

Social Issues and Flood Hazard Warning - Scoping Study

In England and Wales, since 1996 the Environment Agency has been given the role of delivering flood warnings to those requiring them and is seeking to improve both the dissemination of flood warnings and the public response to them. The primary aim is to reduce the impacts of floods on humans and to lessen property damage through accurate, timely and reliable warnings. Following the floods of Easter 1998, the Agency has embarked on a programme of improvements to flood warning services. A key component of this is establishing a cumulative and planned programme of research to address the social issues involved in flood hazard warning.

The overall objective of this study is to provide a clear rationale for research into social issues in flood hazard warning in order to enable the Agency to undertake a programme of work which is cumulative and planned over the next three to five years.

The results of the study are based on a review of the published and grey literature available from both academic and practitioner sources. The reports key findings are detailed below:

Central to an understanding of human response to flood warnings are the processes by which warnings of danger are communicated, how the recipients interpret warnings received and the factors which generate different responses from those making up communities.

Because of the time pressures produced in flood emergencies, and because of the large number of organisations normally involved in responding to an emergency in each of its phases, organisational issues assume particular significance. How organisations perform together can make an enormous difference to the success or otherwise of the organised flood emergency response. Like all emergencies, flood emergencies, are great tests of an organisation's ability to respond effectively to the emergency, as well as of the entire organisational complex or system involved. Managing a dynamic, complex, multi-organisational system in an integrated manner within a confined frame presents a severe management challenge.

Time is a critical dimension in both the response of individuals, groups and organisations (including complex multi-organisational systems) to a flood emergency. This is why investment in ways of 'buying more time' is so important in this context, and why investment in improved flood forecasting which results in increased flood warning lead time is potentially so significant. The social implications of current and developing communications technology used for flood warning we believe should be further explored by the Agency are far as is possible.

Much is now known about what conditions the response of individuals and groups to a flood warning and emergency. However, transferability problems introduce uncertainties in predicting how a particular community and the individuals comprising it will actually respond in a given flood crisis. The heterogeneity of at-risk populations appears to be a key factor in creating differential response, and we believe that vulnerable groups are likely to respond least effectively to warnings, as are those living in low-risk flood zones.

The report identifies eighteen potential research items which reflect gaps in knowledge, half of which seek to define research which needs to be undertaken in order to better understand and be able to predict human response to flood warnings.

Following consultation with the Project Board three final research items have been developed. These include:

- Flood warnings for vulnerable groups;
- Appropriate methods of improving flood warning awareness and response in low-risk flood zones; and
- The social performance of flood warning communication technologies.

Little research has been undertaken on how complex and multi-organisational systems develop, operate and may be managed. Although some research insights are available, what little is available in the literature is based upon an accumulation of insight through experience rather than through research. Because of this managing such large multi-organisational systems remains a major challenge to any management. Two further research work items have therefore been identified:

- Organisations and flood forecasting and warning; and
- Community involvement in FFWRS.

The proposed work items are likely to be incorporated into the R&D Schedule for 2001/2002. The report also provides good background information for flood defence staff. Elements of it will be incorporated into the induction course for flood defence staff and developed as fact sheets. The report will be recommended reading for senior flood warning staff.

This R&D Technical Summary relates to information from Project W5C-013 Flood Forecasting and Warning – Research Programme: Work Item: Social Issues and Flood Hazard Warning:

Technical Report W255: in two Volumes

Volume I : Social Issues and Flood Hazard Warning – Scoping Study

Volume II: Social Issues and Flood Hazard Warning – Scoping Study

The Dissemination Status for these outputs is as follows:

Internal Status: Released to Regions
External Status: Released to Public Domain

Work Item Manager: Dr Clare Twigger-Ross (Social Issues Officer)

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Rio House,
Waterside Drive,
Aztec West,
Almondsbury,
Bristol,
BS12 4UD

November 2000