Improving response, recovery and resilience Improving Institutional and Social Responses to Flooding – Work Package 2

Science Summary SC060019/SS

This summary outlines findings from Work Package 2 of the project Improving Institutional and Social Responses to Flooding. The research aim was 'to understand how the Environment Agency can improve people's responses to flood warnings for people in different flood risk situations. This is before, during and after a flood so that the Environment Agency and partners can help to improve institutional and community resilience.'
The following tasks were carried out as part of this work package:

1) Review of literature on social impacts of, responses to and recovery from flooding.

2) Case study of Stockbridge around institutional responses to a flood event.

3) Case study of recovery and resilience following the Carlisle January 2005 flood, including focus groups with flood victims and a review of resilience theory.

4) Case study from the European Commission-funded FLOODsite research project. The case study is taken from Task 11: Risk perception, community behaviour and social resilience which carried out investigations in Germany with flood victims from a 2002 flood.

Key findings are outlined below.

Impacts of flooding and response to warnings

The research confirmed that the social impacts of flooding are widespread, interconnected and may be long-lasting. Negative social impacts may be affected by characteristics of the flood, individual (for example, low income), and/or community. Often, the long-lasting effects of a flood may be caused or exacerbated by the stress of dealing with the aftermath of a flood or recovery period. Ongoing sources of stress and negative impacts during this phase may make it worse than the actual flood. The main sources of stress include cleaning up and dealing with builders and insurers.

In terms of response before and during a flood, research found that people often prioritise actions designed to

alleviate psychological discomfort including moving people and pets to safety and helping vulnerable neighbours. People do not just focus on moving material property. The key factors that affect response are similar to those that affect the social impacts. A further issue affecting response is people's construction of what a flood is like, often underestimating the speed and depth of the flood waters. The consequences of a flood are often unknown to and unanticipated by people.

Receiving a timely, informative and credible flood warning aids response to flooding and recovery. However, taking action does not necessarily follow the receipt of a warning. A number of factors affect this response including the provision of locally relevant, consistent and repeated information together with the characteristics of the recipient and social context.

Adaptation and resilience to flooding

This research challenges the assumption of a linear relationship between flood experience and consequent adaptation and preparedness. Research shows that only a very small proportion of flood victims are prepared for a future event. The causes of low preparedness range from an understandable wish to move on and reduce anxiety, to feeling that one cannot do anything about flooding.

The research into resilience showed that whilst it is important to protect people and property from flooding by building and maintaining flood defences and providing effective flood warnings, flood risk management should include a shift to another type of resilience that includes learning from past events and adapting to future risk. This is particularly important in the context of climate change and changes in population.

In terms of positive examples our research found that a quick, effective and coordinated response from the authorities can do much to alleviate the negative impacts of a flood, particularly those of the immediate aftermath. Having strong informal local networks (which include the

voluntary sector) is a factor that was shown consistently to improve response and recovery.

The research found a clear gap between the public's perception of their own responsibility and that of authorities in terms of reducing flood risk. This has serious implications for the Environment Agency and other authorities. If the public do not perceive that reducing flood risk is their responsibility, they will not act on and adapt to future risk.

Recommendations

Recommendations are outlined below. The Environment Agency is not the lead organisation in this phase of an event and an overall recommendation is that the findings and recommendations of this research are shared with professional partners and other organisations. Key recommendations include:

- The Environment Agency should improve flood warnings to provide consistent, frequent, specific and locally relevant information via a number of methods including face-to-face.

- The concept of appropriate action should be examined for different types of flood situations, to develop specific action lists that can be disseminated during emergency planning and enacted during a flood.

- The Environment Agency should work to increase the public's awareness of the peculiarities and variability of flooding. More emphasis should be placed on the potential for rapid onset events and flooding which can arise from groundwater, drains, and sewers as well as rivers and streams. Public awareness of the potential length and seriousness of the recovery process should also be increased.

- Work with community groups, including flood groups, should be carried out around developing knowledge of what to do in a flood but also how to prepare for the recovery period, including evacuation, dealing with insurance, loss adjustors.

- The Environment Agency should lobby for changes in insurance policy to minimise stress often experienced by flood victims when dealing with claims.

- The orientation of flood risk management should be reconsidered with a reduced focus on resistance and 'getting back to normal' and increased focus on adaptation to the risk.

- All institutions should be able to work more flexibly during an emergency and react more quickly. For the Environment Agency, this could mean developing 'latent capacity' which can be invoked at short notice.

- The Environment Agency should work to facilitate bridging social capital which in turn could increase institutional resilience to flooding. This could be done, for example, by proactively participating in the Local Resilience Forum or local authority recovery plans.

- The Environment Agency should consider commissioning new research in various related areas including: community impacts of flooding, people's perception of flooding and its consequences and human response to and adaptation to flooding.