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Public dialogues on flood risk communication

Appendices – SC120010/R4

Flood and Coastal Erosion Risk Management Research and Development Programme

We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

This report is the result of research commissioned by the Environment Agency's Evidence Directorate and funded by the joint Flood and Coastal Erosion Risk Management Research and Development Programme.

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Evidence at the Environment Agency

Evidence underpins the work of the Environment Agency. It provides an up-to-date understanding of the world about us, helps us to develop tools and techniques to monitor and manage our environment as efficiently and effectively as possible. It also helps us to understand how the environment is changing and to identify what the future pressures may be.

The work of the Environment Agency's Evidence Directorate is a key ingredient in the partnership between research, guidance and operations that enables the Environment Agency to protect and restore our environment.

This report was produced by the Scientific and Evidence Services team within Evidence. The team focuses on four main areas of activity:

- **Setting the agenda**, by providing the evidence for decisions;

- **Maintaining scientific credibility**, by ensuring that our programmes and projects are fit for purpose and executed according to international standards;

- **Carrying out research**, either by contracting it out to research organisations and consultancies or by doing it ourselves;

- **Delivering information, advice, tools and techniques**, by making appropriate products available.

Miranda Kavanagh

Director of Evidence

Executive summary

This document contains the appendices for the public dialogues on risk communication project. The appendices include:

- dialogue methodology

- recruitment of participants

- key providers' workshop report – summary

- dialogue attendance

- dialogue materials – summary

The information in this document complements the main report, literature review and evaluation report for the project.

Contents

1 Methodology

1.1 Literature review and mapping exercise

The project team undertook a high-level literature review focusing on public understanding of, and engagement with, flood risk in a number of developed countries. The aim was to synthesise evidence emerging from existing work and highlight areas where there are still gaps in knowledge. The evidence obtained from the review provided a foundation for the development of the approaches and materials for use in the dialogue workshops.

Alongside the literature review the team undertook a mapping exercise. This involved examining the current flood risk communication system by undertaking telephone and face-to-face interviews with the key providers (Met Office, Flood Forecasting Centre, Environment Agency and Cabinet Office) to answer the following questions:

- How many routes to the public are there?

- What media is used and why?

- Does the message differ and if so how?

- What level of consistency is there at present?

This approach explored the provision of information in contexts of 'static' flood risk as well as communications and warning in situations of immediate or 'live' risk.

A non-technical summary of the literature review is available as a separate report.

1.2 Post-review planning

The outputs of the literature review and mapping exercise were central to defining the rest of the project and fed directly into the central planning stage of the dialogue process.

It was crucial to work with the key providers at this stage to provide a robust and credible process that would be useful to its intended audience. A key providers' workshop was arranged in February 2014. This was designed to:

- discuss key outputs from the literature review and mapping exercise

- agree points in the current system of flood risk communication that might require strengthening to ensure those at risk from flooding consider taking action

- identify specific areas where public dialogue can potentially assist in shaping improvements

- consequently, provide raw material for the design of the public dialogue and produce recommendations for consideration by the Oversight Group

See Appendix 3 for the report from the key providers' workshop.

Outputs from this workshop were used to plan the more detailed dialogue process with the Oversight Group, along with discussion of important questions such as:

- Which key issues/choices/challenges do we need to focus upon?

- How will outputs influence decisions?

- Which 'publics' do we need to hear from? (for example, location, gender, age, urban/rural, residual/real-time flood risk)

- How best to support deliberation? How much information/time/emersion is needed?

1.3 Stages of public workshop

It was agreed that there would be public dialogue workshops at five different locations in England and Wales – Leicester, Newtown, Oxford, Skegness and York – reflecting a mix of locations that had relatively recent experience of flooding (Oxford and York) and those that were at high risk of flooding but with less recent experience (Leicester and Newtown). Skegness was originally chosen as somewhere that had not experienced flooding, but the recent tidal surge – although not leading to any direct impact on homes – meant that participants in this area had a heightened awareness of flood risk compared with those in Leicester and Newtown.

Two workshops were held at each location (10 in total): a midweek evening workshop followed by a full day Saturday workshop. Collectively, these were known as the 'Stage One' workshops.

Each workshop brought together around 20 members of the public, supported by a mix of specialists with a range of experience relating to flood risk communication. All workshops were independently facilitated by a 3KQ and CEP team. See Appendix 4 for more detail on the dialogue events, including specific activities and participation.

At each location:

- Workshop 1 introduced participants to the complexity of flood causes and risks. There were opportunities to question specialists and to request further information or inputs for workshop 2.

- Between the workshops participants were encouraged to undertake some 'homework' relating to flood risk communications.

- Workshop 2 brought the same group back to consider challenges and choices in flood risk communication in the context of specific scenarios.

There was a reconvened workshop in November 2014 ('Stage Two'), bringing together selected participants from all five locations to enable further, deeper deliberation on selected issues to take forward to the final stakeholder workshop in early 2015.

Workshop objectives

Objectives for workshop 1

1. Reassure and enthuse participants about taking part in the full day workshop to follow.

2. Explain that this is a public dialogue designed to produce recommendations from members of the public and stakeholders on resources which are likely to result in positive changes to how people think and act in response to flood risk.

3. Clarify that the focus of the dialogue is about improving communications about flood risk and getting people to take action PRIOR to flooding, NOT about managing flood events.

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4. Gather information from participants about their current levels of experience of flooding and communications about flood risk.

5. Gather information from participants about how they respond to different media and forms of communications about flood risk.

6. Give information about the nature and risks of different flood types, causes and consequences and how these are currently communicated by different organisations.

Objectives for workshop 2

1. Encourage dialogue amongst all participants and resource people about the most effective methods and times to communicate about flood risk in a way that encourages appropriate action.

2. Gather information from participants about attitudes to communications about flood risk:
   – using a scenario and specific character/audience type
   – considering their own attitudes
   – giving them a chance to react to what happens now
   – getting ideas of how communication could work more effectively

Purpose of workshop 3 (Stage Two combined workshop)

To provide an opportunity for members of the public who attended the first round of workshops to meet again with specialists in flood risk communications to further discuss issues and dilemmas.

1.4 Reporting and identification of questions and issues

At each workshop, reporters took laptop notes of conversations, supported by audio recordings. These transcripts were combined with comments on worksheets and flipcharts to produce a short individual report for each location. Findings from all five locations were combined to create a Stage One report. This report combined common messages with unique messages that may have come from only one or two places. Questions and dilemmas were identified where there were conflicting views or uncertainty rather than a clear common message.

Findings from the combined Stage Two workshop were combined with the earlier findings from the regional workshops to create a Stage Two report.

1.5 Final stakeholder event

A final Oversight Group meeting was held early in 2015 to bring together a mix of flood risk communication providers and other stakeholders to discuss the outputs of the dialogue process and clarify related responses and actions. This was followed by preparation of the final report.

2 Recruitment of participants

2.1 Locations and specification for Stage One participant recruitment

Ten workshops were held in five locations as detailed in Table 2.1.

Table 2.1 Details of Stage One workshops

Workshop	Location	Date and time	Specification **All – aim to have 20 there on the day**
Workshop 1 – Urban – at risk but no recent flood experience	Leicester	Tuesday 27 May: 6 om to 8.45 pm Saturday 31 May: 10 am to 4 pm	20 people representative mixture of gender/age/socioeconomic status and so on from areas in Leicester which are identified on Environment Agency maps as at risk of flooding (maps have been provided – people should be from blue or purple shaded areas). Additionally between three and six people must be active within their community (for example, volunteer, member of local group such as environmental group or charity, attend neighbourhood forum or community association meetings, help with neighbourhood watch or school parent teacher association).
Workshop 2 – Southern – with flood experience between 2003 and 2012 (but not if they are yet to return to their own home)	Oxford	Tuesday 10 June: 6 pm to 8.45 pm Saturday 14 June: 10 am to 4 pm	20 people including a minimum of two and maximum of five people from the following areas which have been identified by the Environment Agency as having flooded: • Abingdon: Meadowside – OX14 5DX (internal property flooding) and Sellwood Road – OX14 1PE (internal property flooding) • Bicester: Church Lane – OX25 2PL (internal property flooding) • Henley-on-Thames: Mill Lane – RG9 4HB (internal property flooding) and Wargrave Road – RG9 3JD (gardens and grounds) • Oxford: Duke Street – OX2 0HX (internal property flooding) and Western Road – OX1 4LF (internal property flooding) • Witney: Riverside Gardens – OX28 6DD and Bridge Street OX28 1FX (internal property flooding and gardens and grounds) Representative mixture of gender/age/socioeconomic status and so on plus between three and six people must be active in their local community (for example, volunteer, member of local group such as environmental group or charity, attend neighbourhood forum or community association meetings, help with neighbourhood watch or school parent teacher association) AND must have some direct

			experience of flooding (for example, house, garden or garage flooded or business/work premises flooded).
			(People affected by flooding to their homes need to be back in their home to assist with keeping conversations about better ways of communicating risk rather than continued impacts of flooding.)
Workshop 3 – Northern – with flood experience between 2003 and 2012 (but not if they are yet to return to their own home)	York	Wednesday 25 June: 6 pm to 8.45 pm Saturday 28 June: 10 am to 4 pm	20 people including a minimum of two and maximum of five people from the following areas: Collingham, Garforth, Bramham, Tadcaster, Wyke Beck and Boroughbridge which have experienced flooding. Representative mixture of gender/age/socioeconomic status and so on plus between three and six people must be active in their local community (for example, volunteer, member of local group such as environmental group or charity, attend neighbourhood forum or community association meetings, help with neighbourhood watch or school parent teacher association) AND must have some direct experience of flooding for example, house, garden or garage flooded or business/work premises flooded. (People affected by flooding to their homes need to be back in their home to assist with keeping conversations about better ways of communicating risk rather than continued impacts of flooding.)
Workshop 4 – Coastal – at risk but no recent flood experience	Skegness	Tuesday 1 July: 6 pm to 8.45 pm Saturday 5 July: 10 am to 4 pm	20 people representative mixture of gender/age/socioeconomic status and so on from areas in Skegness which are identified on Environment Agency maps as at risk of flooding (maps have been provided, people should be from the blue or purple shaded areas). Additionally between three and six people must be active within their community (for example, volunteer, member of local group such as environmental group or charity, attend neighbourhood forum or community association meetings, help with neighbourhood watch or school parent teacher association)
Workshop 5 – Rural – at risk but no recent flood experience	Newtown	Tuesday 16 September: 6 pm to 8.45 pm Saturday 20 September: 10 am to 4 pm	20 people from rural areas around Newtown identified by the Environment Agency as at risk of flooding (maps will be provided as for Leicester and Skegness) – representative mix of gender/age/socio economic status – maximum of four from any one village/community. Additionally between three and six people must be active within their community (for example, volunteer, member of local group such as environmental group or charity, attend neighbourhood forum or community association meetings, help with neighbourhood watch or school parent teacher association).

2.2   Recruitment screener

Instructions to recruiters are given below.

Please read out:

We are looking for members of the public to take part in discussion workshops to help work out the best way of communicating about the risk of flooding and what people can do to be prepared when necessary. The project is being run by the Environment Agency and other partners including local authorities.

There is a website you can look at for more information: http://floodriskdialogue.org/

You don't need to know anything about flooding to take part, we are just looking for a mix of people to talk to about the issue and help to work out the best way of telling other people about it.

Extra information if requested

Flooding is an increasingly serious problem in the UK. In England nearly 1 in every 6 properties is at risk of flooding.

The impact of flooding on individuals, businesses and communities is often devastating, however many people at serious risk of being affected by flooding are not aware of the extent of that risk.

Many others are not aware of what they can do to reduce the effects of flooding, if it does occur.

It is therefore very important to increase public awareness of the risk of flooding and make sure people have the information they need to reduce the impact of flooding on themselves, their family, their home and their community.

This project aims to work with members of the public and through a process of dialogue, create new and practical tools to help specialist agencies communicate flood risk, and what people should do in the event of flooding, as effectively as possible.

We are carrying out a series of public consultation workshops as part of this project and are looking for people to take part in some workshops. As a token of our appreciation for participation eligible attendees will receive a cash thank you for their time. I just need to ask a few questions first …

Questions followed on: gender, age, children, occupation and qualifications, location, involvement in local community, experience with flooding, willingness to take part in further workshops, and willingness to share contact details with the project team. If respondent met all criteria, they were invited to participate and further details were taken, followed by a checklist of items for the recruiter to ensure all relevant information was passed on.

3 Key providers' workshop report – summary

3.1 Attendees and objectives

Jacqui Cotton, Environment Agency, thanked everyone for attending and explained the purpose of the day: to contribute to the Flood Risk Communication Public Dialogue project. She introduced Richard Harris, the facilitator for the day.

There were 13 attendees at the workshop from the Cabinet Office, Defra, the Environment Agency, Flood Forecasting Centre, Gloucestershire County Council and Sciencewise, as well as the independent evaluator for the project. There were four project team members: two from 3KQ and two from Collingwood Environmental Planning.

Richard Harris confirmed the objectives for the day as follows:

Objectives

Bring together representatives from the key providers organisations to:

- Consider and discuss outputs from the literature and methods review.

- Agree points in the current system of flood risk communication that may require strengthening to ensure those at risk from flooding consider taking action.

- Identify specific areas where public dialogue can potentially assist in shaping improvements.

- Consequently, provide raw material for designing the process of public dialogue by facilitators and for consideration by the Flood Risk Communication Project Oversight Group.

3.2 Literature review

The group spent some time at tables discussing their response to the literature review, including any questions, observations or challenges. Attendees wrote down any questions on cards and asked the most pressing of these in plenary. The full list of questions and comments is reproduced below. This is followed by a summary of the questions and comments discussed in plenary, with responses from Collingwood Environmental Planning, which undertook the literature review.

3.2.1 Full list of questions and comments

- What resources are in local councils and how do we tap into them?

- Techniques – where is does the local council fit into this? Not just police or landlords.

- How do we cope with the fact that awareness may not link to action?

- What is the optimum level of effort?

- What does success look like in terms of cost-effectiveness? (Diminishing returns – how much to spend on reaching the last x%?)

- Can we learn more from good practice in other EU countries (including benchmarking levels of spend)?

- Where does England (UK) sit on the scale/benchmark internationally?

- Who are the most effective communicators? If not official bodies how do we work with them – key individuals? Other channels for example, insurers?

- Can we learn more from other disciplines? (And other areas of comms – advertising??) What language works?

- Language – corporate versus personal which is best and where? Cater language to channel?

- Freedom to do/communicate from an authority – how does that affect what we do?

- Messaging – more emphasis on the warning as an 'end' of an engagement plan than blunt main means of communications about a flood risk.

3.2.2   Questions and comments in plenary

These covered the topics of:

- audience

- use of language / tone

- effort (optimal level)

- consistency across channels

- focus – what are we trying to communicate

- quality of communications

- timing of message

- using key individuals

- timing of engagement

- exclusion and access

3.3   Testing the system

Attendees split into four groups, each accompanied by a facilitator. Each group was given a description of a person belonging to a particular demographic. They were then asked to consider how this person would react to a situation of live flood risk, followed by a situation of static flood risk, specifically in relation to communication needs and channels. As part of their discussion the groups identified 'flashpoints' on the current model of communication. These are potential points of weakness where there is a risk of the individual essentially falling out of the communication pathway so that they do not reach the point of taking appropriate action in response to the risk.

3.3.1   Live risk

Scenario: 'Heavy rainfall has led the river that runs through the town to rise and overtop the riverbank in several places. So far there hasn't been flooding in the town

itself, but the ground is waterlogged in the whole area. A Met Office Heavy Rainfall Alert is in force for tomorrow and an Environment Agency Flood Warning has been shown on local TV broadcasts. The latest forecast is for a heavy band of rain bringing about 8 mm of rain across the area, but with up to 17 mm in some places. What should residents do?'

Guidance to groups

1. Consider your character.

2. What information do they need regarding the risk? How might they get it?

3. What information do they need regarding whether to act or not? How might they get it?

4. Where are the points of weakness?

Flashpoints in the communication pathway identified by each group for the live risk scenario

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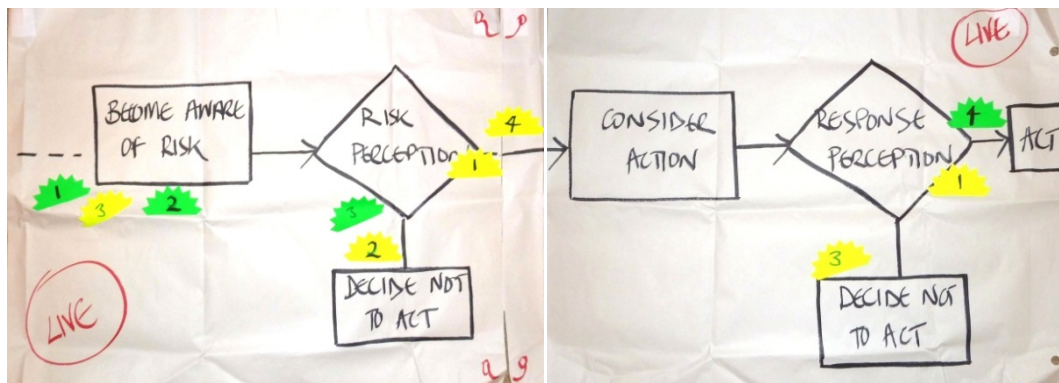
Older person – group 1 flashpoints

Becoming aware of the risk: Edna is not on any network of communications channels as she is 84 and lives alone. She listens to the radio a bit and is not on any channels that will alert her. She is reliant on her daughter calling up and saying 'mum you're at risk'. Edna would be worried if she heard something on the radio. She lives near a river. But she doesn't know not to worry – even if it was the most amazing network, it wouldn't be set off to say 'don't worry'. That's a common issue – when a warning is issued, people not in that part of town call up to say 'why haven't I got a warning'. It is because they are not at risk – there is nothing to say 'it's not affecting you'.

Risk perception and considering action: This was about the fact that it is reliant on personal contact – how much time do they have to give her and sit with her to go through it. And we said it had to be simple – a list, for example a recipe: 'Edna, do this now …'.

Response perception and action: Edna's specific difficulty here is that, in order to rationally think through the options, she really needs to have someone sitting with her, and at the moment that didn't seem very likely. It was about that acceptance – can I stop it? If not, what are the things I have to do? Wanting to act, and not being able to effectively. Moving stuff around might not be possible for Edna. Also a question for Edna was, if acting meant move out, for example going to the local school, that's full of uncertainties – for example, how long would it be for, what is the risk of not having blankets. In that situation it felt rational for her to stay at home. And also if there was a situation where there were no blankets the first time, it might make a person less likely

to act on next occasion. There is something around not acting if the risk doesn't come to fruition – it vilifies the choice not to act.

Student – group 2 flashpoints

Becoming aware of the risk: Samir is a second year student. He might slip through the net a bit. He is linked into university stuff and friends though social networks, but there is nothing coming to warn him there is a risk. And he's at risk from a mix of surface and groundwater. There's the overarching issue of transient communities and someone not geographically rooted to where they are.

Risk perception and considering action: It was felt that Samir would be less risk averse than some people and not take it as seriously in the context of getting to a hockey match, or getting to a social event. Also he is of the age profile where he is getting a lot of messages, so the message is competing with everything from alcohol abuse to careers advice. Also, for him it is not about property but about possessions, so he might feel there is not much to lose and that the information does not apply to him. And he might take wrong action – he might go and have a look.

Single parent – group 3 flashpoints

Becoming aware of the risk: Our character is Sarah. She is signed up to flood warnings, but as it is a groundwater risk, it is likely she would not be aware of what groundwater meant and, having had warning long time in advance, would be very unlikely to realise the risk. And the nature of groundwater requires a background understanding of what is quite a complex issue.

Risk perception and considering action: This is slightly different in that there is a lack of direct information that is relevant to Sarah. Also there is a wide area of risk – people she speaks to may get different information and may confuse the situation. She is a busy person, and at this moment in time she has still not got the message that it is her property that will flood, so it is likely she will not do anything. Sarah has loads to do and is getting lots of messages.

Response perception and action: Even if she knows there is a risk, and even if she decides to act, there is still a lack of information. And it is groundwater so it might not be clear what to do anyway. The communication channels she is connected to might not give the right specific information – she does not know what she can do when the water comes in.

Recent retiree – group 4 flashpoints

Risk perception and considering action: Colin is retired and active in the parish council. He is connected to lots of networks and has been flooded before. Though he would be aware already, for him to consider action he needs to know how bad it is. His garden was flooded last time and he coped with that. What information is there that he could use? He could ring his council mates, people he knows. But he also might get people ringing him to say 'how bad is it?' He might have a lot of different information, and would need to think about action at an individual level but also a community level. Also would Colin interpret the information in the correct way? We think he would for this scenario but there is a risk he would not. Also, our experience is that though that information (for emergency responders) is not aimed at the lay person, other people do receive it – from local councils to parish councils. But it is designed for emergency responders, not lay people. There is an issue where you know who your audience is but there's nothing to stop other people accessing it.

| **Response perception and action:** It follows on from the previous issues – there are a lot of actions he could possibly take, and it is about making the right choice and knowing what the right thing to do in that situation is. |
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3.3.2 Static risk

Scenario: 'Newtown City Council has sent a postal survey on community flood resilience to all the residents of Burnside ward, which is shown to be at risk in the Environment Agency's flood risk map. The survey includes questions on risk of flooding, past experience of flooding and any measures that residents have taken to prepare for flooding. The Council is running a project on flood risk and is inviting residents to get involved. How do they decide whether this is relevant for them?'

Guidance to groups

What changes with respect to the following questions when the risk is static rather than live?

1. Consider your character.
2. What information do they need regarding the risk? How might they get it?
3. What information do they need regarding whether to act or not? How might they get it?
4. Where are the points of weakness?

Flashpoints in the communication pathway identified by each group for the static risk scenario
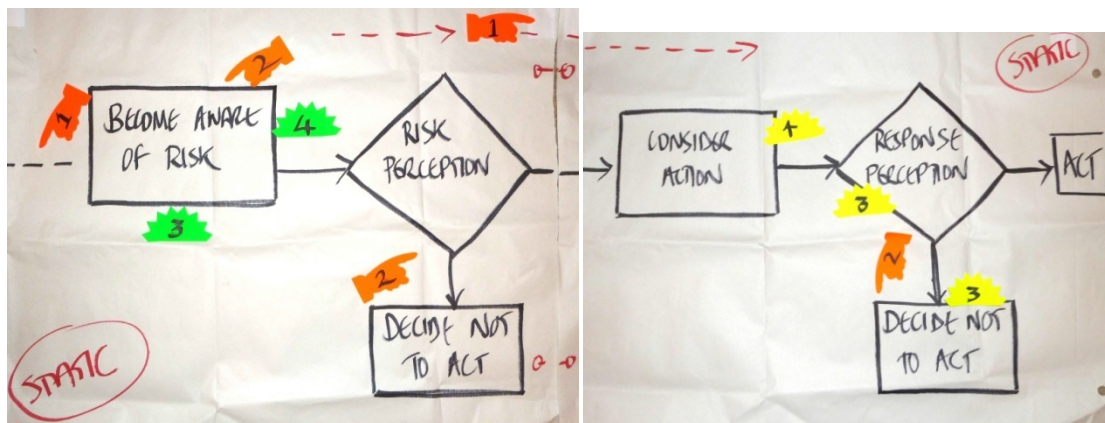
Older person – group 1

Becoming aware of the risk: Edna is not going to open the envelope – it will go straight to recycling. It's the wrong approach for her. Because of how she is and where she is, she will always need a bit of help, whether filling in the survey, understanding the risk, or taking action. Even if she did get her daughter to help her, her daughter might say 'we don't want your insurance going up' so they might do nothing anyway.

Risk perception and considering action: On reflection, there is a chance Edna would go along to something to get involved. If the letter says 'get involved' she might imagine tea and biscuits and a chance for a chat. So the involvement part is attractive, but filling in the survey not so much. Even if people do act, everyone stops at being

personally aware and having some sort of flood plan. Is there something else we can do – for example, look at financial aspects, and thinking about neighbours. The best it seems to get is people looking at what they need to do without looking at the community scale.

Student – group 2

Becoming aware of the risk, risk perception and considering action: This was pretty similar to live risk. Samir probably wouldn't open the letter at all. If he did look at it he probably wouldn't take any action.

Response perception and action: We pushed the conversation and thought, if he got to the point of action, what could he do? The only thing we came up with was taking up contents insurance, but there are barriers to doing it – he's in a shared house and low on finance. Also he wouldn't get as much out of becoming involved in this kind of thing as someone like Edna. He is not looking for another excuse to sit down and chat – others in neighbourhood might benefit from that kind of group, but not Samir. Even if he is quite interested and informed about flood risk he still might think 'well I've only got a year left, I'll probably get away with it'. We did also discuss a 'gold standard' Samir, who was a volunteer. But even then, with only a year left, is he really the right person?

Single parent – group 3

Becoming aware of the risk: Any information Sarah gets will be incredibly generic. It will be difficult for her to find maps and there won't be much information about what she could do in advance that would make much of a difference. It might be that elderly neighbours who have experienced flooding will tell her about it so she opens the envelope. She might be prompted to do a quick internet search, although that requires local knowledge.

Response perception and action: This went back to her being very busy. The steps she might take for preparing (moving things higher and so on) are likely to be put off. Also, she is signed up to the warning service so will know when to act.

Recent retiree – group 4

Becoming aware of the risk: We thought Colin would want to make sure it was relevant to him – he would look at maps. We thought he would want a deeper level of understanding so he could tell other people. He could decide it is not relevant as it is 'not his kind of flooding'. He would look for lots of information, so might carry on through the process. We thought about supplementary information from different sources – it's just the flood map and nothing else to confirm it (low level of static risk).

Risk perception and considering action: He is already busy, and already involved in the parish council. Also, he is not necessarily a flood person on the parish council. The question is what would be the benefit for him? Also because the message came from the city council but also mentions the Environment Agency, this might be something there that makes him start to think about it.

3.3.3   Additional discussion in plenary – overcoming the challenges

Funding

If parish councils really want to, they could raise money within their own communities to enable flood resilience, for example, by raising the precept.

Where to invest

There are potential question about where you invest in pushing information down through communities. Would you invest in Edna or Samir? Maybe it's no brainer for Edna, but what if it was the gold standard Samir.

Involvement in existing structures

Samir could get involved in existing structure like AgeUK. But it is difficult to find those organisations with that level of reach – in any community there is likely to be an organisation that is the key to unlocking that community, but you will not know that unless you know the community. It is about finding someone in the community with that knowledge. This connects with Edna being in a hard-to-reach bracket. One way to get to the hard-to-reach is by going through existing agencies. For example Defra ran a project on sustainable food and involved the Women's Institute, which was very effective. It is about finding another way around the system basically.

Learning form other's successes

There has been some interesting work done in schools. Kids brainstormed what would happen in floods and drew pictures – for example, 'don't forget my inhaler'. Children were great at identifying the key considerations and it led to a shift in those families. Also there was a Sustrans study looking at what people usually did for transport. The first time, they asked where do you go and what do you need. They then provided lots of relevant material about transport and took people through the materials. It led to a 70% increase in the use of public transport sustained over three years.

But the challenge is that there is not enough resource to go out to everyone, so we do a lot of things where we invite people to events. So even though it is not as effective, that is the approach used. It's about triggering people to come to us rather than going to individual houses.

Linking to community responsibility and resilience

What about a train the trainer type approach? It seems to come back to the point that, to really get people to act, you need a local voice that people really trust and that they interact with regularly.

This raises an interesting point about social/community level responsibility for flooding. A lot of our discussion was about what Sarah could do, not what she could do for others or others for her. What might be interesting to explore in a public dialogue is to what extent people think there is a shared responsibility for flooding, and what are the things that might get people thinking about more of a community approach.

In a static risk situation, if there is a 'near miss' situation, that could help to engage people. Or you could link it in with community resilience more generally, for example if an area is also at risk of snow or drought.

In California, everyone has an earthquake kit – it is just considered what you do. Also it is part of insurance – you need to have vent covers fitted.

Also it is about profiling the area. For example the East Coast will get a surge at some point – it is easier to talk to them about it as has happened before and will happen again. In areas where it has not happened before it is much more difficult.

Also you don't have to start with your agenda. There is not much chance a community will be interested in risk, but it is likely they might be interested in the river. You then might be able to start to get to know the local people and then link into flooding.

Shifting to a positive

The relational stuff is very important – the idea of static risk is a bit of a misnomer. But there is also something also about investment in those relationships. People are more likely to invest in a positive than to mitigate a negative. So if you spin it differently so that people are investing in a relationship that's more positive than mitigating the negative, it could work much better.

From what we understand the maps are more of a barrier than a catalyst for action. It hasn't instigated action at all. But there's a question over whether in a different form it might be positive.

There is a question over whether you can make flood identity as a positive – that is, this is a community that knows how to deal with flooding – and make it something to be proud of. There is a lot of work on flood memory – it becomes a thing you want to invest time in, as you meet other people, and take action in community. It becomes positive.

There are flood action groups that have transformed into community groups. There's a community action element we are all searching for in some ways.

3.4 How and where could public dialogue most help?

3.4.1 Introduction to public dialogue

Richard Harris described what was meant by public dialogue in the Sciencewise sense, as follows:

- You cannot have dialogue with 'the public' as there are too many, an different kinds of public.

- Dialogue is a two-way conversation.

- Public dialogue in the Sciencewise sense gives us the challenge of making it possible – how do we talk with sufficient members of the public to get useful answers?

- It is not market research – it invites recruited members of the public to think through the dilemmas, technologies, policy and implications; to develop their understanding of the topic; and to work through it with experts, in exchange.

- Both can be challenged and improve their thinking and understanding as a result.

- The aim is then to come up with recommendations and conclusions that can have real impact on policy.

Richard then explained that in order to design the public dialogue so that its outputs are useful and impactful, there was the need to make some decisions about:

- Who to engage with – what kind of publics?

- What are the key questions we want to ask them? As the critical agents in this business of flood risk communication, and where success is people understanding it and acting as a result, what will be really useful to ask as part of this dialogue?

Attendees split into groups to discuss these questions, before feeding their thoughts back to plenary.

3.4.2 Thoughts on public dialogue – what would be useful to explore?

What kind of questions might we ask?

- Who do people expect to get information from, and what is that information?

- What do people see as their personal responsibilities and who do they see as being responsible for other specific things?

- Are people more interested in 'what does it mean for me' than the risk awareness aspect?

- What knowledge and information do people actually want? For example the literature review pointed out people can have a lot of information but that doesn't necessarily lead to action. People get these warnings but are they actually interested in what to do as a result?

- Is there something about understanding the cost of actions so there can be a discussion along the lines of 'if you were the government where would you spend the money?' Also a discussion about sharing who contributes and, for example communicating and understanding the responsibility of ownership.

- What makes people act? This is wrapped up in a lot of other questions. For example does information on uncertainty help, or tailored information, and what kind of information (static or active).

- Can we use the positivity aspect – is that more likely to instigate action? For example, messages such as 'your community needs you' and around the benefits of doing this even though it might cost you. Those are the two big things. And it's both about the awareness of risk and doing something about it.

- How can we replace a dual system with a continuum? It should be one line, from a small chance of flooding that rises and falls depending on, for example, precipitation. At the moment people can know about flooding but not know about the background risk or vice versa.

- Potentially could we jump over the technical risk discussion and instead tell people the appropriate action. For example 'you are at the level of risk that means you should do this'. You can give them the detail if they ask for it. But this could maintain the public sector role of being the ones who know and who manage. Although numbers around risk generally don't mean anything.

- What can others do to reinforce what we do? It would be interesting to see who else people might want to hear messages from.

- In terms of resilience, there are great examples of situation where a community has coped in an extreme situation, but there is a difference between being able to cope in a one-off situation and that becoming sustainable over a period of time. There is a psychological response to all this sort of thing too.

- It might be useful to test some of the assumptions about risk perception. We assume a lot about what people should worry about, but it might be useful to look at what they actually do worry about.

- We could potentially take it away from flooding initially and look at the question of what would make people act?

3.4.3   Who should we ask?

- There is a possibility to just have a dialogue with people who haven't been flooded.

- Those which haven't been flooded for a few years would be interesting, to see if or how those communities have changed. It will be interesting to see if there are any behavioural differences.

- All of the above – people who have been flooded, and those at risk but not flooded.

- It's difficult to go to those recently flooded until they are past the angry stage.

- Where is there the most to learn? Some kind of profiling needs to be done.

- Is the biggest issue awareness of risk or action? Probably action, and you see a lot more action where flooding has happened, so we need to look at those who haven't experienced it.

- A group who didn't think they were at risk but then did experience flooding would be useful – for example recent groundwater flooding. There might be some interesting responses from them as it happened suddenly with little warning. A lot of people flooded with surface water in 2007 with no warning.

- The mix of age and demographic in each group is really important, as we have seen today there are different issues for each one.

- We would need to have some mechanisms for sifting out those who are really interested in flooding too. We probably react more to flood victims than to people at flood risk. It would be interesting to have a conversation with people who don't care about flooding, as they are the people we are not reaching.

- There may be someone with not a lot of money, who is very aware of the risk, but cannot act. Or you may have someone with a lot of money who is well networked but still doesn't act – the approach with those people is very different.

- Insurance excites people and is a lever to get things done – one conversation you could have is with insurance people who are not the ABI, at a local level, to see what we can do to work with them better. There is the possibility of turning it around to ask people what sort of relationship they have with their insurance company. And similarly with estate agents. How would people feel if the estate agent brought these things up?

- A group of property professionals – loss adjusters, insurance agents and son on – could be good to engage. We have found it a hard group to talk to. But it all tied in to what makes people act – does insurance make people act? And there is no evidence it does of itself.

Additional notes from table discussions (NB some repetition with the notes above)

- What makes people act? Describe actions not risk – cut out middle. Get to all people by joining up static and live – blue map turns red. Use app/narrative to tailor advice to person, property and risk.

- How can you draw people in – interaction, tailored information.

- How information requirement changes through the engagement process? What is useful and when, and perception of risk?

- How much information on uncertainty is required? What difference does it make? Is it a barrier?

- Can we cheat – what the actions are instead of the risk?

- How can we replace the static versus live with a continuum?

- What makes people act – ask them, what is the trigger?

- Being generic about risk – ask those questions to understand.

- Can we use the positivity regarding messages – 'your community needs you'.

- Who do you want the information from?

3.5   The way forward

Jacqui Cotton confirmed the way forward as follows:

- Outputs from this workshop, alongside existing material and the literature review, will be fed into the design of the public dialogue.

- What to ask members of the public, the level of depth to go into, and the best way to meet the needs of those present at this workshop will all be considered by the Planning Group (part of the public dialogue Oversight Group) as part of the design process.

- By the end of March, Oversight Group members should have sight of the outline of the proposed dialogue to ensure it will provide relevant and useful

outputs. Attendees of this workshop will also have the chance to comment at this stage.

- The public dialogue is due to start around May.

- The project website should be up and running in mid March – a link will be shared with meeting participants.

Jacqui thanked attendees for coming and for all their contributions. All attendees were encouraged to get in touch with any further comments, concerns or suggestions.

3.6   Evaluation

Attendees were asked to respond to three questions in order to evaluate the day's activities:

- How well have the objectives of today's meeting been met?

- How much influence do you feel your input has had over the public dialogue design?

- How confident are you that the public dialogue may produce useful results?

Responses are shown below.
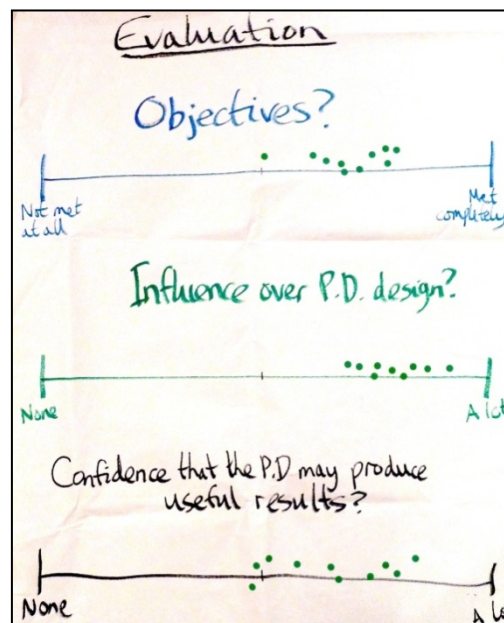
4   Dialogue attendance

The number of attendees involved in each workshop is shown in Table 4.1.

Table 4.1   Number of attendees at each workshop (Stage One)

Location	Session 1 participants	Session 1 specialists	Session 2 participants	Session 2 specialists
Leicester	23	6	22	5
Newtown	19	7	17	5
Oxford	17	6	16	6
Skegness	12	4	12	4
York	24	7	23	5
Total	**95**		**90**	

In addition to the participants above:

- Ali Crowther (Sciencewise Dialogue and Engagement Specialist) attended Session 1 in Leicester and Session 2 in Skegness.

- Anna McGillivray (Evaluator) attended Session 2 in all locations except Skegness and Session 1 in Leicester.

- Each Session 1 event was staffed by a team of two – one lead facilitator, one reporter/support facilitator.

- Each Session 2 event was staffed by a team of six – one lead facilitator, two support facilitators and three reporters. (Except Skegness where one support facilitator was unable to attend, but due to lower numbers, one group had a facilitator/reporter.)

The combined Stage Two workshop was attended by a selection of 28 members of the public from Stage One workshops with representatives from all five locations (Leicester, Newtown, Oxford, Skegness and York), alongside eight specialists and two observers from Birmingham University.

5 Dialogue materials – summary

5.1 Range of materials provided

A summary of the printed, online and audio-visual materials used in the initial 10 dialogue workshops is given in Table 5.1.

Table 5.1   Summary of dialogue materials used in initial workshops

Title	Details	Where used
Flood risk maps	Surface water flood risk maps, and river and seas flood risk maps, plus two additional maps at Skegness: overtopping and breach maps	Workshop 1
Characters and scenarios	Three descriptions of demographic groups using specific characters, plus three scenarios describing becoming aware of risk, heightened awareness, and imminent threat (see below for more detail).	Workshop 2: stages 1 to 3
M1	Local council leaflet inviting residents to a meeting about flooding	Workshop 2: stage 1 – becoming aware of flood risk
M2	Public Health England leaflet	Workshop 2: stage 1 – becoming aware of flood risk
M2a	Natural Resources Wales leaflet	Workshop 2: stage 1 – becoming aware of flood risk
M3	Environment Agency 'Flood Destroys' poster	Workshop 2: stage 2 – heightened awareness
M4	Video on impacts of flooding	Workshop 2: stage 2 – heightened awareness
M5	Call to Environment Agency Floodline	Workshop 2: stage 2 – heightened awareness
M6	Phone warning from Environment Agency	Workshop 2: stage 3 – imminent threat
M7	'Find Out if You're at Risk' web page	Workshop 2: stage 1 – becoming aware of flood risk
M7a	Flood Risk Homecheck report	Workshop 2: stage 1 – becoming aware of flood risk

Title	Details	Where used
M8	Personal Flood Plan	Workshop 2: stage 2 – heightened awareness
M9	Text flood warning	Workshop 2: stage 3 – imminent threat
M10	Video of river surfing	Workshop 2: stage 1 – becoming aware of flood risk
M11	BBC weather and Met Office websites	Workshop 2: stage 1 – becoming aware of flood risk
M12	Met Office tweet on local flooding	Workshop 2: stage 3 – imminent threat
M13	Weather and flood warning symbols	Workshop 2: stage 3 – imminent threat

5.2 Characters used for scenarios in Workshop 2

Older person

Edna is an 84-year old pensioner. She lives on her own in a council-owned property. She has a daughter who lives 10 minutes' drive away and comes to visit about once a week. Edna knows a lot of her neighbours and several pop in regularly to see if she needs any help now that she is getting less mobile. Some of her neighbours are also elderly so she can't always count on them.

Edna has lived in the same house for 40 years and remembers that the area flooded in the past, but there hasn't been any flooding for a long time so she hasn't signed up for flood warnings. She has the radio on for most of the day and gets her news that way. The Environment Agency flood map shows Edna's home as being at risk of river flooding. There isn't a flood warden or a community flood plan for her area.

Student

Samir is a student in his second year at college. He rents a basement flat with friends. Samir and his friends make a lot of use of social media, including Twitter, Facebook and Instagram: Samir is from Liverpool so he keeps in touch with his friends there. He also plays hockey a couple of times a week and often needs to find out where the matches are and how to get there. Samir has asthma, which doesn't stop him from doing sports, but does mean that he has to make sure he can always reach his medication if he should need to.

The area where Samir lives is at risk of river flooding. Samir and his friends aren't aware of this risk as the area hasn't flooded in the past year. The letting agent didn't mention the risk of flooding when they moved in. Samir hasn't got contents insurance because he can't afford it.

Single parent

Sara is a single mother of two. She moved to the area 10 years ago and is now buying a home nearby. Sara works full-time so she spends a lot of time juggling tasks, arranging for her children to be picked up and looked after. The primary school is not close to the house, but luckily Sara has good support networks with other parents at

the school. She is very dependent on her Smartphone to contact people and keep up with websites like Mumsnet.

The Environment Agency flood map shows Sara's home as being at risk of river flooding. Sara signed up for flood warnings when there was an awareness campaign several years ago, but she has never experienced flooding and doesn't think it is relevant to her. She has never thought about what she would do if there were a flood.

5.3   Combined Stage Two workshop materials

These consisted of a range of draft, mocked up or prototype materials taking into account on Stage One workshop outputs, to be tested with participants for further feedback. Materials included flood maps, videos, posters, letters and leaflets.

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