

All the fifteen projects for the Environment and Human Behaviour (EHB) Programme were commissioned in late 2002 and all but one had started their research by spring 2003. Most projects were finished by June 2004. Summary descriptions of each project, researcher profiles, Annual Reports for 2003, Final Reports (where available) and contact details are available on the Programme website.

This newsletter reports some of the main results and ideas generated by the projects and Programme. Research Briefs on some of the main themes and conclusions of the programme are now in production and will be available later in 2004. To request copies of these, please contact the Programme Co-ordination Office below.

## THE KEY QUESTIONS ON ENVIRONMENT AND HUMAN BEHAVIOUR

The core objectives of the programme are to seek insights, and avenues for further research, into the following questions:

1. Why do people behave as they do towards the natural environment?
2. How do or will people seek to adapt their behaviour in response to environmental change, especially rapid environmental change?
3. What public policy approaches might persuade people to change their behaviour, either to mitigate the extent of negative environmental change, or to adapt to it in ways that do not exacerbate it, and to change their behaviour in ways that are least costly for society as a whole?

This Newsletter is devoted to giving some of the answers to these questions that have emerged from the projects. While the answers are not simple, and their policy implications are challenging, they give useful guidance as to the issues which need to be considered in approaching this increasingly important area of public policy concern.

### Programme Academic Co-ordinator: Professor Paul Ekins

Programme Co-ordination Office:  
Environment and Human Behaviour  
Programme  
Policy Studies Institute (PSI)  
100 Park Village East  
London NW1 3SR

Tel. 020 7468 0468  
Fax. 020 7388 0914  
Email [ehb@psi.org.uk](mailto:ehb@psi.org.uk)  
Website [www.psi.org.uk/ehb](http://www.psi.org.uk/ehb)

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# ENVIRONMENTAL VALUES



Environmental values have been a recurring theme in the Environment and Human Behaviour Programme, from the first workshop in February 2003 to a number of the project Final Reports. These thoughts on the subject are from Programme researchers **Emma Mawdsley**, Birkbeck College London, and **Glyn Williams**, Kings College London

'Values' may be glossed as the justifications that people invoke to support their behaviours, attitudes and preferences. Someone who cycles to work may do so because they believe that individuals should act to reduce the number of environmentally damaging car journeys that are made. Such a simple definition is appealing, but when thinking about values, and here environmental values, several problematic issues become rapidly apparent.

The first concerns the relationship between values and behaviour. It only takes a moment's reflection to recognise that while we may claim to hold certain values, they don't always guide our behaviour. This might be because of constrained choices (perhaps someone would like to cycle more regularly, but the roads are too threatening); or because other factors intervene (when we are tired, or it's raining, or it is just more convenient to take the car). We may also feel socially pressured into claiming

certain values, but feel little conviction to act upon them. This prompts us to think about where values reside – how do our individual values inter-relate with other groups (family, friends, region, religion, culture)? To what extent are values formed through our own individual experiences and thoughts, information (including education and the media), and the various socio-cultural norms around us?

Going deeper into the subject, we can question the very nature of 'values'. It is now widely recognised that our values are contextual, contingent and even contradictory. The relationship between who we think we are, what we think we know, what we believe in, what we want for ourselves and others, and how we act and behave, are all shifting and complex – in and between themselves. Articulating our 'values' to ourselves or others, is not easy or even always possible, and in different situations and times, our values may shift.

A second set of issues that

confronts any investigation of 'environmental values' is methodological. How can we elucidate values, given the complexities mentioned above? This is particularly difficult when it comes to the complex meanings and materialities of 'the environment', which takes in everything from the philosophical to the physical, and can cover a massive range of 'single issues' (from climate change, to species extinction, to street lighting). Moreover, people who form coalitions around specific issues, or who behave in the same way, may not in fact share the same values. A whole range of different reasons may motivate people who all cycle to work, including the environment, time, fitness, and so on.

In sum, researching environmental values raises complex but fascinating questions about human behaviour, motivations, cultures and politics, which are vital to analyses of the many and varied environmental issues we confront.



## ANSWERS TO THE CORE PROGRAMME QUESTIONS: AN OVERVIEW

**Paul Ekins**, Policy Studies Institute, Programme Academic  
Co-ordinator

Why does someone drop litter? Why do they turn up the central heating? Why do they drive further and further each year? Or – why do they decide to install insulation materials in their home?

These are familiar behaviours that have environmental implications. Why do people engage in them? How do their behaviours change in response to climate and other environmental change? And how can policy makers hope to change behaviour to make it less damaging to and more conserving of the environment, where this matters?

These were the questions at the heart of the ESRC's Environment and Human Behaviour Programme. It would have been good to report that

the answers are as simple as the questions. Unfortunately they aren't.

In retrospect it should have come as no surprise to learn that human behaviour is the outcome of a spaghetti-junction type interaction between an enormous number and range of factors, the two most important classes of which are social, cultural and contextual factors and individual behavioural factors, where the individuals can be people or organisations. A simple interaction map might look like the figure below, with multiple feedbacks, and where each of the boxes contains many more variables.

Thus cultural and institutional factors include everything from the structures of governance to infrastructure, social capital and the technologies of production and consumption. The individual factors

include all the variables that might be lumped into consideration of 'human nature', from values, beliefs, attitudes and awareness, to self-interest, altruism and an ability (and desire) to learn. The first lesson from the Programme has been that there is no super-model incorporating all these variables that would enable policy makers or anyone else to press a button in any one area with an assurance of getting a certain result in another. In some respects, it could be argued, this diversity and complexity of human behaviour should be a cause of celebration. But when it comes to environmental protection, it doesn't make it any easier to know what to do.

A second lesson has been that the complexities that influence human behaviour can lead to seeming gaps (for example between

# ANSWERS TO THE CORE PROGRAMME QUESTIONS: AN OVERVIEW

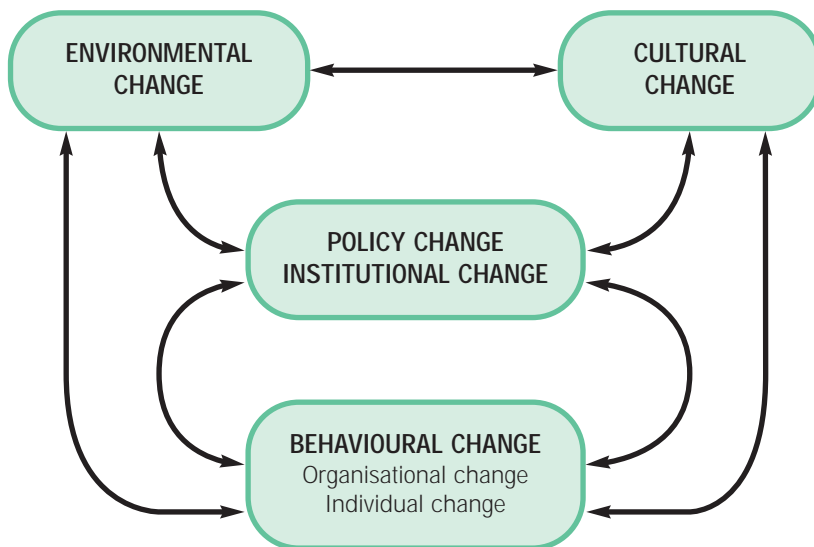
attitudes and behaviour, as with the public response to wind farms – see p.9) and seeming inconsistencies that can only be understood by incorporating the complexity into the analytic frame.

A third lesson is that change in a pro-environmental direction is unlikely to be the result of just exhortation and voluntary initiatives. In respect of small and medium-sized businesses, Revell & Blackburn (see p.8) found that managers were simply too focused on business imperatives to pay attention to environmental issues that were only nice-to-do's, rather than must-do's. There is a strong message here for policy makers concerned with improving the environmental performance of business.

One of the projects in the Programme looked at the policy response to the four great flood events in England and Wales since the Second World War. As Clare Johnson and her colleagues report on p.7, it seems that these events did not bring about a flood of new ideas as to how to deal with or respond to flooding. But they did result in the implementation of ideas that were already on the table but had been progressing slowly under the impact of everyday events. The message would seem to be that it is worth exploring, and seeking to win acceptance in principle for, new ideas in periods when an issue is out of the limelight, because should the issue break, and evoke the response that 'something must be done', the odds are that the 'something' will already be in the policy consciousness.

The Programme's research also revealed an intriguing paradox in respect of consumer behaviour in industrial and developing countries. In industrial countries, 'the consumer society' is now well established. Research from this Programme (see, for example, the article by Elizabeth Shove on p.9) and elsewhere shows that many of its core elements are now deeply embedded in culture, consciousness, habits and what are sometimes called 'socio-technical systems', which might be viewed as the collection of practices, techniques, equipment, standards and training that tend to interlock to reproduce certain outcomes.

## Simplified Schema of Influences on Behaviour



Changing consumer behaviour under these conditions is formidably difficult, requiring that all aspects of the system are at least considered, if not reformed, at the same time; and there is always the risk that if one aspect is overlooked, it will prevent change occurring even if all the other aspects have been successfully addressed. Consumers are sometimes said to be 'locked in' to their behaviour, and the keys for their release are not known with any certainty, but have to be created afresh for each issue and applied simultaneously in the right combination. It is no wonder that the idea of 'sustainable consumption' in respect of such issues as transport (see p.10) is finding it so hard to get out of the starting traps and onto the course of policy implementation.

In developing countries, in contrast, the great majority of consumers are not 'locked in' to consumerist lifestyles. But the project on the Indian middle classes (see the report by Emma Mawdsley and Glyn Williams on pp.4-5) revealed that there is little doubt that this large and fast-growing group of perhaps 300 million people would apparently like nothing more than to become so, adapting or jettisoning centuries of cultural tradition to participate in the consumer age. 'Lock-in', it seems, applies less to non-consumerist lifestyles than consumer cultures.

That is not to say that Western societies are driven entirely by

locked-in pursuit of the conventional consumer good life. For example, Jake Elster's research (see p.4) shows that people in low-income communities have a wide range of environmental aspirations and concerns. And Judith Petts and colleagues (see pp.5-6) found that the dominant response of those faced with the prospect of rapid climate change was a concern that acknowledged the need for lifestyle change.

There is, therefore, a lot for policy makers to learn about environment and human behaviour, and, indeed, for society to learn about how to respond to environmental change. Stephen Gough and colleagues investigated how societies, faced with uncertain futures and ill-defined threats, might learn how to react so that they recognised the value of keeping options open rather than foreclosing them (see p.7). In this account, social learning, for organisations as well as individuals, as Pelling and High discovered (see p.6), becomes a key strategy for addressing the challenges of the present without making matters worse in the future. There is no easy answer as to how to provide for social learning, any more than there are easy answers anywhere else on this terrain, but it is at least a start to recognise the desirability of fostering it.

# CURRENT ENVIRONMENTAL ATTITUDES AND BEHAVIOUR



## Notes from low-income areas in the UK

**Jake Elster**, London School of Economics

There is a common idea that people living in deprived areas are less interested in, concerned about, or active on, environmental issues. It is also generally considered that most people find the concept of sustainable development hard to understand and relate to. For example, the 2001 survey of public attitudes to quality of life and the environment<sup>1</sup> reported that just over a third of respondents had heard of sustainable development.

A research group within the Centre for Analysis of Social Exclusion at the London School of Economics has carried out research on the links between local neighbourhoods, wider environmental issues, and people's concerns and actions, with a focus on low-income areas. Here we present some initial results from the focus groups we ran in six low-income areas in England<sup>2</sup>. We then briefly discuss some of the possible implications for policy and future research.

The focus groups confirmed that the local neighbourhood environment in low-income areas is of key importance to people living there, having a strong effect on their quality of life, and representing a top priority for concern and action. However, we were also struck by the extent of concern and knowledge about wider, global, problems when we asked participants about wider problems that they were aware of and concerned about. Many of them identified global environmental or sustainable development problems which they were concerned about. The problems identified represented a wide, and sophisticated, range of issues, including biodiversity loss, globalisation, flooding, wasteful use of resources, displacement of people, and global warming.

The people we spoke to also readily identified ways in which these wider problems impact on their everyday lives. For example, individuals mentioned the increased threat of skin cancer, weather changes and less predictable seasons, loss of fish stocks and worrying about children and future

generations.

When we asked people who or what was responsible for these local and global problems, they put a strong emphasis on personal responsibility. This was especially true for local problems with participants talking about lack of respect for areas, apathy and the way young people are brought up. Individuals were also seen as responsible for wider problems, for example: 'we've become a throwaway society' and 'we consume things even if it is business that is producing them'. Other culprits identified included: business, the western world and the consumerist system, government (both local and national), greed, inequality and poverty.

People were aware of many solutions in terms of individual and Government actions. When we asked them what they would do about local and global problems if they were 'in charge' participants identified a wide range of actions at local, national and global levels. For example, cancelling world debt and working for greater equality, working to get international agreement on reducing pollution and making the polluter pay. They also talked about working to change people's attitudes and change norms of what is acceptable behaviour, improving local areas, providing higher profile policing, and investing in new facilities and services, from more litter bins and better street cleaning, to new recycling schemes and better public transport.

When we asked the participants about what they thought, in an ideal world, they personally should be doing to make a difference, we got an equally comprehensive range of answers. For example, reducing energy use, recycling, trying to consume less and reducing car use. As well as clearing rubbish from in front of their house, getting people together and taking part in community action to improve the local environment.

The results we got from talking to 75 people from representative low-income areas across England suggest that people living in low-income areas are concerned about wider environmental and sustainable development issues. Together, the people we spoke to had a

sophisticated and well developed knowledge of the problems and potential solutions, and many of the participants readily identified ways in which global sustainable development problems impact on their everyday lives.

We explore the implications of our findings for policy and future research in our final report. For example, interventions should perhaps concentrate more on practically supporting the transition to new behaviour, rather than on raising awareness of the problems, persuading people that they should take action, or providing information about actions people could take. Future research could help by, for example, investigating the extent to which the high levels of concern and knowledge of potential behaviour changes that we found were shared more widely. It could also investigate variation in views and readiness to act among different sub-groups, such as people already involved in community action and those who have not been involved before. Action research looking at ways of practically supporting changes in behaviour could also help.

<sup>1</sup>DEFRA (2001) Survey of public attitudes to quality of life and the environment-2001, DEFRA, London

<sup>2</sup>The research involved an overview of existing evidence, and new evidence from six focus groups. The results we discuss here are from initial analysis of our data, not the final, full, analysis. They provide a broad general introduction to the results.

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## Notes from middle class India

**Emma Mawdsley**, Birkbeck College London, and **Glyn Williams**, King's College London

Why do India's substantial and growing middle classes behave as they do in relation to the environment? Although they share much in common with their western counterparts, they nevertheless occupy a profoundly different socio-cultural, economic and political space and history, and explorations of their environmental behaviours cannot simply be framed by theoretical understandings that are derived from the West. But, unlike many poor people, they can exercise considerable choice in their lives and livelihoods; and they are profoundly

# CURRENT ENVIRONMENTAL ATTITUDES AND BEHAVIOUR

influenced by global consumer cultures. This means that the dominant theories of environmental behaviours in the global South – which tend to be overwhelmingly concerned with marginalized groups – are not entirely relevant either.

Of the relatively few commentators who have explored the environmental behaviours of India's middle classes, most are scathingly critical. They are widely characterized as oblivious or indifferent to the environmental consequences of their resource demands, and to the fact that these costs are born disproportionately by the poor. They tend, moreover, to be suspicious of environmental pressure groups, seeing them as vehicles for western 'green imperialism', by demanding costly environmental standards that will hamper economic growth in India; or as subversive, fomenting trouble among 'backward' peoples like the 'tribals' of the Narmada Valley. However, there are indications of new trends – notably concerns over health, leading to demands for more control over product quality (such as the pesticide content in soft drinks), and state-led environmental regulation (for example in relation to vehicular air pollution). But even those with more positive attitudes to the environment have been criticized for their elitist approaches – the expulsion of villagers from forests and national parks, the clearance of slums and pavements, and the exclusionary policing of urban green areas.

In this context, various models can be identified which have something to offer the analysis of current patterns and trends. In terms of understanding indifference/hostility, we turn first to an information-deficit model – many

people, even amongst the wealthier and better educated, simply don't know about key environmental issues that affect them, although media and education appear to be having an impact here. Various cultural explanations, on the other hand, draw upon Hindu notions of the body and society to argue a low sense of civic consciousness – sweeping litter out of one's house and into the road is acceptable. On a different note, political ecology models suggest that the contours of power in postcolonial India means that the middle classes willingly exploit both the environment and poor people to satisfy their insatiable greed. This is a model that stands in sharp contradiction to the post-materialist thesis – there is little apparent evidence of value shift other than towards an ever-stronger consumer identity. Ecofeminist and post-development models propose that this is an inevitable accompaniment to the spread of patriarchal, reductionist and consumerist attitudes of the West, which have been adopted by the increasingly globalised wealthier, urban groups. This is an argument that has little place for the platitudes of mainstream sustainable development or ecological modernization. In that respect, while raising important criticisms, ecofeminist/post-developmental models fail to capture some of the more positive – even if limited – elements of change.

Other models provide a framework for exploring the growing environmental concern that appears evident among the middle classes. The first is self-interest – anxieties about air pollution, water shortages,

food contamination and so on, are driving increasing middle class activism. However, the evidence suggests that in many cases the main response is simply to isolate oneself better from the problem (e.g. by sinking private tubewells for water; and buying air and water filters). These technologies mean that self-interest does not always translate into public interest. A key issue here is postcolonial citizenship. In many low-income countries the historical and cultural as well as economic divides between rich and poor are extremely stark, while systems of democracy, transparency and accountability are relatively weak. Some commentators argue that the middle class contempt for the poor is one factor that undermines civic consciousness, including a concern for environmental justice. A final model that might provide some insight into changing middle class environmental behaviours concerns changing global experiences and identities. In contrast to the 'green imperialist' position, for some a 'clean' environment may increasingly be seen as a badge of modernity and progress (not an obstacle to it), and an essential component to an acceptable quality of life.

Which, or which combination, of these models offers the most analytical purchase on the complex and highly dynamic 'environmental behaviours' of India's middle classes remains an important empirical question. Given the growing ecological footprint of this group of circa 300 million people (and their counterparts across the global South), it is a question that should be brought to the forefront of environmental research agendas worldwide.

## ENVIRONMENTAL CHANGE AND BEHAVIOUR CHANGE

**People adapting to rapid climate change**

**Judith Petts, Simon Niemeyer, Kersty Hobson and Glenn McGregor**  
University of Birmingham

Completed research from the University of Birmingham suggests a complex public response to rapid climate change that while underpinned by concern might also invoke a degree of social

maladaptation. The research used an adaptation of Q-methodology to explore behavioural change under the rubric of subjectivity. It constructed four deliberately 'large' (although not totally unrealistic) scenarios of climate change so as to invoke discussion and response. These were based on temperature change over 10 years (i.e. depicting 'rapid' fluctuations) with associated rainfall, winds and sunshine changes.

The research identified 'Concerned' individuals as the dominant grouping. They believed that the climate is changing, personal experiences supporting their beliefs. While they placed some onus of responsibility to act upon government, the limits of the latter were perceived as demanding support through social and

# ENVIRONMENTAL CHANGE AND BEHAVIOUR CHANGE

personal action, such as adjustments to lifestyle. Concern increased at the smallest climate change examined – i.e. from status quo to +2.5°C average over 10 years (Warming) – suggesting behavioural impact at comparatively low thresholds.

Calls for Action with a particular emphasis on the impact of change on infrastructure (roads, railways, flood defences) were seen to increase across the climate scenarios, being strongest under Heating conditions (i.e. +5°C over 10 years), but also important under the Cooling (-2.5°C) scenario. Evidence of Scepticism about climate change correspondingly decreased across the scenarios being

replaced by worry. When ranked as a government policy issue, rapid climate change became the most significant (compared to other issues such as health, education etc) under the two extremes.

Perhaps the most interesting finding relates to a response described as Apprehension. This suggests the potential for some people to be very concerned about climate change but to have little faith in the ability of individuals to respond, resulting in a focus on centralised action. Apprehension seemed to increase markedly between the Warming and Heating scenarios with such a threshold effect having worrying implications

for social adaptation. An increasing number of individuals may lose faith in the ability of institutions to play a role in addressing climate change as well as in other individuals to act positively, potentially resulting in a serious collective action problem. It is worth considering the implications for adaptation if there were an increased propensity to 'free ride'.

Finally the research has also identified important findings in relation to the Cooling scenario, with particularly strong responses coming from those 'surprised' by the scenario

(i.e. people who are 'primed' for warming not cooling). The more sanguine tended to feel that because the UK is a 'cool' country it is better equipped to respond. However, whether or not responses to actual cooling might vary to such an extent as suggested by these two responses would require further research.

There is a vital role for interdisciplinary research in relation to behavioural responses to rapid climate change. The methodology tested has proven its worth in producing coherent and useful results. Certainly a larger study is warranted, including a larger population and parallel studies in different geographical areas. The development of more sophisticated rapid climate change scenarios could be achieved in conjunction with parallel studies of the physical impacts. Overall the approach would not only assist social science research, but also help to direct natural science research in areas that are socially relevant.

## Changing Behaviour in Organisations Mark Pelling and Chris High, King's College London

How does behaviour change within organisations, and ultimately how can this shape the behaviour of organisations? A good way to begin answering this question is to uncover the glue that holds organisations together. What is it that ties the individuals together that constitute an organisation? The rules that convey this information have been called institutions, they can be formal such as legal requirements, work guidelines or job descriptions, or non-formal, often described as the culture of an organisation. It is the interplay of formal and non-formal institutions that lies at the heart of capacity to change behaviour from within.

Capacity for endogenous change, coming from the interaction of individuals, is a good indicator of an organisation's resiliency. When responding to unexpected external challenges formalised patterns of behaviour may not be sufficient or appropriate. Non-formal networks and knowledge give additional scope and flexibility for individuals in an organisation and can be used to cut bureaucratic corners or to establish

new working practices. If the new behaviour that emerges succeeds in helping the organisation to meet its goals then it may well become formalised. There are many examples of non-formal networks of friends and acquaintances being used to bring together skills and resources when responding to unforeseen crisis. The speed of response to foot-and-mouth in Wales was greatly enhanced by just such networks enabling rapid resource and information flow. While these non-formal networks worked in parallel to formal procedures they eventually became a part of formal procedure.

A good deal is written about formal management practice and organisational designs that are thought to enable flexibility and resilience, much less is known about the role of non-formal social resources and the institutions that shape organisational capacity. In the organisational and governance literature, non-formal relationships and action have been discounted as either too complex to be tractable or an inevitable source of corruption and nepotism. But as we have seen this unplanned social space, or 'shadow system', can operate as a positive resource for new ideas and change. This possibility challenges managers as by its very nature unplanned-for social interaction must lie outside their areas of control.

Work is beginning to develop tools to map and understand the functioning of the shadow system. That social connections can span organisational boundaries has long been noted in the communities of practice literature that focuses on what people do, rather than where they lie in organisational structures. The importance of trust, of shared identity and of the unequal power relations that operate in personal relationships has been flagged by the social capital literature and can contribute to our understanding of the tensions in non-formal social ties being maintained and used for personal as well as organisational or public good. New thinking on the psychology and sociology of learning in organisations can contribute to unpacking the points at which individual learning becomes socialised within an organisation and the organisation can itself be said to learn and change direction or behaviour.

# ENVIRONMENTAL CHANGE AND POLICY CHANGE



**Lessons from Major Floods**  
**Clare Johnson, Sylvia Tunstall and Edmund Penning-Rowsell, Middlesex University**

The 'crises as catalysts' project sought to evaluate the impact of floods, as environmental crises, on changes in public policy. In this way, the flood, and its aftermath, served to magnify our insight into the process of social and human adaptation in response to rapid environmental change. In general terms, our research has shown how behaviour towards the environment changes over time as a result of a range of complex and inter-connected contextual, behavioural and environmental factors. Within this process, any rapid change in the environment, in our case a major flood, has the capacity to influence, directly, changes in human behaviour but it is unlikely that this change will represent a radical departure from the ideas already in evidence prior to the crisis.

All four of the floods investigated, in the course of our research (1947, 1953, 1998 and 2000), resulted in changes in policy towards flooding in England and Wales. However, of the

many issues raised and debated, only one or two were then translated into recognisable policy changes in the agenda setting process. Further, in all but the 1953 flood, this policy discourse did not reflect any new policy ideas. Rather, it represented a significant increase in the rate at which the policy was negotiated and implemented. Thus, whilst our findings illustrate the importance of floods as catalysts for changing policy towards flooding in England and Wales, they also illustrate the importance of context, and the incremental changes in the beliefs and attitudes of key decision-makers, for determining the typology of potential policy ideas available in the event of a flood crisis. Thus, it is the inter-linkage between the policy ideas generated during periods of incremental policy change, and those strengthened and accelerated during periods of catalytic policy change, that is all-important.

In each case study, one or two actors, who were not necessarily previously engaged in the flood policy domain, played prominent roles in ensuring that certain policy ideas dominated the agenda setting process. However, none of these key

actors were able to bring any radical new ideas to the policy process. Rather, these individuals were able to develop their ideas within a receptive environment. Thus, it is the key actors who critically determine which ideas remain in the policy seed-bed and which are picked up, strengthened and accelerated. But, this can only be achieved where there is general consensus about the legitimacy of these ideas in the first place. In this sense, key actors are policy 'champions' not policy 'entrepreneurs'.

In summary, therefore, we conclude that major floods do indeed act as catalysts for changing policy through the acceleration, and in some cases the 'toughening', of policy. This suggests that human behaviour will retain an element of reactivity to environmental change. In addition, our research has shown that this reaction is very much dependent on the policy ideas already in existence prior to any changes in environmental drivers. Therefore, whilst a rapid environmental change event forces people to address policy needs, any resultant changes in policy tend to be based on prior knowledge, ideas, values and beliefs.

## ENVIRONMENTAL POLICY AND BEHAVIOUR CHANGE



**The Need for Social Learning**  
**Stephen Gough and William Scott, University of Bath**  
**John Foster and Robin Grove-White, University of Lancaster**

### Introduction

This project has developed an argument that:

- Economics is a major source of powerful metaphors which fundamentally influence thinking and behaviour in relation to the environment
- One such metaphor is natural capital, which treats Nature as 'being like' a stock of financial or physical capital
- Within economics there are competing ways of thinking about capital. The dominant way of thinking is not necessarily the best one to apply to the metaphor of natural capital

- An alternative is offered by a 'real options' approach
- This real options approach suggests that a commitment to social learning is essential if the best (and continuing) returns to natural capital are to be obtained.

### Example

The EU Energy Performance of Buildings Directive, adopted in 2003, requires member states to legislate by January 2006 to the effect that energy performance data about both domestic and non-domestic buildings must be publicly available.

According to the EU Energy Commissioner, there are some 160 million buildings in the EU, accounting for roughly 40% of energy use. Energy savings of as much as 22% are thought possible. Although these figures may become a matter of dispute, even so, the fact will

remain that the Directive bears on a very large amount of energy use, and will affect a great many people directly.

A number of possible responses to this situation might be envisioned which could make use of learning.

- Teaching people about the science of energy use and conservation
- Teaching people about alternative lifestyles which seem to imply reduced energy use
- Teaching people that precautionary behaviour is necessary to avoid the potentially catastrophic consequences of, for example, rapid climate change

Each of these may have its place, but all are flawed as policy choices. There is abundant evidence that the first two tend to be

ineffective at changing behaviour (Kollmuss and Aygeman, 2002; Gough and Scott, in press). The third is defensive, suffers from the difficulties of persuading people to insure against an uncertain loss, and is limited in its potential impact by its central appeal to altruism, i.e. learners are encouraged to change their individual behaviour for the greater good (see Le Grand, 2003 for a discussion of such issues of motivation in public policy).

By contrast, a real options approach would seek to promote learning to maximise the value to the learner of the options which are clearly embedded in all this energy. This might be done through learning interventions which:

- Involved householders, employees and schoolchildren in self-audit of the energy use of buildings in which they live and work
- Explored the questions: Are we really getting the best value out of this energy? Are there, or might there be in the future, better ways of using it, or attractive alternatives to using it at all?
- Give the power to deploy any resulting savings, as far as possible, to those who make them. This begins to align altruistic and self-interested motivations in a way which Le Grand (2003) describes as 'robust'.

There is no technical obstacle to the design of such learning programmes. Nor does this proposal involve an abandonment of, for example, traditional subject disciplines. On the contrary, it suggests a way forward which is consistent with, and would tend to encourage, current best practice in education and training.

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#### Changing the Environmental Practices of Small Firms

Andrea Revell and Robert Blackburn, Kingston University

Comprising 99% of all enterprises and 43% of private sector employment, small and medium-sized enterprises (SMEs) play a key role in the UK economy (SBS, 2003). However, they also play a key role in causing environmental problems. Although this impact is difficult to measure, it has been estimated that SMEs in the UK are responsible for as much as 60% of industry's carbon dioxide emissions (Marshall report, 1998). They are also responsible for 60% of commercial waste, and 8 out of 10 pollution accidents (Environment Agency, 2003).

As the environmental impacts of small firms are difficult to regulate, the government has attempted to encourage voluntary environmental action from the SME sector. Policy rhetoric encourages firms to improve their environmental performance by emphasising the 'business case for sustainability', linking environmental management with greater efficiency and competitiveness.

However, the findings of this ESRC study into the environmental practices of SMEs point to a major problem with the government's stress on the market for solving environmental problems. In-depth, face-to-face interviews with 40 SMEs in the construction and restaurant industries in London and Leeds, along with 12 'key informants' (experts within industry, government and academia) highlighted that small firms are disengaged with the environmental agenda. The study concludes that a policy emphasis on voluntary environmental action is unlikely to have a significant effect on the environmental practices of SMEs for the following reasons:

#### 1. SMEs fear a loss of competitiveness

Most small firm owners in the study were not convinced that adopting more environmentally sound

practices would result in business benefits for their firm. The market was not signalling to owner-managers that product value could be raised or that customers could be won by embracing environmental best practice. Instead, voluntary action was resisted on the basis that environmental measures were costly and would therefore adversely affect the competitiveness of the firm.

#### 2. SMEs lack resources and support systems

Even when owner-managers accepted the business case for making environmental improvements in some cases, this did not mean that they felt they had the capacity to carry out such measures. For instance, some acknowledged that energy efficiency and waste minimisation were ways to reduce costs, but take up was dependent not just on the theoretical savings that could be made but on the short-term investment in time and effort needed to make the change. Many small firm owners did not feel there was enough time in their day to pursue environmental measures that were not a natural by-product of core management activities. Some owner-managers believed that more could be done by the state to make it easier for them to become environmentally proactive, such as improving local recycling infrastructures.

A policy emphasis on voluntary action encourages the environment to be seen as a peripheral issue

The findings clearly highlight that the environment is not yet a core business concern for many SMEs. Because the small firms in the study were not subjected to the same stakeholder pressure for environmental management that large firms are, policy strategies emphasising voluntary environmental action without the threat of future legal action tended to reinforce the idea that the environment was a peripheral issue. Because it appeared that the environment was not a priority for policymakers or stakeholders, it was not a priority for small firms.

Whilst it is currently unfashionable to advocate regulation because of the onerous bureaucracy it entails, the inescapable conclusion from the study is that it may be the

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only way to truly effect change within the SME sector. Legislative sanctions are clearly one way to be certain that the environment becomes a top business priority for small firm owners. Regulation makes the environmental obligations of firms clear from the start, and offers SMEs the security of a 'level playing field' so that environmental good practice is not perceived as a threat to competitiveness.

As part of an integrated policy mix, market-based incentives such as environmental taxes also have the potential to be an effective mechanism for stimulating change. However, they cannot always be relied upon as owner-managers may perceive more pressing and profitable things to be working on than 'win win' opportunities for improving their environmental performance that would also save them money. For instance, SMEs may feel that a tax credit on recycled materials is not enough to compensate for the extra effort required to set up and manage the appropriate recycling systems. To be truly effective, market-based incentives need to be combined with the kinds of infrastructure developments that make it easy for firms to be more environmentally proactive. Clearly, the government has a major role to play not just in encouraging firms to reduce their environmental impacts, but in making it possible - and easy - for them to do so.

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## Changing the Environmental Behaviour of Households

**Elizabeth Shove, University of Lancaster**

One of the questions that was posed at the start of this ESRC Programme

was: What public policy approaches might persuade people to change their behaviour? The direct answer to this question is 'none'. It is so because the question is founded upon dubious assumptions about behaviour, choice and change.

The idea that people can be persuaded to change their behaviour supposes that behaviour is something that can be adjusted at will. This runs against the grain of social theory, much of which shows that personal routines and habits are sustained by rafts of shared social and cultural convention not to mention institutions and infrastructures. There may be a few areas in which people can opt to change their ways, yet the idea that they might do so in response to policy approaches is also controversial. It is so because such a view attributes a measure of agency to policy that does not square with the ways in which governments actually work.

Although the Environment and Human Behaviour programme is still searching for policy approaches with which to change behaviour, environmental policy is increasingly aware of the limits hinted at above. In this field, years of initiatives, incentives, labelling schemes and educational programmes have failed to make behaviour swing around as intended. Rather than chasing after yet more ways to tackle this 'problem', there is growing recognition that the hunt for behavioural levers might be a fruitless and entirely mistaken endeavour. A related difficulty is also attracting interest. This has to do with the boundaries of what people take to be legitimate policy intervention. Consider comfort and cleanliness, two areas in which conventions are changing fast and in ways that have far-reaching and negative environmental consequences. Although likely to fiddle with the prices of energy and water, policy makers generally shy away from telling people when to wash or how to live their lives. This points to another important problem with the framing of the question. By focusing on individual 'behaviour' (for instance, how people set their thermostat, whether they use a low flow shower head or not), really big questions

about the environmental costs of sustaining changing conventions of everyday life disappear from view. In effect talk of 'behaviour' gets in the way of serious political interest in the social construction of demand.

One might argue that this is because policy is in any event incapable of making a difference to the development of more or less sustainable ways of life. The paradox, however, is that governments do make a difference, not by persuading people to change their behaviour, but by influencing the cognitive and material environments in which new practices take root. It does not take much to realise that government policies of all forms embody and reinforce ideas about normal and acceptable standards of daily life. As such, government policy is already implicated in the reproduction of contemporary 'behaviour' with all that entails.

To conclude, policy has to be seen as part of a social and cultural environment in which certain routines, habits and practices are simply taken for granted. Providing we recognise this then there might - just might - be ways of nudging shared meanings of normality in ways that are less resource intensive to maintain.

## Changing Power Supply?

**Claire Haggett, University of Newcastle**

Clean, green energy from an inexhaustible supply - what could be wrong with that? Quite a lot, say the people who oppose windfarms, and they do so very energetically, very loudly and often very effectively.

This is in spite of the Government's targets for renewables - 10% of electricity from renewable sources by 2010 and 20% by 2020. To reach these ambitious goals, the emphasis is very much on wind power. But in England and Wales only two in five applications for windfarms are granted, with a further small percentage being given permission at appeal. There is high public support for windpower in surveys - and yet

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vocal, fierce, and seemingly effective opposition exists in many areas where turbines are planned. How can this apparent gap between attitudes and behaviour be understood? And how can cultural change be brought about in this light?

Bringing about a change in power supply is not simply a matter of asking why people's attitudes do not match their behaviour. The attitudes that people hold may never have been tested, and are therefore susceptible to change in a situation when they are called into question. In terms of windfarms, views on renewable energy generally may alter when faced with the contingencies of an actual proposal. A number of factors are influential in this process – and they affect attitudes, behaviour, and the relationship between them. Indeed, they have complex implications for government energy targets and the future of renewables and planning policy.

For example, research has found that people engage with the 'local' not the 'global'; issues need to have an immediacy in their everyday lives. So, while issues of global warming may be far removed from everyday life, a fear of house prices falling is not. And while there may be national and international benefits from a reduction in the use of fossil fuels, the proportional reduction in CO<sub>2</sub> emissions for each person who lives near a windfarm may be a small and intangible compensation.

Furthermore, heavy handed techniques to educate and persuade people of the benefits of a necessary development may not help. In fact, they are more likely to incite protest than to overcome it. Ultimately, people may not be against the turbines, but against those who want to site them.

Considering the importance of place, and the local social and historical context of an area is crucial. Views are developed in the context of immediate surroundings, and any changes to this are a threat to identity. The social landscape has meaning attached to it, beyond amenity or economics.

Protest may arise because of the perceived impact of the windfarm on the proposed site, and because the landscape is particularly valuable. This notion of conflicting

environmental aims is an interesting characteristic of renewable energy conflicts. While such developments are good for the planet, they also have their own environmental consequences. Can these be justified? And who decides?

The development and planning processes also affect the formation of opposition. People need to be involved in the process - but this has to be done meaningfully. If people are consulted, are they actually listened to? Is what they say taken into account? Evidence from Europe points to just how vital this is.

In summary, the context in which people make their decisions, in which their attitudes are formed and their behaviour is influenced is crucial; there may not necessarily be a 'gap' between attitudes and behaviour – but a process of development that cannot be ignored.

## Can Anything Change UK Transport Behaviour?

Stephen Potter, [Open University](#)

Everyone seems to agree that transport in Britain is a mess and is a major environmental problem. We even accept that car dependence is a big part of the obesity epidemic. Yet, whenever anything serious is suggested to tackle this mess, particularly measures that seek motorists to change their travel behaviour, there is an outcry against the discomfort or costs involved. We seem to have become so accustomed to the awfulness of our transport system that we cannot believe something better is possible. Examples of economically vibrant mainland European towns and cities, with pedestrianised heritage squares and roads largely devoted to bicycles, buses and trams are gazed upon with envy, but we shake our heads and say that it simply cannot happen here. "Businesses will go bankrupt" we say, or "the traffic will clog up back streets" and "how will I drive my kids to school if that happens?" Our transport crisis is increasingly becoming a psychological one, that might be called a transport policy syndrome – we seem to have given up hope that anything can be done, and all we can see are the discomforts that any cure may bring.

In response to this syndrome, government sees transport as a risky policy area and so tries to avoid any 'provocative' actions towards motorists. The Fuel Duty protests of September 2000 effectively ended the use of fuel tax to manage car use, and since then car taxation revenues have dropped by something like £1.5b per annum. Car running costs have never been lower and Department for Transport estimates that fuel costs will drop by over 5% per annum over the next two years.

With eco-reforms to existing car taxation shelved, tax revenue dropping and no real means to deliver transport policy goals, in mid 2003 a new policy option emerged. This is replacing Road Fuel Duty and Vehicle Excise Duty with some form of national road user charging. Unlike city congestion charge schemes (as in central London and Durham), which are in addition to normal car taxation, a national road user charging scheme would replace, all or in part, existing fuel and excise duties with a charge based on distance travelled. The favoured concept is to vary the charge by area, road type and time, and so charge motorists more for driving on congested roads and at peak times. Interestingly Britain is not alone in exploring such an option. Switzerland has the system running for freight, the Netherlands have considered a car distance charge and the US State of Oregon is in the process of implementing a 'Road User Fee' distance charge to replace fuel duty for introduction in 2007.

The interesting thing is that these countries represent very different transport policy regimes. The Netherlands and Switzerland have transport systems the envy of the UK and few concerns about fuel tax protests. They see the change in the car taxation system as necessary to maintain momentum in managing car use. Oregon has quite the opposite policy context. This rural state has no intention to restrict car use or to reduce environmental impacts via fiscal policy. They see fuel tax as an unstable revenue source and want a steadier income flow.

Thus the UK's move towards replacing traditional car taxes can be seen not just as a product of our

transport policy syndrome, but reflects a series of wider structural policy factors. The old tax system is starting to fail not just for environmental and congestion reasons, but it's failing too as a source of government revenue. The working party report will be published soon. Will this help cure, or be victim to, our transport policy syndrome?

## Behaviour and Cultures of Consumption

**Frank Trentmann, Birkbeck College, ESRC Director, Cultures of Consumption Programme, puts the environment and human behaviour in the context of cultures of consumption**

Consumption is widely recognised for its impact on the human environment. Cultures of Consumption is a research programme (ESRC-AHRB) that seeks to unravel the changing dynamics of different practices and spaces of consumption – from fashion to media, from retailing to public services (research findings and publications are at [www.consume.bbk.ac.uk](http://www.consume.bbk.ac.uk)). To assess the changing impact on the human environment, it is helpful to consider consumption in its changing meanings and practices as well as its status in public policy.

The current meaning and ubiquity of 'the consumer' is a fairly recent development. The formation of the consumer was a product of 19th century political struggles over basic access to basic goods and utilities. It is only in the 20th century that the 'consumer' gradually became divorced from this tight connection to the human environment and associated with markets, choice and retailing. Even then, 'choice' could remain informed by ethical and collective considerations – contemporary fair trade politics and 'alternative' food networks are echoes of this. Appreciating the earlier connection between consumption, citizenship, and urban environmental concerns points to potential synergies in current debate about sustainable consumption, suggesting it is not necessary to see consumption and environmental subjects as rival subjects.

In spite of global economic

dynamics, consumption practices in the last twenty-five years reveal remarkable areas of divergence in different cultures. Reading papers and magazines, for example, has remained stable in Norway and the United Kingdom, but heavily declining in the United States. The average Britain and American to-day spend more than twice as much time eating out in pubs and restaurants than the Norwegian, and more than four times that that of a Dutch person. Different consumption routines are tied to different use of transport and space, with important implications for the environment. A dramatic example is the American-driven rise of the chewing gum in the early 20th century – a new regime of American and increasingly 'Western' taste that created 'shadowlands' of production and exploitation in the Mexican Yukatan, where chicle was grown. Changing production and taste regimes that came with the replacement of natural by synthetic gum had large-scale impact on the Yukatan environment and economy. Projecting environmental change and policy needs to take into consideration culturally embedded consumption practices and changing routines.

In the last few decades consumption has also entered crucial aspects of public policy. In the UK, more than in other countries, consumerist principles have been introduced with different consequences in a range of domestic services, complicated by the often ambivalent and shifting self-interpretations of providers and users. The language of consumption, however, does not necessarily mean that of choice or markets sponsored by government or corporations. Nor does it necessarily block out considerations of social or environmental justice. Internationally, a debate about consumer rights and human rights has energised many civil society groups seeking access to basic services, especially water. Here, demands on the environment and responses to commodification have been shaped not only by material factors but also by prevailing ideological traditions and the relative existence of citizen space.

Moving towards more sustainable consumption patterns is helped by a

recognition of consumption as an evolving system of meanings and practices in which civic and ethical dimensions continue to be available as one resource of change.

## Behaviour and Sustainable Technologies

### Technology as Modulator

**Frans Berkhout, SPRU, University of Sussex, ESRC Director, Sustainable Technologies Programme, puts the environment and human behaviour in the context of sustainable technologies**

Technology plays a range of complex roles in mediating the relationship between human behaviour and the environment. Scientific instruments (from thermometers to satellites) are fundamental to our sensing and understanding of environmental change, technologies enable the ever-deeper exploitation of vulnerable natural systems, and technology is often seen as a means for reconciling the dual objectives of increasing human welfare and greater sustainability. Because of its ubiquity, technology is rarely a 'neutral' player in relation to the environment, but is often moralised and linked to specific sectional interests and controversies. The Sustainable Technologies Programme (STP, [www.sustainabletechnologies.ac.uk](http://www.sustainabletechnologies.ac.uk)), a sister ESRC programme to the Environment and Human Behaviour (EHB) Programme, is funding 13 projects and two fellowships looking at how technology shapes human behaviour – particularly consumption behaviour – and how sustainable innovation can be encouraged in technological systems.

From among a wide range of common themes between the two programmes, I want to highlight just two. First, there is a concern with what might be termed 'systemness' – the notion that we need inclusive explanations for things and for change that take into account different features of a problem. This often poses searching questions about how to bring together multiple disciplinary perspectives and may call into question the whole idea of causal

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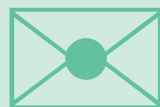
analysis. We may not be able to explain fully the relationships between components of a system because they are interactive and reflexive. This problem is illustrated in a broad interest in STP in long-run change in socio-technical systems. Several projects draw on recent research on 'transition management', a perspective linking history of technology, science studies and certain aspects of institutional economics, to propose a multi-level explanation of change that emphasises the role of 'experiments' conducted in niches on the margins of dominant technological regimes. Adrian Smith's (University of Sussex) project, for instance, is investigating the history of the Alternative Technology movement of the 1970s, trying to understand how this niche of ideas and technologies for 'greening' energy, food and housing may have influenced mainstream systems. Early results suggest that influences varied a great deal, depending partly on the strategies deployed by AT pioneers. Their primary impact appears to have been ideological (helping to make ideas about sustainable technologies

common currency). Smith's work, and that of others in the Programme, draws on behaviourist notions of learning (learning-by-doing, learning-by-using, learning-through-interaction) that have had a powerful influence in the economics of innovation literature. Future research on environment and human behaviour relating to institutional and social learning could also draw on these ideas.

A second theme shared with the EHB Programme concerns sustainable consumption. There is a wide recognition that environmental social science has been too 'productionist' in its interests, and there is currently a major effort underway to draw on the multitude of ideas in social science about the histories, expressions of, causes and influences on consumption. We are still confronted with the problems of what Tim Jackson has termed 'super-abundance' of ideas, but one of the clearest conclusions to be drawn is that a theory of practice may provide one means of avoiding some of the dead-ends previous research has found itself in. The work of Dale Southerton (University of Manchester

and colleagues in an STP project looking at the co-evolution of technologies and practices in kitchens and bathrooms, suggests that most practices are routine, that consumption is an outcome of such practices and that practices come to be constituted through the interaction between technologies and ideas of comfort and well-being. For example, the acquisition of a home freezer (and the associated energy consumption) promotes new purchasing, food preparation and dietary practices in the home, as well as new linkages between other kitchen technologies – the microwave as de-froster, for instance. This embeddedness of technology and practice explains why changing consumption may be so very difficult. Again there are echoes here about the incredible 'stickiness' of human behaviour which research in the EHB Programme has also uncovered.

Many other commonalities could have been found between STP and EHB, and this suggests not only that the UK environmental social science community continues to be intellectually dynamic and cohesive. It also makes one enthusiastic about the potential for generating an



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Programme Academic Co-ordinator:  
**Professor Paul Ekins**

Programme Co-ordination Office:  
**Environment and Human Behaviour Programme**  
Policy Studies Institute (PSI)  
100 Park Village East  
London NW1 3SR  
Tel. 020 7468 0468  
Fax. 020 7388 0914  
Email [ehb@psi.org.uk](mailto:ehb@psi.org.uk)