CITIZEN VALUES ASSESSMENT

An Instrument for Integrating Citizens' Perspectives into Environmental Impact Assessment

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An Instrument for Integrating Citizens' Perspectives into Environmental Impact Assessment

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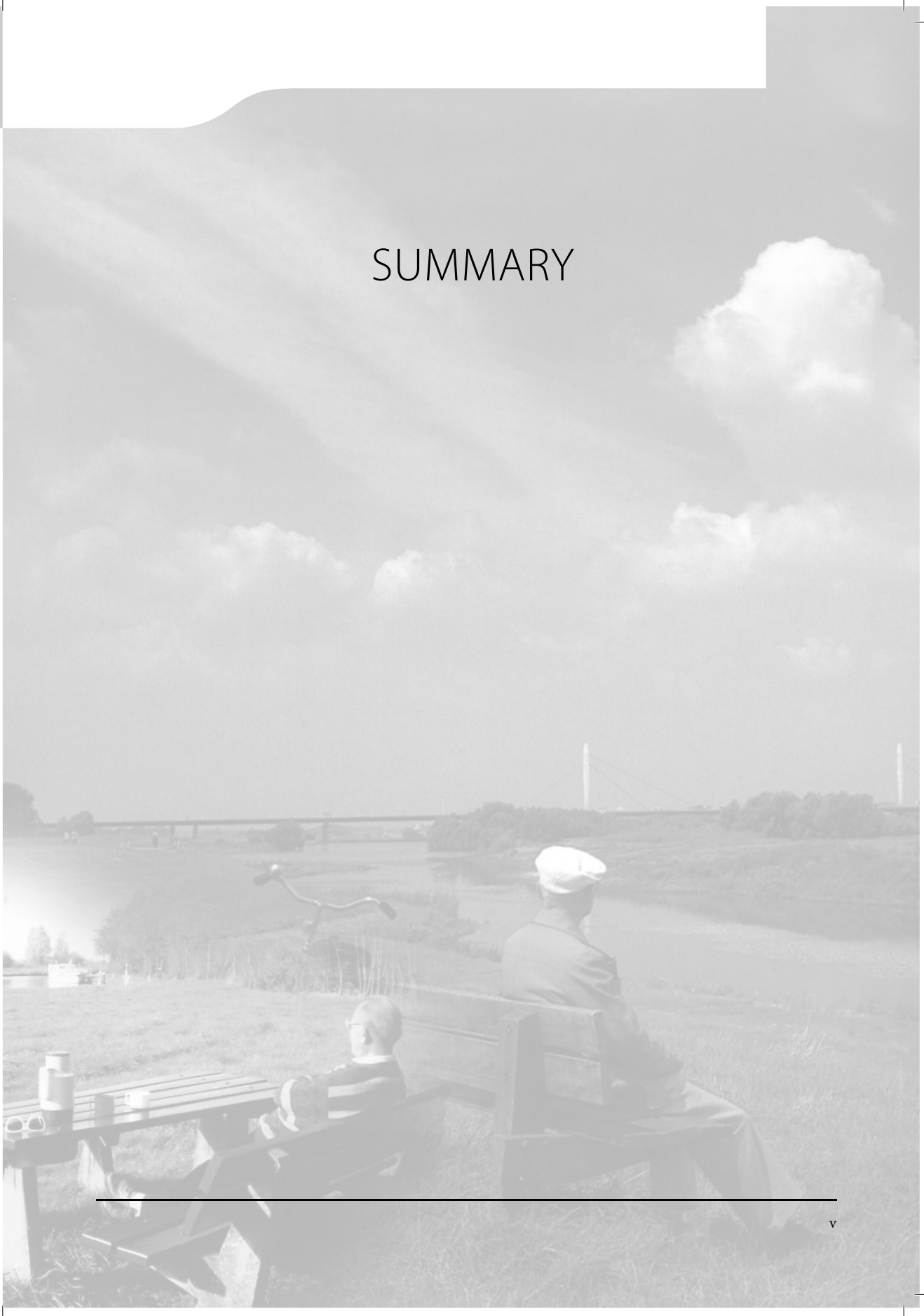
SUMMARY



Summary

This thesis outlines an impact assessment instrument called 'Citizen Values Assessment' (CVA). In CVA, the potential impacts of planned interventions in the environment are investigated from the perspective of those citizens who are potentially influenced by them. The central idea behind CVA is that the values individual citizens attach to particular environmental characteristics often differ (at least partly) from expert judgements. Further, these perceived qualities of the living environment are not only related to the physical environment, but also include social issues like risk perception, accessibility of facilities and social cohesion. Therefore, CVA can provide useful information about the potential impacts of planned interventions for Environmental Impact Assessment (EIA).

By means of CVA, the scope of EIA can be broadened:

1. CVA provides an overview of potential impacts on the quality of the living environment based on the judgements of citizens (non-experts; lay-persons). As such, CVA provides information about environmental impacts from citizens' perspectives, complementary to relevant experts' assessments.
2. In addition, CVA can provide information about social impacts related to the perceived quality of the living environment.

This thesis consists of three parts. Part I focuses on issues related to the development of the CVA instrument. Here, the starting points and context of CVA method development are described. The conceptual framework and the CVA instrument are presented, and CVA is positioned within the Impact Assessment context. The research questions to be investigated in the thesis are introduced. Part II focuses on the practical application of CVA to EIA and on the relevancy of CVA as an information source for EIA. CVA case studies are evaluated and the potential contributions of CVA to EIA are discussed from relevant actors' perspectives. In Part III, the practical applicability, suitability and effectiveness of CVA are evaluated and the research questions are discussed.

PART I: DEVELOPMENT OF CVA

In **Chapter 1** an explanation is given as to why social issues have, so far, rarely been included in EIA, and why broadening the scope of EIA to include citizens' perspectives is logical and necessary. The common view that, because EIA should provide a rational basis for decision-making, it therefore should only utilise data that are based on technical considerations, and that citizens' perspectives (especially when investigated by qualitative research methods) are too subjective and therefore not appropriate for EIA, is criticised.

Chapter 1 proceeds with an explanation of the development of CVA: the historical, institutional, disciplinary, and Dutch context. An overview of the CVA Development Project, which was conducted within the Directorate General of Public Works and Water Management (*Rijkswaterstaat*) of the Ministry of Transport, Public Works and Water Management in the Netherlands, is given. After this, the premises on which CVA development is based are presented.

Finally, Chapter 1 presents the research questions that were central in this PhD study. These research questions, relate to the methodological soundness and applicability; the suitability; and the effectiveness of CVA:

1. ***Is CVA a plausible and methodologically sound instrument for analysing citizens' values and citizens' views about their living environment?***
   - Is it possible to operationally define and implement a process to measure peoples' subjective values about their living environment?
   - Is it possible to collect the data that would be required for CVA?
   - Is CVA methodologically sound in terms of reliability, validity, sensitivity and bias?
2. ***Is CVA suitable for integration within EIA?***
   - Is CVA compatible with the rationale of EIA?
   - Does CVA produce information that is relevant to EIA?
3. ***Is CVA effective in improving the processes and outcomes of EIA?***
   - Does CVA lead to different EIA outcomes than would have been achieved otherwise?
   - Does CVA increase the legitimacy of the EIA and the decision-making process?
   - Does CVA influence or change the final political decision?

In **Chapter 2**, CVA is positioned within the context of four theoretical perspectives. First, from a science policy perspective, CVA can be considered an instrument that provides rational, neutral and structured information on everyday knowledge. Secondly, CVA shares some basic starting points with phenomenological research approaches. The meaningfulness of the living environment to citizens is central, and ideas and conclusions are arrived at inductively. The outcomes are considered valid if they are understandable and recognisable to the people they concern. The third theoretical perspective, environmental psychology, is introduced with the intention of explaining how CVA differs from it, but also how insights from environmental psychology may become relevant to explain patterns in data. Fourthly, within an environmental science context, Citizen Values can be defined as comprising: the intrinsic values of the natural (biophysical) environment and the intrinsic values of the constructed living environment as perceived by citizens, as well as the use values of the natural (biophysical) environment and the use values of the constructed living environment.

Chapter 2 proceeds with explanations of how citizens' judgements are investigated in CVA and what is the role of CVA experts in assessing impacts from citizens' perspectives. After this, the CVA instrument is described in detail. CVA consists of four phases and a follow-up step which integrates the outcomes of CVA in the EIS or other policy evaluation document. ***Phase 1*** consists of problem definition, delineation and identification of interest groups, and the collection of background information. ***Phase 2*** is a preliminary qualitative study to provide in-depth understanding of local peoples' connections to the area affected by the project. Semi-structured interviews are conducted with people from all relevant affected and interested citizen groups, including residents, commuters, workers, day-trippers and tourists. The outcome is a listing of the selected key values of the affected community (a preliminary profile). In ***Phase 3***, a quantitative survey is conducted to validate the key values identified in Phase 2, to determine the relative importance of those key values, and determine how respondents feel about their present living environment in respect of these key values. The outcome is an assessment matrix or Citizen Values Profile. In ***Phase 4***, the Citizen Values Profile is translated into evaluation criteria for the assessment of impacts potentially caused by the planned intervention. Qualitative and quantitative indicators are identified for each of the assessment criteria. Impacts are determined and alternatives are compared.

In **Chapter 3**, CVA is positioned as an impact assessment methodology. Relations between CVA, Social Impact Assessment, Environmental Impact Assessment and Public Involvement are discussed. Within the context of Social Impact Assessment, CVA addresses a specific selection of social impacts and, therefore, can be considered a type of Social Impact Assessment adjusted to EIA practice. CVA only applies to the social impacts associated with the category 'quality of the living environment'. Within that category, CVA specifically applies to the *perceived* values related to the qualities of the living environment, such as perception of personal safety and fear of crime, as opposed to *actual* values, such as hazard exposure and crime rates. CVA combines a thorough consultation of potentially influenced citizens in the identification of the character and weights of potential impacts with professional (expert) measurement, evaluation and comparison of future impacts. The primary objective of CVA is to add neutral overviews of potential impacts (based on local knowledge) on values relevant to citizens, to the technical overviews of potential impacts provided by relevant experts.
Within the EIA context, CVA identifies the (potential) changes in those characteristics and functions of the biophysical environment that are relevant to and valued by citizens, and it judges and evaluates these potential changes from the perspective of citizens. As such, CVA is a type of EIA. It provides complementary information on environmental impacts in addition to expert assessments.

Within the context of public involvement, CVA can be considered a complementary instrument. Participatory processes, no matter how carefully designed and conducted, and no matter how satisfactory they are to those involved, cannot prevent a project from having some, and sometimes major environmental and social impacts. This is the dilemma between the collective (national, regional) and the individual (local) interest. Therefore, it is important to investigate these impacts. Participatory approaches are not designed to do this. To achieve a systematic evaluation of impacts on the perceived qualities of the living environment, a structured study on the functions and characteristics of the local living environment, and what they actually mean to people, is required. This requires SIA instruments adjusted to EIA practice, specifically CVA.

PART II: APPLICATION OF CVA

In **Chapter 4**, a CVA case study is described and evaluated. This CVA study was part of an EIA of a highway project near the city of Rotterdam. It was the first complete CVA study and is presented to illustrate the learning-by-doing development process of CVA. The CVA study was applied here in a 'stand-alone' mode, which means that it was conducted independently of the EIA. The case concerned a highway section in which the congestion chance was much higher than the accepted national standards.

The application of the CVA instrument and the way in which the CVA results were integrated in the EIA is described in detail. Next, the practical applicability, suitability and effectiveness of the CVA study are evaluated. The CVA study provided new insights and put some assumptions of experts in a broader perspective. Surprisingly, noise nuisance appeared to be less important than a range of other issues, such as traffic jams and 'sneaky traffic'. The outcomes of the CVA study were different to the EIA expert assessment of 'liveability', highlighting the consistently different emphases between citizens and experts. Thus, the CVA study provided relevant additional information for the impact assessment process. Problems in the practical application arose with the construction of the Citizen Values Profile and with the use of data sources for assessing impacts.

In **Chapter 5**, a CVA case study is presented concerning the intended dredging, storing and processing of contaminated sediments in coastal harbours in the Province of North-Holland. This case study illustrates an example in which CVA had been optimally integrated in the EIA process, and discusses relevant issues concerning the role and contribution of CVA in an EIA process in general. The project attempted to identify possibilities for short term storage, as well as for finding structural solutions to the sedimentation and pollution problems. The project consisted of studies including the identification of solutions; technical and financial assessments; and an EIA which included a CVA. The project was conducted by means of a comprehensive interactive process (also-called 'open plan process') involving a large number of stakeholder groups. The project, which involved seven possible sites, included the identification and assessment of four types of strategies for dealing with the problem of contaminated saline sediments.

In **Chapter 6**, three more cases are briefly presented with the aim of illustrating the different ways in which CVA can be applied. The cases described in this chapter confirmed the findings regarding the suitability and effectiveness of CVA. CVA provides location specific details that are suitable for comparing and judging alternatives and variants; that can be used for the development of mitigation and compensation measures and for a Most Citizen Friendly Alternatives. It was also concluded that CVA contributed to the legitimacy of the EIA.

In **Chapter 7**, the relevancy of CVA output for utilisation in EIA is investigated from all actors' perspectives. Because a quantitative evaluation of cases is impossible at this stage, a different approach was used to gain insight into the effectiveness of CVA. The *perceptions* of the (potential) effectiveness of CVA were investigated from relevant actors' perspectives. Three exploratory studies on the perceived effectiveness of CVA have made clear that CVA is considered to be a suitable addition to EIA by the majority of respondents.

Particularly from the citizens' perspective, the inclusion of CVA in EIA was perceived to contribute to the quality and legitimacy of EIA. Whether or not CVA output is presented to decision-makers partly depends on how relevant this information is in the eyes of their advisors. However, the potential influence of CVA (and EIA) is perceived to depend largely on decision-makers' attitudes towards rational information.

PART III: EVALUATION OF CVA

In this part of the thesis, the potential of CVA is evaluated in relation to the three research questions. The methodological soundness and applicability, suitability and effectiveness of CVA are discussed in **Chapter 8**. General conclusions on the potential of CVA in relation to the research questions are drawn and recommendations for future research are presented in **Chapter 9**.

The first research question '***Is CVA a plausible and methodologically sound instrument for analysing citizens' values and citizens' views about their living environment?'*** refers to the methodological soundness and applicability of CVA. In general, this question can be answered in the affirmative. Despite some remaining minor methodological issues, CVA is a theoretically plausible and methodologically feasible process for investigating citizens' perceptions about their living environment. By means of CVA, citizens' values and citizens' views about their living environment can be analysed in a way that leads to valid and reliable results.

Apart from the methodological soundness of CVA it was concluded that the efficiency of the instrument could be improved. The development of a database could contribute to an increase in the efficiency of data collection and analysis. A systematic methodological evaluation of cases may well contribute to an increase of the efficiency of CVA regarding the construction of Citizen Values Profiles and the impact assessment process. This could contribute to improvement of integration with EIA and improved coordination with the EIA team; increased of cost-effectiveness; and enhance the use of existing data from other CVA studies.

The second research question ***'Is CVA suitable for integration within EIA?'*** refers to the suitability of CVA to be integrated into EIA and to provide relevant output for EIA. The answer to this question is also in the affirmative. CVA is compatible with the procedure and rationale of EIA and it produces information that is relevant to EIA. As far as the EIA process is concerned, only small adjustments in the timeframe were required to utilise CVA output optimally. Where CVA did not fit within the timeframe of projects, this was because it started relatively late in the EIA process. The cases described in this thesis made clear that

citizens' judgements of environmental values differed, sometimes considerably, from expert judgements in character as well as in weighting. It was concluded that CVA provides insight into the potential impacts of a planned intervention and it provides outcomes that are usable for a rational, neutral comparison of alternatives and variants; the development of mitigation and compensation measures; and for the development of citizen friendly variants.

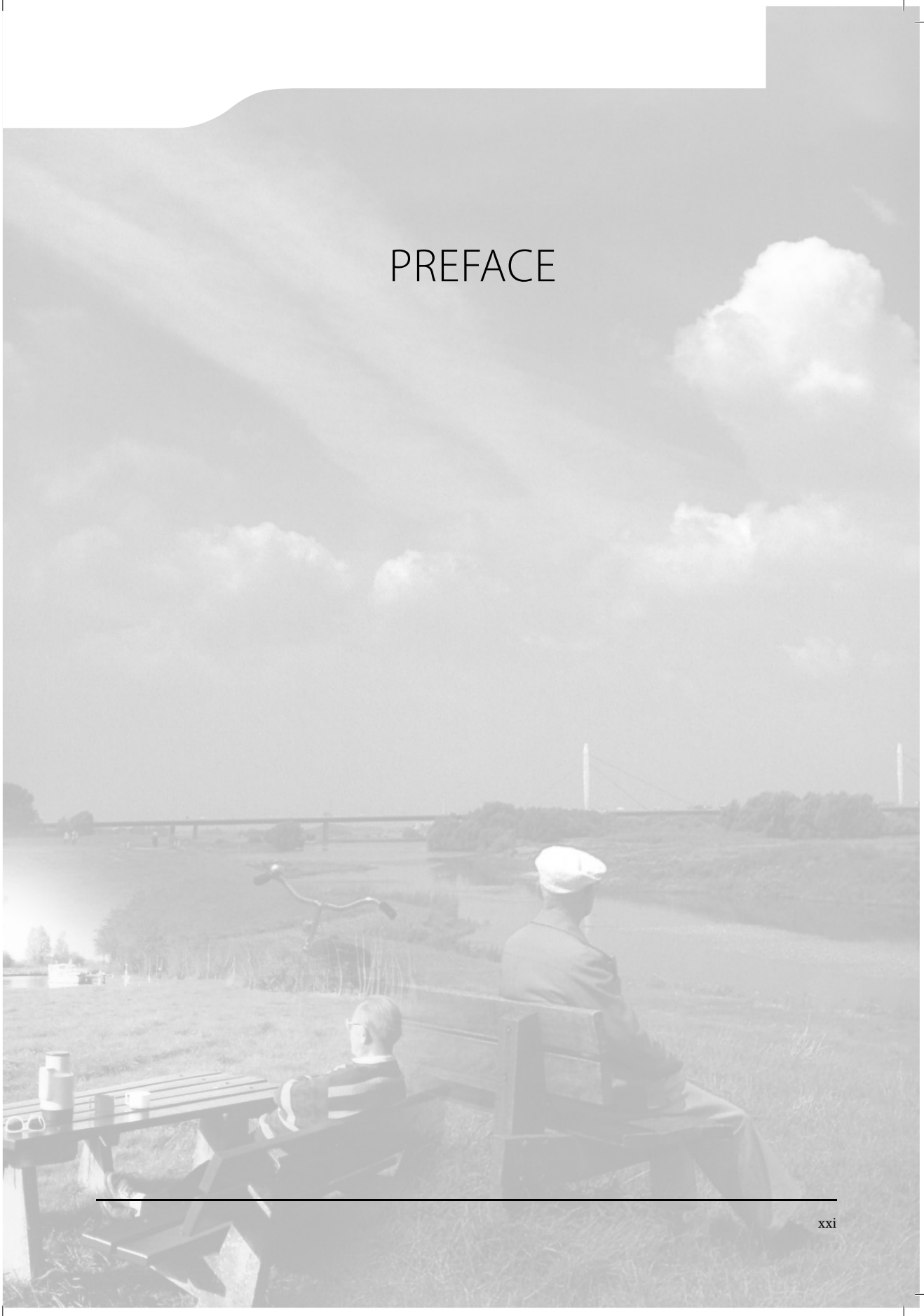
The increasing level of public participation and increased attention for liveability issues in government policy development in the Netherlands may have contributed to the perceived relevancy of CVA, particularly for advisors of decision-makers and EIA professionals. In the Netherlands, the citizens' perspective is gaining recognition as a vital part of policy development. It was concluded that the information provided by CVA is in line with developments in the field of governmental policy development in the Netherlands and as well as with relevant developments in the field of impact assessment. However, the current reorganisation within Rijkswaterstaat in 2003-2005 has led to a serious reduction of the available CVA capacity. It was concluded that the current availability of CVA expertise within Rijkswaterstaat is too limited to ensure adequate application and further development of CVA.

The third research question ***'Is CVA effective in improving the processes and outcomes of EIA?'*** is related to the influence of CVA outcomes. Although it is too early to conclusively establish that CVA has led to significantly different outcomes of EIA and/or that CVA outcomes influenced or changed political decisions, it can be concluded that CVA has the potential to do this and to contribute to the legitimacy of EIA. Systematic monitoring and evaluation of cases is needed to gain insight into the actual influence of CVA to the outcomes of EIAs and to the EIA-based decision-making processes. The outcomes of such evaluations may stimulate the use of the instrument and, as such, contribute to the further development and application of the instrument.

For optimal application and further development of CVA, the thesis concludes with recommendations for both knowledge development and practical applications.

CONTENTS

PREFACE



Preface

This thesis is the result of a study conducted in the Civil Engineering Division (*Bouwdienst*) of the Ministry of Transport, Public Works and Water Management; Directorate General of Public Works and Water Management (*Rijkswaterstaat*). The study was part of a larger project called the Citizen Values Assessment Development Project which was financed by Rijkswaterstaat and conducted from 1994 until 2002. The project included theoretical exercises, methodological studies, pilots, workshops, inquiries, case studies and evaluation of cases.

As the coordinator of the CVA Unit I had overall responsibility for CVA development. I conceived the concept of Citizen Values Assessment (CVA) and developed CVA to its final form as discussed in this thesis, but many other persons were involved in data collection and contributed to the refinement of the instrument. This thesis includes data and results that were collected by various members of the CVA Unit as they undertook CVA studies as components of Environmental Impact Assessments for different infrastructure and water management projects. In some cases, data collection was sub-contracted to commercial consultants. I therefore do not wish to portray that all of the work underlying this thesis was undertaken by myself.

The thesis has been written under the supervision of Prof.Dr H.A. Udo de Haes (Scientific Director of the Institute of Environmental Sciences of Leiden University; the Netherlands) and Prof. Dr. F. Vanclay (University of Tasmania; Australia). Both have intensively contributed to the process of writing this thesis and have rigorously commented on various versions of the manuscript. Prof. dr. ir. E. Schultz (Institute of Hydraulic Enineering, Delft, the Netherlands and Civil Engineering Division of Rijkswaterstaat, Utrecht, the Netherlands) has been involved as advisor.

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Oosterwolde, June 2006