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Public Attitudes to Contingent Valuation and Public Consultation¹

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ABSTRACT: The use of cost-benefit analysis (CBA) in environmental decision-making and the contingent valuation (CV) technique as input into traditional CBA to elicit environmental values in monetary terms has stimulated an extensive debate. Critics have questioned the appropriateness of both the method and the technique. Some alternative suggestions for the elicitation of environmental values are based on a social process of deliberation. However, just like traditional economic theory, these alternative approaches may be questioned on their implicit value judgements regarding the legitimacy of the social-political organisation of the process of value elicitation. Instead of making assumptions *a priori*, research efforts should be focused on the processes by which actual public attitudes and preferences towards the environment can best be elicited and fed into environmental or other public policy decision-making. In the study presented in this paper, support was found for both the individual WTP based approach and a participatory social deliberation approach to inform the environmental decision-making process, suggesting that a combination of both approaches is most appropriate.

KEYWORDS: Contingent environmental valuation, focus groups, public consultation, public deliberation

1. INTRODUCTION

Monetary economic valuation of the environment has been both supported and heavily criticised in the social science literature and by policy practitioners. The use of cost-benefit analysis (CBA) in environmental policy-making and contingent valuation (CV) as an extension of traditional CBA has stimulated an

extensive debate.² For most critics, the neo-classical economic value theory underlying CBA and CV is overly restrictive. The assumptions underlying the theory are considered too narrow to properly describe the environmental values people hold, the process of preference construction, or the way individual values are aggregated into a social value. Other criticism seems to originate from fears that the economic efficiency (net benefit) criterion is being promoted as a meta decision-making criterion. Some of the critics consider environmental valuation more as a social process relying upon social agreements (e.g. Sagoff, 1988; Jacobs, 1997) and as such only loosely tied, if at all, to technical valuation methods and techniques.

Environmental economists are accused of blind adherence to an outmoded neo-classical economic theory lacking empirical verification and political consensus. For some of the critics, the supposed biases and practical inconsistencies found in CV surveys further undermine the validity and modern relevance of neo-classical economic value theory.

A lot of the debate about the use of CV in CBA is conditioned by ethical and implicit value judgements held by various protagonists (Turner, 1978). First, there is the question whether the utilitarian ethic underlying economic efficiency is considered an appropriate basis for dealing with the allocation of scarce resources, including the environment. It is argued that this approach is too restrictive because it disregards important issues like the distribution of resources and non-anthropocentric values. Secondly, and related to this first point is the question of whether environmental systems, including their intrinsic values, ought to be valued in monetary terms. Thirdly, there is the question of how environmental values should be elicited, either through CV or alternative approaches. In order to keep the debate in context and transparent, these normative issues should be laid out and considered carefully.

In this paper, we will present the results of a study which tried to address these three questions in *post*-survey group discussions by asking respondents who participated in a CV survey about their opinions and views on the survey, the meaning of their answers, the usefulness of their answers for actual decision-making, especially their willingness to pay (WTP) statements, and their preferences for the two types of public consultation they had been involved in, i.e. the individual survey approach and the group discussion. The study's main objective was to assess the validity of the CV method by means of qualitative social research. The implicit assumption underlying the CV method, that people are able to express their feelings, opinions, attitudes, beliefs, norms and values individually within a single economic measure, was explored in *post*-CV survey focused group discussions, commonly known as focus groups. Respondents who participated in the CV survey were invited to attend a group discussion in order to elicit their feelings towards the overall approach taken. Discussants were also encouraged to detail the meaning and accuracy of responses and highlight any further issues they considered relevant to the study undertaken.

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The remainder of this paper is organised as follows. In Section 2 we will first outline the specific research methodology undertaken, that is, the use of focus groups and the analysis of the qualitative data produced by these group discussions. Section 3 presents the case study and the context in which the CV survey was carried out. Section 4 gives an overview of the results, while Section 5 concludes and sets out some general lines for future research in the field of environmental valuation.

2. METHODOLOGY

2.1. The role of focus groups in environmental valuation

Parallel to a shift in academic interest in social deliberation in environmental policy and decision making, focus groups are becoming an increasingly popular technique in the field of environmental valuation (e.g. Desvousges and Frey, 1989; Desvousges et al., 1992; Hutchinson et al., 1995; Hanley et al., 1997). Focus group discussions use techniques originally proposed in sociology, but which have since been systematically developed in marketing research and have more recently been used as a tool for political campaigning and public policy-making (Johnson, 1996). In focus groups, a small number of individuals are brought together to discuss one or more topics as a group. Compared to the personal interview, the dynamics of the meeting are clearly very different (Churchill, 1987). In the individual interview the flow of information is mainly one way (from the respondent to the interviewer), whereas in the focus group setting there is interaction and feedback within the group discussion. The social context is therefore broader: each individual is exposed to the ideas of the others and submits his or her ideas to the group for consideration.

In focus groups, the role of the researcher is to moderate, listen, observe and analyse the process of social interaction (e.g. Krueger, 1998). The purpose of bringing about social interaction can differ considerably. CV researchers have tended to use focus groups in auxiliary fashion as illuminating, but exploratory, with results that are not suitable for aggregation and generalisation across a population. Typically, focus groups are carried out as a series. Multiple groups with similar participants are needed to detect patterns and trends across groups. A single group study can be risky since there may be various factors that may cause a group to produce atypical results. Group polarisation, extensively tested in social-psychology (e.g. Isenberg, 1986; Mackie, 1986; Pavitt, 1994), may be one such important factor. In groups, individuals may shift their views, opinions, attitudes and preferences to the more extreme side of the perceived group consensus after being exposed to the average view(s) held by the group, because of social comparison (Festinger, 1954) or persuasive arguments (Pavitt, 1994).

In CV studies, focus groups are usually used to explore people's general knowledge about the subject of interest, their perception and understanding of

the subject. The aim is to help the CV researcher determine how much information to present and how to present it in a given context, as well as how to refine the questions used in the survey (e.g. Desvousges et al., 1984; Hoehn, 1992). Recently, in-depth group discussions have been used to explore respondent perceptions of the survey after participation (Burgess et al., 1998).³

The study by Burgess et al. seriously questions the role of CV in environmental decision-making by arguing that people come up with a monetary amount because of the coercive interview situation or people's trust in the expertise held by those asking the questions. Burgess et al. conclude that decisions about the environment should be based on social consensus about appropriate standards and acceptable choices rather than on the individual WTP amounts elicited in CV surveys. Their critique is in our view heavily conditioned by the problems with the specific CV survey used as an exemplar. This was experimental in nature and therefore not established 'best practice' (Garrod, personal communication, 1998). Nevertheless, the in-depth group discussion does offer CV researchers a different perspective on the elicitation of environmental values and seems to be relevant to a comprehensive appraisal of the CV method.

The use of group discussions, usually over a longer period of time, as an alternative to the survey-based CV approach to elicit environmental values⁴, offers more of a process-oriented approach to environmental valuation. By contrast, CV gives a 'snapshot' of people's attitudes, preferences and values. In the former approach, the process underlying and leading to the environmental values people hold or are asked to express is emphasised, while in the latter approach only the end result at a certain point in time is monitored without paying much attention to the relevant background or context in which the values have come about. The use of group discussions is more in line with a social constructivist approach (e.g. Berger and Luckman, 1967), where knowledge and preferences are understood to be dependent upon social processes and cultural factors as simulated in group discussions. As such, it provides the opportunity to open up the process by which respondents perceive the presented environmental problem, relate it to their personal experiences and beliefs, norms and values and shape it into new or existing preference structures. Furthermore, for the purpose of validating CV research it provides the researcher with the opportunity to go into more detail about the actual meaning of answers in terms of respondents' motivations and the effect of the given broader social context.⁵

In this study, respondents who participated in a CV survey were invited to attend group discussions about the survey and the overall approach taken. The qualitative data made available in these group sessions were analysed based on majority views. The use of majority views reflects a social constructivist perspective on the group discussions, while at the same time providing a very useful device with which to analyse qualitative data.

After the group discussion, participants were asked to fill out a short questionnaire consisting of twelve questions about their perception of the group

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discussion in relation to the survey, their perception of the CV survey and the valuation questions in particular, and their general views on the natural environment and public consultation. This provided additional quantifiable information about individual group members' private perception of the CV survey, the valuation questions and the group discussion, in addition to the group majority views on these issues.

2.2. The analysis of qualitative data produced by focus groups

Social research dependent on quantitative research methods and techniques is premised on the assumption that opinions, feelings, perceptions, beliefs, attitudes or behaviour can be expressed in meaningful numerical ways within a given context. It is most often criticised for its overly reductionist character in the face of real world complexity and diversity, i.e. social, cultural, economic, political and environmental. Its technical nature may also act as a shroud, obscuring its 'proper' interpretation by the public.

Qualitative research methods, on the other hand, are, in principle, more comprehensive in their coverage of the variety of contexts found in society. But such research usually produces a vast amount of ethnographic data, not amenable to scrutiny via traditional statistical or related analysis as in quantitative approaches. Consequently, interpretation of the results is perhaps an even more difficult task and the risk of manipulation and value judgement masking no less apparent. The analysis of the qualitative data produced by group discussions and the making of replicable and valid inferences from these data, require special attention for the following three interrelated and partly overlapping reasons.

First of all, data communicated during qualitative social research may not have a single meaning, especially when the message conveyed is symbolic in nature and meanings are not necessarily shared (Krippendorff, 1980). A message may convey a multitude of contents even to a single receiver and may convey different things to different people. Hence, under these circumstances, the claim to have analysed the content of the information communicated during group discussions is difficult to defend.

Secondly, there is no such thing as 'real' data or 'true' values which exist independently of culturally defined world views. The same 'fact' can be perceived differently across social cohorts of society.

Thirdly, the qualitative data produced by group discussions are given meaning within at least two distinct contexts: (i) the group context in terms of the existing diversity of group member cultural and social-economic backgrounds and (ii) the context as constructed by the researcher. These two data contexts have to be made explicit in order to enable evaluation of the boundaries beyond which the analysis cannot legitimately be extended (Krippendorff, 1980). Only if the purpose of the analysis is stated unambiguously and the context in which the data has been made available defined is one able to validate the results.

Following this last point, it is important to point out here that the group discussions were moderated by environmental economists trying to get a better understanding of survey participant perception and understanding of a specific CV survey. This should be borne in mind when we present the results in Section 4. The data communicated in qualitative social research can be looked at from numerous perspectives and hence, as mentioned, do not have a single meaning. The majority views found in each group are the views as monitored by the researchers, either through explicit prompting by the moderator during the group discussions or the assistant-moderator's notes on the overview grid. An overview grid was used which listed all the relevant issues to be discussed during the group meetings. For each issue, the assistant-moderator noted whether it was brought up in a prompted or unprompted way. Participant understanding of and agreement about the key issues was noted in terms of whether there was a minority, majority or unanimity vote.

3. THE CASE STUDY

3.1. Introduction

The focus groups followed a large scale CV survey which investigated public attitudes and preferences to a flood alleviation scheme for the Norfolk and Suffolk Broads, a large wetland area in East Anglia in the UK. The Broads is a National Park in all but name. It benefits from being part of a wider family of specially protected areas, including the National Parks, but also has the advantage of its own tailor-made legislation in order to deal with specific issues in the area.

The CV survey aimed, among other things, to provide a valid and reliable monetary estimate of the recreational and amenity benefits enjoyed by visitors to the Broads. This monetary estimate was part of an extended cost-benefit assessment of a flood alleviation scheme for the area which involved the strengthening of the Broads river embankments. The Broads Authority and the Environment Agency, both responsible for the implementation of the scheme, mandated such an appraisal because of the grant-aid funding requirements by the relevant government ministry (Ministry of Agriculture, Fisheries and Food).

The questionnaire used in the CV survey was extensively tested before application and was to a large extent based on a previous survey carried out in the same area (Bateman et al., 1992 and 1993). In this previous study, no significant problems were encountered with the questionnaire design or the valuation questions: the non-response to the valuation questions (including protest bidders) was less than 5 percent.

Before the questionnaire was used in the 1996 study, it was tested in three focus group sessions to explore people's general understanding of the subject matter. Subsequently, 100 face-to-face interviews were undertaken. This pre-

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survey research led to several adjustments of the information and questions in the questionnaire.

Finally, the actual survey consisted of just over 2,100 face-to-face interviews of Broads visitors at ten different sites and was followed up by seven focus group discussions with 52 survey participants. In the following sections we will outline the CV survey, the focus group sessions and their procedures in more detail.

3.2. *The CV survey*

The CV study focused on user willingness to pay (WTP) to prevent flooding. Hence, it is primarily the area's 'use value' that was being estimated, although possible 'non-use' motivations may have been underlying WTP responses as well. Interviewing was carried out at recreational sites throughout the Norfolk and Suffolk Broads in the summer of 1996 on a random 'next to pass' basis. Visitors to the sites were approached in the open-air and asked if they would participate in a 20 minutes interview conducted by the University of East Anglia. In total, 2,114 questionnaires were successfully completed.

The questionnaire started off by asking respondents about their visit intensity, travel time, sites visitation, the activities they undertake and aspects they like or dislike about the Broads. Next, information about the possibility of saline flooding was presented by the interviewer, with the aid of a story-board which was taken to the interview sites. On the board, a map showed the extent of possible saline flooding, while carefully selected photographs depicted the landscape and ecology changes after persistent saline flooding.⁶ After reading out the information and taking respondents through the map and pictures on the board, respondents were asked whether they had any questions. If they had, further clarification was given. Questions were anticipated based on the pilot survey and each interviewer had a standard list of answers to these possible questions. Respondents were then given more time to look at the board if they wanted to.

After this information had been presented, respondents were asked about their previous knowledge of the issues involved, that is, possible flooding in the Broads. Subsequently, they were informed about the current funding of the existing river embankments protection system through general taxation and were asked whether they agreed in principle with an increase in their taxes (irrespective of the exact amount) to ensure that the improved flood alleviation scheme would be implemented. If they did not agree, they were asked for their reasons. Asking respondents for the reasons why they disagree with the principle of stating a WTP amount, or why they are able to state a specific payment is considered of paramount importance in the assessment of the validity of the survey and the meaningfulness of individual replies. Furthermore, on the basis of this question the CV researcher is able to classify respondents either as protest or non-protest bidders.

The actual WTP question following the principle question consisted of a follow-up bidding procedure. The bid amounts were derived from the open-ended elicitation format used in the pilot study and hence considered fairly representative of what people would consider paying. Finally, at the end of the questionnaire respondents were asked about their feelings towards the payment vehicle (general taxation), their trust in the responsible authority to implement the scheme, the perceived realism of the proposed scheme and about a number of demographic and socio-economic characteristics of their household.

3.3. The post-survey focus groups

3.3.1. Selection and compilation of the groups

The target group for the post-survey group discussions were respondents who agreed to give their name and telephone number after the survey, which enabled the University to verify, if necessary, the respondent's participation in the survey. In order to keep the organisation of these group meetings feasible in terms of keeping them near respondents' place of residence, only respondents who lived in or around the Broads area were contacted. This means that only one specific group of Broads users from the CV survey have been included in the focus groups: that is, local residents, who were expected to have a better than average interest in the area and are well informed about the issues at stake.

On the basis of the available phone numbers and postcodes, seven group meetings were organised at different places in Norfolk (two in Great Yarmouth, two in Norwich and two in Acle) and Suffolk (one in Lowestoft). Sixty respondents from and around Great Yarmouth who left their name and phone number, 59 respondents from and around Norwich, 68 respondents from and around Acle and 45 respondents from and around Lowestoft were contacted and invited to attend a group meeting to further discuss the issues brought up during the interview.

A standard approach was used to invite and inform people about the purpose of the meeting. They were offered 25 pounds to attend a two hour meeting. The financial incentive to participate was mentioned right at the start of the telephone call in order to avoid possible self-selection and to get as much of a cross-section of the sample population as possible. Once people agreed by phone to come to a meeting (52 of the 232 respondents contacted), they were sent a formal letter of invitation, additional information about the purpose of the meeting and, as a reminder, a blank copy of the questionnaire they filled out.

A number of selection criteria for the compilation of the groups were formulated before the groups met, the most important ones being (1) whether or not a respondents was in favour in principle of raising general taxes to implement the flood alleviation scheme and (2) an equal number of women and men in each group. However, the limited number of available telephone numbers and the low

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response resulted in two groups consisting of respondents who all agreed with the principle question, but no group consisting of respondents who all disagreed. Instead, five mixed groups had to be compiled. Overall, most people (81% of the 52 post-survey participants) agreed in principle to pay for the proposed scheme. Fifteen percent said no to the principle question in the CV survey and 4 percent did not know or were unsure. In terms of the actual bid amounts and the WTP question, 90 percent of those respondents who agreed to the principle question also said yes to the starting bid which ranged between 1 and 500 pounds Sterling per year. Of these 38 respondents, two said no to the higher follow-up bid (which was 500 pounds Sterling in those two cases). Almost all respondents who said no to the starting or follow-up bid explained that they could not afford the payment. Only one respondent considered flood protection to be a government task and not a legitimate question for an individual to take responsibility for, even though he agreed with the principle of raising general taxes to prevent the area from flooding.

Getting an equal share of men and women in each group meeting proved difficult. First, if a man telephoned respondents at home to invite them to attend a follow-up meeting, this resulted in a very low response from women. However, if a woman phoned, a much higher number of women agreed to come along. Secondly, in three groups four women only agreed to come to the meeting if they could also bring their husband, even though they were told explicitly that the meetings were meant to consist of people who participated in the survey only. Hence, four husbands were present at three meetings and participated in the group discussion. Only in the first group was the presence of the two husbands perceived (by the moderator and assistant-moderator) as biasing the discussion. Both men were very talkative, while their wives kept silent most of the time. Similar distortions of group meetings consisting of married couples have been reported by Krueger (1994).

A summary of the participant characteristics is presented in the Appendix. Every group included at least two people who were members of an environmental group or nature conservation organisation. However, in three of the seven groups, the majority of group members were not. Fifty-three percent of all participants were full-time employed and 80 percent of the remainder were retired. Groups 3 and 5 had a high proportion of retired people. Most group members were aged between 35 and 54 years (47%) and had a gross income of between 7,500 and 30,000 pounds per year (63%).

3.3.2. The focus group protocol

A standard discussion protocol was drawn up to facilitate the group meeting and tested and adjusted in two group meetings with UEA students before the actual meetings with the survey participants. The standard protocol addressed the main issues to be discussed at each meeting, and included prompts to selective issues

if they were not brought up spontaneously by the group members. The main structure of each meeting is presented in Table 1. The questions in Table 1 were presented to the group by the group moderator for discussion.

-
1. *Reception* of group members, introduction of each group member to the moderator and the assistant-moderator and the other group members
 2. *Introduction*
 - participant experiences in the Broads
 - importance attached to the area
 - awareness of the problems facing the Broads
 - ideas of their own about how the Broads should be managed in view of these problems
 3. *Specific research problem (1)*
 - remind participants of the board used and the information presented during the survey
 - ask participants whether they have questions about the board or information supplied
 4. *Deepening (1)*
 - how do participants feel about the flood alleviation scheme
 - ability to make a choice in favour or against the scheme
 - how do participants feel about the fact that the scheme is going to be financed through increased income taxes, implying that each of them will be affected; if they disagree, ask them who should pay and why
 - trust in the way the scheme is going to be financed
 - understanding of the bidding procedure
 - what do the stated bid amounts participants are willing to pay actually reflect; does this amount of money reflect what they consider the conservation of the Broads worth? why do participants consider it important to pay the stated bid amounts for the scheme?
 5. *Specific research problem (2)*
 - outline of the contingent valuation approach of asking individuals for their willingness to pay for environmental protection and/or enhancement programmes and the use of the aggregate results in informing actual environmental decision-making
 - ask participants whether they have questions about this approach and the way the results are used as input in environmental decision-making
 6. *Deepening (2)*
 - how do participants feel about this approach; how do they feel about being involved in this approach, knowing that the information they provide will be part of the information decision-making will be based on?
 - do participants consider this an acceptable approach; is this the best approach? do they feel capable of participating in this approach? do they think the general public is capable of being involved in this approach? do they feel their responses are a reliable source of information? to what extent are their responses accurate?

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- if participants disagree with the approach, how should decision-makers be informed, or how should environmental decision-making take place; should it be a consultation of the government by experts? should it be a public referendum? should it be a deliberative process between citizens and/or stakeholders similar to the discussion they are part of now?

7. *Finalising*

- any other issues participants would like to discuss or issues raised by the group that the group moderator would like to come back to

8. *Filling out of a short questionnaire by group members individually*

TABLE 1. Focus group protocol

Both the survey and the group discussion focused on the preservation of the current Broads landscape and amenities and the impact of persistent saline flooding on recreational experiences in the Broads. This was made explicit by the group moderator in the group discussions whenever the use of the WTP results in an extended CBA of the flood alleviation scheme was explained, or other relevant issues to the CBA were brought up, such as flood damage costs to existing infrastructure and private properties.

Overall, the meetings lasted between 2 and 3 hours and were taped. The assistant-moderator was responsible for taping the session and taking notes of what people said during the discussion. In order to (i) facilitate the assistant-moderator's note-taking work, (ii) increase the transparency of the meeting and (iii) aid interpretation of the results, an overview grid was developed and tested in the two pilot focus group meetings. The overview grid listed all the relevant issues to be discussed during the meeting, the assistant-moderator's notes on whether a particular issue was brought up prompted or unprompted, and whether a majority agreement was reached.

At the end of each meeting participants were asked to fill out a brief questionnaire individually. The questionnaire consisted of twelve short questions regarding participant perception of the focused group discussion in relation to the survey, his or her perception of the CV survey and the valuation questions in particular, and his or her general views about public consultation.

4. RESULTS

Two types of results will be highlighted. Given the debate in the literature about the 'significance' of divergent individual or minority views, the presentation of the majority views found in the groups will be followed by an overview of individual or minority views considered relevant to the specific CV research.

Both the majority and minority view findings will be complemented by results from the questionnaire filled out by the group participants after the group discussion.

4.1. Majority views

In two of the seven groups, a majority considered the overall approach of asking people for their individual WTP to elicit the environmental values they hold as not acceptable and inappropriate. The main reason given for this position was that the flood alleviation scheme and its consequences were too complex to be able to make a decision on in the available interview time. A majority in these two groups said that the CV survey should specify in more detail how the problems could be dealt with, who will be affected and who will pay. The implication here is that discussants felt that they did not have enough information at hand to give a meaningful answer.

On the other hand, in five of the seven groups, a majority considered the overall approach acceptable and suggested that the answers were meaningful and accurate enough to inform actual decision-making. However, discussants emphasised that the answers to the WTP question can be considered valid and useful only as long as the money is really spent on the flood alleviation scheme to protect the wetland area. This illuminates the importance of public trust in the institutional context in which solutions are presented in CV surveys.

The analysis of the individual group members' responses to the questionnaire following the group discussion also did not indicate the scale of rejection of the CV methodology as described by Burgess et al. (1998). Two thirds of all group participants thought that asking people whether or not they were willing to pay an amount of money for the flood alleviation scheme would help decision-makers in their appraisal of the scheme. A further 21 percent disagreed and felt the CV results were not useful for policy, while 12 percent did not know or were unsure.

Ninety percent of all participants furthermore stated that they felt comfortable about being asked to express their opinions and feelings towards the proposed scheme during the face-to-face interview. Almost 75 percent felt comfortable being asked to express the importance they attached to the scheme in monetary terms. Of the remainder, 8 percent stated that they did not feel very comfortable and 2 percent stated they were not comfortable at all. The other 15 percent did not know or were unsure.

Specific majority views found in individual groups supporting the CV approach in this specific context of recreational amenities associated with a flood alleviation scheme, confirmed that the WTP statement related to the specific scheme and was not prompted because the environment was considered a cause worth paying for. However, a majority of respondents in one group claimed that the costs of the flood alleviation scheme influenced their answer. In general, this

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finding would limit the usefulness of the CV estimates for CBA: there is a risk of double counting since the estimated benefits derived from the area's recreational amenities are net of the costs of the flood alleviation scheme.

In almost every group a significant number of people considered the specific river bank flood alleviation schemes in a broader context, either in combination with efforts to strengthen the Norfolk and Suffolk coastal defences or in the National Park management context. Even though respondents were asked to look at the specific flood alleviation scheme in isolation, in six groups the problem of strengthening the river embankments was considered in combination with flood alleviation efforts in the coastal zone. In all groups, at least one person brought up the issue of tidal barriers which various agencies have proposed over the years. In four groups the problem was considered explicitly in a longer term framework, and it was thought that more structural measures beyond the mere strengthening of the river embankments were required. In these groups a majority agreed that the problem had to be solved at the source, that is, nearer to the coast where the salt water enters the Broads rivers. Some participants considered it useless to discuss the river embankment schemes in isolation. In one group one person argued that the coastal defences should have been explicitly included in the scheme. In six of the seven groups the problem of rising sea level as a result of global warming was brought up as an important problem for the area. The participants in most groups were well informed about the issue of flood defence. The flooding disaster in the area in 1953 causing the deaths of many people was still fresh in the minds of the older participants.

The majority of group participants considered the outcome of the proposed schemes in the Norfolk and Suffolk Broads to be fairly to very important to them personally (90%) and fairly to very important to the nation as a whole (80%). In three of the seven groups, the Broads were called a national asset, requiring central government intervention for various reasons. The most important reason brought up in five groups was that many more places in the UK suffered from environmental problems, like the Broads, and required some kind of protection. In four of these groups, the Broads were compared with other National Parks and the problems they face. In one group three of the seven participants considered the problem presented to them a national issue in the sense that it concerned the countryside in general. In another five groups the costs of the schemes involved were considered too high to be borne by local residents and visitors only. Only the central Government was considered capable of raising the amounts of money necessary to implement the flood alleviation scheme.

Although in six of the seven groups a majority or all members agreed that national taxation is the most appropriate payment vehicle for this specific problem, whenever trust in the Government was brought up by the group moderator, a consistent (over all groups) group behaviour was displayed: people started to laugh. A large majority of people had no or very little trust in the Government. Only in two groups did someone give the new Labour Government

the benefit of the doubt. In another group only one person considered the Broads Authority a good institution with a coherent view on the future of the Broads. Although most groups consisted of rather well informed local residents, in two groups a few people did not know who was responsible for the Norfolk and Suffolk Broads. In five groups participants brought up the issue of the boat toll boat owners paid to the Broads Authority. In three of these groups a few people had little trust in what the Broads Authority was spending the money on. This corresponded with a more general mistrust about the payment vehicle, i.e. national taxation: in five groups a majority of people felt that they would have no control whatsoever over whether their money actually would be spent on the Norfolk and Suffolk Broads or any other environmental asset in the UK. One group unanimously agreed that one body should be set up to finance the schemes through central government taxation.

There are indications that preferences had been 'constructed' during the face-to-face interview. In two groups, a majority agreed that only during the interview did the extent of the problems become clear. The information provided in the survey made respondents reflect on the importance of the area. This finding has been suggested as invalidating the CV method as a revealed preference approach, which assumes that preferences are already in place and fixed and behaviour is explained with the help of these preferences. However, strictly speaking, CV is not a revealed but an expressed preference approach, reflecting a behavioural intention, not behaviour itself. Moreover, forming preferences and values on the basis of the information supplied is not specific to CV, but a more general phenomenon in communication consistent with findings in socio-psychological research of decision-making (Schkade and Payne, 1994).

A majority in all groups stated that the group discussion had improved their understanding of the questionnaire and had made them feel more capable of making a decision about the flood alleviation scheme in terms of whether or not they were WTP a specific bid amount. When asked whether they wished to change their previous answers in the CV survey after the group discussion, a majority in all groups said no. Only three respondents in one group (a minority in this group) said they would have changed their answers after the group discussion. This group and three other groups were given the opportunity to change their individual answers to the valuation questions in the questionnaire after the group discussion. Only one of the three people who said they would change their answers after the group discussion did so. In three groups the participants agreed unanimously that they did not want to change their previous answers and saw no need to fill out the valuation questions again.

In five of the seven groups, a majority preferred both personal interviews and group discussions as the most appropriate type of public consultation for this specific environmental problem. Only one group preferred a group discussion to the personal interviews and one group was undecided. In this latter group, half of the participants stated a preference for a group discussion, while the other half

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preferred both. A majority in six groups felt a need to discuss the flood alleviation scheme with others. Only in one group did a majority of participants not express this need. When asking respondents who they would like to discuss the specific environmental problem with, a majority in four groups ticked 'experts' in the questionnaire. A majority in two groups cited other local residents affected by the flood alleviation scheme as possible extra consultees. Although a majority in all groups considered the area a national asset deserving the same level of protection as other national parks in the UK, only three participants felt a need to discuss the issue of flood alleviation in this area with other UK citizens.

Finally, respondents claimed to have had sufficient time to consider and answer the questions during the interview. No indication was found that respondents felt coerced, either to participate in the survey or to answer the questions according to interviewer expectations.

4.2. *Minority views*

In almost every group one or two group members were present who had an outspoken opinion about the valuation questions or were confused about the follow-up bid questions. In group one, one person said that it was not necessary to ask for a monetary amount to express one's feelings. On the other hand, another person in the second group felt that asking for a monetary amount was proper, because it evoked a '*straightforward*' answer to a '*straightforward*' question. Two individuals in group 2 had problems with the follow-up bid amounts, thinking that they would be summed. They also related the bid amounts to the costs of the schemes, thinking that they were asked the second amount because the first amount was not enough to cover the costs.

Also in group 3, one person argued that the bid amounts were meaningless after he discovered that they were not related to the costs of the scheme. Another person thought that the questionnaire did not say exactly what she was paying for. The same two issues were brought up again in group 4 by two other people. One of these two regarded the bid amount he was presented with as '*good value for money*', a result which was also found by Burgess et al. (1998), hence relating the bid amount to the actual implementation of the scheme.

In group five, one person asked '*how can you put a value on the Broads?*' He suggested that the costs of different options should be compared and the least costly option favoured, also a result found by Burgess et al. (1998). In group 6, one person considered the recreational amenities '*very hard to value*'. Another person in that same group, however, had less problems with the approach, arguing that '*you have to make the decision somehow*'.⁷ In the context of the follow-up bid, two people felt pushed into answering the second bid. Both said that they had some idea, but that they did not have an exact amount in mind and needed more time to consider the second bid.

In group 7, one person argued that the money amounts elicited during the personal interview were meaningless because at the time of the interview he was only considering the specific environmental problem in the Broads. Afterwards he also considered other issues worth paying for, environmental and non-environmental, local and national ones. Hence, this person's answers to the valuation questions can be interpreted as an overestimation, since substitutes were not considered explicitly during the interview. On the other hand, this reaction can also be interpreted as a partial rejection of the CV methodology. Partial, because the person in question did understand the need to make a decision somehow, but argued that there were simply too many important causes for him to give to in order to be able to decide how much to spend exactly on this specific problem.

5. DISCUSSION AND CONCLUSIONS

In this case study, support was found for the individual WTP based approach, but respondents also favoured a participatory deliberative approach to inform the environmental decision-making process. Mixed views were encountered, suggesting that a combination of both approaches may be most appropriate. A majority of group participants preferred personal interviews combined with group discussions as the most appropriate type of public consultation for this specific environmental problem.

In a majority of groups, the information provided through the CV survey, including the WTP statements, was considered meaningful and accurate enough to be used as input into real decision-making. The problem of persistent saline flooding was considered in a wider spatial and temporal context than the CV research had originally envisaged, which may have affected respondent definition of the specific environmental goods involved, that is the recreational amenities found in the Broads. However, it is important to keep in mind that the focus groups consisted of well informed local residents, most of whom have vested private interests in the area and who could consequently be expected to (be able to) consider the issue of flood alleviation in the wider context of, for example, coastal protection. The scope of this research was limited, in that we were unable to address the question whether other interviewed visitors living outside the area perceived the flood alleviation problem in the same detail as the local residents in the focus groups.

Furthermore, the uncertainty experienced by many people in the context of general taxation, that is, whether their money would actually be spent on the flood alleviation scheme, is inherent to the payment vehicle which the respondents claimed to prefer in the first place. During the pretesting of the survey, in the actual survey and in the focus group discussions, a vast majority of respondents considered central government taxation the most appropriate way to finance the

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scheme. Given the response in the focus groups, an earmarked income tax might have taken away some of people's possible reservations against the context in which their willingness to pay was elicited. Although respondents exhibited these reservations in the post-survey research, one group (group 7) unanimously agreed that when answering the WTP question during the main survey, they assumed that the money would indeed be spent on the scheme. In three groups, including the latter group, a majority suggested that the funds should be made available nationally, but allocated regionally. A local body should be made responsible for the actual spending of the money, which corresponds to the current *status quo*.

As a number of respondents felt that they had learnt from the group discussions, they were given the opportunity to complete the WTP component of the questionnaire again, in the group and privately. Despite our concerns about the sensitivity of responses to the social context and hence the additional different social perspectives provided by different group participants, a majority of group participants claimed that their answers had not changed after the group discussion. This can be interpreted in a number of ways. That the individual WTP estimates appear to be robust in this broader social context and reliable for inclusion in decision-making may seem an obvious interpretation. However, the fact that respondents did not change their WTP statements has to be considered carefully given that (i) most respondents agreed with the principle of paying extra general taxation to ensure implementation of the flood alleviation scheme, and (ii) most respondents had vested interests in the area and hence were keen to communicate the message to policy makers that the area has a high value to them. In most groups, people seemed to understand the relationship between this value and the opportunity they were offered to express this value in terms of their WTP. But this finding is subject to a number of possible caveats. There were indications that at least for some of the respondents their WTP was conditioned (i) by a wider spatial and temporal context, (ii) by their feelings about how much trust they had in the 'system' actually spending the money on the scheme, and (iii) by the interpretation of the bid amounts in terms of the costs of the scheme and therefore as 'good value for money' instead of total economic value. Consequently, if the WTP responses were not well defined or respondent behaviour was ambivalent as a result of the complexity of the decision-making situation, they may have been difficult to shift. The combined impact of these caveats on the overall findings is to leave them short on providing full support for neo-classical economic theory predictions and resulting values.

This result raises questions over the role of information and the social context in which environmental values are elicited, as well as over the compatibility of different types of information. Our findings cannot be regarded as formal proof that the CV approach generates the same information as a more deliberative elicitation approach for environmental values. More research is needed since the individual and group based approaches place the whole process of eliciting

environmental values, monetised or not, in different social settings and therefore provide us with different kinds of information. Typically, qualitative research will provide in-depth information on fewer cases, whereas quantitative procedures will allow for more breadth of information across a larger number of cases. A combination of both approaches offers future promise for environmental valuation.

The use of either or both approaches depends on the type of information policy-makers are looking for in specific policy domains, but also the type of information the public is able to deliver and how much the public is willing to participate in public consultation. In this respect, it is furthermore important to distinguish clearly between social and social scientist preferences for different approaches to public consultation. The individual survey based approaches to environmental valuation and the deliberative stakeholder group approaches are rooted in different views on how decision-making procedures are or should be organised. Different cultural views on social relations are assumed to give rise to different preferences towards decision-making procedures for different kinds of issues, including environmental ones (see, for example, Rayner [1984] in the context of risk management). These cultural foundations can be found underpinning the different approaches to environmental valuation. While CV research has been criticised as imposing a market construct and context on respondents, the recent use of focus groups linked to public decision-making may be equally suspect from a 'critical realism' point of view (Bhaskar, 1989). The group discussion may not be mere consultation or a mechanism to reproduce underlying social relationships, but rather more of a 'transformational intervention', at once scientific and political. It is therefore just as open to manipulation and steering.

In CV research, deliberative and inclusionary research has an essential role to play and is in some studies already playing that role. In the pre-survey stage it can be used to identify the stakeholders involved, to identify the type of information considered appropriate to facilitate the conflict resolution process, and to explore different stakeholders' general knowledge and understanding of the environmental issues involved. All this helps the researcher to determine, together with the stakeholders, how and how much information to present in the questionnaire. Important ethical and moral judgements associated with the specific environmental problem will become apparent in this stage of the research.

In the post-survey stage, deliberation or qualitative social research can be used for two main purposes:

- (i) to provide insights into the process by which respondents answered the way they did; and
- (ii) to discuss the survey results with the different stakeholders involved and relate these to the decision(s) to be made.

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In this latter case, CBA and CV as an extension to CBA are merely components of the overall decision-making process which will be based on a balancing of multiple criteria and supporting information. The individual survey based approaches also have an essential role to play in deliberative and inclusionary approaches to environmental valuation by making the environment-economy trade-offs explicit at different decision-making levels. Individuals are expected to be 'consumers' and 'citizens' simultaneously much of the time. The suggested dichotomy (Sagoff, 1988) is not as sharply drawn in reality – and is rather unnatural, since individuals are more likely to behave along a continuum rather than to form two mutually exclusive groups. Depending on the specific context, either role will be more or less dominant, as individual self-interest is balanced against community-based interests. The participatory approaches to environmental valuation will gain in terms of transparency and meaningfulness if these different dimensions are made explicit, something for which the CV method has been developed and extensively tested in specific environmental domains over the past 15 to 20 years. This quantifiable information can play its part in the facilitation of the overall, real world, multi-criteria decision-making process.

NOTES

¹This paper is a revised version of a presentation given by the principal author on 5 October 1997 at the European Symposium on Environmental Valuation, hosted by the Centre d'Economie et d'Ethique pour l'Environnement et le Développement (C3ED) at the Abbaye des Vaux de Cernay, France. We are grateful to the anonymous referees for their useful comments and suggestions. As always, the usual disclaimer applies.

² CV is a collective term for various survey based environmental valuation approaches.

³ Burgess and her colleagues distinguish between in-depth group discussions and focus groups. Contrary to focus groups, in-depth group discussions do not have a protocol. Group members are given a broad theme and asked to discuss this theme amongst themselves. The group moderator does not drive the discussion. He or she only hands over the theme and allows the discussion to flow as it will (Burgess, personal communication, 1998). Focus groups, on the other hand, have a more directed discussion within certain degrees of freedom (e.g. Morgan, 1993; Krueger, 1994). The topics for discussion prompted by the moderator are predetermined and sequenced after careful consideration and development.

⁴ Sometimes also referred to as a 'Citizen's Jury' (e.g. Aldred and Jacobs, 1997).

⁵ For this purpose, verbal protocol analysis, an in-depth personal interview technique, could also have been used and would perhaps have been a more appropriate method given the individualistic basis underlying CV. However, like CV, this approach does not include the broader social context in which environmental values may be elicited.

⁶ The information and photographs were carefully compiled and selected with the help of the natural scientists working at the School of Environmental Sciences at the University of East Anglia.

⁷ A majority in group 6 considered the WTP question '*the best value one can get at*'.

APPENDIX: FOCUS GROUP PARTICIPANT CHARACTERISTICS

	Sex	Age Group	Occupation/ Employment	Income Group	Environment Group Member	Principal Question	Starting Bid	WTP	Follow-up Bid	WTP
Group 1										
	F	35-44	full time	10k-15k	GP/FoE	yes	60	yes	75	yes
	M	18-24	student	< 5k	no	yes	200	yes	500	no
	M	18-24	full time	5k-7,500	no	yes	200	yes	500	no
	M	45-54	full time	20k-30k	no	yes	10	yes	15	yes
	F	18-24	missing	7,500-10k	no	yes	40	yes	50	yes
	M	65-74	retired	10k-15k	no	yes	500	no	200	no
	F	45-54	full time	15k-20k	RSPB	yes	30	yes	40	yes
	F	65-74	retired	5k-7,500	RSPB	yes	60	yes	75	yes
	F	45-54	full time	10k-15k	RSPB/NT/ GP/FoE	yes	25	yes	30	yes
Group 2										
	M	45-54	full time	30k-34k	WWF	yes	10	yes	15	yes
	M	75 +	retired	40k-50k	NT	yes	5	yes	10	yes
	F	55-64	retired	< 5k	no	yes	50	yes	60	yes
	M	55-64	full time	15k-20k	WWF	yes	150	yes	200	yes
	M	25-34	full time	7,500-10k	no	yes	30	yes	40	yes
	M	65-74	retired	10k-15k	RSPB	yes	200	yes	500	yes
	M	35-44	full time	20k-30k	no	yes	40	yes	50	yes
	F	55-64	retired	< 5k	local nat- ure trust	yes	15	yes	20	yes
Group 3										
	M	65-74	retired	5k-10k	no	no ¹	-	-	-	-
	M	65-74	retired	20k-30k	RSPB/NT	yes	60	yes	75	yes
	M	65-74	retired	7,500-10k	NT	yes	150	no	100	no
	F	35-44	full time	30k-40k	no	yes	10	yes	15	yes
	M	35-44	full time	15k-20k	no	no ¹	-	-	-	-
	F	55-64	retired	missing	RSPB	no ²	-	-	-	-
	F	55-64	retired	missing	NT/NNT/ GP/FoE	yes	25	yes	30	yes
Group 4										
	F	45-54	full time	15k-20k	GP/FoE	yes	20	yes	25	yes
	M	35-44	full time	40k-50k	NT/GP/ FoE	yes	5	yes	10	yes
	M	25-34	full time	7,500-10k	no	yes	1	yes	5	yes
	M	65-74	full time	20k-30k	no	no ³	-	-	-	-
	F	45-54	full time	20k-30k	no	yes	150	yes	200	yes
	M	45-54	full time	10k-15k	NT	yes	500	yes	1000	yes
	M	45-54	full time	20k-30k	GP/FoE	yes	60	yes	75	yes

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Sex	Age Group	Occupation/ Employment	Income Group	Environment Group Member	Principal Question	Starting Bid	WTP	Follow-up Bid	WTP
Group 5									
F	18-24	full time	50k-75k	RSPB/BS/ local trust/ GP/FoE/WWF	yes	500	no	200	no
M	65-74	retired	20k-30k	no	yes	5	yes	10	yes
M	65-74	retired	7,500-10k	no	yes	25	yes	30	yes
F	18-24	full time	< 5k	no	?	25	?	20	?
M	25-34	full time	20k-30k	no	no ³	—	—	—	—
F	55-64	retired	7,500-10k	no	yes	1	yes	5	yes
F	65-74	retired	< 5k	no	yes	60	yes	75	yes
M	65-74	retired	30k-40k	NT	no ⁴	—	—	—	—
Group 6									
M	35-44	full time	20k-30k	local nat- ure trust	yes	15	yes	20	yes
F	45-54	full time	30k-40k	local nat- ure trust	yes	1	yes	5	yes
M	45-54	retired	10k-15k	RSPB/NT/ NNT	yes	150	yes	200	yes
M	45-54	retired	10k-15k	no	yes	15	yes	20	yes
M	35-44	full time	15k-20k	no	no ¹	—	—	—	—
M	45-54	full time	15k-20k	GP/FoE/ WWF	yes	100	yes	150	yes
Group 7									
M	35-44	full time	20k-30k	no	no ²	—	—	—	—
M	45-54	homemaker	7,500-10k	no	yes	40	yes	50	yes
M	45-54	full time	20k-30k	NT	yes	60	yes	75	yes
M	35-44	carer	10k-15k	no	yes	25	yes	30	yes
F	45-54	part time	10k-15k	no	yes	100	yes	150	yes
F	45-54	full time	10k-15k	WWF	yes	500	no	200	no
M	45-54	full time	15k-20k	no	?	5	yes	10	yes

Reasons for not agreeing with the principal question:

¹ Cannot afford to pay any more taxes

² Don't want to write a blank cheque for this scheme

³ Scheme should not be funded through general taxation

⁴ Government responsibility to protect the Broads from flooding

? = don't know

Environment Groups:

GP: Green Peace; WWF: WorldWide Fund for Nature; FoE: Friends of the Earth; NT: National Trust; RSPB: Royal Society of the Protection of Birds; BS: Broads Society; NNT: Norfolk Naturalist Trust

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