Environmental Valuation in Europe

Policy Research Brief

Number 11

Environmental Valuation in Europe: Findings from the Concerted Action

by Clive L. Spash & Claudia Carter

Series Editors: Clive L. Spash & Claudia Carter

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This policy research brief is the conclusion to the Concerted Action on Environmental Valuation in Europe (EVE) based on the programme which was co-ordinated by Professor Clive L. Spash, University of Aberdeen.

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Front cover: Representation of various issues of environmental valuation and values which formed the EVE programme and the resulting policy brief series. Photos/images (from left to right) top row: Stephen Reynolds; Claudia Carter; Kent and Donna Dannen; middle row: Clive L. Spash; Roderick Lawrence; Digital Vision; bottom row: Clive L. Spash, Stockbyte; Claudia Carter, Simon Niemeyer and Clive L. Spash; Jennifer Bates / Friends of the Earth.

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Overview

Environmental Valuation in Europe (EVE) was a concerted action co-ordinated by Professor Spash and funded by DG-XII at the European Commission. This 30-month project brought together fifteen partners from eight European countries representing economic, ecological, philosophical, ethical and socio-political perspectives on environmental valuation. This policy research brief reports on some of the findings.

The underlying methodological and conceptual foundation of the EVE project was the belief that research into, and policy formation regarding, current complex environmental issues require an interdisciplinary mindset and approach to achieve fair outcomes. The project provided various lessons in how to promote interdisciplinary engagement. It focused upon economic approaches to valuation but also explored alternatives (e.g. participatory decision processes) and conceptual as well as policy problems arising for both. Environmental valuation raises complex and far reaching issues for modern society. This was confirmed by a series of international workshops reported in this policy brief series.

Environmental valuation raises complex and far reaching issues for modern society.

Despite much of the rhetoric of sustainable development, the perceived need to 'unlock' natural resources for development and job creation is based on a set of values which remain largely in conflict with those reflected by environmental concerns. The EVE workshop series (http://www.landecon.cam.ac.uk/eve/meetings.html) provided forums for debating within an interdisciplinary context with representatives from academia, NGOs, government bodies, and international organisations. EVE recognised the significance of environmental valuation in the policy-making process on important international issues such as biodiversity preservation, natural capital maintenance and sustainable development, but also the role it has played at regional and national levels in policy justification. The range of research undertaken on environmental valuation reflects this diverse scope with analysis from human health to ecosystem function and specifics from legal compensation to the philosophical definition of value and the role of environmental ethics.

Environmental policy analysis means learning from a range of specialist disciplines as well as reflecting public concerns and lay-knowledge. This in turn encourages reflection upon the criticisms, problems and experience of others. In the sections which follow methodological themes are first presented (pp. 4–6) and this is then followed by the view on valuation from various disciplinary perspectives (pp. 7–11). The next section attempts a synthesis of lessons learnt (pp. 12–14). The policy research brief concludes with an overview of two projects which arose from the EVE concerted action (pp. 15–16) as examples of future directions, and key points (p. 17).

A Methodological Focus

A key objective in the EVE project was to explore methodological themes. Rather than running a series of workshops which would be independent and therefore unfocused, the methodological themes aimed to link across topics. These themes addressed three main subject areas: (i) rational choice and decision-making; (ii) the environment as a commodity; and (iii) acceptable and fair public decision processes.

Rational Choice and Decision-making

Economics operates with a theory of rational choice which is very specific and built around certain axioms. This theory of rational choice is rejected by other disciplines and has been criticised within economics (e.g. Sen 1977). The idea of rational choice is to describe the behaviour of an individual within society – that is, how they will operate in terms of making choices. Yet other scientists offer a very different explanation than that found in economics.

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In social psychology, individual behaviour is seen to be a complex construct dependent upon attitudes, behaviours and beliefs. This has implications when we start to think about preference formation *versus* preference construction. In economic valuation, the theory is that preferences are already formed and that economists are looking for the 'true' underlying preference about environmental goods and services. This is the theory that underlies willingness-to-pay and willingness-to-accept studies conducted in contingent valuation surveys. However, those same studies seem to show that preferences are often poorly formed and that during the process of valuation, preferences are in fact being constructed. This type of construction is exactly what one would expect from theories in social psychology.

The policy relevance of this failure arises in the inability of economic studies to explain or understand anomalies in valuation. Such anomalies include: refusals to state a value; values based upon reasons which fail to conform with economic theory (i.e. non-consequentialist reasoning); stated values of zero while actually valuing an environmental change; changes of preference due to information; and the general impact of information on preference formation. Information in the economic model has a particular role. Rather than leading to the formation of preferences, knowledge only allows an individual to make a rational choice on the basis of existing preferences. This has important implications in terms of the way economics describes

underlying values as being 'true' as opposed to being socially constructed and contextual. Thus, the first methodological problem raised the need for a broader model of 'rational' choice and explanations of how individuals and societies make decisions in the context of such a model.

The Environment as a Commodity

Environmental valuation in economics treats all entities as if they were a commodity. This allows the application of market models and exchange values. This approach bounds the choice facing individuals in a very specific way. Thus, complexity in ecosystems and uncertainty about ecosystems functioning is reduced to concerns about the supply of services and whether commodities can be substituted for one another. That is, a complex situation is controlled by reducing knowledge through the acceptance of partial ignorance. Such partial ignorance means the need to restrict the boundaries of knowledge and is an essential process in learning and understanding. However, where those boundaries are accepted to lie, determines the perspective taken on any particular issue.

An analogy for how such a process can neglect important information is the 'rivet-popper problem'. This refers to an aeroplane which is held together by rivets throughout its body and wings. Rivets can be removed from the body or the wings, and the aeroplane will still fly. Of course, at some point, one rivet too many will be removed and the aeroplane will crash. The state of partial ignorance means a neglect of information on the importance of the bigger picture by focusing on past experience at removing rivets. A false sense of security arises because removing rivets shows they are redundant due to a lack of immediate consequences, i.e. the aeroplane continued to fly.

Limited conceptions of value lead to the removal of ecosystems, habitats and species, for example, because humans have little expressed market preference for their maintenance. While ecosystems functions continue, the environment is regarded as being robust. The bits that have been removed seem to perform no critical function. Just as many rivets seemed unnecessary for the aeroplane, so many environmental assets are removed, without any apparent consequential impact. In fact, human activities change the operation of natural systems, and this can increase the risk of a disaster or catastrophe.

The EVE project also led to the recognition that treating the environment as a commodity can feedback on wider conceptions of value. One concern here was for the moral, social and spiritual aspects of entities. Fred Hirsch (1977) pointed out some time ago how regarding entities as commodities reduces recognition of their ephemeral nature. Similarly, regarding the environment as a set of objects, which can be traded in a market place, totally changes the way in which we interact with and regard that same environment. Environmental issues are then too easily removed from their social and moral context by placing them within the market.

Another concern is that non-comparability will be ignored because wider aspects of value have been excluded. Yet these excluded aspects can be essential to understanding the way that humans interact with the environment. This is exemplified by participatory processes where a sense of place proves central to local environmental management. In terms of economic valuation the rise of value transfer has neglected context-specific, social and cultural values which are non-transferable (see Policy Research Brief 8). The commodity approach to the environment is seductively simple in conception and intuitive in modern industrial economics but can be highly misleading as a guide to policy.

Acceptable and Fair Decision Processes

Much of the discussion around decision processes seems to concentrate on the idea of creating a consensus. That is, the aim is seen as trying and get disparate viewpoints to agree on a certain outcome. However, consensual decision-making can be undesirable; consensus may be false in that positions which are diametrically opposed are misrepresented, and fundamental moral dilemmas may be passed over. Thus, pretending that a consensus is always a desirable outcome is actually misleading.

Cost-benefit analysis (CBA) has been used as a method which assumes a consensus over values. However, the institutional context within which CBA operates needs to be taken into account. That is, CBA is a Treasury tool which frames information in a very specific way. For example, disputed values are excluded from the process because they are too complex. The aim in defining efficiency as the economic goal is to remove what are regarded as more contentious goals from the subject (e.g. distribution of income and wealth). Unfortunately, economic models built on this premise can fail to account for factors which may prove to be the most important ones. For example, the dispute over the value of life in the IPCC second assessment report on climate change (see Policy Research Brief 7).

In contrast, public participation opens up the door to a range of different values and disputes. Of course, public participatory processes can also lead to the idea that consensual decisions are required, for example 'consensus conferences'. Some of the most difficult environmental problems show moral conflicts and fundamental differences over values. These types of differences cannot be squeezed into a consensual framework without a serious loss of meaning. An underlying concern, therefore, is to consider the nature of acceptable and fair public decision processes. The evolution and design of alternative institutions becomes central and the types of institutions allowed affects the variety of values to be expressed. In science, economics and public policy values which might be contentious or in conflict with each other are perhaps too often suppressed rather than openly debated. This goes to the heart of the way in which society is governed and environmental policy is developed as part of governance.

Lessons from EVE: Different Perspectives

The EVE process revealed disputed values within disciplines. Some disciplines contribute to understanding across a range of issues, while others leave many issues implicit and find open debate challenging. EVE brought together specialists, covering ecology, economics, philosophy, social psychology and the policy-makers' perspective.

An Ecological Perspective

Under an ecological perspective, systems management has been put forward as a key way of understanding the environment. Such systems management is meant to be holistic and is therefore far removed from the concentration of economics, for example, on the individual. Individuals are important only in as far as they are part of the system. Ecology also emphasises the complexity of systems, the environment, and the interconnections between elements of a system. There is a contrast here between an atomistic approach which is quite often taken in the natural sciences, and an holistic approach which tries to understand a complete system. Attempts at trying to marry the two together seem doomed to failure because they involve non-comparable perspectives.

An interesting development in ecology in recent years has been 'ecosystems health'. From an environmental value perspective, ecosystems health seems to make ecosystems into moral agents. That is, if an ecosystem can have health, it can also be unhealthy, and therefore deliberately creating ill-health appears wrong. The ecosystem becomes an independent agent in policy considerations. However, more often ecosystems are regarded in a purely functional sense, for example providing life support functions.

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Ecology is, of course, constituted of more than one opinion, and thus the idea of an ecological perspective hides some implicit value disputes. The ecosystem as a moral agent conflicts with the ecosystem as a production unit; that is, if the ecosystem is being treated, say under ecosystems health, as a moral agent, then it seems an engineering approach which tries to regard that system as nothing more than a unit of production will fail to account for the moral perspective.

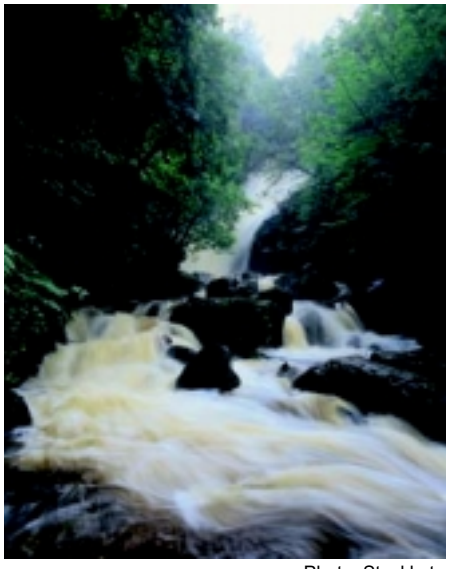

Photo: Stockbyte

A healthy ecosystem upstream may turn into an unhealthy one downstream serving as a sink for polluted drainage, industrial and household effluents and waste.

Photo: Digital Vision

One thrust of work on ecosystems is to place monetary values on them. Yet asking people how much they are willing to pay or willing to accept with regard to changes in ecosystems has shown that people actually hold relevant moral perspectives on those changes (Spash 2000). That is, humans wish to see the moral status of an ecosystem reflected in policy decisions in different ways. This can, of course, conflict with the view from an objective scientific perspective which tries to treat the system as nothing more than an input–output process.

A related value dispute is that of 'deep' versus 'shallow' ecology. Here we find deep ecologists trying to give a very specific type of moral value to the environment with associated management consequences, i.e. intrinsic value in Nature. This is contrasted with shallow ecology which sees none of these deep values in ecosystems, preferring to regard all values as purely instrumental. Deep ecology also implies a non-consequentialist approach to environmental management.

An Economic Perspective

The economic approach can be broadly split into two viewpoints, an 'internal' and a 'broader' perspective. The former defines rigour by validity attributed from peer groups, and depends upon formalism within complex models. Borrowing from scientific objectivism, this form of economics tries to reduce the mechanisms it sees in society down to the smallest parts in order to explain the whole. The idea of rigour has thus become an ability to explain using mathematical modelling. Thus, for example, game theory employs abstract mathematical formulae leading to what many might regard as intuitive information. The difference between stating an intuition and expressing the same idea using mathematical models is seen as the gain in rigour. Sen (1987) has called this an engineering approach to economics. Following the natural sciences, universal rules and values are being sought and found. However, these rules and values may be far less universal than stated. The internal perspective has isolated economics from other systems and other subject areas, so that the profession only looks to its peers for confirmation of validity.

The broader viewpoint is one in which valuation is seen as a process – that is, valuation is an ongoing interaction, within society, which is complex and cannot be reduced down to simple concepts, such as money or single measures. The emphasis on the process of valuation then starts consideration of the way in which values develop over time, and the positive roles humans play in the expression or repression of values.

Here, institutions become determinant of the types of values that are reflected in society. Institutions also impact on the behaviour of individuals and the way in which they are allowed to express themselves.

In effect, the broader viewpoint accepts that politics and economics are combined and inseparable, that is the subject area is best defined as political economy. This is in contrast with models where individual choice and behaviour as *citizen* and *consumer* can be treated as separable. In contrast every action in the market place can be regarded as having political consequences. Thus, a range of environmental consequences derive from decisions in the market place due to: the types of produce we buy, how they are produced, the types of materials they are produced from and where the products go after we have used them. Specific examples might be organic *versus* chemical products, non-biodegradable products, dependence on petrochemicals, disposable *versus* durable commodities, and so on.

So-called universal rules and values may be far less universal than stated.

Thus, processes of valuation, institutions, attitudes, beliefs, behaviour and political economy all become essential elements, and open interdisciplinary debate is required. This is in stark contrast to the 'internal' viewpoint, which limits itself to a certain peer group. As in the natural sciences, 'expert' dominance of information in describing the functioning of the world is open to challenge by the lay-public. At the same time, in order to be part of the peer group the partial ignorance built within that group must be accepted. The result can be for economic policy advice to become divorced from the surrounding social and environmental systems.

A Philosophical Perspective

The focus from the philosophical perspective is on methodology and epistemology – that is, how do we go about understanding the world, and what do we understand by specific concepts. Commonly, disputes over the meaning of words are dismissed as being trivial and only matters of semantics, but such disputes are quite often an indication of a deep value conflict. The contribution of philosophy to the valuation debate is wide and various, and the emphasis appearing in EVE was the importance of multiple-value concepts. That is, rather than approaching the world from one particular perspective, multiple and pluralistic values seem to be important and essential in understanding environmental problems. Incommensurability rejects the idea that all entities are measurable and comparable (see Policy Research Brief 4). Instead some may be measurable and non-comparable, some may be comparable and not measurable, while others may be neither measurable nor comparable. This is a challenge to economics, which assumes that everything is measurable and comparable and, in particular, can be measured and compared using a monetary value.

A whole area of philosophy has developed around the concept of environmental ethics – that is over the moral meaning of the environment. This has raised issues such as the intrinsic value of Nature and whether ultilitarianism or deontology is the best moral foundation for environmental values (see Policy Research Brief 4). Thus, as with other perspectives, there is no uniform position that comes from the discipline but rather key concepts and perspectives around which debate occurs.

Some Issues from Social Psychology

From a social psychology perspective preferences are seen as being formed during discussions or debates about an object of value. Such constructed preferences emphasise the context dependency of values. The social or community aspect of value is emphasised via reflection upon the social groupings of importance to an individual, for example their family, their friends, their peer group, the society within which they live and operate, their job, their social activities. The only motivation in the economic model is self-interest. In contrast, under social psychology, social norms provide a key motive for behaviour which is seen as constructed in a social context and constrained by communal values.

Environmental attitudes interact with beliefs about the consequences of actions.

Another main area of research in social psychology concerns environmental attitudes. Environmental attitudes interact with beliefs about the consequences of actions. Thus, environmental attitudes are formed on the basis of the consequentialist aspects of an action. The difference between attitudes and behaviours could provide an explanation for results in contingent valuation, i.e. economists believe they are measuring intended behaviour but may in fact be observing attitudes.

A third, but somewhat neglected, aspect in social psychology is the role of ethical and moral motivation. This appears an important area for future research. Similarly, there is no particular emphasis on social values as distinct from the individual which is a failure in common with economics. Concerns about community values, as different from an aggregation of individual values require a theory of social values – communitarian or national or regional values. Behavioural economics may offer an example in as far as firms are described as entities holding values which are hard to derive from aggregating those of the employees and shareholders.

The Policy-makers Perspective

Policy-makers are something of a mythical creature. In a representative parliamentary democracy an elected official is the one who is meant to be responsible for making

decisions. Of course, they rely upon a permanent staff of trained civil servants to inform their decisions. Decision-making is therefore more than a simple matter of one individual making a decision, it is a complex process of interaction between elected officials and the civil service or administration. Under different models of democracy the power exerted by various other institutions will vary, for example lobbying by industry, activism by environmental NGOs, debate in open forums.

Photo: Jenny Bates / FoE

Protest organised by the environmental lobby group Friends of the Earth (FoE) to draw attention to the pollution caused by transport.

EVE tried to explore the perspective of some of those 'working on the inside' of such institutional structures: government and international agency staff. These individuals may see themselves as acting pragmatically, but they are also constrained by the value system of their institutional context. Pressure to produce outcomes under tight deadlines means that decisions are often made first and justified later. At one EVE workshop, a chief economist in a national environment agency, described the process as being 'decide, advise and analyse', in that order. Interaction between these elements means future decisions are determined by past choices and the success with which they can be defended by *ex ante* analysis. That is, the process described of analysing the problem first, developing the basis for advice, and then making a decision, is inaccurate. If anything, the exact reverse was seen to be normal operation. This has implications for the use being made of CBA and other information on environmental values.

Civil servants and agency staff are also complex and cannot be taken to be purely representatives of government agencies. They also represent themselves and, in the environmental context, represent one of the objects of value. In essence they are analyst and part of the analysis. The individual operating on the inside of an agency will find themselves answering to different internal constituencies. Thus, it is perhaps unsurprising that Craig and Glasser (1993) found people working for the UNCEED expressing utilitarian and consequentialist perspectives, because that is what is expected of them, or what they believe is expected of them, in a policy context. However, when given the chance to discuss the motives behind their decisions and values, they describe a belief in intrinsic value in the environment.

Environmental values which are commonly expressed, say, through economic models, become institutionalised justifications for policy. CBA is then no longer informing a decision, but is rather a justification for a decision already made. This, of course, raises concerns about institutional capture of a decision process.

Synthesis and Implications for Valuation

Trying to synthesis the various workshops and the underlying themes and messages that have come through from EVE is no simple task. No attempt is made here to summarise all the workshops and their outcomes as this is the purpose of the entire EVE policy research brief series. However, there do seem to be some common messages resulting from the different perspectives EVE brought together.

Multiple Values

First of all, multiple values are seen to be important. From the narrow economics perspective, multiple values are handled by a political process which is never described, and by institutions which lie beyond the economic analysis. The broader economic perspective requires that institutions be given an explicit role in the process of valuation.

Economics is also only one of the professions which has tried to reduce value down to a single measure. Energy has been put forward by ecologists as being a good measure of value in the environment, but it suffers exactly the same problems as money measures. That the set of values is broad means reductionism and exclusion will distort our perception of the environment.

Multiple Perspectives

Clearly, EVE shows there are multiple perspectives that need to be brought to the table when discussing complex environmental problems. In this sense, perspectives might be described as languages. Languages may be professional languages, and the form given to a particular problem by economics, ecology or philosophy. In order for these multiple perspectives to appear in analysis requires an emphasis on communication. This will, for example, help in the understanding of value conflicts. A process which allows the open expression of ideas contrasts with reductionism and an absence of communication.

Institutional Arrangements

This leads us to a concern about the role of institutional arrangements. The way in which different institutions allow values to be expressed is exemplified by contrasting

CBA with deliberative approaches. Immediately this raises concerns over the role of the expert in decision-making, power and politics. Thus, political economy becomes essential to the understanding of environmental values. Neither economics nor science can operate in a vacuum and both can only be understood as institutions working within a political and social structure. This is something which the literature on indeterminacy in decision-making tends to emphasise (see Wynne 1992).

Valuation as a Process

Related to the above concerns, multiple values, multiple perspectives and the role of institutional arrangements, is the idea of valuation as a process. Valuation has feedback loops which mean future values are in part dependent upon past value expressions. Valuation is a process, because of the way in which certain value concepts actually try to control the input and output of values in future decisions. For example, economic models generally exclude specific types of values, such as non-consequentialism, intrinsic values in Nature, rights, justice and emotion. This leads to those values which fail to fit a particular model or paradigm being excluded. Hence models begin to suffer from reification.

Valuation as a process recognises an ongoing dynamique in the method of expression within society. This implies values can be purposefully lost and, in order to prevent that loss, action is required to preserve those values that we as individuals and as a society wish to see survive. A world in which all objects become commodities and services, and where ecosystems and habitats are removed because they fail to have any role beyond being commodities, is one which has a very specific structure of values. As Alan Holland noted in one EVE workshop, economics has a sense of value where humans choose those bits of the world to value and those bits to throw away. This seems to seriously misrepresent the relationship of humans to each other and to Nature.

Just as industrial production can become trapped in certain product or production modes which may be inefficient, so society may destroy values which make life richer.

Society can become locked into a certain type and set of values through the technologies employed and the way interaction with the environment takes place. Just as industrial production can become trapped in certain product or production modes which may be inefficient, so society may destroy values which make life richer. Humanity is changing the environment and everybody accepts this. At the same time they fail to realise that a changed environment may also imply a changed set of values.

Motives

Motivations behind behaviour have been neglected in economics. The tendency has been to regard the main motivation for environmental action, or valuing the environment, as selfish and determined by the outcome of an action. Economics has been dominated by a goal-oriented perspective, where ends are consequences for an individual.

An interdisciplinary perspective on valuation soon brings forward multiple factors. Motivation to act is recognised as consisting of more than purely individual consequences, but is also determined by the social groupings of which an individual is a part. Ethical perspectives and fundamental underlying beliefs are also important and may diverge from those of dominant social groupings. Motives to action then become complex interactions between consequences, social groups and ethics.

As in economics, social psychology remains a rather static discipline in its interpretation of how these different perspectives interact. A dynamic theory of how consequences, social groups and ethics determine motivation is absent. This is important in terms of the way environmental policy is developed, because the perception of policy success or failure will be determined by which particular motivational aspect is emphasised. For example, economic instruments, which concentrate purely on consequences, can crowd-out ethical and moral aspects of behaviour (Frey 1997). Contrary to a narrow perspective of economics, motivational research is therefore fundamental to understanding the way in which humans value the environment.

The Value of Value Conflict

The final message coming through from the EVE project is in terms of the inevitability and indeed importance of value conflict. That is, consensus and 'solutions' are often impossible or may even be undesirable. The fact that there are moral dilemmas that persist in society means that decisions and choices are difficult and must be accepted as such. The attempts to try and reduce moral dilemmas down into particular value concepts, which seem to make decisions far simpler and provide solutions, can lead to a denial of the existence of the underlying moral conflict. The need for public education as to the 'scientific facts' can sometimes appear as merely dismissing genuine and informed public concern over uncertain and complex environmental problems.

'Fuming Mad' speech to protest against excessive use of private transport.

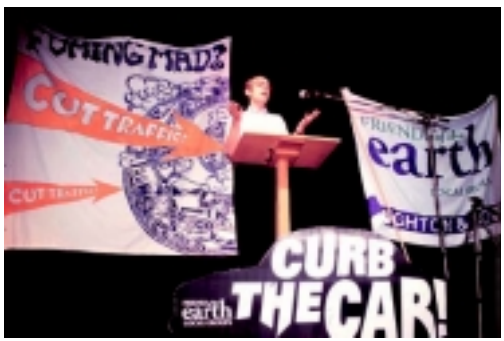

Photo: Jenny Bates / FoE

Research Beyond EVE

Two projects exploring some of the questions raised during the EVE concerted action show how lessons might be taken forward.

Social Psychology and Economics in Environmental Research (SPEER)

SPEER (http://www.landecon.cam.ac.uk/speer) is a network of active researchers interested in combining economics and social psychology to improve understanding of environmental problems and policy responses. Initial funding was obtained from the European Science Foundation for two workshops. The project has been co-ordinated by Clive Spash, together with Anders Biel and Claudia Carter. Two SPEER workshops so far brought together over 40 participants from 11 European countries and Canada working in the fields of psychology, economics, philosophy, political science, human ecology, environmental management and environmental policy. The project built directly upon the experience in EVE.

The integration of economic and psychological theories in order to address environmental problems was seen to require the reassessment of 'old models' (e.g. by identifying what is absent but regarded as important, such as ethics, emotions and non-consequentialist reasoning). This would increase awareness of partial perspectives, biases and shortcomings. In this regard neither the economic approach which focuses upon preferences and how they are linked to behaviour nor a psychological model including attitudes, beliefs and social norms will prove satisfactory. Some role for feedback loops is required so that a dynamic process of human behaviour and understanding can develop.

Regulatory issues introduced a focus upon the societal level of decision-making as opposed to that of the individual. One approach is to look at how needs, opportunities and abilities might interact to determine motivation and behaviour. Such a viewpoint requires an understanding of how social institutions could determine individual opportunities. For example, research needs to pursue how firms control behaviour (e.g. of employees, consumers) and react to regulation as institutions. The interaction between different institutions and their implicit value systems was seen as determining the choice of regulatory tools and measures for decision justification. An often complex feedback process was recognised to be operative.

Social psychologists and economists working on environmental research were found to have much in common as well as some distinct differences. The project has shown good scope for collaborative research to improve understanding.

Consultative Institutions: Values and Information in a Changing Society (CIVICS)

CIVICS is an EU-funded Thematic Network co-ordinated by Clive Spash for scoping and developing methods for the public assessment of socially and ethically acceptable technologies capable of improving the quality of human life. The CIVICS network consists of interdisciplinary project partners, relevant parties from industry and non-government organisations. The project focuses on the use of genetically modified organisms (GMOs) in food production as a case study for integrating economic, social and environmental objectives in policy formation in five European countries.

The overall aim of CIVICS is to assess the ability of discursive processes to enchance communication between actors, which will be facilitated using attitude measurement (see also Box 1). The project will probe mechanisms for effective communication of the uncertainty and risk inherent in the use of GMOs to meet the needs of the public both as consumers of technologically intensive goods and citizens concerned for the welfare of the environment and future generations.

Box 1: Aims of the CIVICS Thematic Network

- Identification of the major issues concerning policy formation regarding GMO technology across Europe;
- Establishment of a GMO issue database covering institutions, legislation and policies across the participating countries (France, Germany, Italy, Norway and the UK); this will help identify cross-cultural and culture-specific issues; and
- Development of processes and research method for the implementation of attitudinal surveys and citizens' panels capable of coping with cross-cultural issues.

Key Points

The overall message coming from the EVE project is that:

- Multiple values are important and must be accepted.
- Such multiple values will lead to the need for including multiple perspectives.
- Multiple perspectives mean that analysis is required of the role played by institutions and institutional arrangements in allowing the expression of different values.
- Valuation must then be seen as an ongoing process of interaction between society, individuals and their environment.
- Values can be purposefully lost depending upon how human society operates.
- The motivation behind human action as individuals, within social groups, and as ethical beings is also essential to understanding environmental valuation.
- Environmental valuation cannot avoid moral dilemmas and social conflicts and must address these head-on and with explicit debate.

There is a need to test new approaches to environmental policy development and how they would operate in practice. This will require research to:

- Assess how findings can be translated by policy-makers into an actionable form.
- Assess how different levels of decision-making link together (e.g. between the international, national, regional, local and individual levels).
- Investigate the potential for integrating participatory structures into strategic planning; e.g. local and regional participatory processes in addition to national ones (democratic decision structures).

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Spash, C.L. (ed.) (2001) 'Participation, representation, and deliberation in environmental policy', Special Issue, *Environment and Planning C* 19(4): 475–585. *The contributions include articles by EVE members focusing on the topic of the ninth EVE workshop.*

EVE Concerted Action

ADDRESS

Cambridge Research for the Environment, Department of Land Economy,
University of Cambridge, 19 Silver Street, Cambridge CB3 9EP, UK

Webpage: http://www.landecon.cam.ac.uk/eve/

Concerted Action on Environmental Valuation in Europe (EVE)

This policy briefing series communicates the findings from nine workshops and three plenary meetings under the EVE programme. These showed the diversity of research currently being undertaken in the area of environmental values and their policy expression. The type of information relevant to the decision process extends from ecological functioning to moral values. Thus a range of approaches to environmental valuation, from ecology to economics to philosophy were presented.

EVE was a 30 month project which started in June 1998 funded by the European Commission, Directorate General XII within Area 4, Human Dimensions, of the Environment and Climate RTD programme, Contract No. ENV4–CT97–0558.

The project was co-ordinated by Clive L. Spash and managed by Claudia Carter, Cambridge Research for the Environment (CRE) in the Department of Land Economy, University of Cambridge. The following research institutes were partners in the concerted action:

Bureau d'Economie Théorique et Appliquée (BETA), University Louis Pasteur, Strasbourg, France
Cambridge Research for the Environment, Department of Land Economy, University of Cambridge, UK
Centre for Human Ecology and Environmental Sciences, University of Geneva, Switzerland
Centre d'Economie et d'Ethique pour l'Environnement et le Développement (C3ED), University of Versailles Saint-Quentin-en-Yvelines, France
Centre for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia, Norwich, UK
Department of Economics and Economic History, Autonomous University of Barcelona, Spain
Department of Economics and Social Sciences, Agricultural University of Norway, Åas, Norway
Department of Environmental Economics and Management, University of York, UK
Department of Philosophy, Lancaster University, UK
Department of Rural Development Studies, Swedish University of Agricultural Sciences, Uppsala, Sweden
Department of Applied Economics, University of Laguna, Tenerife, Canary Islands, Spain
Environmental Economic Accounting Section, Federal Statistical Office, Wiesbaden, Germany
Ethics Centre, University of Zurich, Switzerland
Fondazione Eni Enrico Mattei (FEEM), Milan, Italy
Istituto di Sociologia Internazionale di Gorizia (ISIG), Gorizia, Italy

The purpose of this concerted action was to analyse effective methods for expressing the values associated with environmental goods and services, ecosystem functions and natural capital, with a view to the achievement of the goals summarised in the concept of sustainability. The appropriate role of decision-makers and citizens in environmental policy-forming became a central focus in the debate over how different values should be expressed.

Titles in the EVE Policy Research Brief Series:

1 **The Concerted Action on Environmental Valuation in Europe (EVE): An Introduction**
by Clive L. Spash

2 **Conceptualising and Responding to Complexity**
by Giuseppe Munda

3 **Natural Capital**
by Martin O'Connor

4 **Conceptions of Value in Environmental Decision-Making**
by John O'Neill & Clive L. Spash

5 **Conceptualising Sustainability**
by Anton Leist & Alan Holland

6 **Property, Rights and Fairness**
by Roderick Lawrence

7 **Environmental Quality, Health and the Value of Life**
by Marc Willinger

8 **Value Transfer and Environmental Policy**
by Stale Navrud & Olvar Bergland

9 **Greening National Accounts**
by Martin O'Connor, Anton Steurer & Marialuisa Tamborra

10 **Participatory Approaches to Environmental Policy**
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11 **Environmental Valuation in Europe: Findings from the Concerted Action**
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