	18
Reason for involvement				
Interactiveness		21		18
Duration	20	43	14	41
Transparency		14		12
Resources				
Availability		7	14	
Actual versus planned budget		29		24
Change of personnel		7		6
Allocation of resources	20			12
Working agreements and responsibilities	20	7	14	12
Communication	10	14		17
Availability of information among parties involved		7		6
Who with whom	10	14	14	12
Informal communication	10		14	
Internal communication	10		14	
External communication	20			12
Secondary aspects		7		6
Results				
Availability	40	29	57	24
Relevance				
Match with policy process and needs	40	50	57	41
Match with individual interests	10		14	
Match with purpose of the study	20	14		24
Match with potential use		7	14	
Match with ongoing developments/current policy		14		12
Match with problem situation	10	7	14	6
Match with expectations				
Presentation	20	7	29	6
Structured	20	14	29	12
Volume	30	7	14	18
Readability	10	14	29	6
Visualization	40	21	29	29
Form		14	29	
Clearness	40	7	14	24
Explicit recording of assumptions and conditions	20			12
Completeness		7		6
Parties at interest				
Interest shown	40	7		29
Value	20	14	29	12
Content of information				
Richness	10	14	14	12
Solutions presented	10	14	14	12
Integrity		7		6
Consistency	10		14	
Verifiability				

Table G.5: continued

ELEMENTS	D,I	F,S,C	D,S	F,I,C
Use				
What				
Research approach	10	7	14	6
Insights		29		24
Model		7		6
By whom				
Individual level	10	7	14	6
Official organizations	40		57	
Potential use	20	14		24
Institutionalization		7		6
Extent of usage		29		24
Purpose	10	36	29	24
Effects				
Parties at interest				
Changed and harmonized mental frames	60	7	71	12
Insights into problem situation and trade offs	70	36	71	41
Insights into match between alternative policy actions & goals		7		6
Insights into decision process	10		14	
Insights into other disciplines	10		14	
Insights into management of complex studies	10		14	
Increase of awareness of responsibilities	10	14	14	12
Relationships among parties	10	21	29	12
Communication among parties		21	29	6
Show one's capabilities		14	14	6
Show problem is taken seriously		7		6
Show one's appreciation		7	14	
Support	50	43	57	41
Being taken seriously	10		14	
Commitment				
Problem situation				
Overcome impasse	30		43	
Working atmosphere	30		43	
Implementation policy actions according to analysis	40	7	43	12
Referred to in policy documents	20	14		24
Follow up research				
Initiation	20	21	29	18
Directing	10	14	14	12
Decision and political process				
(Re)formulation policy	30			18
Political agenda	30			18
New programs	10	14		18
Discussion	30	14	29	18
Speed	10	14		18
Decision was taken		7		6
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision		14		12

Table G.6: Actors that mentioned an element (%), clustering 9 and 10

ELEMENTS	Clustering 9		Clustering 10	
	D,C	F,I,S	D,F,I	S,C
Input				
Timing	42	25	33	33
Initial stages of setting up the study				
Reason for initiating the study		17		22
Process of setting up the study		8	7	
Aim/object of the study		50	27	22
Problem formulation				
Data and supporting tools				
Availability	17			22
Quality				
Completeness				
Relevance	8			14
Level of detail	8			14
Parties involved				
Trust and reliability among each other	8	17	13	11
Independence among each other	33		27	
Intention to cooperate	8			11
Expertise	25	67	67	11
Location with respect to each other		17	13	
Hierarchical structure	8	8	13	
Formal context of the study: surrounding policy process				
Interwovenness of study and policy process	8			11
Transparency and clearness of policy process	8			11
Duration of policy process	8			11
External factors		25	20	
Content				
Methodology / Research approach	8	17	7	22
Use of state of the art knowledge	8	8	7	11
Integrating state of the art knowledge		33	20	11
Use of input from (public) parties at interest	25		20	
Identification of knowledge gaps		25	20	
Justification	8			11
Assumptions made	8			11
Screening alternatives	8			11
Identification of alternatives and criteria				
Use of quantitative and qualitative data	8	8	13	
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Breadth	67	50	67	44
Depth	8	42	33	11
Relevance	8		7	
Integrative		25	20	
Completeness	50			67
Equally treated	8			11
Match with ongoing developments and projects	8			11
Innovative character	50	33	13	89
Consistency		8	7	
Balance between complexity and simplicity				

Table G.6: continued

ELEMENTS	D,C	F,I,S	D,F,I	S,C
Process				
Openness	50	25	40	33
Parties involved				
Extent of involvement				
Representativeness of selection	33	33	27	44
Cooperation	33	50	40	44
Attitude towards others	8			11
Timing of involvement	8	8	7	11
Participation	8			11
Commitment and support	8	25	27	
Reason for involvement				
Interactiveness	25			33
Duration	33	33	33	33
Transparency	17			22
Resources				
Availability		8		11
Actual versus planned budget	8	25	20	11
Change of personnel	8			11
Allocation of resources		17	13	
Working agreements and responsibilities	8	17	20	
Communication	8	17	13	11
Availability of information among parties involved	8			11
Who with whom	25		7	22
Informal communication	8		7	
Internal communication	8		7	
External communication		17	13	
Secondary aspects		8	7	
Results				
Availability	33	33	53	
Relevance				
Match with policy process and needs	50	42	33	67
Match with individual interests	8		7	
Match with purpose of the study	17	17	13	22
Match with potential use		8		11
Match with ongoing developments/current policy	8	8	7	11
Match with problem situation	8	8	13	
Match with expectations				
Presentation	17	8	20	
Structured	33		13	22
Volume	17	17	20	11
Readability	17	8	7	22
Visualization	8	50	27	33
Form		17		22
Clearness		42	27	11
Explicit recording of assumptions and conditions		17	13	
Completeness	8			11
Parties at interest				
Interest shown		42	33	
Value	17	17	27	
Content of information				
Richness	25		7	22
Solutions presented	25		7	22
Integrity	8			11
Consistency	8		7	
Verifiability				

Table G.6: continued

ELEMENTS	D,C	F,I,S	D,F,I	S,C
Use				
What				
Research approach	17		7	11
Insights		33	27	
Model		8	7	
By whom				
Individual level		17	7	11
Official organizations	33		27	
Potential use		33	27	
Institutionalization		8	7	
Extent of usage		33	27	
Purpose	8	42	33	11
Effects				
Parties at interest				
Changed and harmonized mental frames	50	8	40	11
Insights into problem situation and trade offs	42	58	67	22
Insights into match between alternative policy actions & goals	8			11
Insights into decision process	8		7	
Insights into other disciplines	8		7	
Insights into management of complex studies	8		7	
Increase of awareness of responsibilities	8	17	20	
Relationships among parties		33	13	22
Communication among parties		25	7	22
Show one's capabilities		17	7	11
Show problem is taken seriously		8	7	
Show one's appreciation		8		11
Support	67	25	47	44
Being taken seriously	8		7	
Commitment				
Problem situation				
Overcome impasse	25		20	
Working atmosphere	25		20	
Implementation policy actions according to analysis	25	17	33	
Referred to in policy documents		33	27	
Follow up research				
Initiation	8	33	27	11
Directing		25	13	11
Decision and political process				
(Re)formulation policy		25	20	
Political agenda		25	20	
New programs		25	20	
Discussion		42	20	22
Speed	8	17	13	11
Decision was taken	8			11
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision		17	13	

Table G.7: Actors that mentioned an element (%), clustering 11 and 12

ELEMENTS	Clustering 11		Clustering 12	
	D,F,S	I,C	D,F,C	I,S
Input				
Timing	50	17	29	43
Initial stages of setting up the study				
Reason for initiating the study	17			29
Process of setting up the study	8		6	
Aim/object of the study	25	25	6	71
Problem formulation				
Data and supporting tools				
Availability		17	12	
Quality				
Completeness				
Relevance		8	6	
Level of detail		8	6	
Parties involved				
Trust and reliability among each other	17	8	18	
Independence among each other	33		24	
Intention to cooperate		8	6	
Expertise	67	25	41	57
Location with respect to each other	17		12	
Hierarchical structure	8	8	6	14
Formal context of the study: surrounding policy process				
Intervovenness of study and policy process		8	6	
Transparency and clearness of policy process		8	6	
Duration of policy process		8	6	
External factors		25		43
Content				
Methodology / Research approach	8	17	6	29
Use of state of the art knowledge	17		6	14
Integrating state of the art knowledge	33		18	14
Use of input from (public) parties at interest	25		18	
Identification of knowledge gaps	17	8	12	14
Justification		8	6	
Assumptions made		8	6	
Screening alternatives		8	6	
Identification of alternatives and criteria				
Use of quantitative and qualitative data	17		12	
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Broadness	58	58	65	43
Depth	17	33	18	43
Relevance	8		6	
Integrative	25		18	
Completeness		50	35	
Equally treated		8	6	
Match with ongoing developments and projects		8	6	
Innovative character	25	58	41	43
Consistency	8		6	
Balance between complexity and simplicity				

Table G.7: continued

ELEMENTS	D,F,S	I,C	D,F,C	I,S
Process				
Openness	50	25	53	
Parties involved				
Extent of involvement				
Representativeness of selection		67	24	57
Cooperation	33	50	35	57
Attitude towards others		8	6	
Timing of involvement	8	8	12	
Participation		8	6	
Commitment and support	33		24	
Reason for involvement				
Interactiveness		25	18	
Duration	33	33	41	14
Transparency		17	12	
Resources				
Availability	8			14
Actual versus planned budget	25	8	24	
Change of personnel		8	6	
Allocation of resources		17		29
Working agreements and responsibilities	17	8	12	14
Communication	8	17	12	14
Availability of information among parties involved		8	6	
Who with whom	8	17	18	
Informal communication	8		6	
Internal communication	8		6	
External communication		17		29
Secondary aspects	8		6	
Results				
Availability	67		47	
Relevance				
Match with policy process and needs	42	50	41	57
Match with individual interests	8		6	
Match with purpose of the study		33	12	29
Match with potential use	8			14
Match with ongoing developments/current policy	8	8	12	
Match with problem situation	17		12	
Match with expectations				
Presentation	25		18	
Structured	17	17	24	
Volume	8	25	12	29
Readability	17	8	12	14
Visualization	17	42	6	86
Form	17			29
Clearness	8	33		71
Explicit recording of assumptions and conditions		17		29
Completeness		8	6	
Parties at interest				
Interest shown	8	33	6	57
Value	33		24	
Content of information				
Richness	8	17	18	
Solutions presented	8	17	18	
Integrity		8	6	
Consistency	8		6	
Verifiability				

Table G.7: continued

ELEMENTS	D,F,S	I,C	D,F,C	I,S
Use				
What				
Research approach	8	8	12	
Insights	33		24	
Model	8		6	
By whom				
Individual level	8	8		29
Official organizations	33		24	
Potential use	17	17	12	29
Institutionalization	8		6	
Extent of usage	33		24	
Purpose	50		29	14
Effects				
Parties at interest				
Changed and harmonized mental frames	42	17	35	14
Insights into problem situation and trade offs	67	33	47	57
Insights into match between alternative policy actions & goals		8	6	
Insights into decision process	8		6	
Insights into other disciplines	8		6	
Insights into management of complex studies	8		6	
Increase of awareness of responsibilities	25		18	
Relationships among parties	25	8	6	43
Communication among parties	25		6	29
Show one's capabilities	17		6	14
Show problem is taken seriously	8		6	
Show one's appreciation	8			14
Support	50	42	59	14
Being taken seriously	8		6	
Commitment				
Problem situation				
Overcome impasse	25		18	
Working atmosphere	25		18	
Implementation policy actions according to analysis	33	8	24	14
Referred to in policy documents	17	17	12	29
Follow up research				
Initiation	33	8	18	29
Directing	17	8	6	29
Decision and political process				
(Re)formulation policy		25		43
Political agenda		25		43
New programs	17	8	12	14
Discussion	17	25		71
Speed	8	17	12	14
Decision was taken		8	6	
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision	17		12	

Table G.8: Actors that mentioned an element (%), clustering 13 and 14

ELEMENTS	Clustering 13		Clustering 14	
	D,I,S	F,C	D,I,C	F,S
Input				
Timing	58	8	35	29
Initial stages of setting up the study				
Reason for initiating the study	17			29
Process of setting up the study		8		14
Aim/object of the study	42	8	18	43
Problem formulation				
Data and supporting tools				
Availability		17	12	
Quality				
Completeness				
Relevance		8	6	
Level of detail		8	6	
Parties involved				
Trust and reliability among each other		25	6	29
Independence among each other	33		24	
Intention to cooperate		8	6	
Expertise	58	33	35	71
Location with respect to each other		17		29
Hierarchical structure	17		12	
Formal context of the study: surrounding policy process				
Interwovenness of study and policy process		8	6	
Transparency and clearness of policy process		8	6	
Duration of policy process		8	6	
External factors	25		18	
Content				
Methodology / Research approach	17	8	12	14
Use of state of the art knowledge	17		6	14
Integrating state of the art knowledge	8	25		57
Use of input from (public) parties at interest	25		18	
Identification of knowledge gaps	8	17	6	29
Justification		8	6	
Assumptions made		8	6	
Screening alternatives		8	6	
Identification of alternatives and criteria				
Use of quantitative and qualitative data	8	8	6	14
Attention for uncertainties				
Validity				
Verifiability				
Adequacy				
Transparency, clarity				
Aspects taken into account				
Broadness	58	58	65	43
Depth	25	25	24	29
Relevance	8		6	
Integrative		25		43
Completeness		50	35	
Equally treated		8	6	
Match with ongoing developments and projects		8	6	
Innovative character	25	58	41	43
Consistency		8		14
Balance between complexity and simplicity				

Table G.8: continued

ELEMENTS	D,I,S	F,C	D,I,C	F,S
Process				
Openness	25	50	35	43
Parties involved				
Extent of involvement				
Representativeness of selection	33	33	47	
Cooperation	42	42	41	43
Attitude towards others		8	6	
Timing of involvement		17	6	14
Participation		8	6	
Commitment and support	8	25	6	43
Reason for involvement				
Interactiveness		25	18	
Duration	17	50	29	43
Transparency		17	12	
Resources				
Availability	8			14
Actual versus planned budget		33	6	43
Change of personnel		8	6	
Allocation of resources	17		12	
Working agreements and responsibilities	17	8	12	14
Communication	8	17	12	14
Availability of information among parties involved		8	6	
Who with whom	8	17	18	
Informal communication	8		6	
Internal communication	8		6	
External communication	17		12	
Secondary aspects		8		14
Results				
Availability	33	33	24	57
Relevance				
Match with policy process and needs	50	42	47	43
Match with individual interests	8		6	
Match with purpose of the study	17	17	24	
Match with potential use	8			14
Match with ongoing developments/current policy		17	6	14
Match with problem situation	8	8	6	14
Match with expectations				
Presentation	17	8	12	14
Structured	17	17	24	
Volume	25	8	24	
Readability	17	8	12	14
Visualization	50	8	29	29
Form	17			29
Clearness	42		24	14
Explicit recording of assumptions and conditions	17		12	
Completeness		8	6	
Parties at interest				
Interest shown	33	8	24	14
Value	17	17	12	29
Content of information				
Richness	8	17	18	
Solutions presented	8	17	18	
Integrity		8	6	
Consistency	8		6	
Verifiability				

Table G.8: continued

ELEMENTS	D,I,S	F,C	D,I,C	F,S
Use				
What				
Research approach	8	8	12	
Insights		33		57
Model		8		14
By whom				
Individual level	17		6	14
Official organizations	33		24	
Potential use	17	17	12	29
Institutionalization		8		14
Extent of usage		33		57
Purpose	17	33	6	71
Effects				
Parties at interest				
Changed and harmonized mental frames	50	8	41	
Insights into problem situation and trade offs	67	33	47	57
Insights into match between alternative policy actions & goals		8	6	
Insights into decision process	8		6	
Insights into other disciplines	8		6	
Insights into management of complex studies	8		6	
Increase of awareness of responsibilities	8	17	6	29
Relationships among parties	25	8	6	43
Communication among parties	17	8		43
Show one's capabilities	8	8		29
Show problem is taken seriously		8		14
Show one's appreciation	8			14
Support	42	50	53	29
Being taken seriously	8		6	
Commitment				
Problem situation				
Overcome impasse	25		18	
Working atmosphere	25		18	
Implementation policy actions according to analysis	33	8	24	14
Referred to in policy documents	17	17	12	29
Follow up research				
Initiation	25	17	12	43
Directing	17	8	6	29
Decision and political process				
(Re)formulation policy	25		18	
Political agenda	25		18	
New programs	8	17	6	29
Discussion	42		18	29
Speed	8	17	12	14
Decision was taken		8	6	
Decision/policy				
Quality				
Decision makers				
Well founded argumentation for decision		17		29

Table G.9: Actors that mentioned an element (%), clustering 15

ELEMENTS	Clustering 15	
	D,S,C	F,I
Input		
Timing	50	10
Initial stages of setting up the study		
Reason for initiating the study	14	
Process of setting up the study		10
Aim/object of the study	14	40
Problem formulation		
Data and supporting tools		
Availability	14	
Quality		
Completeness		
Relevance	7	
Level of detail	7	
Parties involved		
Trust and reliability among each other	7	20
Independence among each other	29	
Intention to cooperate	7	
Expertise	29	70
Location with respect to each other		20
Hierarchical structure	7	10
Formal context of the study: surrounding policy process		
Intertwovenness of study and policy process	7	
Transparency and clearness of policy process	7	
Duration of policy process	7	
External factors		30
Content		
Methodology / Research approach	14	10
Use of state of the art knowledge	14	
Integrating state of the art knowledge	7	30
Use of input from (public) parties at interest	21	
Identification of knowledge gaps		30
Justification	7	
Assumptions made	7	
Screening alternatives	7	
Identification of alternatives and criteria		
Use of quantitative and qualitative data	7	10
Attention for uncertainties		
Validity		
Verifiability		
Adequacy		
Transparency, clarity		
Aspects taken into account		
Broadness	57	60
Depth	7	50
Relevance	7	
Integrative		30
Completeness	43	
Equally treated	7	
Match with ongoing developments and projects	7	
Innovative character	57	20
Consistency		10
Balance between complexity and simplicity		

Table G.9: continued

ELEMENTS	D,S,C	F,I
Process		
Openness	43	30
Parties involved		
Extent of involvement		
Representativeness of selection	29	40
Cooperation	36	50
Attitude towards others	7	
Timing of involvement	7	10
Participation	7	
Commitment and support	7	30
Reason for involvement		
Interactiveness	21	
Duration	29	40
Transparency	14	
Resources		
Availability	7	
Actual versus planned budget	7	30
Change of personnel	7	
Allocation of resources		20
Working agreements and responsibilities	7	20
Communication	7	20
Availability of information among parties involved	7	
Who with whom	21	
Informal communication	7	
Internal communication	7	
External communication		20
Secondary aspects		10
Results		
Availability	29	40
Relevance		
Match with policy process and needs	57	30
Match with individual interests	7	
Match with purpose of the study	14	20
Match with potential use	7	
Match with ongoing developments/current policy	7	10
Match with problem situation	7	10
Match with expectations		
Presentation	14	10
Structured	29	
Volume	14	20
Readability	21	
Visualization	21	40
Form	14	
Clearness	7	40
Explicit recording of assumptions and conditions		20
Completeness	7	
Parties at interest		
Interest shown		50
Value	14	20
Content of information		
Richness	21	
Solutions presented	21	
Integrity	7	
Consistency	7	
Verifiability		

Table G.9: continued

ELEMENTS	D,S,C	F,I
Use		
What		
Research approach	14	
Insights		40
Model		10
By whom		
Individual level	7	10
Official organizations	29	
Potential use		40
Institutionalization		10
Extent of usage		40
Purpose	14	40
Effects		
Parties at interest		
Changed and harmonized mental frames	43	10
Insights into problem situation and trade offs	43	60
Insights into match between alternative policy actions & goals	7	
Insights into decision process	7	
Insights into other disciplines	7	
Insights into management of complex studies	7	
Increase of awareness of responsibilities	7	20
Relationships among parties	14	20
Communication among parties	14	10
Show one's capabilities	7	10
Show problem is taken seriously		10
Show one's appreciation	7	
Support	57	30
Being taken seriously	7	
Commitment		
Problem situation		
Overcome impasse	21	
Working atmosphere	21	
Implementation policy actions according to analysis	21	20
Referred to in policy documents		40
Follow up research		
Initiation	14	30
Directing	7	20
Decision and political process		
(Re)formulation policy		30
Political agenda		30
New programs		30
Discussion	14	30
Speed	7	20
Decision was taken	7	
Decision/policy		
Quality		
Decision makers		
Well founded argumentation for decision		20



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SUMMARY

The success of policy analysis studies: an actor perspective¹

1. Research questions

Studies are often employed to provide information, to distill the complexities of the problems of modern society into simple and understandable overviews of policy options and their possible effects, and, in the end, to help policy makers adopt and follow an advantageous policy or course of action (Miser & Quade 1995). Studies of this type are generally referred to as *ex ante* policy analysis studies.

Little attention has been paid so far in the literature to systematic evaluation of policy analysis studies. There is a continuing stream of publications in which the authors point out, from their perspective, the success of individual studies and/or the success of specific methods and techniques (Walker 1995; Geurts & Vennix 1989; McCart & Rorhbaugh 1995). Some authors illustrate various aspects of studies that are unsuccessful according to them (Greenberger et al. 1976; Jong 1985; Rietveld 1993). Descriptions are given of visions of how policy analysis studies should be carried out, and of the development of specific methods and tools. Most of the literature, however, is based on anecdotal evidence and/or generalized experience, and none of the authors provide a clear and unequivocal definition of success. The normative views are generally not based on scientific research, and the perspectives of the various authors on what constitutes successful policy analysis studies differ.

The success, and failure, of a policy analysis study may also be perceived differently by different actors. Many actors play a role, in one way or the other and to a lesser or greater extent, in a policy analysis study, and are, therefore, related to the policy analysis study. For example, some actors are involved in carrying out and steering the content and process of the study, such as analysts and the client. Some actors might provide information or receive the results of the study, e.g., organizations and individuals potentially affected by the problem situation or what is done about it. Success is usually defined as the achievement of something desired, planned, or attempted (Anonymous 1979; Hornby 1982), and such requirements may differ per actor, as a result of their different roles and interests with respect to the policy analysis study and the surrounding problem situation. Consequently, different actors may define and assess the success of a study differently.

The main objective of this research was to formulate a theory regarding how different actors define the success of a policy analysis study and the factors underlying the various definitions of success, focusing on the following question:

How do different actors define the success of a policy analysis study and what are the factors underlying the various definitions of success?

¹ Summary of Twaalfhoven, Patricia 1999. *The Success of Policy Analysis Studies: An Actor Perspective*, A search for success definitions based on cases in the field of transport and infrastructure in the Netherlands, Doctoral dissertation, Delft University of Technology, ISBN 90 5166 729 9.

The literature contributed many success elements, which can be focused on in evaluating policy analysis studies. Furthermore, it appeared from the literature that the following three main factors possibly determine how an actor defines the success of a policy analysis study:

- characteristics of the actor
- characteristics of the policy analysis study
- characteristics of the context in which the policy analysis study was carried out

Consequently, the main research question was divided into the following four questions:

- *What are the elements on the basis of which different actors value, from their perspective, the success of the study to which they were related?*
- *What is the relationship between the set of success elements that an actor considers and the characteristics of the actor?*
- *What is the relationship between the set of success elements that an actor considers and the characteristics of the context in which the study was carried out?*
- *What is the relationship between the set of success elements that an actor considers and the characteristics of the policy analysis study?*

A theory concerning how different actors define the success of a policy analysis study and the factors determining these definitions would provide the possibility to predict the set of success elements that a particular actor focuses on when evaluating the success of a study, as a function of the characteristics of the actor concerned, the characteristics of the study, and the characteristics of the study's context. Consequently, such theory would provide the opportunity to evaluate the success of a policy analysis study from different actor perspectives. Such broad, evaluative, and comparative research can provide an empirical basis for advancing the field of policy analysis. Insights into how different actors define the success of a policy analysis study can be particularly used in setting up and carrying out a policy analysis study, if desirable, geared to improving the success of the study from an actor perspective.

2. Research approach

The literature did not provide a foundation for formulating strong hypotheses about the success definitions of different actors and the underlying factors. Therefore, an exploratory approach was chosen to make an attempt at constructing a theory from empirical data.

A conceptual basis was constructed from the literature survey, and this formed the foundation for carrying out the explorative research and building a theory. The conceptual basis included a structure for identifying and categorizing success elements. Viewing a policy analysis study as an action, or a series of actions, controlled by particular inputs, leading to specific products or results, an initial list of success elements was constructed from the literature. A distinction was made

among the following seven categories of elements: input, content, process, results, use, effects and communication. Furthermore, the conceptual basis contained factors that possibly determine how an actor defines the success of a policy analysis study, i.e. characteristics of the actor whose definition of success is taken into account, characteristics of the policy analysis study, and characteristics of the context in which the study was carried out. The characteristics of the actors were expressed in terms of their role, extent of involvement, authority, and interest. The characteristics of a study were expressed in terms of its size, complexity, nature, and the research approach used. The characteristics of a context referred to the problem situation in terms of the scope, orientation, complexity, uncertainty, and attitude of actors involved, and to the analysts' milieu in terms of the status of the study, the decision makers involved, and the availability and use of data and research approaches.

Five case studies were used to identify the success elements that actors focus on and the possible relationships with the factors observed. The case studies were restricted to the field of transportation and infrastructure in the Netherlands, which is an area in which much research has been carried out, including policy analysis studies, to support policy makers. The following five case studies were selected:

1. the Dutch Riverdikes study
2. the FORWARD study
3. the IVR study
4. the SVV Colored In study
5. the CAU study

The studies are described briefly in the text block at the end of this section.

Open interviews with a variety of actors for each case study were used to identify the set of success elements that actors focus on when evaluating the study's success, i.e. the dependent variable. After the open part of the interview, a more structured approach was used to touch on various elements that the interviewee might have forgotten to mention. This structure followed from the conceptual basis. Different questions were asked, pointing at various elements to trigger the interviewees to indicate all elements that they considered to be important in evaluating the study.

Information about the independent variables, i.e. the characteristics of the actors interviewed, the characteristics of the policy analysis study, and the characteristics of the study's context, was obtained from the study's documentation. Information provided by the interviewees was also used to describe these characteristics.

Description of the five case studies

The Dutch Riverdikes study

The study 'Toetsing Uitgangspunten Rivierdijkversterking', in English, the Dutch Riverdikes study, was focused on riverdike improvements and the underlying safety standards. The study was carried out for the Ministry of Transport, Public Works and Water Management under the joint leadership of Delft Hydraulics and RAND Europe over the four-month period August-November 1992. Individual dike improvement projects had given rise to large-scale protests due to their harmful impact on the river landscape and on the natural and cultural values in the surrounding areas. These protests led the Ministry to request such a study and to appoint the commission 'River Dike Reinforcement Criteria Testing' to supervise the study and to recommend a policy to the government. The overall goal of the study was to (1) analyze the criteria used in establishing a safety standard for dikes along the non-tidal branches of the rivers Rhine and Maas, and (2) examine ways to design dikes that provide adequate safety but cause less environmental damage than traditional designs.

The FORWARD study

The study 'Freight Options for Road, Water, And Rail for the Dutch', i.e. the FORWARD study, was a policy analysis study that focused on ways of coping with the projected massive growth in road freight transportation in the Netherlands. RAND Europe carried out the study for the Netherlands Ministry of Transport, Public Works and Water Management, over a two year period from December 1992 to December 1994. Staff members of the client organization also actively participated in the project team. The continuing public debate about alternative policies to deal with freight transport in the Netherlands and the importance of this transport to the Dutch economy motivated the Ministry of Transport, Public Works, and Water Management to commission a broad study of freight policy options and their impacts and costs. The study's objective was to find the best strategies to mitigate the negative impacts of the growth of freight transport while retaining the economic benefits.

The IVR study

The study 'Integrale Verkenning van de Rijntakken' (IVR), in English, Landscape Planning for the river Rhine in the Netherlands, was carried out during the period early 1994 to mid 1996. The study was commissioned by the Eastern Netherlands Directorate of the Directorate-General for Public Works and Water Management. The Institute for Inland Water Management and Waste Water Treatment was the main contractor, which carried out the study together with various other research organizations, including Delft Hydraulics, Grontmij, and Geodan/Geodesie. The formal objectives of the IVR study were to develop an instrument to assess the effects of landscaping alternatives for the riverine area, to illustrate the possibilities offered by the instrument, and to explore the landscape options for the riverine area.

The SVV Colored In study

The study 'SVV Ingekleurd', in English, SVV Colored In, was a policy analysis study that was designed to provide unsolicited advice from the Adviesdienst Verkeer en Vervoer (AVV), in English, the Transportation Research Center of the Ministry of Transport, Public Works and Water Management to the various policy and regional directorates general of the Ministry. The study was carried out over a period of 2 months, before the yearly consideration of the Ministry's Budget in October 1994. The purpose of the study was to advise policy makers about solutions, i.e. policy options, for the difficulties in reaching the policy goals stated in the policy statement on transport called Tweede Structuur Schema Verkeer en Vervoer (SVV II), in English, Second Transport Structure Plan, (Ministerie van Verkeer en Waterstaat 1990). Furthermore, the study aimed at providing the policy makers with background information with respect to possible policy measures, which might have measurable effects on reaching the traffic and transport policy goals.

The CAU study

The CAU study was a policy analysis study on the Amsterdam-Utrecht corridor (CAU). The Dutch Railways and the Directorate General for Public Works and Water Management of the Ministry of Transport, Public Works and Management proposed various infrastructure changes, which were likely to lead to significant effects on the environment and amenity. The Dutch law on Environmental Management required an Environmental Impact Assessment before further decision making took place. In 1990 the Dutch Railways and the Directorate General for Public Works and Water Management combined their efforts and jointly started carrying out the CAU study. The study was a formal Environmental Impact Assessment, aimed at forecasting and evaluating the impacts of proposed and alternative infrastructure changes between Amsterdam and Utrecht. The study was finished and its results were made public by the end of 1993, after which a formal decision making procedure followed.

3. Success elements

The initial list of success elements that was constructed from the literature was expanded and restructured on the basis of the empirical data. Various elements were added to the input category, e.g., the timing of the study and elements related to the parties involved in carrying out the study. Characteristics of the formal context and external factors were also added to the input category since various actors mentioned that they consider these elements when they value the success of a study. When referring to the process of a study, the interviewees spoke in terms of the openness, the transparency, and the interactiveness of the study. With respect to the parties involved in the policy analysis study, the interviewees mentioned various elements, including the timing of involvement and the selection of the parties. Furthermore, secondary aspects, such as trips to foreign countries and working outings, appeared to have an impact on whether a study was valued as successful. Most actors referred to the relevance of the results in terms of 'match with policy process and policy needs', and the elements 'match with individual interests', 'match with potential use', and 'match with ongoing developments and current policy' were also added to the list. With respect to the presentation of the results, the volume of the documents, readability, visualizations, and structure were mentioned frequently. Many actors pointed out that when they focus on the effects of a study, they consider questions such as:

- Did the study change and harmonize the mental frames of the parties involved in the problem situation?
- Did the study give insights on a wide range of aspects?
- Did the study increase the awareness of responsibilities of the actors?
- Did the relationship and communication change among the actors?
- Did the parties involved in the problem situation feel that they, and their interests, were taken seriously by the decision makers, as an effect of the study?
- Did the problem situation change as a result of the study?
- Did important policy documents refer to the results of the study?
- Did the study lead to follow up research?
- Did the study affect the policy processes, e.g., by affecting the policy agenda, accelerating the decision process, and/or by directing the policy discussions?

Communication was not retained as a separate category. The communication aspects mentioned by the interviewees directly related either to the process of the study or to the effects of the study. Furthermore, it appeared from the empirical research that various elements related to the methodology and research approach of the study, which are pointed out in the literature as being of great importance to the analytic success of a study, e.g., validity, verifiability, adequacy, transparency, and clarity of the methodology used (Goeller 1988; Majone & Quade 1980), were not mentioned by the interviewees. The interviewees tended to assume that these aspects were taken care of and did not worry about them when valuing the success of a study. The interviewees also mentioned relatively few elements that related to the use of the study or of its results.

The conceptual structure that was developed in this research (see Section 3.6 and Section 5.2) appeared generally to be exhaustive for identifying and classifying the different elements that actors consider when evaluating the success of a policy analysis study. The structure reflects the broad set of aspects that can be used as a basis for evaluating policy analysis studies. The list of success elements (see Table 5.1 in Section 5.2) and the corresponding questions (see Appendix E) can be used to provide evaluators of policy analysis studies with a helping hand to select success elements and formulate evaluation criteria depending on the objectives of their research. Designers of policy analysis studies may use the list as a starting point to determine the specific objectives that a study should aim for.

4. Towards a theory?

As part of this research, the actors interviewed were characterized in terms of their role, authority, involvement, and interest. Similarly, for each case the characteristics were determined of the study and the study's context. An approach was developed and an analysis was carried out to answer the question: Whether, and if so how, the set of success elements which an actor focuses on when evaluating the success of a study, is determined by the characteristics of the actor, the characteristics of the policy analysis study, and/or by the characteristics of the context of the study?

The empirical data did not provide a firm foundation from which this question could be answered with a straightforward 'yes' and from which conclusive pronouncements could be made about relationships between the success elements that actors consider and the factors observed.

It appeared that actors with similar characteristics do not necessarily focus on similar elements when evaluating a study's success. The sets of elements mentioned by actors who had similar characteristics but were related to different studies, appeared not to show large overlaps. For example, the group of actors carrying out a policy analysis study mentioned 80 different success elements, of which only the following 6 elements were mentioned by more than 50% of these actors: the expertise of the research organizations, the broadness and depth of the aspects taken into account, the cooperation among the parties involved, the relevance of the results, and the insights provided by the study into the problem situation. Furthermore, some of these elements were also mentioned by more than 50% of the actors with other characteristics, i.e. the broadness of the aspects taken into account, the cooperation among parties involved, the relevance of the results, and the insights provided by the study in the problem situation. In other words, these elements were not found to be discriminating among groups of actors.

The factors observed with respect to the study and its context also appeared not to be discriminating in terms of the success elements that actors consider. That is, no clear similarities were identified among the case studies with similar characteristics in terms of the success elements.

Considering the above, it was concluded that it is not possible to identify different types of actors on the basis of their definition of success from the findings of this

research. The driving forces for actors to focus on particular success elements to value the success and failure of a policy analysis study seem not to originate from the characteristics taken into account in this research. Consequently, the empirical research did not provide evidence to develop a theory as originally intended. No direction can be given towards which subset of the set of success elements listed in Table 5.1 needs to be taken into account in carrying out an evaluation of a policy analysis study from the perspective of a particular actor.

From the analysis of the empirical data it appeared, however, that the individual cases are dissociated from the other cases in terms of the success elements. Elaborating on that, it was shown that each of the case studies is unique in terms of how different actors define and assess the success and failure of the study. It seemed to be plausible that the driving forces for actors to focus on particular success elements originate from the *unique* characteristics of the study and the study's context. In other words, the empirical data gave reason to believe that each case is unique and that the unique characteristics of a case determine the success elements that actors consider.

Furthermore, within a case study, the sets of elements mentioned by the actors showed a significant overlap. In other words, the actors related to the same case study tend to 'speak the same language'. The success perceptions of the actors result from their observations, which are constructed and reconstructed in communication with other actors related to the same study. This socialization process might be the reason that only actors related to the same study showed similarities.

5. Additional findings

The empirical data provided the opportunity to analyze hypotheses that stem from various views on successful policy analysis studies described in the literature.

The generation and presentation of objective information are at the core of a study when viewing a policy analysis study as an information provider (Miser & Quade 1985 and 1988a). The paradigm of policy analysis as participative policy-oriented processes focuses on interactive processes, characterized by active interchange of information and points of views among the participants. From this point of view policy analysis studies have a role as process facilitator. These two perspectives imply the hypothesis that the nature of the study, i.e. was the study an analytic, independent and 'value-free' analysis, or was it more directed towards supporting interactive negotiation and learning, plays a large role in successful policy analysis studies, and in how actors perceive the success of a study. So it was expected that the actors related to the information oriented case studies, i.e. the FORWARD study, the IVR study, and the SVV Colored In study, would focus more on content related elements than the actors related to the other two studies, i.e. the Dutch Riverdikes study and the CAU study. The analysis in this research, however, showed that the nature of the study was not a factor that clearly distinguishes the case studies in terms of the success elements. The empirical data, considered either at a detailed, or on a more aggregated level of information, appeared not to support the hypothesis.

Following Meltsner, from the perspective of different types of analysts it was hypothesized that (Meltsner 1976):

- A technician focuses on the content of the analysis and the learning effect it has on parties involved.
- A politician focuses mainly on the acceptance of the results and the effects of the analysis on the policy and problem situation.
- An entrepreneur considers criteria from both the technician and politician. Entrepreneurs additionally focus on process and communication aspects.

This research and its findings did not provide a sound basis for either rejecting or confirming these hypotheses. A rough and subjective classification of the analysts, however, indicated that it might be worthwhile to do more research into this direction, identifying the success elements that different types of analysts focus on and indicating the assumed, discriminating underlying factors in terms of the political and analytical skills of the analysts.

Furthermore, various authors point out that strategic reasons might play a role in initiating and valuing a study, in addition to the formal reason for setting up a study (Jong 1985; Weiss 1979; Twist & Edelenbos). It was concluded from the empirical data that, in some cases, some actors assigned strategic functions to the policy analysis study to which they were related and that these functions most probably played a role in forming their view on the success and failure of the study. It was also noted, however, that the strategic functions are not the only factors determining the elements that actors focus on in evaluating a policy analysis study.

The literature on knowledge utilization contains a rich body of publications in which it is pointed out that recent studies generally indicate that government policy makers rarely utilize information. There is a gap between the analysts' assumption that the information that they produce should be used and the actual behavior of decision makers (Oh & Rich 1996). The findings of the present research, however, gave the impression that the utilization of policy analysis studies and their results is not as low as suggested in the literature. Many actors, including the analysts and the potential users of a study, mentioned that they focused on, and positively valued, various utilization aspects when evaluating a study. It was also noted, though, that the settings of the studies considered in this research were particularly beneficial for utilizing the studies and their results.

Furthermore, some thoughts were given on designing policy analysis studies for success, which emerged from studying how different actors define the success of policy analysis studies. Analysts have many opportunities in designing and carrying out a policy analysis study to increase the probability of the study's success from a particular perspective. The broadness of the study, the presentation of the results, its match with the policy process and needs, iteration, communication, and the research methodology particularly require special attention in setting up a policy analysis study.

SUMMARY IN DUTCH – SAMENVATTING

Het succes van beleidsanalytische studies vanuit het perspectief van actoren¹

1. Onderzoeksvragen

Er worden veel studies uitgevoerd ter ondersteuning van beleidsmakers met als doel complexe maatschappelijke problemen inzichtelijk te maken en een overzicht te geven van mogelijke oplossingen en de daarbij behorende consequenties (Miser & Quade 1995). Dergelijke studies worden veelal aangeduid als ex ante beleidsanalytische studies.

Tot op heden is in de literatuur weinig aandacht geschonken aan het systematisch evalueren van beleidsanalytische studies. Verschillende auteurs gaan in op het succes van individuele studies en/of op het succes van specifieke methoden en technieken (Walker 1995; Geurts & Vennix 1989; McCart & Rorhbaugh 1995). Een aantal auteurs, waaronder Greenberger et al. (1976), Jong (1985) en Rietveld (1993), bespreken aspecten van beleidsanalytische studies die zij als minder succesvol beschouwen. Verder worden nieuwe methoden en technieken beschreven en ideeën over hoe beleidsanalytische studies zouden moeten worden uitgevoerd. De meeste publicaties zijn echter gebaseerd op individuele voorbeelden en persoonlijke ervaringen en niet op wetenschappelijk onderzoek. De auteurs verschillen in hun normatieve visie op beleidsanalytische studies en geen van de auteurs geeft een duidelijke en ondubbelzinnige definitie van succes.

Over het algemeen zijn vele actoren bij een beleidsanalytische studie betrokken. De wijze en mate van betrokkenheid kunnen per actor sterk verschillen. Sommige actoren, zoals de analisten en de opdrachtgevende organisatie, zijn bijvoorbeeld direct betrokken bij de uitvoering en begeleiding van de studie. Belangengroeperingen daarentegen kunnen worden geconsulteerd tijdens de uitvoering van de studie en/of geïnformeerd over de uiteindelijke resultaten, zonder een directe inbreng te hebben in de studie.

Succes wordt in algemene termen gedefinieerd als het bereiken van een gewenst of gepland iets (Anonymous 1979; Hornby 1982) en dergelijke wensen en verwachtingen kunnen sterk per actor verschillen als gevolg van hun verschillende rollen en belangen met betrekking tot de studie en het beschouwde maatschappelijke probleem. Het is dan ook aannemelijk dat verschillende actoren het succes van een beleidsanalytische studie verschillend definiëren en beoordelen.

In deze dissertatie is de volgende vraag onderzocht:

Hoe definiëren verschillende actoren het succes van een beleidsanalytische studie en welke factoren bepalen hoe een actor het succes van een dergelijke studie definieert?

¹ Samenvatting van Twaalfhoven, Patricia 1999. The Success of Policy Analysis Studies: An Actor Perspective, A search for success definitions based on cases in the field of transport and infrastructure in the Netherlands, Doctoral dissertation, Delft University of Technology, ISBN 90 5166 729 9.

Uit de literatuur is gebleken dat de volgende drie factoren mogelijkwijs bepalen hoe een actor het succes van een beleidsanalytische studie definieert:

- karakteristieken van de actor
- karakteristieken van de beleidsanalytische studie
- karakteristieken van de context waarin de beleidsanalytische studie is uitgevoerd

Dit heeft geleid tot een specificering van de hoofdonderzoeksvraag in de volgende vier deelvragen:

- *Op basis van welke elementen beoordelen verschillende actoren vanuit hun perspectief het succes van een beleidsanalytische studie, waar zij in meer of mindere mate bij betrokken zijn geweest?*
- *Wat is de relatie tussen de set van succes elementen die een actor in beschouwing neemt en de karakteristieken van de actor?*
- *Wat is de relatie tussen de set van succes elementen die een actor in beschouwing neemt en de karakteristieken van de context waarbinnen de studie is uitgevoerd?*
- *Wat is de relatie tussen de set van succes elementen die een actor in beschouwing neemt en de karakteristieken van de betreffende beleidsanalytische studie?*

Met het antwoord op de bovenstaande vragen kunnen op basis van de karakteristieken van de actor, de karakteristieken van de studie en de karakteristieken van de context van de studie voorspellende uitspraken worden gedaan over de set van succes elementen die een bepaalde actor in beschouwing neemt bij het evalueren van het succes van een beleidsanalytische studie. Vervolgens biedt zo'n theorie de mogelijkheid het succes van een beleidsanalytische studie te evalueren vanuit het perspectief van een bepaald actor-type. Vergelijkend onderzoek op dit gebied kan het veld van beleidsanalyse verruimen met een empirische basis. Inzichten in hoe verschillende actoren het succes van een beleidsanalytische studie definiëren kunnen, indien gewenst, worden gebruikt bij het opzetten en uitvoeren van beleidsanalytische studies, aansturend op het vergroten van het succes van de studie vanuit het perspectief van een bepaalde actor.

2. Onderzoeksaanpak

Er is gekozen voor een exploratieve aanpak om vanuit de empirische data een theorie te formuleren. De literatuur gaf geen aanleiding concrete hypothesen te formuleren over hoe verschillende actoren het succes van een beleidsanalytische studie definiëren en over de factoren die ten grondslag liggen aan de verschillende definities.

Het onderzoek is gestoeld op een conceptuele basis die is gevormd vanuit de literatuur. De conceptuele basis omvat een structuur voor het identificeren en categoriseren van succes elementen. Een eerste lijst van succes elementen is geconstrueerd op basis van de literatuur. Uitgaande van de gedachte dat een beleidsanalytische studie een actie of een serie van acties is die beïnvloed wordt door bepaalde inputs en leidt tot specifieke producten en resultaten, zijn de volgende

categorieën van succes elementen onderscheiden: input, inhoud, proces, resultaten, gebruik, effecten en communicatie.

De conceptuele basis omvat eveneens een specificatie van de factoren die mogelijkwijs bepalen hoe een actor het succes van een beleidsanalytische studie definieert. De volgende factoren zijn in beschouwing genomen: karakteristieken van de betreffende actor, karakteristieken van de beleidsanalytische studie en karakteristieken van de context waarbinnen de studie heeft plaatsgevonden. De karakteristieken van de actoren zijn uitgedrukt in termen van hun rol, de mate van betrokkenheid, beslissingsbevoegdheid en hun belang(en). De karakteristieken van een studie zijn uitgedrukt in termen van de omvang, de complexiteit en de aard van de studie en de gebruikte onderzoeksaanpak. De karakteristieken van de context waarbinnen een studie heeft plaatsgevonden hebben enerzijds betrekking op de probleemsituatie en zijn uitgedrukt in termen van de reikwijdte van het probleem, oriëntatie, complexiteit, onzekerheid en houding van de actoren die betrokken zijn bij het probleem. Anderzijds hebben de karakteristieken van de context van een studie betrekking op de omgeving van de analisten. Deze karakteristieken zijn uitgedrukt in termen van de status van de studie, betrokken beleidsmakers en beschikbaarheid en daadwerkelijk gebruik van data, methoden en technieken.

In het onderzoek zijn de volgende vijf cases bekeken:

1. de Rivierdijken studie
2. de FORWARD studie
3. de IVR studie
4. de SVV Ingekleurd studie
5. de CAU studie

Deze studies hebben alle betrekking op transport en infrastructuur in Nederland en zijn kort beschreven aan het eind van deze paragraaf.

De afhankelijke variabele, ofwel de set van elementen die actoren in beschouwing nemen om tot een succes oordeel te komen over een bepaalde beleidsanalytische studie, is geïdentificeerd door voor iedere case studie een breed scala aan actoren te interviewen. Een interview bestond uit een open en een meer gestructureerd gedeelte. Gedurende het open gedeelte werd de geïnterviewden gevraagd hun visie te geven op het succes van de betreffende studie en met name aan te geven welke elementen ze in beschouwing hebben genomen om tot het dat oordeel te komen. Aangezien ieder van de case studies ruime tijd voor de interviews was afgerond was het mogelijk dat niet alle aspecten van de studie fris in het geheugen van de geïnterviewde lagen. Na het open gedeelte van het interview zijn dan ook op gestructureerde wijze verschillende succes elementen aangestipt om het geheugen van de geïnterviewde te prikkelen. De structuur van het tweede gedeelte van het interview was ontleend aan de conceptuele basis. Er werden verschillende vragen gesteld om de geïnterviewde te stimuleren alle elementen te noemen waarop zijn succesoordeel over de betreffende studie is gebaseerd.

De onafhankelijke variabelen, te weten de karakteristieken van de geïnterviewde actoren, de karakteristieken van de betreffende beleidsanalytische studies en de

kenmerken van de context waarbinnen de studie heeft plaatsgevonden zijn beschreven op basis van de documentatie van de studie en de informatie uit de interviews.

Beschrijving van de vijf case studies

De Rivierdijken studie

De studie 'Toetsing Uitgangspunten Rivierdijkversterking' was gericht op rivierdijkversterking en de veiligheidsnorm voor de beveiliging van het rivierengebied tegen overstromingen. De studie is uitgevoerd door het Waterloopkundig Laboratorium en RAND Europe (voormalig European American Center for Policy Analysis) in opdracht van het Ministerie van Verkeer en Waterstaat gedurende de periode augustus - november in 1992. De uitvoering van verschillende dijkversterkingsprojecten en de daarmee gepaard gaande ingrepen hadden veel protesten teweeg gebracht met betrekking tot het verlies van cultuur- en natuurwaarden en het landschapsschoon van het rivierengebied. De toenemende discussie over de uitgangspunten voor de rivierdijkversterking bij elk van de afzonderlijke projecten was aanleiding voor de Minister van Verkeer en Waterstaat in augustus 1992 opdracht te geven voor de Rivierdijken studie en de Commissie Boertien in te stellen met als taak het adviseren van de Minister en het begeleiden van de studie. Het doel van de studie was tweeledig: (1) het analyseren van de criteria die ten grondslag liggen aan de keuze van de veiligheid tegen overstroming in het rivierengebied rond de Rijn en de Maas en (2) het ontwerpen van dijkversterkingen die leiden tot adequate veiligheid tegen overstroming, maar de landschaps-, natuur- en cultuurhistorische waarden minder aantasten dan traditionele maatregelen.

De FORWARD studie

De studie 'Freight Options for Road, Water, And Rail for the Dutch' (FORWARD) was gericht op de vraag hoe de Nederlandse overheid kan omgaan met de verwachte groei van het vrachtverkeer over de weg. De discussie over de milieuschade enerzijds en de economische voordelen anderzijds waren aanleiding voor het Ministerie van Verkeer en Waterstaat opdracht te geven maatregelen met betrekking tot het goederenvervoer, inclusief de kosten en effecten, in kaart te brengen. De studie is uitgevoerd door RAND Europe gedurende de periode december 1992 - december 1994. Het doel van de studie was het formuleren van beleidsstrategieën om de negatieve effecten van het goederenvervoer over de weg te reduceren zonder verlies van de economische voordelen.

De IVR studie

De studie 'Integrale Verkenning van de Rijntakken' (IVR) is van begin 1994 tot halverwege 1996 uitgevoerd in opdracht van Directie Oost Nederland van het Directoraat Rijkswaterstaat. De studie werd uitgevoerd door het Rijksinstituut voor Integraal Zoetwaterbeheer en Afvalbehandeling (RIZA) in samenwerking met verschillende onderzoeksinstaties, waaronder het Waterloopkundig Laboratorium, Grontmij en Geodan/Geodesie. Het doel van de studie was een instrument te ontwikkelen waarmee de effecten van verschillende inrichtingsvarianten voor het gebied rond de Rijn kunnen worden geanalyseerd. Ter illustratie van het model zijn een aantal inrichtingsvarianten nader uitgewerkt en doorgerekend.

De SVV Ingekleurd studie

De studie 'SVV Ingekleurd' was een ongevraagd advies van de Adviesdienst Verkeer en Vervoer aan de verschillende beleids- en regionale directies van het Ministerie van Verkeer en Waterstaat. De studie is uitgevoerd in de twee maanden voor het jaarlijkse begrotingsdebat van het Ministerie in oktober 1994. Het doel van de studie was beleidsmakers te adviseren over mogelijke oplossingen voor de geconstateerde knelpunten in het beleid zoals beschreven in het Tweede Structuur Schema Verkeer en Vervoer (SVV II). Het doel van de studie was eveneens de beleidsmakers achtergrondinformatie te verschaffen met betrekking tot verschillende beleidsmaatregelen die een bijdrage zouden kunnen leveren aan het bereiken van de gestelde beleidsdoelstellingen.

De CAU studie

De CAU studie was een uitgebreide milieu effect rapportage (MER) met betrekking tot de corridor Amsterdam - Utrecht (CAU), waarbij mogelijke effecten van verschillende infrastructuuropties tussen Amsterdam en Utrecht in kaart zijn gebracht. De MER was een vereiste voordat verdere besluiten konden worden genomen over de infrastructurele uitbreidingen die waren voorgesteld door de Nederlandse Spoorwegen (NS) en Rijkswaterstaat (RWS). De studie werd in 1990 door de NS en RWS geïnitieerd en eind 1993 werden de resultaten gepubliceerd, waarna de formele besluitvormingsprocedure werd vervolgd.

3. Succes elementen

De vanuit de literatuur opgestelde lijst van succes elementen is aangevuld en geherstructureerd op basis van de empirische data. Verschillende elementen zijn toegevoegd aan de input categorie, waaronder de timing van een studie en elementen in relatie tot de actoren die betrokken zijn geweest bij de uitvoering van een studie. Karakteristieken van de formele context waarbinnen een studie is uitgevoerd en externe factoren zijn eveneens toegevoegd aan deze categorie, aangezien uit de interviews bleek dat actoren deze elementen in beschouwing nemen bij hun succesoordeel over een studie. Veel geïnterviewden noemden openheid, inzichtelijkheid, interactiviteit, alsmede welke partijen wanneer betrokken zijn bij de beleidsanalytische studie als proces gerelateerde succes elementen. Bijkomende aspecten als etentjes en buitenlandse reisjes bleken eveneens meegenomen te worden in het eindoordeel van een aantal actoren. Verder blijkt men sterk te letten op de aansluiting van de studieresultaten bij het beleidsproces en de beleidsbehoeften. De aansluiting van de resultaten bij individuele behoeften, het potentiële gebruik en bij bestaande ontwikkelingen en beleid zijn ook aan de lijst van elementen toegevoegd. Met betrekking tot de presentatie van de studieresultaten noemden veel geïnterviewden het volume van de rapportage, de leesbaarheid, visualisaties, de logische opbouw en de structuur van het geheel. De actoren vonden voornamelijk de effecten van de studie belangrijk om mee te nemen in hun succesoordeel over de studie. Op basis van de interviews zijn de volgende effect gerelateerde elementen toegevoegd aan de lijst:

- Heeft de studie invloed gehad op het denkpatroon van de verschillende partijen die betrokken zijn bij de probleemsituatie?
- Heeft de studie inzicht gegeven in een breed scala aan aspecten?
- Heeft de studie een bijdrage geleverd aan het vergroten van het bewustzijn van de actoren met betrekking tot hun verantwoordelijkheden?
- Is de studie van invloed geweest op de relatie en communicatie tussen de verschillende actoren?
- Heeft de studie er toe geleid dat de partijen die betrokken zijn bij de probleemsituatie het gevoel hadden dat zij en hun belangen serieus zijn genomen door de beleidsmakers?
- Heeft de studie een bijdrage geleverd aan het verbeteren/oplossen van de probleemsituatie?
- Wordt naar de studie verwezen in belangrijke beleidsdocumenten?
- Heeft de studie geleid tot vervolgonderzoek?
- Heeft de studie effect gehad op het beleidsproces, bijvoorbeeld door beïnvloeding van de politieke agenda, versnelling van het beslissingsproces, en/of door sturing van de politieke discussies?

Communicatie is niet als aparte categorie behouden. De communicatie aspecten die de geïnterviewden noemden hadden direct betrekking op het proces van de studie of op de effecten van de studie en zijn dan ook in die categorieën ondergebracht. Uit het empirisch onderzoek is eveneens gebleken dat de geïnterviewden de gebruikte

onderzoeksaanpak en methodologie vrijwel niet in beschouwing nemen in hun succesoordeel over een studie. Hierin verschillen de empirische bevindingen sterk van de literatuur, waarin validiteit, verifieerbaarheid, inzichtelijkheid en geschiktheid van de methodologie als uiterst belangrijk worden gekenmerkt voor het analytische succes van een studie (Goeller 1988; Majone & Quade 1980). De geïnterviewden namen veelal aan dat 'het wel snor zat' met deze aspecten en lieten ze niet meewegen in hun oordeel over een studie. Verder is uit de interviews gebleken dat actoren hun oordeel vrijwel niet baseren op wie, waarom, welke aspecten van een studie en de daaruit volgende resultaten gebruikt.

De conceptuele structuur die is ontwikkeld in dit onderzoek (zie paragraaf 3.6 en paragraaf 5.2) bleek bruikbaar en omvangrijk genoeg voor het identificeren en classificeren van de verschillende elementen die actoren in beschouwing nemen in hun succesoordeel. De structuur geeft de breedte weer van het scala aan aspecten die als basis kunnen dienen voor het evalueren van een beleidsanalytische studie. De lijst van succes elementen (zie Tabel 5.1 in paragraaf 5.2) en de bijbehorende vragen (zie Appendix E) kunnen degenen die een beleidsanalytische studie evalueren helpen bij het selecteren van succes elementen en het formuleren van succes criteria, afhankelijk van de doelstelling van hun onderzoek. Degenen die beleidsanalytische studies opzetten en uitvoeren kunnen de lijst gebruiken bij het vaststellen van de specifieke doelstellingen van die studies.

4. Op weg naar een theorie?

Als onderdeel van het onderzoek zijn de geïnterviewde actoren gekarakteriseerd in termen van hun rol, de mate van betrokkenheid, beslissingsbevoegdheid en hun belang(en). Op gelijke wijze zijn voor iedere case de karakteristieken vastgesteld van de studie en de context waarbinnen de studie was uitgevoerd. Er is een aanpak ontwikkeld en een diepgaande analyse uitgevoerd om antwoord te geven op de vraag of, en zo ja, hoe de set van succes elementen die een actor in beschouwing neemt bij het evalueren van een beleidsanalytische studie afhangt van de karakteristieken van de actor, de karakteristieken van de studie, en/of de karakteristieken van de context van de studie.

Het empirisch onderzoek heeft geen basis gegeven waarop deze vraag met een volmondig 'ja' kan worden beantwoord en waarmee eenduidige uitspraken kunnen worden gedaan over de relatie tussen enerzijds de succes elementen die actoren in beschouwing nemen en anderzijds de factoren die in dit onderzoek zijn meegenomen.

Er is gebleken dat actoren met overeenkomstige karakteristieken niet per definitie hun oordeel over een studie baseren op soortgelijke succes elementen. Met name de sets van succes elementen die zijn genoemd door actoren met dezelfde karakteristieken, maar betrokken waren bij verschillende studies bleken weinig overlap te vertonen. De groep analisten heeft bijvoorbeeld in totaal 80 verschillende elementen genoemd waarvan slechts 6 elementen door meer dan 50% van deze

groep actoren werden genoemd, te weten: de expertise van de onderzoeksorganisaties, de breedte en diepte van de studie, de samenwerking tussen de verschillende partijen, de relevantie van de resultaten en de verkregen inzichten in de probleemsituatie en mogelijke oplossingen. Van deze elementen werden bovendien de breedte van de studie, de samenwerking tussen de partijen, de relevantie van de resultaten en de gegeven inzichten door veel andere actoren genoemd. Deze elementen bleken dus niet onderscheidend te zijn voor de verschillende groepen actoren.

De karakteristieken van een studie en van de context waarbinnen een studie heeft plaatsgevonden bleken eveneens niet onderscheidend te zijn voor de succes elementen die een actor in beschouwing neemt. Case studies met soortgelijke karakteristieken vertoonden geen duidelijke overeenkomst in termen van de geïdentificeerde succes elementen.

Op basis van deze bevindingen is geconcludeerd dat het niet mogelijk is op grond van dit onderzoek een typologie van actoren te geven met betrekking tot hun definitie van het succes van een beleidsanalytische studie. Geen van de factoren die in dit onderzoek in beschouwing zijn genomen bepalen op aantoonbare wijze hoe een actor het succes van een studie definieert. Het empirisch onderzoek heeft dan ook niet geleid tot het formuleren van een theorie zoals aanvankelijk gedacht. Er kan geen recept gegeven worden voor welke succes elementen meegenomen dienen te worden bij het evalueren van een beleidsanalytische studie vanuit het perspectief van een bepaalde actor.

Uit de analyse is echter wel naar voren gekomen dat ieder van de individuele case studies zich onderscheidt van de andere case studies in termen van de succes elementen. Hierop voortbouwend is aangetoond dat de wijze waarop actoren het succes van een studie definiëren en beoordelen uniek is voor ieder van de vijf case studies. Op basis van het empirisch onderzoek lijkt het aannemelijk dat de set van elementen die een actor in beschouwing neemt wordt bepaald door de *unieke* karakteristieken van de betreffende studie en van de studie's context.

De grootste overeenkomst in termen van succes elementen was te vinden tussen actoren die betrokken waren bij dezelfde studie. Dergelijke actoren hebben gedurende de studie een gemeenschappelijke taal opgebouwd hetgeen zich klaarblijkelijk uit in een overlappende set van succes elementen. De succes percepties van de actoren komen voort uit hun observaties die sterk worden beïnvloed door de communicatie met andere actoren die betrokken zijn bij dezelfde studie. Dit socialisatieproces is er mogelijkwijs de reden van dat alleen actoren die betrokken waren bij dezelfde studie overeenkomsten vertoonden in termen van succes elementen.

5. Additionele bevindingen

De empirische gegevens gaven de mogelijkheid dieper in te gaan op een aantal hypothesen die volgen uit de literatuur.

Sommige auteurs hangen de gedachte aan dat het genereren en presenteren van objectieve informatie het ultieme doel is van een beleidsanalytische studie (Miser & Quade 1985 en 1988a). Anderen zien daarentegen beleidsanalytische studies als participatieve processen en leggen de nadruk op interactie, gekarakteriseerd door actieve uitwisseling van informatie en visies tussen de deelnemers aan het proces. Op basis van deze twee invalshoeken kan worden verondersteld dat de aard van een studie mede bepaalt welke elementen een actor in beschouwing neemt bij het evalueren van de betreffende studie. In het verlengde daarvan werd verwacht dat de geïnterviewden die betrokken waren bij FORWARD, IVR en SVV Ingekleurd, ofwel de meer analytisch getinte studies, zich meer zouden richten op inhoudelijke aspecten dan degenen die betrokken waren bij de Rivierdijken studie en de CAU studie, welke een meer participatief karakter hadden. De empirische gegevens, op zowel geaggregeerd als gedetailleerd niveau, bleken deze veronderstelling echter niet te ondersteunen. De aard van de studies was geen duidelijk onderscheidende factor met betrekking tot de succes elementen.

In navolging van Meltsner (1976) kunnen hypothesen worden geformuleerd over de wijze waarop verschillende typen analisten een studie beoordelen:

- Een 'technician' beoordeelt een studie vooral op de inhoud van de analyse en de leereffecten.
- Een 'politician' beoordeelt een studie vooral op de mate van acceptatie van de resultaten door betrokkenen en op de effecten van de analyse op het beleid en de probleemsituatie.
- Een 'entrepreneur' neemt de criteria van een technician en een politician, alsmede proces en communicatie aspecten in beschouwing.

De geïnterviewde analisten zijn ruwweg in de drie categorieën technician, politician en entrepreneur ingedeeld, waaruit is gebleken dat de politieke en analytische vaardigheden van een analist inderdaad bepalende factoren kunnen zijn voor hoe, en op basis van welke elementen, een analist het succes van een studie beoordeelt. Het onderzoek is echter niet zodanig opgezet dat hier concluderende uitspraken over kunnen worden gedaan. Verder onderzoek is nodig om duidelijkheid te verschaffen hoe verschillende typen analisten het succes van een beleidsanalytische studie definiëren en beoordelen.

Naast de formele motivatie voor de uitvoering van een beleidsanalytische studie liggen vaak strategische redenen ten grondslag aan het initiëren en beoordelen van een studie (Jong 1985; Weiss 1979; Twist & Edelenbos). Uit dit onderzoek is gebleken dat een aantal actoren inderdaad strategische functies hebben toegekend aan de studie waar zij bij betrokken waren en dat die strategische functies ook een rol hebben gespeeld bij hun oordeel over de betreffende studie. Er is echter ook gebleken dat niet alle succes elementen die een actor in beschouwing neemt voortkomen uit de toegekende strategische functies.

Volgens veel auteurs bestaat er een kloof tussen het beeld dat analisten hebben over het gebruik van de door hen aangeleverde informatie en het daadwerkelijke gebruik van die informatie door beleidsmakers (Oh & Rich 1996). De resultaten van dit

onderzoek geven echter de impressie dat het niet zo slecht is gesteld met het gebruik van beleidsanalytische studies en de daaruit volgende resultaten. Veel geïnterviewden hebben aangegeven dat zij een studie onder andere beoordelen op het gebruik en de effecten van een studie en lieten zich daar over het algemeen positief over uit. Voor ieder van de case studies geldt echter wel dat de setting en omstandigheden gunstig waren voor het gebruik van de resultaten.

Uit het onderzoek zijn een aantal algemene punten naar voren gekomen die extra aandacht behoeven bij het ontwerpen en uitvoeren van beleidsanalytische studies ter vergroting van het succes. Met name de breedte van een studie, de presentatie van de resultaten en de aansluiting van de studie op het beleidsproces en de beleidsbehoeften vergen speciale aandacht bij het opzetten en uitvoeren van een succesvolle beleidsanalytische studie. Een iteratieve onderzoeksaanpak en communicatie zijn eveneens belangrijke aandachtspunten.



ABOUT THE AUTHOR

Patricia Twaalfhoven received her M.Sc. cum laude from the Faculty of Technical Mathematics and Informatics at Delft University of Technology, in 1992. She completed her Masters thesis in the field of Applied Analysis, focusing on Control Theory, at the University of Illinois in Urbana/Champaign (USA).

Patricia joined the School of Systems Engineering, Policy Analysis and Management (SEPA) of the Delft University of Technology at the end of 1992. Her doctoral research was focused on the success of policy analysis studies, particularly in the field of transport and infrastructure in the Netherlands. As part of her research she presented her work at various national and international conferences. Furthermore, she is a member of the board of NECTAR (Network on European Communications and Transport Activities Research), which is a scientific network that brings together a wide variety of perspectives on transport and communication problems and their impacts on society in an international perspective.

In addition to her work at SEPA, Patricia has worked closely with RAND Europe (former European-American Centre for Policy Analysis). She was involved in various projects, among which a policy analysis study called FORWARD (Freight Options for Rail, Water, and Road for the Dutch) and the Dutch Civil Aviation project.

