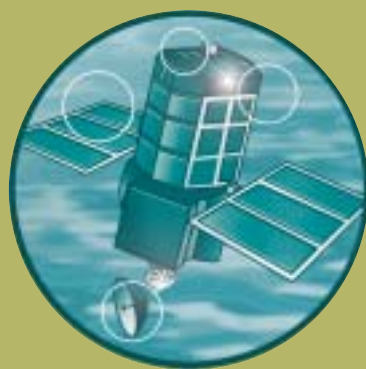


Improving community and citizen engagement in flood risk management decision making, delivery and flood response

R&D Technical Report SC040033/SR3

Product Code: SCHO1005BJTC-E-P



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Author:

Dr Gerda Speller

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Research Contractor:

Collingwood Environmental Planning, 4.2.3. The Leathermarket,
Weston Street, London SE1 3ER

Environment Agency's Project Manager:

Paula Orr

Collaborator:

Dr Clare Twigger-Ross

Science Project reference:

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Steve Killeen

Head of Science

Executive summary

Background

The research reported here forms Part 4 of a larger project 'Managing the Social Aspects of Floods' (Science reports SC040033/SR1–SR6 and SC02061/SR1).

Aim

The overall aim of this research is to understand the relationship between community and citizen engagement and effectiveness and efficiency in flood risk management (FRM) decision making, delivery and flood response.

For this report 'local community and citizen engagement' includes a wide range of contacts with members of a local community who are affected by decisions in their geographical area and is treated as distinct from 'stakeholder involvement', which was explored in Part 3 of the project (report no. SC040033/SR2).

The work consisted of collating and reviewing relevant research and practice both in terms of general work on community participation and in terms of specific research on community participation and FRM. Based on this background knowledge the interview schedules were designed to explore attitudes, perceptions and beliefs of five distinct groups of decision makers: Environment Agency policy staff working in FRM; Environment Agency regional/operations FRM staff; Defra FRM policy staff and other government staff; academics/researchers working in FRM and community participation; and 'other practitioners' including a professional facilitator, a chairperson of a local community group, National Flood Forum (NFF) staff and local authority officers.

Contact with these five groups took the form of formally arranged interviews. Notes were taken during the interviews and these were transcribed and in most cases returned to the interviewees for amendments and additional comments.

Results

Interviewees across the five groups of decision makers expressed an **acceptance that technology alone cannot cope with increasing flood events** and that much work needs to be done by the Environment Agency to bring about this change in perception. Communities need to be helped to accept a certain level of flood risk, to accept that they need to share some of the responsibility, and to accept that by designing spaces to flood safely ecological benefits will also be increased.

The role of the Environment Agency. The majority of people interviewed felt that the Environment Agency needs to play a proactive role in terms of community and citizen engagement. It is in a unique position to promote social capital and has already moved towards this goal.

Engaging with communities. Almost every member of the Environment Agency/FRM operations staff expressed the need to work with communities before, during and after a flood event at a meaningful level and asked for these issues to be debated at the highest level within the Environment Agency. A good beginning has been made with the dissemination of the Building Trust with Communities (BTwC) toolkit. There was strong

support for viewing public meetings as an aid to building social capital and for harnessing the initial anger of those affected by a flood to contribute to positive change.

Positive engagement strategies. Environment Agency staff who have been involved with engaging local communities felt very positive about the possibilities, the process and outcomes. The examples also demonstrate the ease with which the Environment Agency can initiate and facilitate such projects, be partner to a joint project, or simply benefit from someone else's initiative.

Negative perceptions of community engagement. These centred on organisational issues within the Environment Agency (e.g. lack of staff continuity), staff anxieties about being inadequately trained for certain public participation work, the perceived neglect of flood victims' psycho-social needs, and the possibility of flood awareness campaigns which increase communities' anxieties and the likely economic blighting of an area. It is, however, encouraging that a community that has been involved in a genuine participatory exercise (either through facilitated historical and/or scientific projects as discussed in section 3.2.4) or a community that has been involved in management decision making (as discussed in section 3.2.3) will have already begun to 'own' its flood risk environment and will have developed a sense of trust towards the facilitators. Thus, many of the negative perceptions discussed will not arise or will be easier to deal with.

Community risk perceptions. There is an urgent need for people to recognise the seriousness of the greater likelihood of flood risk yet much care needs to be taken when communicating risk as it can heighten anxieties and feelings of helplessness which in turn will increase the need to blame someone else (mostly the Environment Agency). There is also evidence that some 'at risk' communities are in a 'state of denial' and are choosing to ignore the warnings. Current work points to the complexity of behaviour change, suggesting that there are a number of progressive stages from awareness of flood risk to behaviour action. Nevertheless, a report by Barnett *et al.* (in press) on generating and developing environmental citizenship points to evidence both of the recent trends toward greater personal responsibility and the effectiveness of this in stimulating changed patterns of behaviour.

Future research. Based on the recognition that policy should be grounded in research, most participants in this study expressed a need for further work. It was suggested that although there have been a number of good practice case studies they are mostly anecdotal and need to be properly analysed to extract the principles of their success. It has also been argued that it is equally important to examine adverse cases. The analysis, however, should not focus on individual action but should include the role of underlying systems and why they did not facilitate a more satisfactory outcome.

Recommendations

R1: Plan ways of engaging communities in an extensive study of broader ecosystems to encourage consideration of issues beyond flooding. This type of work could be done well in partnership with other organisations or as action research projects.

R2: Consider investing time, resources and training in developing a clear framework for engagement with communities at different stages of the flood life cycle, drawing on current research and practice. This should be done as a collaborative project involving operations, process and policy staff with input from communities or community

representatives where appropriate. This work should consider the extent of the Environment Agency's involvement, the Environment Agency's role (after Warburton 2004), and proper evaluation of community engagement projects.

R3: Build on the energy, enthusiasm and skill of staff who are currently carrying out engagement processes by supporting them through an acknowledgement that engagement is part of their work. The following approaches are suggested:

- provide training in engagement processes that is based on staff experiences and empower them actively to plan for community engagement;
- invest time and resources in developing a network for sharing practice. The focus has been on sharing 'good practice', but it is suggested that safe forums need to be developed where staff can share examples of approaches that did not work;
- build on the Building Trust with Communities project and the work of the national Community Relations Team.

R4: Establish senior management support for community engagement processes in FRM.

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1 Introduction

1.1 Objective of the research

The overall objective of Part 4 of the research project 'Managing the Social Aspects of Floods' is to understand the relationship between community and citizen engagement and effectiveness and efficiency in flood risk management (FRM) decision making, delivery and flood response. To fulfil this objective we have:

- liaised with relevant persons in the social sciences/policies field and generally drawn on current knowledge and research to review and understand the role and practice of community and citizen engagement in the wider context of water, land use and public space decision making and delivery, and the policy context for addressing these;
- liaised with experienced workers within the more specific context of FRM decision making and delivery, with a focus on how community involvement can be improved.

The work aims to inform future recommendations for the Environment Agency policy, process and further research that should enable an improvement in community and citizen engagement in flood risk management.

The research reported here forms Part 4 of a larger project 'Managing the Social Aspects of Floods'. There are six parts to the project 'Managing the Social Aspects of Floods':

- Part 1 – Understanding the impacts of flooding on urban and rural communities and the policy context for addressing these (SC040033/SR1).
- Part 2 – Understanding the relationship between flood risk and vulnerable and deprived groups (SC020061/SR1).

Parts 1 and 2 focus on impacts of flooding, and aim to provide some understanding of how impacts may differentially affect specific groups and communities.

- Part 3 – Understanding the relationship between stakeholder engagement and effectiveness and efficiency in flood risk management decision making and delivery (SC040033/SR2).
- Part 4 – Understanding the relationship between community and citizen engagement and effectiveness and efficiency in FRM decision making, delivery and flood response (SC040033/SR3).

Parts 3 and 4 focus on understanding how engagement with stakeholders, communities and citizens can be effective with respect to FRM decision making.

- Part 5 reviews options for improving the contribution of social science to the FRM science programme. It aims to provide insight into the role of social science for FRM and to put it into the wider context of current progress around multi- and inter-disciplinary research (SC040033/SR5).

- Part 6 is a synthesis of the other five parts of the project and provides a summary of the key findings and a discussion of how the different parts relate to each other together with key recommendations (SC040033/SR6).

In addition, a further related study was commissioned examining the role of stakeholder engagement in Catchment Flood Management Planning and that forms report number SC040033/SR4 'Aire and Calder CFMP Scoping Study'.

1.2 Research approach

The work has taken the following approach:

- Collating and reviewing relevant research and practice both in terms of general work on community participation and in terms of specific research on community participation and flood risk management. Based on this background knowledge the interview schedules were designed to explore attitudes, perceptions and beliefs of five distinct groups of decision makers:
 - Environment Agency policy staff working in FRM;
 - Environment Agency regional/operations FRM staff;
 - Defra FRM policy staff and other government staff;
 - academics/researchers working in FRM and community participation;
 - 'other practitioners' including a professional facilitator, a chairperson of a local community group, National Flood Forum (NFF) staff, and local council officers.
- Contact with these five groups took the form of formally arranged interviews (ranging from 40 minutes to 2 hours). Nineteen interviews were carried out as follows: Environment Agency policy staff (2); Environment Agency operations staff (6); Defra and other government staff (3); academics (5); and 'other practitioners' (3). The interviewees are listed in Appendix 2. Seven interviews were carried out face to face and twelve by telephone. This sample partly reflects the numbers of relevant individuals in the various groups but also the practicalities of arranging formal interviews in the timescale available. In addition, less formal contacts were made by email and/or telephone calls to gather as much further information as possible. Not every participant was able to contribute to all parts of the project. For this part of the project 15 of the participants' interviews were analysed.
- The interview schedule was designed to address a range of areas that were adapted for the different participant groups (see Appendix 1). Note that for this part of the project we focused on and analysed material gathered in response to questions in section 2.
- Notes were taken during the interviews and these were afterwards transcribed and in most cases returned to the interviewees for amendments and additional comments.
- The amended transcripts were analysed and categorised into key themes.

1.3 Defining ‘local community and citizen engagement’ and ‘good practice’

Within the context of this work the term ‘local community and citizen engagement’ includes a wide range of contacts with members of a local community who are affected by decisions in their geographical area. For this report ‘local community and citizen engagement’ is distinctive from ‘stakeholder involvement’, which focuses on representatives of distinct groups and their involvement in decision-making processes. The latter was examined in Part 3 of this research. Citizen engagement methods range from basic information giving, information gathering and consultation to full deliberation and empowerment of the local community. In the context of flood risk management, the Environment Agency can initiate and lead local community and citizen engagement, or it can be a partner in a joint process, or it can provide expert input to someone else’s process.

The authors of this research prefer the term ‘good practice’ to the often used ‘best practice’ term. ‘Best practice’ suggests that this is the best, and hence the only way. ‘Good practice’, however, simply implies that an example is good and may be worth considering (Environment Agency 2005b).

2 General issues for improving community and citizen engagement

Citizen engagement in the provision and management of public services has become an increasingly significant element of Labour's agenda for democratic renewal, at both the local and national levels (Blair 1998, 2003, Owens 2000). National policy has been supported by a changing global mood especially in terms of, for example, the Rio Summit in 1992 and the Aarhus Convention (1998). The Rio Summit addressed sustainable development in terms of six key issues: population, climate, development aid, cars, water and debt. The Aarhus Convention (*Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*) developed these themes further by:

- linking environmental and human rights;
- acknowledging that we owe an obligation to future generations;
- establishing that sustainable development can be achieved only through the involvement of all stakeholders;
- linking government accountability to environmental protection;
- focusing on interaction between the public and public authorities in a democratic context;
- forging a new process of public participation in the negotiation and implementation of international agreements.

The impact of the Aarhus Convention on national policy has been fourfold: greater accountability, sustainable development, emphasis on social justice, and focus on public value (<http://www.unece.org/env/pp/welcome.html>). Rather than placing reliance solely on electoral democracy, this new approach of citizen engagement reconstructs citizenship and involves mediation at the local level through a tripartite relationship between individual citizens, the politicians that they elected and the public servants who are employed to deliver local services. Engagement is thus part of an agenda for devolving power to citizens (Selman and Parker 1997, 1999, Parker 2002, Ravenscroft *et al.* 2002).

Past research (e.g. Horelli 2002, Wiesenfeld and Sánchez 2002) has shown that more people become involved in public participation and satisfaction with the process is greatest when people attribute the consequences of their actions to their personal efforts; when they assume responsibility for their situation; when they feel their physical and social surroundings to be important; and when they identify with their neighbourhood and with other residents. A genuine public participation exercise can facilitate these conditions. In addition, public participation can provide a learning process (increasing personal, social and ecological understanding), and can help participants to appreciate the variety of perspectives on community values and goals and to accept that varying perceptions are legitimate, thus increasing quality of life for all.

In recent research considering whether public participation principles are applicable across varying contexts, Speller and Ravenscroft (2005) describe the facilitation and

evaluation of public participation in urban parks management. The paper suggests that active citizen involvement is driven by assumptions about inclusivity, equity and fairness and as such is part of an agenda for devolving power, largely from local authorities to individual persons or groups. Few theorists and practitioners doubt the benefits of such deliberative involvement but there is, as yet, little guidance on how to initiate, establish and support individual groups, or on how to evaluate the success (or otherwise) of processes and outcomes. This lack of guidance often leads to groups being inadequately or inappropriately supported and this consequently reduces their ability to engage in the very local political process that they were set up to address. Speller and Ravenscroft (2005) offer a new approach to the creation and support of such groups. The paper, however, concludes that it is important to have financial commitment and willingness of the initiating authority (in the published case, the local council) to recognise public involvement as an educational process, to empower people and to allow groups to develop and own their achievements.

The Neighbourhood Renewal Unit (NRU) in the Office of the Deputy Prime Minister commissioned a report on *Improving Delivery of Mainstream Services in Deprived Areas – The Role of Community Involvement*. The research consortium was led by SQW Ltd and its draft final report was made available in April 2005. The aim of the report was to address the question: 'Does service provision in which communities are meaningfully involved produce better outcomes in deprived areas than services delivered in other ways?' Three categories of community involvement were chosen (information and consultation, deliberative engagement and community provision) and 15 case studies were selected for the project. The report concludes that 'such involvement is, indeed, a crucial factor in improving services especially in deprived areas' (p. 1). The authors also state that 'complementary changes in service providers' behaviour and performance are also needed' (p. 1). The study considers the constraints in deprived areas and what more might be done to encourage more comprehensive and intensive involvement of such communities.

The area of community and citizen engagement is one that the Environment Agency has, within the last decade, examined through a number of research projects, reports and initiatives (e.g. Downs 1997, Environment Agency 1998, Petts and Leach 2000, Twigger-Ross and Smith 2000, Clark *et al.* 2001, Environment Agency 2003a, Warburton 2004, Orr and Pound 2005, Warburton *et al.* 2005, Barnett *et al.* in press). Warburton *et al.* (2005) provide a useful summary as part of their extensive literature review for the Joining Up research project and it is not our intention to review those documents again here. There is agreement throughout the above publications that the underlying key issues for improving community and citizen engagement are twofold, that is in terms of providing an opportunity to **build social capital** and in terms of the research-based **principles of good practice** that are considered crucial for achieving a good result.

A recent development in the Environment Agency's approach to engagement with local communities has been the development of the Building Trust with Communities (BTwC) toolkit. This draws on many of the principles of the past research and practice and has been developed into an Environment Agency process, which puts engagement firmly within the Environment Agency's core business. The BTwC toolkit has now become part of the core work of Corporate Affairs and is delivered through the Community Relations

Team. Resources are being focused on helping all areas to improve community engagements. It is therefore reviewed here in more depth.

The toolkit was developed from the BTwC project, which consisted of three main parts:

- *Building Trust in Local Communities: Final Interview Issues Paper* (Twigger-Ross 2003);
- *Building Trust with Communities: A Background Report for Environment Agency Staff* (Environment Agency 2004a);
- *Building Trust with Communities: A Toolkit for Staff* (Environment Agency 2004b) (which was a product of the first two parts).

The first publication is an analysis of interviews carried out with Environment Agency staff regarding the Building Trust in Local Communities project (BTiLC), the title of which was later changed to Building Trust with Communities (BTwC). The aim of the project was to provide staff with a user-friendly approach to engagement with local communities.

The context for this general work ranged from process industry regulation, waste regulation, fisheries and flood defence to water abstraction/management.

When analysing Environment Agency staff interviews, Twigger-Ross (2003) considered whether there was any evidence that suggested that engaging local communities is beneficial. She found four main categories:

- relationship building;
- improving the Environment Agency's ability to deliver both practical and educational objectives;
- providing opportunities for the Environment Agency to influence others;
- improving the Environment Agency's reputation.

All participants in the study felt that it was appropriate to engage local communities and, in general, participants felt that their engagement processes were successful. Reasons given why participants felt that the engagement processes had been successful were:

- the development of shared objectives;
- the inclusive nature of the process;
- clarity over process boundaries;
- the development of good relationships with local communities enabling a productive dialogue.

The main conclusions and recommendations made from this work were categorised under the two headings 'internal organisational issues' and 'process issues'.

Internal Environment Agency organisational issues:

- Use a wider team of expertise within the Environment Agency, ensuring that there are persons with technical, communications and legal expertise within the team.
- Have adequate resources to carry out the process.

- Understand that what the Environment Agency may think is important is not necessarily the most important issue for a local community. It is important that the community's issues are addressed.

Process issues:

- The value of getting all the stakeholders around the table.
- The value of giving local people a defined role in the process.
- Learning the difference between participation and consultation.
- Making sure that involvement in community strategies is done as early as possible.

In terms of available guidance for Environment Agency staff, participants stated that people only looked for answers when they hit a problem. The suggestion was made that there is too much written guidance and staff do not have time to read it. Future guidance should be practical, flexible and in a toolkit rather than a handbook format. It was suggested that talking with others was the best way of learning and that this could be encouraged through the use of a directory of experienced officers or through the development of web networks that could provide a quick response to questions.

Following the study, the BTwC background report and toolkit were produced in 2004 with the aim of encouraging and supporting Environment Agency staff across all departments in their work with communities. The project is ongoing, and aims to gather experience and thus improve community engagement to comply with the UK Sustainable Development Strategy. In that strategy the first of the ten guiding principles proposed to shape the sustainable development of policy is concerned with 'putting people at the centre' (see BTwC background report, p. 6). This community approach now underpins many of the practical initiatives designed to devolve power largely from local authorities to individual people. The Environment Agency's Corporate Plan 2003–2006 states that 'we cannot secure the environmental outcomes we want on our own ...' and recognises that the public has a significant role to play.

The Environment Agency has carried out extensive research into community approaches in recent years within which the BTwC programme has been developed. The programme is led by Corporate Affairs (Ruth Rush) and has been instrumental, as a practical tool, in providing the basic know-how for engaging local community groups.

An initial sequential six-step framework for engaging with local communities is outlined below and discussed in more detail later in this report:

- Step 1: Understanding the community in terms of structure and function
- Step 2: Why work with the community?
- Step 3: Understanding the community in terms of its people
- Step 4: Agree the best way of working
- Step 5: Starting work and checking progress
- Step 6: Reviewing work – lessons learned and sharing experiences

In addition, 12 principles of how to work effectively with such communities are listed below with succinct explanations (for more details see the BTwC background report, pp. 13–14):

- *Fair for all.* Every person who has an interest in, or who could be affected by, the issues under discussion must be encouraged to take part.
- *Be clear* at the start about what changes the Environment Agency can or cannot promise and be clear about the mechanisms of the decision-making processes.
- *Ready information.* Be sure you give people as much information as possible and explain where information is missing or is uncertain.
- *Show respect* for diverse views and cultures by making sure that minority views are taken on board. Respect interested parties and taxpayers by making sure that your work with local communities is seen as a priority and has widespread support from the community. This is your opportunity to build trust by being courteous, empathic and helpful.
- *Feed back.* Use existing channels to make sure that you report back to all interested people as fully and as quickly as possible.
- *Take action.* Put final decisions into action as soon as possible. This will strengthen participants' belief that their involvement was worthwhile.
- Each time there will be *lessons to be learned* for both the Environment Agency and the community groups, building mutual understanding, trust, respect and relationships. Some initiatives will fail but they should be seen as valuable contributions as they provide fresh insights.
- *Stand alone.* The Environment Agency needs to remain independent throughout the exercise.
- *Common approach.* The Environment Agency needs to convey that it is guided by principles that are based on objective professional standards and must be seen to apply these standards across different contexts.
- *No time wasters.* Make effective use of time and funding resources for all.
- *Balancing act.* The amount of time spent on a project should depend on how important it is.
- *The bigger picture.* The aim of everything the Environment Agency does is to improve the environment.

These principles are a valuable basis on which to involve local communities. Steps 1, 2 and 3 of the framework (pp. 15–27) are especially useful as they address facilitators' needs to look at the structure of a community (Step 1); explore the reasons for initiating community work within this context (Step 2); and provide pointers on how to find appropriate people for a particular participation exercise (Step 3). The authors also point out that all interested parties should be included and that people who perceive they have an interest in something are, by definition, an interested party (p. 25).

In addition, the criteria of the Environment Agency's social appraisal are set out to help staff assess the potential social impacts and benefits of the Environment Agency's programmes and activities. The issues raised under Step 4 (pp. 27–43) are especially detailed and helpful. This sets out how to decide on different options initially (consultation, community involvement and partnership) but its merit lies in highlighting two principles that apply to all options. These are:

- always consider the potential of working with others, even if it is not strictly necessary;
- always explain what is being done and why a particular position has been chosen. ... Explaining every decision ... may seem excessive but if trust is to be built with the communities that the Environment Agency serves, it is essential that people understand what the Environment Agency does and how and why it is done.

Throughout the report the authors demonstrate a thorough understanding of the basic characteristics of a genuine public participation and underline not only how best to achieve it but clearly take it as given that the people affected have a right to play a meaningful part in the decision-making process and are able to contribute to positive solutions.

Steps 5 and 6 of the framework are equally important as they highlight the need to monitor work throughout the process (Step 5) and to review work after completion (Step 6). There is also a need to report and discuss public participation processes/outcomes when they have met with difficulties or have broken down before a positive outcome was reached. When this happens it is rarely the responsibility of one person but a 'coming together' of several unforeseen happenings. In such cases it is helpful to look objectively at what happened and evaluate at what point of the process things went wrong and how it could have been handled differently. Robert Chambers, working with the Participatory Rural Appraisal (PRA) approach, outlined their participatory methods in an Open University programme (*Environmental Decision-Making: A Systems Approach*; Environment Council/Open University 1997). He emphasised that 'something always goes wrong. The really important thing is to learn from it. Normally we hide error ... but it is very important to share error with other people, not to hide it, but to say that was a mess, we really couldn't handle it. And then you say: good, let's learn from it' (video transcript, p. 15).

The internal climate of the organisation often determines whether sharing errors with colleagues is possible. Recently the Department of Health commissioned two major reports addressing the wide-reaching impacts of not learning from failure. The first report set out the rationale for learning from adverse events in the NHS (Department of Health 2000), stating that a positive organisational culture is central to every stage of the learning process, whereas a 'blame culture' can encourage people to cover up errors for fear of retribution. This report also emphasised that 'blame cultures' tend to focus on individual action and largely disregard the role of underlying systems (p. ix). The second report (Department of Health 2001) detailed the implementation of the first publication. Apart from the obvious organisational benefits for the Environment Agency, learning from adverse events would also enhance the building of trust with local communities.

One result of the background report for Environment Agency staff is the Building Trust with Communities (BTwC) toolkit. Both publications are available on the Environment Agency internal website and highlight the need for the Environment Agency to build external relations and to make those as consistent and transparent as possible. The toolkit provides easy to use 'reminders' of the six framework steps and has been used extensively in staff training.

Although the BTwC work covers all aspects of the Environment Agency's responsibilities, the resulting toolkit provides a solid basis from which to deal with flood risk management (FRM) issues. In addition, the BTwC work is relevant to FRM since the pilot site to test and evaluate the costs, time and impacts of the toolkit is a potential FRM scheme.

As well as the above there has been much work specifically addressing FRM communication, as discussed in section 3 below.

3 Community and citizen engagement in FRM: research and practice

3.1 Lessons from previous studies

The term 'flood risk management' (FRM) is replacing 'flood risk defence'. The underlying aim is to change the emphasis from defending an area against flooding to managing the increasing flood risk in ways additional to engineering solutions. Much work has already been carried out on the subject of involving local communities in decision making (e.g. the Environment Agency, National Flood Warning Centre *Community Action Review* by Joanne Reilly; Environment Agency 2003b). This is a succinct summary report of information collected through a series of discussion groups held in each of the Environment Agency's eight regions. The aim of the review was to inform public awareness activity locally and nationally and to raise awareness of flood risk by developing guidance material for use by area and regional staff. Findings and recommendations were categorised under three main headings:

- opportunities for 2003 public awareness activity;
- opportunities for guidance materials;
- areas for further action/response.

It was found that the majority of staff in regions and areas are not only involved in some form of 'community based' activity relating to flood risk but that the Environment Agency staff are aware of a number of factors that help to raise flood risk awareness at community level. These include:

- knowledge of 'at risk' populations and geographic areas;
- continuity in relationships with local people;
- good relationships with decision makers and influencers;
- well-established media contacts.

Staff also identified three main barriers to their work, namely:

- discontinuity when staff are moved to different positions within the Environment Agency or leave the Environment Agency;
- limited knowledge of similar work carried out in other areas/regions;
- lack of knowledge at Head Office of their work.

In addition, the author explored work in progress within the 'diversity programme', which is part of the National Diversity Strategy. This is currently taking place at the regional level but is expected to impact at an area level in time. The groups targeted are older people, people with disabilities/special needs, and ethnic minority groups. Key activities include encouraging residential care homes and managers of sheltered accommodation

to work with the Environment Agency; working with local authorities and Social Services to identify residents registered as having special needs and responding to those needs (e.g. designing flood warning information for visually impaired people); developing flood action plans for schools and hospitals and similar 'vulnerable' institutions; and identifying and making contact with ethnic minority groups.

In summary, the above review of 'community action' work indicates that already a good deal of work with local communities is taking place within the Environment Agency and that the Environment Agency staff feel confident in this role but would appreciate more recognition for their work by senior management.

The key flood risk policy in flood risk management is *Making Space for Water* (Defra 2004a), which is part of the government's preparation of a new strategy for managing the risks from flooding and coastal erosion in England over the next 20 years. The strategy will take full account of the Foresight '*Future Flooding*' report (2004) which provided critical new analysis of the impact of climate change and will set the management of floods and coastal erosion in the context of sustainable development. *Making Space for Water* highlights the need for stakeholder engagement. For the purpose of Defra consultation, 'stakeholder' is defined as 'all those individuals and groups affected by flood and coastal erosion risks and/or able to influence the development of approaches to flood or coastal erosion risk management decision making' (Defra 2004b, p. 2), thus clearly including local community groups. The background paper concludes that 'there are clear principles and examples of best practice in stakeholder engagement ... and that a clear stakeholder engagement strategy, tailored as appropriate to the particular circumstances, should be a key element early in any decision-making process' (Defra 2004b, p. 9).

Before beginning the review it will be helpful to the reader to set out the differences between the four stages of flooding, especially in terms of staff time pressure:

- Stage 1 (pre-stage – planning). This is when most time is available for the Environment Agency to plan local community involvement either as a facilitator of such a group or as a initiator for other organisations (e.g. local authorities, English Nature, historical interest groups) to set up such a group, or be a partner in such a group. This stage is very important because this is when decisions are taken about flood defence management and expenditure. Members of the community should have input both of their knowledge of the local characteristics of flooding and the community in terms of their preferences and priorities for flood management.
- Stage 2 (before flood event) is a major part of the Environment Agency's responsibility but may not be done as well as it could be. We are not suggesting a distinction between the planning/investment stage (1) and the flood warning stage (2). Stage 2 is more about the technology of the whole country being mapped and how, in future, people will be informed before the need for flood warning.
- At Stage 3 (during an event) Environment Agency staff are busy! It should, however, be possible to test the Environment Agency's emergency plans with other emergency services beforehand in order to be working with them as a team.

- At Stage 4 (after an event) there is more time. This is when staff can support other teams and flood victims. It is then that positive and negative outcomes are noted and suggestions on improvements are considered.

To explore the value of working with local community groups, several reports are reviewed below in chronological order with a particular focus on two questions:

- what type of evidence is there to indicate that engaging local communities is beneficial?
- what conclusions and recommendations have been made?

Lessons Learned: Autumn 2000 Floods (Environment Agency 2001a) Surprisingly, there is no mention of engaging local communities in FRM. Indeed, the report is primarily about flood defence in terms of technical and engineering solutions. It is a factual account of the impacts of the floods, how the floods developed, how the floods were managed, the performance of defences, policy and strategy, and future funding needs. One section of the report addresses public awareness and communications during the floods in terms of the awareness campaign 'Flooding. You can't prevent it. You can prepare for it'. This was the first national advertising campaign on television and radio and the new flood warning codes were launched as part of Flood Action Week in September 2000.

Recommendations also ignore engagement of the local communities and focus on other matters. They include:

- The attribution of responsibility for the management of watercourses posing a significant flood risk needs to be reassessed in order to resolve the current confusion.
- Floodline should be expanded to provide a one-stop-shop information service for flooding.
- The Environment Agency recommends that government should require flood risk information to be included in future property searches and recorded in the proposed 'Sellers' Pack'.

Further recommendations focus on improvement of flood warning systems, risk assessment and contingency planning, conditions of existing defences, investment decisions and future funding. The ethos of the recommendations is top-down, with the Environment Agency and government making decisions.

The guide **Managing Flood Risks in Parishes** was produced by the Environment Agency, Winchester City Council and Hampshire Association of Parish and Town Council, with assistance from Hampshire County Council, and was published in 2002 (Hampshire Flood Steering Group 2002). It was written as a 'best practice' guide and sets out the context (heavy, persistent rainfall from September 2000 to March 2001 across Hampshire and the Isle of Wight, where more than 1,000 properties in 130 different communities were flooded).

The guide gives a brief outline of issues to do with ownership and responsibilities, the flood warning systems in place and responses to flooding emergencies. In addition, it focuses on what individuals can do before and during an emergency and it underlines that 'flooding is a natural phenomenon and while it cannot be completely eliminated it can be prepared for' (p. 6). This was a welcome indicator of the emerging FRM philosophy.

Appendix A to the guide describes the case study of Hambledon Parish Council, which suffered a groundwater flood event. It mostly records the role of the parish council but it does describe how the council involved local people in becoming Flood Warning System Co-ordinators. In addition, the village was divided into manageable sectors and a Community Cascade Network was set up, where Sector Co-ordinators are linked by email. Messages are passed on by email or printed out as hard copy for circulation within each sector. This communication system will continue as types of messages not only consisted of flood warnings but also Neighbourhood Crime Watch alerts and parish business.

The roles were adapted as the flood risk became a flood event and 'the spirit of self-help was everywhere' (Appendix A, p. 3). Mostly the guide is about practical advice and description of events but it also reflects a very caring side towards the residents as shown in a paragraph on taking care of the elderly. It states: 'Of particular concern to the Parish Council was the welfare of the elderly and the sick. Each person at risk was allocated a nominated 'minder' who discreetly kept the Flood Information Centre (FIC) informed of any problems and needs' (Appendix A, p. 5).

In summary, although the Parish Council was largely the decision maker, it took care to involve the local residents. From the guide itself it is not possible to say whether there was any benefit in working with the community. The conclusions and recommendations resulted in a template for a town/village flood plan.

As part of the joint Defra/Environment Agency Flood and Coastal Erosion Risk Management R&D Programme, the report on ***Community and Public Participation: Risk Communication and Improving Decision-Making in Flood and Coastal Defence*** (Defra/Environment Agency 2003) was commissioned. Its aim was to review the effectiveness of consultation and communication procedures and practices used in flood and coastal defence in England and Wales but it should be noted that no distinction was made between the public (community groups) and stakeholders (representatives of distinct groups). With the knowledge gained the authors put forward suggestions for best practice methods 'to enable the public and stakeholder groups to better appreciate flood and coastal defence issues. From this, appropriate recommendations were put forward on how to effectively raise awareness and understanding and thus reduce conflicts when implementing flood and coastal defence policies, projects and plans' (p. iii).

The research methods included detailed case studies in four areas (interviews with officials and focus groups with members of the community) and postal questionnaires only in eight additional areas. The methods are comprehensively described and defended. The main output of this work is a summary of findings from which 18 recommendations are derived.

When examining the summary of findings (ten in total) for evidence of the notion that engaging local communities is beneficial, the following six points are worthy of note in the context of this report.

- It was found that it is risk perception not risk understanding that is the major barrier to communication.
- The public cannot be treated as one target group as, in reality, they are made up of many different groups with different perceptions.
- The principle behind Indicative Floodplain Maps (IFMs) was thought to be correct. However, the lack of detail and perceived inaccuracy undermined their value.
- The risk message is diluted due to the presence of local rumours, mistrust of officials and scepticism of their competence.
- More effective public participation in schemes and plans can help build trust and understanding within the community, which in turn helps communicate risk more effectively.
- There is often significant expertise in the local community that is not fully utilised.

With each of the above points an established community group would not only have been able to avoid these problems through discussion but also to have significant input in terms of specific group requirements and knowledge.

Although there is neither time nor space to reproduce the 18 lengthy recommendations here, it is clear that the authors found that involving local people fully and early in the decision-making process is paramount in creating trust between local people and officials. Without this sense of trust there is a risk that the negative findings will be replicated.

Warburton's paper on ***Understanding the Environment Agency's Role in Local Communities*** (2004, Version 6) is a companion report to the 'Joining Up' series. It sets out the need for a new approach and provides a framework for understanding the Environment Agency's role in communities. As the report will be discussed in more detail in section 3.2.2, it is appropriate now to look at the last case study discussed in this brief review by Wilkinson, Warburton, Porter and Colvin (Wilkinson *et al.* 2004): ***Joining Up: Stockbridge Pathfinder***.

The Stockbridge project (based in Yorkshire) is the fourth in the series of reports and is designed to support the development of the Environment Agency's social policy through focusing on operational issues with a distinct social dimension. It was designed to help the Environment Agency explore the best ways of working with local communities (as well as other stakeholders) to improve its responses to dealing with longer-term flood prevention and the aftermath of flooding itself. The research project series is known as 'Joining Up' (E2-057).

Evidence indicating that engaging local communities is beneficial permeates the report. The six key findings are closely connected to the Environment Agency's role in post-flood support and in longer-term flood prevention and management. The following is an abbreviation of the key findings:

1. *Quality of aftercare.* The enlightened response of the emergency planning team at Bradford Metropolitan District Council contributed not only to the effective psychological and social recovery of the flood-affected community in Stockbridge but also resulted in positive and ongoing relationships between the Stockbridge Neighbourhood Development Group and key agencies including the Environment Agency.
2. *Development of 'catchment consciousness'.* Many stakeholders (used in a generic sense) pointed to the need to understand the causes of flooding across the whole catchment rather than focusing on their own locality.
3. *The need for systemic solutions.* Systemic thinking highlights the many links between factors affecting flooding and those affecting water quality. The Water Framework Directive (Environment Agency 2005a) provides an important opportunity to promote catchment consciousness.
4. *The need to build 'bridging capital'.* There is a growing recognition that flood-affected communities and agencies are keen to contribute to more systemic solutions across local authority boundaries. This will require the further development and interconnection of the existing networks with greater attention given to the development of 'bridging social capital'.
5. *The role of the Environment Agency.* This is key as the Environment Agency is in a unique position to take an overall perspective across the full range of water functions and uses. The role of the Environment Agency should be one of leadership, linking existing and embryonic local stakeholder networks.
6. *Flooding and regeneration – finding the right focus.* It will be important for the Environment Agency to find the right focus around which to link stakeholder networks. Regeneration and the amenity value of water and rivers could probably act as an incentive and this, in turn, would frame the negative aspects of flooding and FRM in a much more positive way.

Four key recommendations have been made by the research team and each is based on engaging local communities and organisations:

1. The Environment Agency should do more to learn from the very successful Stockbridge story of post-flooding co-operation between other agencies and local people. In this case the Environment Agency's role was greatly facilitated by the work of the local authority, and this could be a model nationally.
2. The Environment Agency is in the process of publishing its stakeholder engagement framework for river basin planning for consultation and there are plans to complement this with a similar strategic framework for stakeholder engagement in shoreline and catchment flood management planning. Further investment in this pathfinder would provide a valuable opportunity to learn more about how it might develop 'bridging capital' between existing networks.

3. Investing further in this pathfinder, the Environment Agency should consider opportunities to become involved in sustainable regeneration and sustainable communities within the region. It should consider working in partnership with Yorkshire Forward, which already has ambitious plans for regional regeneration. Yorkshire Forward has sponsored development approaches that include innovative processes of public involvement.
4. Some of the learning from this initiative is likely to be specific to the unique institutional, social, economic and environmental conditions of the Aire catchment. The Environment Agency, however, should explore how the learning from this initiative could be used more widely.

3.2 Analysis and discussion of interview material

This work took a somewhat different focus from the studies described above in that it provided an opportunity for distinct groups of Environment Agency staff (FRM policy and operations), Defra FRM policy staff, staff from other government departments experienced with community involvement, academics and 'other practitioners' involved with community groups to explore attitudes, perceptions and beliefs about this important issue within the Environment Agency.

Having carried out interviews to consider the issues affecting decision makers and communities in terms of community involvement, comments were categorised under seven key themes:

- acceptance that technology alone cannot cope with increasing flood events;
- the role of the Environment Agency;
- key issues concerning community involvement;
- positive perceptions;
- negative perceptions;
- community risk perceptions;
- further research.

Each key theme is described and discussed below on a group by group basis, highlighting the different perceptions of the interviewee groups.

3.2.1 Acceptance that technology alone cannot cope with increasing flood events

There is recognition throughout all the interviews that a stage has been reached where not all flooding can be solved through engineering solutions because, as well as other reasons, there is a limit to financial and other resources available. **Environment Agency/FRM operations staff** and participants from the '**other practitioners**' group expressed these thoughts explicitly, while others referred to the mindset change more indirectly.

Environment Agency/FRM operations staff. It was stated that because the Environment Agency cannot just walk away, it needs to find other ways of managing

flood risk. There is also evidence of ‘coherent thinking’ by the interviewees. Instead of just thinking of exclusive solutions, they suggested that FRM needs to include other areas such as recreational activities, however sensitive those issues might be (e.g. conflicting needs for fishing and canoeing). There is an additional recognition that, with mounting evidence of global warming, society at large needs to accept that it ‘has to live with flood risk’. This will be discussed further under section 3.2.2 in terms of the Environment Agency’s role in this culture change. Further comments suggested that, for example, within the Thames 2100 project (TH2100) there is a move away from hard engineering solutions by taking an approach that sees people and the environment as ‘drivers’ instead of as mere ‘receptors’. With this approach social and environmental needs are included at the beginning and alternative opportunities can be explored (e.g. design spaces so that they flood safely rather than build higher walls). Only one interviewee questioned whether operations staff are ready for such innovation as he had experienced some scepticism from the ‘old school’.

The acceptance that technology alone cannot provide all answers was supported by an interviewee from the ‘**other practitioners**’ group who felt that there was evidence of a new era. He demonstrated this point by noting that ‘until recently Environment Agency engineers made decisions and it was stalemate when English Nature (EN) disagreed. Now it has been agreed that EN should be part of the decision-making process from the beginning’.

To summarise this section, interviewees across the five groups expressed an acceptance that technology alone cannot cope with increasing flood events. The main reason given was that the Environment Agency does not, and will not, have the financial resources to defend people and their environment with purely hard engineering solutions. There seems to be a clear understanding that society has to accept a certain level of flood risk and that by designing spaces so that they can flood safely more environmentally friendly solutions can be found and ecological benefits can be achieved. A further point made was that people living in flood risk areas need to be the initiators and creators of alternative schemes rather than be expected to be mere receptors of experts’ plans. This is, indeed, confirmation of the need to engage local communities. There is still much work to be done with communities that have been flooded or are likely to be flooded to encourage them to accept their role of working with the Environment Agency and sharing some of the responsibility, and the role of the Environment Agency must be to bring about this change in perception.

3.2.2 The role of the Environment Agency

Partially because of government requirements but also because of the recognition by the Environment Agency that solutions only work if they are accepted by the local population, the need to involve communities who have been flooded or are at risk of being flooded in more deliberative techniques in the decision-making process is undeniable (Petts *et al.* 2003). The Environment Agency, in its *Environmental Strategy for the Millennium and Beyond*, has expressed the need to ‘operate openly and consult widely’ and to ‘resolve conflicts’ by ‘building consensus’ (Petts *et al.* 2003). Building consensus is an enormous task which not only demands that social capital (trust, exchange of knowledge, having principles of good practice in place, and providing a sense of belonging to a wider group)

has been created but also demands a commitment by the Environment Agency to fund it appropriately in terms of staff hours, staff support and an adequate budget.

Looking at the interview data overall, none of the interviewees disputed the need for community involvement but there is some difference of opinion in terms of who should be responsible for setting up and supporting community involvement. Comments from the **Environment Agency's FRM policy staff** suggest that the responsibility of setting up groups should lie with the community (i.e. for individuals to take the initiative). However, most members of the '**other practitioners**' group would like to see the Environment Agency take on this role. If that is not seen as an option by the Environment Agency, the next best solution put forward is for the Environment Agency to put pressure on local authorities to create and support local groups.

Only one member of the **Environment Agency/FRM operations staff** group stated clearly that to have a community support framework in place is the local authority's role not the Environment Agency's. This comment was based on the Stockbridge flood event, where Bradford Council played an exceptional role (Wilkinson *et al.* 2004). In that instance the local authority had prepared a comprehensive emergency plan that could be activated immediately. Another interviewee felt that Environment Agency staff should not be complacent. It was pointed out that the *Making Space for Water* consultation document resulted in changes in government policy and that the government is looking to the Environment Agency to take on the role of setting standards and then to arrange for other organisations to operate within that framework. The majority of operational staff interviewed, however, stated that there was a need for the Environment Agency to be instrumental in involving local communities at all stages of a flood event (i.e. before, during and after), and that this involvement should be at a meaningful level (rather than a brief consultation only). It was felt that:

- the Environment Agency must recognise that it cannot always be inward looking and cannot solve everything;
- extensive liaisons are needed and the time and resources to form these liaisons before, during and after a flood event must be allocated;
- the Environment Agency needs to accept that this is a legitimate and necessary part of its work.

Whether these liaisons are with other organisations, with local communities or both is not clear but the recognition that issues need to be addressed in a more inclusive manner and that this needs time and resources was acknowledged by all the interviewees for this work. Other comments support this notion, for example that the Environment Agency needs to show greater commitment to involving communities and to provide resources to carry out the task, making it a formal part of the job. In addition, it was suggested that the Environment Agency should work with 'at risk' communities and explore specific problems. There was also much support for developing methods that will ensure that every person is treated equally. It was put forward that since the Environment Agency is paid for by the communities it *needs to work with them, provide education and help them to cope* (our emphasis to underline the depth of involvement expected by staff).

Almost all operational staff interviewed asked for clear guidelines from the Environment Agency. They felt there was a need for debate at the Environment Agency's 'highest

level' and for clearer directions on what is supposed to be done, how to target limited resources, etc. At present individual judgements are made in response to political pressures and resource availability.

Defra/FRM policy staff responded to the question on 'the role of the Environment Agency' with two comments:

- the Environment Agency has to build up relationships and trust with the community in relation to FRM, and this puts the responsibility for involving local communities in FRM decisions firmly at the Environment Agency's door;
- post-event the Environment Agency does not and cannot have an operational social service role throughout the country. The Environment Agency needs to find ways of working with partners such as local social service departments and providing them with expertise in dealing with the specific aftermath of flooding.

The Environment Agency has already responded to these demands and commissioned research titled '*Understanding Special Interest Groups*' (Barnett *et al.* 2005) to gain greater insight into how best to maximise working with such groups. The report contains eight substantive sections. These include the special interest groups' (SIGs') perception of the Environment Agency; how central communication is to the success and failure of engaging with SIGs and how communication can be improved; issues concerning representativeness; and key areas covering issues from engagement to disengagement. The main recommendation is the 'development of a corporate memory: the creation of a national Environment Agency database documenting engagement strategies with SIGs' (p. 74). As will be seen, this fits well with the findings of this report that current work needs to be monitored and evaluated.

Academics who were interviewed pointed out that there is a realisation that a much more interactive approach is needed, as highlighted by the *Making Space for Water* report. The Environment Agency is seen as having a huge task ahead to achieve a public change in attitude towards flooding and it was stated that this can only be done by involving individuals and organisations. However, there are important policy changes in the pipeline and 'coherent thinking' is beginning to happen. It has also been suggested that the Environment Agency/FRM/Defra should work much more closely with the Office of the Deputy Prime Minister (ODPM) and with the Sustainable Communities agenda, which is spatial. In addition, the Environment Agency should encourage community involvement in Local Strategic Partnerships (LSPs). Finally, it was stated that the way forward is to develop innovative techniques for engagement with flood planning but to do this there is a need for sustained partnerships. This is acknowledged as a way forward by the Environment Agency but it is felt that there is still a 1980s culture holding things back. Mention was also made of the HarmoniCOP project, which is supported by the EU F5 programme. The project's objective is to generate practical information about participation processes in river basin management and to support the implementation of the public participation provisions of the European Water Framework Directive. It was stressed how important it is for the Environment Agency to link work on participation in FRM with the Water Framework Directive and more generally to link community planning with water management.

The Joining Up R&D project (Warburton *et al.* 2005) focused on the Environment Agency's work with local communities and Warburton's paper (2004) sets out a framework for understanding the Environment Agency's role in local communities and highlights priorities for action. The Environment Agency's activities/objectives and the potential contributions and roles of communities, and how they are connected are set out in a table format (pp. 8–10). Warburton concludes that the roles for a community include the role as consumers/customers of direct and indirect Environment Agency services and products, where 'the quality of public goods and services is highly dependent on the trust between the provider and user of that service' (Skidmore *et al.* 2003). Communities also have a role as co-producers, 'sharing responsibility as well as rights to good environmental quality' (Skidmore *et al.* 2003), and a role as citizens 'operating in the political sphere where decisions are made about priorities, resources, taking into account the needs of others on public (not personal/private) goods and benefits' (Warburton 2004, p. 10). Returning to the Environment Agency's role, Warburton states that its choice is based on its objectives. In order to find out what its role should be for a particular task the Environment Agency needs to ask three questions: **why** (what is the purpose of getting involved?); **what** (what position does the Environment Agency want? what are its needs?); and **how** (how should this work be carried out?). The author outlines three options: the Environment Agency as the leader of a community process, the Environment Agency as a partner in a joint process, and the Environment Agency responding to someone else's process (e.g. appearing as an expert in the Stockbridge public meeting which was set up by Bradford Council). Warburton points out that 'these roles are neither hierarchical nor sequential and the Environment Agency can move easily between them as circumstances change'. She does, however, stress that 'the crucial point is that the Environment Agency is clear what its role is at any given point, so that it can make appropriate decisions about the boundaries of its involvement' (p. 11).

Alison Baptiste, in a recent review (Environment Agency 2005b), commented that past Environment Agency work has shown that working collaboratively with others has reaped benefits: 'We have found that when we draw on the wealth of knowledge coming from different sources, we are more likely to recognise potential conflicts early on when there is still time to look for solutions and we can co-ordinate our plans and actions with those of others' (cited by Baptiste, Environment Agency 2005b, p. 5).

To summarise this section, various government papers, the Environment Agency's own *Environmental Vision* (Environment Agency 2001b) and commissioned research reports all point towards the need for the Environment Agency to play a proactive role in terms of citizen and community engagement. The majority of people interviewed felt that the Environment Agency had moved towards this goal but that there was a need for clear and consistent objectives and process guidelines as well as a commitment by the Environment Agency to make funds available for this work and for the additional staff training. Almost every member of the Environment Agency/FRM operations staff expressed the need for them to work with communities before, during and after a flood event at a meaningful level and asked for these issues to be debated at the highest level within the Environment Agency. Defra policy staff also put the responsibility for involving local communities in flood risk management decision making firmly at the Environment Agency's door. Academics called for a period of 'coherent thinking', although the Environment Agency is seen as having a huge task ahead in setting up ways of achieving a public change in attitude towards flooding. It was felt that this can only be

achieved by proactively involving individuals and organisations and by working together to reach these environmental, economic and social goals.

3.2.3 How to engage with communities

Every person interviewed applauded the move towards community involvement across all stages (before, during and after flood occurrence). This in itself was not regarded as an issue. The key issue was 'how'.

Environment Agency/FRM policy staff fully appreciate that people need to be involved as early as possible and that time needs to be built into staff work schedules so that all questions from communities can be answered. It is recognised that one-to-one contacts, which build relationships, are important especially before a flood event. Such contacts encourage responses that will be owned by the community and hence will be more effective. The Building Trust with Communities project is seen as a useful step and a beginning towards supporting staff in terms of community engagement (see earlier discussion of this project).

It was also suggested by policy staff that there are other organisations that support community groups (e.g. the National Flood Forum (NFF)) but that, as yet, linkages with them have not been exploited. Other organisations were felt, at present, to lack the structure necessary to be inclusive. For example, views were expressed that although the Regional Flood Defence Committees (RFDCs) have a democratic accountability and 'challenge' role, they cannot, in practice, be viewed as fully representative of the wider community.

The issue of public meetings versus surgeries after a flood event was brought up. Policy staff prefer surgeries as they felt that Environment Agency staff should not be exposed to anger (the 'other practitioners' group take a different view which will be discussed below).

Environment Agency/FRM operations staff raised many questions on 'how do we do it'. There is much uncertainty in terms of what the Environment Agency's remit is and whether staff are working within this remit. This uncertainty includes how much time spent on community matters is reasonable and which issues should be given priority. Interviewees pointed to good examples such as the Cuckmere Flood Forum work, the Stockbridge Joining Up project and the Hampshire Flood Steering Group but stated that their perception of these examples is based on an intuitive level rather than on detailed analyses.

The point was made that at present only the cost of the physical damage is evaluated after a flood event and no allowance is made for the social and psychological aspects of flooding (i.e. no allowance is made for the engagement aspects of dealing with post-flood issues). In addition, one interviewee explained that during the flood warning campaigns different population groups such as elderly or disabled people are identified but that there is no formal process of dealing with or benefiting from that data at present.

The issue of public meetings versus surgeries after a flood event was frequently raised and it was acknowledged that both have pros and cons. Again, the main focus of the Environment Agency operations staff interviewees was not on whether or not there

should be public meetings but on 'how' they should be organised. A point raised frequently was that if there was to be a public meeting then it was most important to have a good chairperson and someone who is respected by the public (e.g. a local MP).

Another point that was made is that some staff are brilliant technically but may be less skilled at talking to people. Part of the Environment Agency's skill will be to select staff who can be and want to be trained as communicators.

Defra/FRM staff. Their response acknowledged that community involvement is necessary but most of the comments concerned problems (e.g. people think they pay their taxes to keep the flooding away and do not want to get involved). A warning was also sounded that the time and resources that community involvement will take should not be underestimated and that it is much more difficult to engage people in abstract concepts, hence it is very difficult in areas that have not been flooded. In contrast to this view, and as will be seen under section 3.2.4, there are already excellent examples of engaging people who are not in imminent danger of being flooded. The methods described in section 3.2.4 may, however, not be adequate for very large areas such as the areas behind the Thames Tidal defences where the probability of flooding is perceived as very low.

Academics focused on the importance for local communities of having ownership of the process and the outcome as solutions based on local knowledge and ideas are far more acceptable to the community than when the top-down model of involving experts from London is used. It was felt that the process of reformulating flood defence with a flood management ethos has to occur at the local community level as well as within the Environment Agency itself. Floods are part of the ecosystem and the Environment Agency has the opportunity to help people rethink their relationship with the environment beyond flooding to a broader ecosystems level, thus developing long-term sustainable outcomes. This will only be possible once the Environment Agency has developed clear guidelines that encompass a real commitment to community engagement.

It was also pointed out that to involve people you need to talk to them and to do this well you need a good communicator and someone who understands the local language and local concerns. In addition it was suggested that people who are not familiar with presenting their thoughts and defending their values in a group setting need a great deal of encouragement and assurance that their ideas are important. The facilitator therefore needs to develop great sensitivity and understanding in order to be effective.

The '**other practitioners**' group suggested that both individual (surgeries) and public meetings have plus points but argued for holding public meetings immediately after a flood event since the exclusive use of individual methods may:

- not encourage the community to bind together as nobody knows what anybody else is feeling and saying;
- not encourage the community to stand on its own feet;
- not encourage the community to own the problem (flooding);
- reduce the opportunities to put local knowledge into future plans.

A further point in support of an immediate public meeting was made by the chairperson of a local community group that was formed after a flood event during January 2005. She stated that flood victims need to be able to express anger publicly and that facilitators need to be able to cope with this initial onslaught rather than warn people that if there is any display of anger the staff will walk out. The Stockbridge case study demonstrates an alternative way of coping with an angry crowd. Briefly, the public meetings were co-ordinated by Graham Thompson (Bradford Area Social Services Manager for older people in the Keighley area). Andrew Abbott was a flood victim who later became the Chair of the Stockbridge Neighbourhood Development Group. The following statement is by him and quoted in the Stockbridge report (Wilkinson *et al.* 2004, p. 15):

'It is embarrassing to remember how some of us behaved then. And Graham just took it all and remained completely unruffled. He was incredible. We were upset and confused and out to blame someone. I have apologised since! We quickly learned that the best way forward came through collaboration and that people were there to help us ... we see so many of these staff as friends now.'

The interview data regarding the Corbridge flood suggests that, initially, it may not have been one of the 'good practice' events and this issue will be discussed further in section 3.2.5. The community group also felt that the Environment Agency needs to have more empathy with flood victims. People need to feel a sense of care and the Environment Agency also needs to be able to say sorry when it has been established that poor maintenance of the flood defence wall contributed to the flood event. It was also noted that the chairperson had asked Defra (as a government department) for help with the flood aftermath but she received only an acknowledgement that her letter had arrived at Defra without any further helpful suggestions.

In contrast, the National Flood Forum (NFF) was seen as very supportive. Their information pack was found helpful and the many telephone calls were appreciated. Clearly, the Environment Agency and the National Flood Forum have different roles to play but, irrespective of this, in this particular instance, the NFF was perceived as providing a necessary sense of care for the victims while the Environment Agency was not.

To summarise this section, most of the above issues are process questions about how aims and objectives can be achieved. A good beginning has been made with the dissemination of the Building Trust with Communities toolkit. The question of whether or not to hold public meetings after a flood event was debated. Environment Agency/FRM policy staff felt protective towards operations and area staff and favoured surgeries. Environment Agency/FRM operations staff, academics and interviewees from the 'other practitioners' group, however, suggested that the question was not whether there should be public meetings but how they should be handled. There was strong support for viewing public meetings as an aid to building social capital and as a way of harnessing the initial anger to contribute to positive change. It was also suggested that the Environment Agency should grasp the opportunity to help people rethink their relationship with the environment beyond flooding to a broader ecosystems level, thus developing long-term sustainable outcomes. Another process point was that although some staff may be technically brilliant they may be less skilled at communicating with

people. Part of the Environment Agency's skill will be to select staff who can be and want to be trained as communicators.

3.2.4 Positive perceptions and examples of community engagement

Participants in this study were able to articulate their own views of helpful engagement strategies.

Environment Agency/FRM policy staff commented that there is already some good work being done (e.g. the 'Flood Fairs' organised by the NFF). There are other projects in progress, some of which are initiated by Environment Agency/FRM operations staff (see below) and others that are largely funded externally. One such example is the Lower Severn Community Flood Information Network project, headed by Dr Lindsey McEwen of the University of Gloucestershire (<http://www.glos.ac.uk/severnflooding>). The project is funded primarily through the Royal Society's Copus Grant Scheme 'Connecting People to Science' and hence is involving communities in assembling information on flood risk within their communities and facilitating debate about the scientific evidence in an environmental change context. A key outcome will be the formative process of engaging communities through a variety of media (workshops, flood fairs, etc.) and providing support in engaging with the evidence and promoting community memory of flooding within a broader sense of place. Other planned events include the major community discussion forum scheduled for national Science Week (March 2006) and the interactive website for the Lower Severn Community Flood Information Network.

The main aim of this project is for the local community to improve community engagement and participation in establishing, analysing, debating, disseminating and 'owning' its local flood history (memorable floods are thought to have been in 1258, 1483, 1770 and more recently in 1947, 1968, 1981, 1990 and 2000). Detailed information on historical floods will be drawn together providing useful information for the community, the local authorities and the Environment Agency. Once developed in the lower Severn region, it is expected that this project can be replicated by other flood risk communities in the UK and can also be a model for enhancing community involvement for areas that are rarely flooded or have not been flooded to date. Its value lies in bringing a wide range of community groups together to explore their sense of place based on history and science.

The **Environment Agency/FRM operations staff** interviewed presented a positive stance toward local community engagement. It was emphasised that there was a clear need not just to respond to flood events but to predict events and to interact with those communities before a likely event. There is a distinct perception that if you can engage with a group and work with the participants then you have a much better chance of getting decisions accepted. It was also thought that working with communities will put the Environment Agency into a positive light.

Recently, funding has been secured from the Treasury for the 3-year project 'Invest to Save' which will commence in August 2005. This is a community based project led by the Royal Society for the Protection of Birds (RSPB) in conjunction with the Environment Agency, English Nature and Defra Flood Management. The project aims to improve understanding and support from coastal communities for managed realignment, to review the environmental and socio-economic benefits that can be delivered by managed

realignment and to develop a best practice model for community engagement. This project will assist further development of the coastal objectives identified in *Making Space for Water*.

Another point raised by FRM operations staff was that by initiating a community group to compile a diary of flood events over the past 150 years a picture of the past is emerging that is raising local flood awareness. This in itself is seen as sound preparation should a flood occur, as when people are aware they respond much more quickly and positively to an emergency. There is also the Community Flood Archive Project (CFAP), which was set up when operations staff became aware that residents in Devon and South Wessex had a wealth of records from the past in the form of photographs, video footage, personal notes, etc. CFAP was designed to extract this material, to make this heritage available to all local people and to develop good relationships with the communities, including the building of trust. It was clear from the interviews that staff perceived this work as important and as successful. The Environment Agency's own initiative on Building Trust with Communities is seen as supporting this work.

Defra/FRM policy staff did not comment specifically on positive or negative perceptions.

Interviewees from the **academics** group stated that they felt encouraged because there seems to be a recognition across organisations that people, as well as engineering and the natural sciences, are an important part of the equation.

The '**other practitioners**' commented that there are now some shining examples of good community involvement (e.g. the Hampshire Flood Steering Group). This is an organisation that works very well in terms of representing over 100 parishes that were affected by groundwater flooding in 2000 and it is still active today.

Summarising this section, people who are involved with community engagement feel very positive about the process and outcomes. One project is the brainchild of an Environment Agency/FRM operations staff member, others are partly funded by the Environment Agency and still others are funded externally. Not only are they good examples but they also demonstrate the ease with which the Environment Agency can initiate and facilitate such projects, or be a partner in a joint project, or simply benefit from someone else's project.

3.2.5 Negative perceptions of community engagement

Only two groups of the interviewees raised negative perceptions, the Environment Agency/FRM operations staff and 'other practitioners'.

The concerns of **Environment Agency/FRM operations staff** reflected the difficulty of handling the blame for the flood which was attached to the Environment Agency and their negative experiences of having to cope with angry people, especially during a public meeting. This issue has already been addressed in section 3.2.2 and it was suggested that the Environment Agency representative should be called as an 'expert' during the meeting (as was the case at Stockbridge) rather than chair the meeting. It was, however, also recognised that the quality of those meetings depends greatly on the skills and effectiveness of the chairperson controlling the meeting. Members of the 'other

practitioners' groups, however, made the point that flood victims need to be given the opportunity to express their immediate emotions, which often include anger, and that this has positive effects in terms of improving cohesion of the community and providing a positive basis for recovery. Such opportunities also empower people to be part of the solution process. It was suggested that the problem for Environment Agency operational staff would be lessened by training in appropriate techniques of coping with this situation.

The point was also made by a member of the Environment Agency/FRM operations staff group that it seems that angry and demanding people at public meetings are receiving more attention and help while people less willing to use these methods are ignored. As mentioned above, the skill of the chairperson is paramount. Public meetings should be followed by surgeries to provide an opportunity for a more private expression of views. In addition, community leaders need to be aware of members who are unable to speak in public and to encourage them to attend such surgeries.

Another issue raised was one of doubt as to the usefulness of facilitating groups as there may be ten people in a group with ten different viewpoints and these may not even be representative of the wider community. As discussed in section 2.1, the value of bringing people together to discuss issues that are important to them lies in putting different perceptions into words, in increasing awareness of problems, in accepting that varying perceptions are legitimate, in enhancing community development, in clarifying all the factual issues of concern and in helping to identify which issues and disagreements are ideological or value laden.

The point was made that work that increases flood awareness also increases levels of anxiety, which can result in increased demands for more protection from the Environment Agency. This is precisely why the Environment Agency needs to be instrumental in increasing education. The *Making Space for Water* proposals, especially in terms of improving flood risk awareness and education, need to be implemented.

Finally, it was felt by some that there is a risk that too much emphasis on flood risk will blight an area in terms of house prices and other land values. For example, in one area an electronic notice board had been erected near the village green to alert local people to various stages of flood warnings. The Parish Council, however, decided to ask for it to be removed as it was perceived to be causing economic blight in the area.

Negative perceptions from the '**other practitioners**' group ranged from organisational issues within the Environment Agency to a sense of neglect of victims' needs by the Environment Agency. It was felt that the Environment Agency is handicapped by being a huge organisation which, in addition, is being continuously reorganised, resulting in little staff continuity. As part of that, or additionally, there is also the perception that there is very little communication between staff, even in the same office. Another point mentioned was that the Environment Agency is seeing itself as the regulator and is making it difficult for innovative staff to operate.

There were a number of negative perceptions from a chairperson representing a small community group that was formed after a flood event. An area in Corbridge on Tyne was flooded on 8 January 2005 and the estimated time for which those affected are likely to be homeless is put at 6 to 10 months. It was stated that the resulting psychological and

social impacts are far more important than mere economic impacts yet, in the group's experience, at least initially, none of the organisations were taking any of the social impacts into account. According to the interviewee this has left the residents with a feeling that they are not important to the Environment Agency. A plea was made for the Environment Agency staff to have more empathy and to work with the affected people towards better solutions instead of ignoring their plight. Communications did become more positive during the course of negotiations but it was felt that the support is needed most when the crisis occurs.

It was also felt by others that for the Environment Agency to successfully facilitate community engagement externally it should first create a culture of engagement/inclusivity internally. This in turn would help to influence other groups, teaching by deed rather than words.

Summarising this section, negative perceptions were discussed in different ways by the two interviewee groups. The Environment Agency/FRM operations staff expressed anxieties about the participation process (e.g. poor chairmanship at public meetings; angry and demanding people receiving more attention; non-representativeness of views put forward) and outcomes (e.g. flood awareness campaigns increasing anxiety; emphasis of flood risk blighting an area), while members of the 'other practitioners' group focused on imperfect organisational issues within the Environment Agency and the perceived neglect of flood victims' psycho-social needs. It is, however, encouraging that a community that has been involved in a genuine participatory exercise (either through facilitated historical and/or scientific projects (as discussed in section 3.2.4) or a community that has been involved in management decision making (as discussed in section 3.2.3) will have already begun to 'own' its flood risk environment and will have developed a sense of trust towards the facilitators. Thus, many of the negative perceptions discussed will not arise or will be easier to deal with.

3.2.6 Community risk perceptions

Environment Agency/FRM policy staff emphasised the need for communities firstly to recognise the seriousness of the likelihood of flood risk and secondly to act on this knowledge. A number of media reports and documentaries are underlining the importance of being aware of flood risk on the British Isles (e.g. the special investigative feature by Richard Girling entitled 'The sea is coming to get us' in the *Sunday Times* magazine on 27 March 2005 and the *Timewatch* programme on BBC2 (1 April 2005) on 'The Killer Wave of 1607', an event that was considered to have altered the coastline dramatically yet has been all but forgotten). Policy staff stated that we need to get people involved in the risk debate about practicalities (i.e. which steps need to be taken, how can flood risk be managed?). The previous sections of this report have pointed to a number of projects and programmes, ranging from festivals that raise awareness through engaging the public by providing a week of fun (e.g. the annual Hampshire Water Festival) to historical/archival projects (e.g. the Diary of Flood Events Project and the Community Flood Archive Project) and historical/scientific projects (e.g. the Lower Severn Community Flood Information Network project).

The **Environment Agency/FRM operations staff** pointed to the difficulties of overcoming some communities' state of denial (i.e. that even when communities are

alerted to the fact that they are living in a flood risk area they still choose to ignore the warning). Here the work by Barnett and her team (in press) may prove useful. The team explored how the Environment Agency might be involved in the generation and development of 'environmental citizenship' and how citizenship may be used by the Environment Agency to influence and catalyse behaviour through information provision, appropriate language use, communication through cultural interventions and utilisation of toolkits, as well as building on other processes like providing opportunities for social learning, encouraging citizenship through networks and action research. The Stockbridge Pathfinder project (2002–2004) is an excellent example of action research, where David Wilkinson (researcher and consultant) acted as an action researcher by allowing the initiative to develop in response to locally determined priorities and concerns.

The main conclusion by Barnett *et al.* points to the evidence both of the recent trends toward greater personal responsibility and the effectiveness of this in stimulating changed patterns of behaviour and suggests that the Environment Agency will benefit from taking environmental citizenship seriously.

In summary, there is an urgent need for people to recognise the seriousness of the greater likelihood of flood risk. A number of media reports and documentaries are highlighting the issue and various current internal and external projects aim to increase flood awareness. There is, however, a strong perception that some 'at risk' communities are in a 'state of denial' and choosing to ignore the warning. Current work by Tim Harris (a PhD student at the Middlesex University) points to the complexity of behaviour change. Rather than perceiving the process as a simple step, he is developing a model of progressive stages of awareness of flood risk to behaviour action. Nevertheless, it should be noted that the report by Barnett *et al.* (in press) on generating and developing environmental citizenship points to evidence both of the recent trends towards greater personal responsibility and the effectiveness of this in stimulating changed patterns of behaviour.

3.2.7 Further research needs in terms of community engagement

Environment Agency/FRM policy staff are aware that there is a need for more research in terms of partnerships and that the outcomes of community engagements need to be properly evaluated.

Environment Agency/FRM operations staff made suggestions for research on different levels (i.e. in terms of overall research needs, before flooding has occurred, during flooding and for post-flood events).

Overall, the need for further research was based on the recognition that policy should be grounded in research. In more specific terms it was felt that work was needed to establish how communities perceive the Environment Agency and the system as a whole. It was suggested that this issue could be linked to the proposed project on the interrelationships between different flood management organisations. Other issues were the need for work on how to address time allocation for staff and how to select and train staff for communication work.

For the period before flooding staff saw the need for proper evaluation studies of 'good practice'. It was felt that at present the good practice reports are mostly anecdotal and have not been properly evaluated. Another suggestion was the need to consider the best ways of getting people to think about things that are not real to them. Based on research, the Environment Agency needs to work out what it is that local people can contribute to improve flood situations and then find interested people and support them.

For the period during a flood event the need to document clearly the process of events was highlighted to provide a better picture of additional interventions needed. There was also a call for the Environment Agency to be more concerned for the flood victims and to note the full effects (not just the economic effects), the duration of the effects and how best this knowledge can be used in future policy making.

In terms of post-flood events, the Environment Agency operations staff stated that they need to know how much support they can give to communities. In terms of deciding what constitutes 'good practice', work to date needs to be properly evaluated and future policies must be based on these evaluations.

Defra/FRM policy staff proposed a pilot on the back of the *Making Space for Water* strategy to look at individual protection strategies, which may include a home improvement grant. It was recognised, however, that at present there are a number of problems in terms of details, especially as there is currently no legal basis for such a strategy.

It was also suggested that an early criticism from the Penning-RowSELL review¹ is that issues are looked at in isolation with too many little topics treated separately and what is needed is an overall approach to water management not just flood management. This, however, was not considered a big issue in the final report as there has already been a move to fewer and larger integrated projects in the policy area. Instead, the important recommendation from the above report is for better integration between research policy development and practice.

Finally, Defra policy staff recognise that there is a strong driver for social impacts to be taken on board but the challenge is how to do this. They feel that currently there is a dearth of good ideas and initiatives.

The **academics** group suggested that the EPSRC AUDACIOUS programme, which is looking at key aspects of the effects of climate change on existing drainage in urban areas, should include social research issues (the coverage of which is minimal at present). In addition, there is a real lack of research on sustainable communities, land use development and FRM generally. The issue of health effects, particularly with respect to urban sewer flooding but also in relation to diffuse pollution in rural areas, needs more work.

¹ At the time this report was being prepared, a review of the Defra/Environment Agency R&D Joint Programme in Flood and Coastal Erosion Risk Management was also being carried out, which some participants commented on. The reference for the review is: Penning-RowSELL E, Bye P, Rickard C, Townend I and Watkinson A, 2005 *An Independent Review of the Defra/EA R&D Joint Programme in Flood and Coastal Erosion Risk Management*. London: Defra.

To summarise this section, each of the five participant groups expressed the need for more research on a number of different levels: on an organisational level (ranging from how the public perceive the Environment Agency to how the additional workload can be absorbed within the organisation); on a participation process level (which are the important criteria for engaging communities across the four stages of flooding); and on a participation outcome level (what has been/can be achieved).

Overall, the need for further research was based on the recognition that policy should be grounded in research. It was stated that to date most good practice reports are anecdotal and need to undergo robust evaluation in order to draw sound conclusions as to their merits. There was a distinct perception that the Environment Agency needs to address social impacts (including health effects) as well as accept responsibility for a wider remit in terms of sustainable communities and people's relationship with their environment. However, as noted in SC040033/SR5, understanding the role of social science research in FRM from its commissioning through to its use (and indeed what is considered 'good use') is important, as it is developing and as yet is not the normal within Environment Agency business.

4 Conclusions and recommendations

4.1 Conclusions

There was acceptance that technology alone cannot cope with increasing flood events and that there is a need to search for social and environmental solutions. There is still much work to be done with communities that have been flooded or are likely to be flooded in order to help them to:

- accept a certain level of flood risk;
- accept that they need to share some of the responsibility;
- accept that by designing spaces to flood safely ecological benefits will also be increased.

The role of the Environment Agency must be to bring about this perceptual change.

The Environment Agency is in a unique position to promote social capital (trust, exchange of knowledge, good practice rules, a sense of belonging to a wider group) and to provide a systemic focus not only in terms of water quantity and quality and all types of flooding but also in terms of people–environment relations. If the Environment Agency accepts this position then it must take the initiative and responsibility in terms of supporting and promoting social networks (within its budget).

The Environment Agency is in the process of reformulating philosophies within the organisation from a focus on flood defence to an emphasis on flood risk management (FRM). The same process needs to happen at the local community level. Floods are part of the ecosystem and the Environment Agency has the opportunity to help people to rethink their relationship to the environment beyond flooding to a broader ecosystems level, thus developing long-term sustainable outcomes.

Past research has shown that FRM solutions only work if they are accepted by the local population. If the Environment Agency recognises this finding, the need to involve ‘at risk’ communities in the decision-making process using deliberative techniques is irrefutable.

There is a need for the Environment Agency to actively ensure that local communities are involved at a meaningful level during all four stages of the flood cycle (i.e. much more than a brief consultation). This can be achieved by the Environment Agency initiating a community group, by encouraging other organisations to facilitate a group or by being a partner in a joint process.

In the process of changing the culture from flood defence to flood risk management, the Environment Agency has recognised that it cannot always be inward looking and cannot solve everything; that extensive liaisons are needed and that the time and resources to form these liaisons before, during and after a flood event must be allocated; and that it should accept that this is a legitimate and necessary part of its work.

There is much support for developing methods which will ensure that every person is treated equally and proportionally.

The Environment Agency must be clear what its role is at any given point and provide clear guidelines to staff on the type and level of community support before, during and after a flood event.

Since, at present, individual judgements are made in response to political pressures and resource availability, there is a clear-cut need for guidelines from the Environment Agency to staff in terms of the extent of its remit and financial commitment.

The Environment Agency is seen by its staff, by Defra and by academics, as having a huge task ahead in setting up ways of achieving a public change in attitude towards flooding. It is suggested that this can only be achieved by actively involving individuals and organisations and by working together to reach these environmental, economic and social goals.

Every person interviewed applauded the move towards community involvement across all stages. This in itself was not regarded as an issue. The key issue was 'how'. A good beginning has been made with the dissemination of the BTwC toolkit. The BTwC project is seen as a useful step towards improving community engagement.

When debating the issue of whether or not Environment Agency staff should hold public meetings, most interviewees felt that when a flood has occurred public meetings need to be held immediately in order to harness the initial anger and facilitate group cohesion. Public meetings, however, should be complemented by individual surgeries.

In addition to technical support, the Environment Agency needs to respond to the psycho-social needs of the flood victims and to feel and demonstrate greater empathy.

It was felt that the Environment Agency would benefit from being less authoritarian and by empowering innovative individuals within the organisation.

Not all staff members should be expected to be brilliant at working with local communities. Part of the Environment Agency's skill will be to select staff who want to be trained as communicators.

Environment Agency staff who have been involved with engaging local communities felt very positive about the possibilities, the processes and the outcomes. The examples also demonstrate the ease with which the Environment Agency can initiate and facilitate such projects, be partner to a joint project, or simply benefit from someone else's project.

Negative perceptions centred on organisational issues within the Environment Agency (e.g. lack of staff continuity), staff anxieties about being inadequately trained for certain public participation work, the perceived neglect of flood victims' psycho-social needs, and the possibility of flood awareness campaigns increasing communities' anxieties and the likely economic blighting of an area. Some of the negative points made can be alleviated through staff training, clear guidelines from the Environment Agency and working with communities to build reciprocal trust.

Much care needs to be taken when communicating risk as it can heighten anxieties and feelings of helplessness, which in turn will increase the need to blame someone (mostly the Environment Agency). In addition, Environment Agency staff recognise that there is an urgent need for people to accept the seriousness of the greater likelihood of flood risk. There is a strong perception by staff that some 'at risk' communities are in a 'state of denial' and choosing to ignore flood warnings. At the same time, by developing environmental citizenship, there is evidence both of the recent trend towards greater personal responsibility and the effectiveness of this in stimulating changed patterns of behaviour (Barnett *et al.* in press). Ongoing work suggests, however, that behaviour change should not be thought of as a simple one-step process.

Overall, most participants in this study expressed a need for further research in order to improve local community engagement. This was based on the recognition that policy should be grounded in research. Although there have been a number of good practice case studies they are mostly anecdotal and need to be properly analysed to extract the principles of their success.

It has been argued that it is equally important to examine adverse case studies. The analysis should not focus on individual action but should include the role of underlying systems and why they did not lead to a more satisfactory outcome.

There was a strong belief that the Environment Agency needs to include social impacts as well as to accept responsibility for a wider remit in terms of sustainable communities and people's relationship with their environment. To do this successfully further action research is needed in addition to the proper evaluation of current practices.

4.2 Recommendations

Due time and consideration should be given to all the above conclusions. There are, however, four key recommendations that should be taken forward:

- R1: Plan ways of engaging communities in an extensive study of broader ecosystems to encourage consideration of issues wider than flooding. This type of work could be done well in partnership with other organisations or as action research projects.
- R2: Consider investing time, resources and training in developing a clear framework for engagement with communities at different stages of the flood life cycle, drawing on current research and practice. This should be done as a collaborative project involving operations, process and policy staff with input from communities or community representatives where appropriate.

This work should consider, among other things:

- the extent of the Environment Agency's involvement (what is appropriate in each case);
- the Environment Agency's role (being clear about why the Environment Agency wants/needs to be involved, what position it wants to take and how the work should be carried out (after Warburton 2004);

- proper evaluation of community engagement projects (in order to know whether they achieve the desired outcome). This should build on the work of the Building Trust with Communities (BTwC) project.
- R3: Build on the energy, enthusiasm and skill of staff who are currently carrying out engagement processes by supporting them through an acknowledgement that engagement is part of their work. The following approaches are suggested:
- enable staff by providing training in engagement processes that is based on their experiences and empower them actively to plan for community engagement;
 - invest time and resources in developing a network for sharing practice. The focus has been on sharing 'good practice', but it is suggested that safe forums need to be developed where staff can share examples of approaches that did not work;
 - build on the BTwC project and work of the national Community Relations Team.
- R4: Establish senior management support for community engagement processes in FRM.

Appendix 1. Interview schedule

Managing the Social Aspects of Floods

Section 1 – Part 1. The impacts of flooding on rural and urban communities

1. *What are the social aspects of flooding?*
2. *In which ways are rural and urban communities affected differently?*
3. *Can you think of any clear-cut differences of social aspects between rural and urban areas?*
4. *Do you know of any work which addresses these issues specifically?*

Section 2 – Part 4. Community and citizen engagement in FRM

We are particularly interested in the effectiveness and efficiency of the public participation process and outcome due to community involvement compared with reliance upon FRM decision making, delivery and flood response without community involvement.

5. *Can you think of any anecdotal work which would suggest positive/negative impacts of community involvement on effectiveness and efficiency during the three stages of flood occurrence (before, during, after flood)?*
6. *Which, in your view, are the key issues concerning community involvement and effectiveness/efficiency in terms of FRM?*
7. *What, in your view, could be done to improve local people's involvement?*
8. *Are there issues which you feel should be addressed by the Environment Agency and have been omitted to date?*
9. *What recommendations would you make to the Environment Agency for further research and future policies?*

Section 3 – Part 5. The role of social science in FRM

10. *What is the current role of social science in FRM and how is it perceived by organisations such as the Environment Agency, Defra, academia and others?*
11. *What is lacking in the Environment Agency's social science policy/programme to date? How could it be improved?*
12. *Any other comments/questions?*

Appendix 2. Interviewees

Below is a list of the people who were interviewed for the project and their contribution to the research.

Name	Affiliation	Contribution to research
Joanne Reilly	Environment Agency	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Colin Candish	Environment Agency	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i>
Kevin House	Environment Agency – Senior Technical Officer Thames 2100	<i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Jonathan Chapman	Environment Agency Defra/Environment Agency research co-ordinator	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Simon Hughes	Environment Agency – Flood Event Manager	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Ruth Rush	Environment Agency – Corporate Affairs	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
David Wilkes and representatives from Bradford Council Neighbourhood Support Services	Environment Agency – Area Flood Risk Manager	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Dave Hornby	Environment Agency	<i>Part 4 Community and citizen engagement in FRM</i>
Gill Holland	National Flood Forum	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i>
Julian Simcox	Independent facilitator	<i>Part 4 Community and citizen engagement in FRM</i>
Dr Mary Jordan	Clinical psychologist and chair of local	<i>Part 4 Community and citizen engagement in FRM</i>

	community group	
Jessica Milligan	University of East Anglia	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i>
Prof. Tim O’Riordan	University of East Anglia	<i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Prof. Joe Howe and others ²	University of Manchester	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Prof. Susan Owens	University of Cambridge	<i>Part 5 The role of social science in FRM</i>
Dr Andy Stirling	University of Sussex	<i>Part 5 The role of social science in FRM</i>
David Richardson	Defra/Environment Agency research, Policy theme leader	<i>Part 1 The impacts of flooding on rural and urban communities</i> <i>Part 4 Community and citizen engagement in FRM</i> <i>Part 5 The role of social science in FRM</i>
Paul Tabbush	Forest Research, Forestry Commission	<i>Part 5 The role of social science in FRM</i>
Civil Renewal Unit, Home Office		<i>Part 5 The role of social science in FRM</i>

² Other members of the department were talked to on a more informal basis.

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