

# A CONTENT ANALYSIS OF THE FLOODFORUM.NET DIALOGUE

Dr Karen Bickerstaff and Katherine Haynes  
Centre for Environmental Risk,  
School of Environmental Sciences,  
University of East Anglia, Norwich NR4 7TJ

[k.bickerstaff@uea.ac.uk](mailto:k.bickerstaff@uea.ac.uk)

## **1 Overview**

This report presents an analysis of the recent *Floodforum.net*, a web-based dialogue exercise commissioned by the Parliamentary Office of Science and Technology (POST) to stimulate wide-ranging discussion on the causes, consequences and communication aspects of inland flooding in the UK. The report sets out the background to the dialogue and, based on a full content analysis of all contributions to the Floodforum, summarises the major issues arising from the debate, and reflects on differing experiences, perspectives and understandings. At various points in the analysis comments are made which refer to issues or suggestions that hold particular relevance for the management and communication of flood risk.

## **2 Background**

The Floodforum dialogue lasted for a period of four weeks between January and February of 2002. POST, the commissioning organisation, set out two overarching aims for the forum: to enhance and inform Parliamentary debate on inland flooding, expressed through people's experience and understanding, and to research the utility and practicality of using the Internet to broaden consultation and strengthen representative democracy (POST 2002a). These aims are consistent with, and emerge from, recent policy and academic calls for greater dialogue and understanding between the public(s) and scientists, recognition of public views and knowledges at the level of decision-making, increased policy transparency and the longer term goal of regaining public trust in scientific and political institutions (e.g House of Lords 2000).

In a POST background briefing (POST 2002a) six specific objectives are set out for the Floodforum, to:

1. stimulate debate,
2. capture the differing experiences, perspectives and understanding of the participants,
3. summarise the issues arising from the debate,

4. provide an outline of what actions could be taken to address the issues,
5. inform POST's work on managing inland flooding, and
6. provide a report on the experience gained from the process.

A range of stakeholders were encouraged to take part in the dialogue (including individuals who lived in a flood prone area, those who worked in flood management, in related fields of research, or had a professional interest), and the forum was publicised through direct mailings, local media coverage, emails, web-links and word-of-mouth. The dialogue process was monitored and moderated by an external administrator.

### **3      *The Content Analysis***

The findings of this report are based on a comprehensive content analysis of all messages posted in the e-dialogue. We adopted an iterative approach to data analysis, with an index of coding labels generated through a combination of pre-defined themes and more inductively generated categories. Using this coding index, labels were attached to the key themes and issues raised in each e-mail posting. In doing so our aim was not to record and quantify the occurrence of each label but to get a general sense of the dominant issues and, importantly, to gain an insight into the diversity of comments, the use of language, and the role of different social and geographical contexts (i.e. who the commentator is) in how people make sense of different aspects of inland flooding.

### **4      *Key Issues and Findings***

The dialogue itself was broken down into the three core topics: causes and alleviation of flooding; consequences of flooding; and communicating flood risk. However, people's comments were not narrowly confined to these three categories and inevitably overlapped or touched on distinct 'other' themes. In what follows we report on four issues which reflect the main patterns of response to emerge from our analysis; risk management, responsibility attributions, risk communication, and the impacts of flooding (focusing on social, economic and health effects). Notably we do not consider, in an explicit way, the causes of flooding – in the light of the more technical interests of these comments and to avoid unnecessary repetition. Throughout we use quotations from the dialogue to illustrate the points we are making.

#### **4.1      Risk Management**

Dialogue on the themes of institutional responses to flooding and subsequent flood alleviation planning revealed a range of problems and critical perspectives on current arrangements.

*4.1.1   Resourcing and bureaucracy:* The different 'public' and 'expert' inputs to the forum all pointed to resourcing shortfalls, particularly in the availability of staff and practical/technical skills. This was a growing problem, exacerbated by patterns of retirement, poor graduate prospects and as a result

difficulties in recruitment. A connected problem was the increasing reliance on consultants who lacked local knowledge and experience:

When there aren't suitably competent applicants, employ the next best, 'someone is better than no one'. Over the recent years this has caused lowering the standard of skill base.

The Agency have been criticised for taking too long on projects. All I would say is that there are too few staff to manage the jobs effectively. In the last 2-3 years workload has shot up (after many years of decline) but staff numbers have not followed. This is, in part at least, due to the very low pay rates for even senior staff.

Expert, and to a lesser degree public, contributors were critical of excessive bureaucracy in the flood management system, leading to long delays in the implementation of flood alleviation schemes, inefficient use of resources and in many cases problems with disaster management procedures (such as late or no delivery of sandbags). Flood alleviation planning was often characterised as reactive (crisis management) rather than proactive (maintenance and improvement).

Sometimes the management of a project is of similar cost to the scheme, and can add months or years to the project. (Environment Agency consultant).

The EA are very wasteful, money wasted on pre-feasibility studies to see if feasibility studies are worth doing, then they tell us we fall outside the cost benefit analysis.

There is a great deal of frustration at the complete lack of action by the government and EA.

Constrained budgets were commonly cited, not only in relation to the funding of flood alleviation schemes but also disaster management, and specifically the limited training and resources available to the emergency services.

'Risk management is poor, funding remains well below estimated needs' (DEFRA)

Blame who? It all seems to revolve around finance. One cannot expect the emergency services to find cash for a role that comes low on their priority list, never the less cash should be found from central government to address national flooding incident response.

*4.1.2 Influence:* A constraint identified by lay and expert members, was a general lack of influence or authority on the part of the Environment Agency (EA) - to impose restrictions on developers building on the flood plain or those not maintaining the watercourse. Although the EA can advise, local authorities are not, at present, under a statutory obligation to act on this advice. This said, several participants did point to a democratic tension between strengthening EA powers and weakening local, representative

democracy.

The LA ignored Environment Agency advice over development, increasing flood risk and as legislation currently stands, the EA carry no weight whatsoever in a planning process carried out by individuals with no experience of hydrological processes or the devastating effects caused through inappropriate decisions.

If the EA is to be of use it must be given the powers to be a force to be reckoned with.

Currently a Local Authority can choose to ignore the advice of the EA when it has reservations about construction on a flood plain. In my view that power has led to foolish and inappropriate developments in the past. (MP)

The Environment Agency advises Councils as to whether developments might flood, but the final decision is down to the Council's Planning Committee. New legislation (PPG25) is insisting that Councils take the EA's advice seriously. But if inappropriate development continues, should the EA be given the power of veto on planning decisions? If so, it is a loss of local democracy. But are Planning Committee members equipped with the knowledge to take these decisions?

*4.1.3 Comparative evidence:* Several comments drew on international examples to illustrate alternative regulatory mechanisms of flood prevention, often to highlight inadequacies within the UK flood management system.

Flood Appraisal Groups in Scotland: no new developments are allowed on the flood plain and all flood defences are built to withstand the size of flood that occurs once every 200 years, plus an allowance for climate change.

Government-sponsored program in the US called 'Stormready': measures to ensure buildings are storm-proof, blocks development on floodplains and promotes general preparedness through education.

*4.1.4 Transparency and inclusion:* In the case of public contributors, the content analysis revealed persistent feelings of exclusion from local decisions, leading to a sense of powerlessness and institutional distrust. Local authorities, the EA and other expert organisations were often seen as arrogant, imposing their solutions on local communities; secretive, with hidden agendas; incompetent and failing to fulfil their duties to protect the public interests. There were many examples highlighted where local views and knowledge had not been solicited or utilised during the planning of flood alleviation schemes. Added to this centralisation and institutional reorganisation meant that EA officers were no longer connected to the grass-roots level of practical experience. Individuals also expressed concerns about a lack of public consultation, information was seen to be deliberately withheld to further political agendas.

The Environment Agency staff at Bridgwater do not appear to have local knowledge that they had some years ago.

The EA is having to relearn all the accumulated wisdom of previous generations of sea defence engineers because ever more frequently, the responsibility for this work is privatised, re-organised, re-nationalised, hived out and changed so much and so often that any continuity of experience and acquired wisdom is lost in a maelstrom of confusion.

The local council were marvellous, they forged ahead after a public meeting and built flood defences with a siren alert to warn all the village of impending floods.... Our sea defences were upgraded by plonking large rocks in the river mouth. The local fishermen tried to explain about the local tide conditions but the experts knew best. These defences now hinder the water reaching the sea, which causes back up in certain flood conditions.

**Comment: Policy transparency and social responsiveness are key to increasing public confidence in risk management institutions and decisions.**

In a similar way many lay members viewed the process of comparing the costs and benefits of flood alleviation methods as a crude decision-making tool. Whilst most acknowledged the need to ensure 'good value' the current structure lacked transparency and public involvement. The benefits of particular schemes to individuals and/or communities may vary from the judgements of EA professional and only with a better understanding of these social and cultural (as well as economic) criteria could socially acceptable and fair flood management plans be developed. In the following quote an EA consultant uses a comparative analogy (a common argumentative tool) to highlight the flawed basis of scheme assessment.

The Agency have also been criticised for not promoting schemes where local people believe that a solution should be found. The present rules are complex, and hinge on benefit/cost ratios, priority scores and council levy rates. Often these scoring methods do not reflect what local people want in any meaningful way and the methods are simply a crude way of rationing resources. There is little discretion if the projects do not meet the thresholds.... We do not apply crude benefit cost analysis to hospitals or schools so why to flood defence? It would be better if central government decide how much each region needs to spend on flood defence each year, and let local government (through local councils and the flood defence committees) decide what the local people actually want and which schemes should be promoted (based of course on good science).

Does anyone agree that the costs of social disruption, distress and loss of productivity caused by flooding incidents should be given due consideration in the cost benefit analysis?

My objectives and others in the village is not to generate conspiracy theories but to establish an open and fair debate on the subject of development on the Longstantan flood plain.

The government and outside bodies have over the years failed to learn new working relationships between themselves and those they are meant to serve or represent. They need to trust residents. We are not just victims to be occasionally asked to approve what others have decided for them under the guise of consultation.

**Comment: The EA, and other bodies involved in flood management, need to work carefully with local groups, to listen and respond. Otherwise, initiatives that seek to establish open debate run the danger of being seen as cynical and tokenistic attempts to placate the public, further damaging relations between public and risk management institutions.**

## 4.2 Responsibility and Accountability

### 4.2.1 Responsibilities for flood risks

It was generally considered that the risks of flooding had been exacerbated by development on the flood plain. Many participants blamed developers, planning authorities and councils for using flood plains as disposable assets. Several participants were also critical of the poor maintenance of watercourses resulting from unclear lines of responsibility (and thus no-one acts). In a similar way, people were overwhelmingly hostile to the idea of a new one-off flood tax for homeowners living in flood prone areas – to cover the costs of flood defence. This hostility reflected a strong perception that responsibility for the problem rested not with the ‘victims’ living on the flood plain but with other social actors or society as a whole. In effect, the residents were already paying the price for a problem which they argued was created by everybody. It was unfair and inequitable to add a second burden in the form of a flood tax.

[the] Flood Tax is iniquitous, [the] problem’s not of our making but abuse and under maintenance of the flood plain.

If the cause of flooding is global warming then we all have a responsibility to deal with it.

To impose a flood tax on people who have been repeatedly flooded, experienced their properties being devalued and then refused insurance cover seems unfair to say the least.

Several people drew comparative analogies between the funding of flood management (which they viewed as a societal rather than a geographically specific problem) and other public services for which there is an equal national charge independent of the degree of service.

The sick do not pay for special treatment, there is no inner city policing tax or a tax for people who have had a fire and have called out the fire brigade'.

It was a minority who argued that those who choose to live on a flood plain, or as one participant stated 'being lucky enough to live next to one of the most beautiful rivers in the country', should take most of

the responsibility for their own flooding problems. Likewise, it was a small number of people who expressed even partial support for the flood tax – and then only if the monies were channelled back into flood prevention.

Flooding occurs because of the new developments and interference on the flood plain, the tax should be put on all properties that add to the problem we suffer. If the tax goes towards prevention I may consider it.

Overall, responsibility was directed not at those living on the flood plain (perhaps not surprising given the composition of the contributors) but to other, more culpable, actors. The individual living on the flood plain emerges as the passive victim of economic and political forces over which he/she has little or no control.

**Comment: This does raise an obvious empirical question of how a more geographically mixed (in terms of risk proximity) cross-section of the public would attribute causal responsibilities, and if these differ from those of affected groups whose voice then counts the most?**

#### *4.2.2 Responsibilities for flood management*

The issues of responsibility and powers to take meaningful action threaded through the Floodforum debate. Almost every participant made the point that flood management was fragmented and confused. At present responsibility is divided between a number of authorities and institutions including the EA, local authorities, internal drainage boards, private companies and riparian owners etc. The result is, as one participant put it, no-one is responsible for flooding and everyone is. The lack of co-operation between the various responsible agencies was seen to foster delay, repetition in some areas and a lack of action in others.

All my experience is of the buck being passed around and no-one wanting to actually do anything.

It took us three years and innumerable phone calls to get one storm drain unblocked! Public meetings inevitably end in frustration for the villagers as the buck is passed at the speed of light between various council departments and the Environment and Water Authorities.

'Neither Cambridge Council or Anglian Water were willing to take responsibility for the drains, the ownership of the drains 'appeared' to be cloudy, like the colour of the water that came in our house.

Who has which responsibility and the power to do anything about it?

Responsibility for flood prevention is chaotically fragmented between local authorities, internal drainage boards and the Environment Agency. There needs to be a clear line of

responsibility and accountability so that the threat and problem of flooding can be dealt with once and for all.

The majority of participants stressed the need for an holistic approach to river and flood management, an strategy that necessitated clearly identified roles and responsibilities throughout the river catchment. Otherwise, as stated by many of the participants, *'one person's flood defence can become another's flood problem'*. Public responses stressed the need for long-term management of flood risk, rather than short term, temporary solutions which 'only buy time': *flood alleviation must also take on board what may happen in the future - climate change or changes in land use*.

Each individual agency only looks after itself and has little concern for the other related elements. The individual departments/organisations/agencies have little or no interest in areas that are not part of their remit, stifling co-operation. One agency needs to become the lead agency.

Let's get rid of all the fingers in the pie make just one agency accountable for its action [not meetings]. Fund it and do it.

**Comment: The answer highlighted by a majority of the public contributors was to establish a new agency, an empowered lead agency to oversee a fair distribution of national resources and money, or alternatively establish clearly defined (and distinct) responsibilities for all relevant actors.**

Whilst there was some evidence of a denial of personal responsibility among a range of groups, but particularly those living on the flood plain, there were many others who pointed to a need to take personal or more often collective responsibility for the problem. There were many examples of self-help groups working to 'make a difference' – often using the media. This responsibility strategy was popularly borne out of a sense of frustration and a loss of confidence in formal institutions.

Perhaps the people of Nailbourne valley should do what we did in Worcester next time it floods there with sewage. We launched a huge publicity campaign and got the media involved. We appeared on local T.V 8 times also GMTV (!) and I spoke on radios 5 and 4. We also visited Downing St with a portfolio of our story (I am sure Tony Blair didn't read it but it had the desired effect) Severn Trent hotly denied that there was a problem with the sewerage system until they were faced with all this media attention.

The moral? Don't rely on the government or local authorities to help you out too much. Do it yourself, despite paying so much in taxes every year!!!!

We believe that the way forward is to encourage those affected by flooding to form themselves into groups, so that they have the strength to negotiate with the agencies concerned.



We would then like to form those community groups into a nation-wide network, to exchange information and offer mutual support.

Linked to the principle of holistic flood management, a great many public participants commented on a general lack of flood prevention advice given when refurbishing their homes after a flood. Insurance companies were seen as the main source of the problem, unwilling to specify increased flood protection, simply wanting to replace 'like with like'.

As a consultant & contractor in water damage I too have been amazed at insurers reluctance to increase specification in flood affected homes. Typically homes on flood plains, which are susceptible to re-flooding, have like for like replacement despite low cost engineering control availability that would dramatically reduce re-occurring damage from floods.

My concern as a householder (articulated elsewhere on these discussions) is however, that my insurers(2) have spent a considerable amount of money reinstating my property without there having been any due thought to improve the flood protection/potential future damage.

**Comment: Co-operation is needed between the insurance companies, builders, the EA, and government to ensure that people's homes are better prepared to face another flood. For many, public awareness campaigns to promote personal protection need to be supported by government policy to encourage insurance companies to recognise these developments (e.g. reducing premiums of home owners who provide such improvements) and financial incentives for homeowners to install protection.**

I fully agree that insurers should be using what is called "resilient reinstatement". The answer must be a comprehensive national scheme in the form of government grants towards the installation of flood protection products. The grant scheme should include not only products such as flood doors and airbrick guards, but also provide incentives to make houses more flood-resistant.

#### 4.3 Risk Communication

*4.3.1 Awareness:* Participants, both lay and expert, pointed to a range of available sources of risk communication including leaflets, supermarket presentations, radio, TV, press, internet, direct mailing campaigns and door to door communication. Responses to this material, and particularly the flood warnings, were mixed. A minority recognised inevitable limitations in the detail and level of certainty the EA could convey in warnings. A number also commended the EA for the warning service - although this was primarily directed at local offices.

We were constantly contacted by the EA telephone warning service which we found invaluable, I don't think it can give a precise time for a severe flood.

In Bewdley we are lucky. We have a very reliable system of flood warning prediction, made available through the recorded messages on Floodline, and a long lead-in time. This is partly due to where the town lies in the Severn catchment, and partly due to the skills of the flood warning team in the Upper Severn Area office. The predictions usually carry a margin of error, so while we have confidence that the prediction is their best shot, we know that they cannot guarantee one hundred percent accuracy.

Indeed one Environment Agency representative pointed out survey findings which indicated that awareness of flood risk was dramatically rising within their target group (47% in 1997 to 85% in 2000). The argumentative use of statistics was widely employed by the 'expert' participants, and particularly EA representatives. This said, although 85% of people may be aware of the risks, far fewer take any preparatory action in the face of a flood. In this light, many public contributors raised doubts about the efficacy of the communication strategy.

*4.3.2 One-way flow of information:* In several of the 'expert' comments we see a risk communication strategy based on '*repeating the message over time in a consistent manner*' (e.g. National Flood Warning Centre staff). This kind of approach, based on a one-way model of communication, which sees people as passively awaiting and receiving official scientifically authoritative knowledge, has been widely criticised as flawed in both its conception and practical outcomes (e.g. Irwin 1995). As we have shown in section 4.1.4 the failure to involve and include local communities and knowledges can all too easily fuel feelings of powerlessness and mistrust.

**Comment: The EA and other agencies need to explore the potential of more deliberative and inclusive mechanisms of knowledge production and two-way dialogue. What indicators are salient to the different target groups? Can they be incorporated into risk communication? Can local action groups assist in these processes and facilitate the flow of information (to and away from the wider community)? 'Only then will the communicators appreciate what the public know, and what they need to know (Royal Society, 1992).**

*4.3.3 Perceived irrelevance:* Some flood victims felt said they had felt '*it wouldn't happen to us*', and those trying to promote awareness stressed that unless people recognised their vulnerability, and took on some degree of personal responsibility, advice and guidance would have little effect. Some expressed a feeling that they were practically and emotionally unprepared - unaware of what to do in the event of a flood. If individuals or communities do not see themselves as 'at risk' then guidance and advice in and of itself misses the point. Information is considered irrelevant – for someone else. The problem is encapsulated in the following anecdote.

From a local government point of view we are trying to inform our customers as best we can. Only a few days ago we sent out a new leaflet to all parishes with a flood risk. Just this morning we received an irate phone call from a parish clerk sitting on the box of leaflets asking what to do with them. There is a flood risk in the area, but as it only concerns a few older properties, who's owners are somewhat used to living next to a river and never complain, the problem does not register with the parish at all. We can dish out leaflet after leaflet and sandbags galore. If the people do not take a certain amount of responsibility for their own situation, this situation will not improve.

**Comment: A single mode of risk communication is unlikely to meet the needs of all affected communities or groups within a single community. More nuanced communication strategies are needed to reflect differences in social as well as physical context. The EA is presently building links with local groups – these links and developing two-way dialogue processes, will be central to the delivery salient risk communication. We would add to this a need to better understand the requirements of particular vulnerable or excluded groups, people that are not using or do not have access to existing communicative and participatory channels.**

**Comment: There was some concern expressed about the specific vulnerability of people moving into flood prone areas – and for whom flooding would be a new phenomenon. Such people constitute one specific audience for targeted information.**

4.3.4 *Flood warnings/ risk mapping:* People identified a range of practical problems and limitations with the flood warning system operated by the Environment Agency including; the failure to give due warning of flooding, difficulties in the interpretation of warning codes and inconsistencies in the presentation of information:

The Environment Agency did not give us any warning of the fact that we were going to flood, despite the fact that we are on their list to be telephoned if a flood situation was imminent.

We had 2 telephone relay messages warning of potential flooding and the orange code warning whatever that means (Why does no one ever explain these intrinsic and obscure agency codes?).

People were confused by web-pages that had not been updated, contradictions between different sources of information (between different EA sources and with other sources like the media) and the lack of standardised information across the UK.

In spite of assurances from Richard Cross, tonight the same conflict between the AVM system and the Floodline recorded messages has occurred again. We have just received a AVM flood warning of a level of 3.3 - 3.8 m. At the same time the Floodline recorded message is predicting an eventual level of 4.2 - 4.6 m.

Often public contributors were critical of a lack of early warning and the generalised nature of flood warning information. This was reflected in calls for real time, and more detailed information– *how fast the river is rising and an indication of what the final critical flood level may be and when, with regular updates.*

Flood warnings frequently come after the flood has passed.

The Teletext screen merely refers the viewer to the Floodline Number. Can the EA only afford a single page?... The information given in the Lower Trent sector for this location

was hopelessly vague. The information required seems to be: How fast is the river rising?; Is there a critical level anticipated and if so when?; Are there any specific locations which can expect flooding or not? Is it not possible to tell the public that although the river level is rising there is no expectation of problems to property at this time? If this was the assessment internally why is this not conveyed to the rest of the people judged to be at risk? It should be possible to provide a 0700, 1300 and 1700 update...It does seem as though a broad basis of communication is in place but the content and style of that message requires far more attention to useful value detail.

In a similar way a number of participants were critical of flood risk maps, seen as a crude estimation and being used as an objective measure of risk by insurance companies and homebuyers. People argued that the information needed to be more discriminating and 'accurate' in the prediction of risk and the degree of geographical specificity.

Why can't the EA tell us why we flooded with a 1:30 to 1:50 event when we were listed as a low risk, yet following the flood we were moved into the highest risk. How could the mapping exercises have been so inaccurate.

I agree with the comments concerning the crude nature of the EA flood plain mapping. A simple post code enquiry will show a large number of houses in Yoxall as being affected by the risk of flooding. This information is misleading and if the EA is to provide good quality information then they need to be much more specific in terms of the properties that have really been flooded.

*4.3.5 Forecasting and uncertainty:* Underlying many of the criticisms levelled at flood warning and mapping information, and also reflected in the more positive comments, are expectations about and the communication of (un)certainly. Uncertainty was differently interpreted by participants. For some it was inevitable – flood prediction was an inexact science. For others it inferred institutional incompetence (a failure to fulfil duties of responsibility) or institutional arrogance (an unwillingness to listen to local people). In this regard several people commented on a need to make the uncertainties embedded in flood warnings and other predictive assessments more transparent.

In communicating flood risks it is essential that the random nature of flood occurrence be highlighted. Also it is not only the 1 in 100 flood we have to highlight. There is a quantifiable probability that there could be a 1 in 200 flood in the same location.

The question is, what do people understand by the terms 1 in 100 years, or 1 in 100 annual chance? What is the best way of communicating the risk so that everyone can understand?

**Comment: There is need for research to better understand the communication and interpretation of uncertainties. Alongside the provision of risk probabilities, risk maps and the like information might also address the processes by which these knowledges are actually produced.**

4.3.6 *Transparency and equity:* Overall risk information was seen as a good thing. People wanted more precise and detailed information about their relative risk and the forecasting of floods. One obvious area of progress, given that many were critical of excessive institutional secrecy, is greater transparency and the communication of full information. Whilst not fundamentally questioning this position we would however point to the contrary position – articulated by a very small number of people (although implicit in a number of comments about the flood risk maps). For these people the provision of more (detailed) information was viewed negatively, as potentially affecting house prices and thus creating an inequitable economic risk.

**Comment: The dichotomy of response to more information does reveal a tension of transparency – on the one hand a necessary pre-cursor to increasing public confidence in institutions, and on the other hand an unfair burden to particular ‘at risk’ groups.**

4.3.7 *The media:* There was surprisingly little debate around the media and its role in risk communication. Comments made in relation to the efficacy and trustworthiness of the media as a source of information were mixed. Some felt the media were sensationalist and ‘over-the-top’, amplifying the severity of the ‘flood’ problem. Others saw the media as downplaying the problem, failing to publicise the reality of the situation. This said, few questioned the power of the media to impact on the public or political consciousness.

Media coverage was over the top, sensational and wound us up.

It offers for a short post-event period, the opportunity to confront those who are deemed "in charge" with the question - why did this event happen?, what are you doing to prevent it happening again?

The opportunity exists at a national level to harness the united voice of victims of flooding through serious investigative journalism and searching programmes. The media offers a major powerful tool. To date it seems to have only been able to deliver messages from the PR channels.

#### 4.4 The Impacts of flooding and flood risk

Threading through the three dialogue themes, participants explicitly or more implicitly identified a range of social, economic and health impacts of flooding and the risk of flooding.

4.4.1 *Social impacts:* People directly affected by flooding vividly conveyed the personal and community-wide trauma and shock impacts, impacts which often gave way to feelings of anger and frustration. The discursive use of phrases like ‘shear misery’, ‘victims of flooding’, ‘mortal terror’, ‘loss of a sense of home’, ‘the loss of self’ hint at the profound psycho-social impacts of flooding. People were plunged into a state of constant dread, undermining deeply embedded values of safety and security attached to the home and place.

The risk of flooding creates ANXIETY. As landlord and householder there is also anxiety about going away from the property on holiday. We are finding this anxiety is increasing, now that floods are becoming more frequent.

Mortal terror of further flooding.

The loss of the concept of 'home'- the water invades the house and removes meaning.

The loss of security and safety or of community (especially when temporary relocation is the only option available) and the loss of self. Recovery is not just about buying new furniture, it is about restoring the sense of identity, security and meaning...these things take much longer to repair and in some cases are never fully sorted.

Other short-term impacts included negative impacts on local businesses, disruption to schools, hospitals and transport networks.

In the wider community, dependent on the extent, loss to business and employment, disruption to schools, hospitals and transport, and possible shortage of food and water and power for all. And, at the worst, loss of life. For the continuation of life, the need for food, shelter and medical attention.

**Comment: Local action groups were widely commended in helping people to cope with the impacts of flooding and the dread of being flooded in the future. It is important that this social infrastructure or capital, a form of local empowerment, is supported and developed.**

*4.4.2 Economic impact:* A persistent concern among those living in risk prone areas related to the insurance of property, rising premiums, or even an inability to get insurance on a property in a high-risk area. These problems have potentially serious social impacts on the community as a whole. Many expressed feelings of flood risk areas becoming stigmatised places, no-go areas where no-one wanted to live and where residents, in effect, become trapped in uninsurable properties that no-one else would purchase.

We cannot sell our houses cos insurance companies won't take on new policies.

Three of the major insurance companies will not do business with our area at all - others are set to follow suit which will leave our residents with negative equity through unsaleable properties. Mortgages will be unavailable through lack of insurance cover and people will be reluctant to move into the area with the knowledge flood damage costs will have to be borne personally.

Individuals living in 'at risk' areas already have to cope with the dread of having their lives and homes wrecked by foul water and debris entering their premises, being unable to obtain satisfactory insurance at a reasonable price, the lowering of property prices and even the inability to move house as a result of failure to sell.

To add insult to injury, we now have a legal obligation to inform potential purchasers of our property that our house is "liable to flooding". - an excellent selling point!!! - you must agree!

**Comment: A number of participants (different backgrounds) stressed a need for government intervention to develop alternative mechanisms of insurance provision:**

Those who cannot obtain insurance for their homes are simply devastated. The government really must try and help those who cannot insure their homes. I have suggested that the government looks at encouraging the insurance industry to act as one and produce a government backed scheme to help those who are considered a higher risk.

4.4.3 *Health Impacts:* Several experts commented on the range of bacterial and viral infections carried in floodwater and stressed the low awareness of these risks amongst the public and authorities. Victims talked of cuts and grazes becoming infected after contact with the floodwaters.

## **5 Concluding remark**

To conclude, our content analysis of the Floodforum dialogue does point to a number of specific and more general themes that are significant in the context of Parliamentary debate on flood risk management and/or which could, potentially, be used as a springboard for on-going (and potentially more structured) stakeholder involvement. These are (not in any order of priority):

1. The perceived inequity of risk burden (focussing on the economic costs incurred by those living in flood prone areas). Public anxieties centred on the proposed flood tax and on the withdrawal of insurance from high risk locations.
2. The fragmentation and bureaucracy of existing risk management institutions – linked to a lack of/need for clear lines of responsibility, accountability and powers.
3. Lack of/ need to develop holistic and long term approaches to river catchment management (particularly in the light of concerns about climate change).
4. The need to develop approaches to risk communication and risk management which incorporate local knowledges and recognise social/ cultural, as well as economic, costs and benefits.
5. There are no 'one message suits all needs' solutions to risk communication. Targeted material tailed to specific audiences is necessary.
6. Research and experimentation in communicating the uncertainties of flood risk to a range of actors (including insurance companies, homebuyers, media)

7. Innovation with more deliberative methods of public dialogue and decision-making
8. The need to support and build social capital. 'Bottom-up' local action groups, provide social and emotional support, empower affected communities, offer an established network of grass-roots knowledge and can assist in the development and delivery of appropriate awareness and behaviour change information.
9. In general, participant responses to the dialogue were positive. Relational benefits included talking to others, sharing and learning. However, such mechanism must form part of a continuous process and in the longer term (be shown to) 'make a difference'.

### *Bibliography*

Irwin, A 1995, *Citizen Science* (London, Routledge)

POST (2002a) Postnote : Floodforum.net – an online discussion examining perspectives on managing flooding (January 2002)

POST (2002b) Postnote: Floodforum.net – an online discussion (April 2002)

Report of a Royal Society Study Group 1992. *Risk: Analysis Perception and Management*. (London, Royal Society).