



# LIVING IN FEAR OF THE RAIN

The impact of recent flooding in Greater Belfast



The British Red Cross helps people in crisis, wherever and wherever they are. We are part of a global voluntary network, responding to conflicts, natural disasters and individual emergencies.

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## CONTENTS

Introduction	2
Method	5
Literature and policy	10
Key findings	15
Recommendations	19
Special thanks	24

◀ Red Cross volunteers are well-equipped with a fleet of Land Rover 4x4 vehicles to help people in flooded areas



# Introduction

▲ A flooded street in Belfast

Flooding is currently a key priority for emergency planners and statutory services in Northern Ireland. For three consecutive years, Belfast and other parts of Northern Ireland have experienced pluvial and flash flooding. Belfast City Council commissioned a report (2009) to map flooding hot spots across the city, and to identify any factors contributing to flooding. Today, 10,000 properties in Belfast are at risk of coastal or river flooding (*Strategic Flood Map NI – Rivers and Seas*, 2008).

Climate change predictions by Friends of the Earth (February 2010) indicate that existing hot spot areas will remain vulnerable to rises in sea levels. This could mean that, by 2100, what is considered today to be a one-in-100 year flood event would occur every four years.

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## RECENT FLOODING HISTORY

### June 2007

Extensive flooding in East Belfast; 609 homes affected throughout Belfast.

### August 2008

Greater Belfast area affected by flooding; M2 motorway out of Belfast closed because of landslides; M1 underpass filled with 15 feet of water, 347 homes flooded.

### August 2009

Street and out-of-sewer flooding throughout Belfast including Lower Ravenhill, Ormeau Embankment and Rosetta areas.

“It’s caused me many sleepless nights because you’re constantly thinking about flooding, and you think you’re getting somewhere with it and then you hit a brick wall. Every single day now before we arrange to do anything or go out anywhere, we have to check the Met Office weather report on the internet”

**A flood-affected resident**

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## CONTEXT OF THE RESEARCH

In December 2008, the Belfast Resilience Forum of Belfast City Council approached the British Red Cross in Northern Ireland to undertake research into the impact of flooding on people living in identified flooding hot spots across Greater Belfast. The Red Cross secured funding for a research officer who took up post in June 2009.

In undertaking this project, we considered previously commissioned research on flooding such as the Pitt Review (2008). The research team also spoke to Red Cross colleagues who have had experience in flood response across the United Kingdom – for example, in Gloucester (2007), Morpeth (2008) and the north of England (2009 and 2010).

The research was ‘people centred’ in that we directly

engaged with people affected by flooding. It is anticipated that the findings and recommendations will help to improve flooding response in hot spot areas and can be transferred to other flooding situations.

### Research aims

- 1.** Determine the impact of flooding for people and communities living in high-risk flooding hot spots in the greater Belfast area.
- 2.** Highlight any vulnerabilities at response and recovery stages.
- 3.** Determine the needs at the response and recovery stages – including practical, social and welfare issues.
- 4.** Review current integrated emergency management models in Northern Ireland.

# “We’re afraid to go away on holiday”

EXTRACT FROM INTERVIEW WITH **A REPEATEDLY FLOODED FAMILY IN EAST BELFAST**

You have to realise: when people talk about flooding, what’s actually happening is that most of Belfast is in a combined system, meaning that rain water goes into the ground and down into rain gullies and then into the main sewer lines – so it’s all connected. Now obviously, when it’s raining and people are using their showers and washing machines, the sewer is running at a certain capacity. And then you have rainwater trying to run into the pipe at the same time.

When rainwater can’t get into the pipe, everything starts to back up and the gullies start to fill up and that is the major flooding issue in East Belfast. The only thing that would help East Belfast is the Sydenham pumping station being updated, but that would cost millions of pounds – and where’s that money coming from?

What they have done at my property, rather than deal with this specific issue of capacity, is put what I would call a sticky plaster on it. When the rain backs up round here, the pressure is such that it lifts the main manhole lids, a foot and a half, cast-iron lids. They pop up and the water runs down the street and all the sewage gathers here at my property. Now what they have done is diverted all the rain gullies into this river in front of our property, so basically they are getting rid of the water by putting it into a river stream.

My concerns are, number one: my family’s health is at risk. Plus, I’ve invested all my money into this home so house value is a major issue of concern – this is the children’s inheritance going down the pan. I’m paying rates at £115 per month and the sewage that should be leaving my property is coming back up and all over my property.

House insurance is another issue – I’m really reluctant to make a claim. My driveway is coming away from my house, the manholes have sunk and the pipes are starting to back fall on my property because of the amount of water coming over the house. But I’m reluctant to make a house insurance claim because then what you’re doing is identifying that there’s a problem here. And then the next thing, the insurance will turn round and say: ‘We’re not insuring you’.

There’s a legal term that you have the right to peaceful enjoyment of your property. NI Water stipulate on its website that if your garden should be covered

in sewage, you shouldn’t use the grass or beyond the grass for nine days in perfect dry conditions until the bacteria dies. In damper conditions – during spring and autumn – it’s 20 days and in wet conditions or winter, 25 days. Now, it’s happened here five times this year in wet conditions so that’s 125 days that we haven’t been able to use our garden or let the children play in that area.

I can assure you it’s caused me many sleepless nights because you’re constantly thinking about it, and you think you’re getting somewhere with it and then you hit a brick wall. Every single day now before we arrange to do anything or go out anywhere, we have to check the Met Office weather report on the internet.

## **What happens if you want to spend a fortnight away somewhere?**

We have to put family on standby. I get wooden panels and stuff out, I tell neighbours. My father came when we were last on holiday, and he and a neighbour had to go down with rakes and start clearing the river when the river was backing up. They had to block off my gates to stop the sewage getting through.

And then, while on holiday, you hear from people that it’s rained and worry about the house. You phone home and your family don’t want to tell you the truth – they say, ‘Well, it wasn’t too bad’ – and you come home maybe a week later and they’re still clearing up. So, to be honest with you, you’re reluctant to go away. I look at the weather before we go away on holiday and see if there’s a two-week forecast to try and give us an idea. But you’re so afraid of not being here when it happens.

## **Do you ever think of moving away?**

At the time it’s happening, it crosses your mind because you say: ‘That’s it, I’ve had enough of this’. But the thing is: we love the house, we love the area, the kids love it. And if it wasn’t for this problem, this would be home. But even if that decision was taken, who’s going to buy the house? Nobody’s going to want to buy this; it’s worth absolutely nothing. I mean, I certainly wouldn’t buy a house I knew had been flooded.

If I’d known about the flooding here, I wouldn’t have touched this place with a bargepole. I like the house and I like the area, but I would definitely not have bought it. Now we simply don’t have a choice.

“My concerns are, number one: my family’s health is at risk”



# Method

▲ Red Cross volunteers transport supplies to people affected by flooding

The research included:

- > a review of existing literature both British Red Cross and external reports
- > interviews with emergency services, statutory agencies and representatives from community and voluntary sectors
- > engagement with people living in flooding hot spots.

Belfast has an outdated sewerage system with much of the infrastructure more than 100 years old. Similar to most urban sewerage systems, the city has a system that carries both domestic sewage and storm drainage: consequently, has difficulty coping in periods of heavy rainfall. NI Water has now undertaken a major stormwater management

project – the Belfast Sewers Project (2010) – which aims to improve water quality in both the River Lagan and Blackstaff River, and reduce the risk of flooding within the inner city.

## SAMPLE

The project adopted a ‘purposive sampling’ procedure, where people were invited to participate on the basis of their expertise and experience of flooding. This also allowed for a wide range of participants to be interviewed. Nineteen participants were identified from key emergency services and statutory agencies including representatives from:

- > Belfast City Council
- > Eastern Emergency Support Group

- > Belfast Resilience Forum
- > Northern Ireland Electricity
- > NI Water
- > DRD Roads Service
- > DARD Rivers Agency
- > Flooding Incident Line
- > Phoenix Gas
- > Northern Ireland Fire and Rescue Service
- > Belfast Health and Social Care Trust
- > Northern Ireland Housing Executive
- > Northern Ireland Ambulance Service
- > Police Service of Northern Ireland
- > Civil Contingencies Policy Branch, OFMDFM

Participants from 15 local community and voluntary groups in the greater Belfast area agreed to be interviewed for the purposes of this research.

### Representatives included:

- > SDLP
- > UUP
- > Belfast Area Partnerships
- > Lower Ormeau Residents Action Group
- > Engage with Age
- > East Belfast Community Development Agency
- > Disability Action
- > Clarawood Residents' Group
- > Blackie Community Group Association
- > Connswater Community Greenway Project

An integral part of this research was to capture the human stories of flooding. Following close work with local community and voluntary groups, people who had been directly affected by flooding were invited to participate. People were interviewed from across the greater Belfast area including, north, south, east and west. Participants were also invited from the Castlereagh Borough Council area, which borders Belfast City Council and has also been severely affected by flooding. The sample was therefore as illustrative as possible of the experience of flooding in communities across Greater Belfast.

### METHODS OF DATA COLLECTION

Interviews were adopted as the primary research tool to elicit the perspectives on flooding from key stakeholders and community groups, and the experience of flooding from those people directly affected. Two different styles of interview were chosen; semi-structured interviews with all the stakeholders (statutory and community/voluntary) and a more open-ended narrative interview with individuals with personal experience of flooding.

A semi-structured interview approach was selected as the most useful means to determine the stakeholders' perspectives on and experiences of flooding. Although a standard list of questions was prepared before each interview, this style of interview allowed for greater flexibility and provided the opportunity to ask further questions arising from the dialogue.

One of the first priorities of the interview investigation was to design good, open-ended questions that enabled representatives to focus clearly on issues relating to the study's research aims and objectives. Cohen, Manion and Morrison (2007) argue that open-ended questions have a number of advantages: they are flexible, allowing the interviewer to probe for more depth or clear up any misunderstandings; they encourage co-operation and help establish rapport; and importantly, they sometimes result in unexpected answers that may direct the interviewer to consider a previously unthought of topic. Although the topics and open-ended questions were decided before each interview, the exact sequence and wording of the questions did not follow the same pattern for each interview.

A different technique for data collection was chosen when interviewing people directly

▼ The Albert Memorial Clock and water jets in Queen's Square, Belfast





affected by flooding. Connelly and Clandinin (1999) argue there are several approaches to narrative inquiry, including stories, memory boxes and autobiography. A narrative-style interview was selected as the best means to elicit the stories and experiences of those directly affected by flooding. Denzin and Lincoln (1998) suggest that narratives help us to engage naturally with – and understand more insightfully – participants’ lives as they act within their social and cultural worlds.

This aspect of the research primarily focuses on giving voice to – and being illustrative of – the experiences of people most at risk of local flooding. As Larson (1997) argues, when we understand events from other people’s perspectives we are better equipped to identify and implement more successful strategies for addressing problems. In other words, this methodological approach is principally concerned with the real concerns of individuals (Faraday and Plummer 1979) and not with what the researcher gauges as important, therefore going some way to avoid researcher bias.

## ETHICAL CONSIDERATIONS

Goodson and Sikes (2001) advise that the key ethical consideration in any study is how the research affects the people whose experiences and perceptions are involved. With such concerns in mind, this study was cognisant of the commitment in terms of time and involvement for all participants. It also adhered to ethical guidelines as stipulated by the British Psychological Society that apply to all research with human participants. Each participant was therefore given the opportunity to be directly

involved in the research process through their own words and experiences. They were also made aware throughout the study that they could withdraw at any time, and were fully informed of the research aims and purpose.

The researcher has a responsibility to undertake a study within a defined ethical framework and present the findings in a clear and unbiased manner, seeking only to add to the overall body of knowledge. This is particularly applicable when working with vulnerable groups who are very often only visible and audible through the eyes and voices of the majority of the population (Coffey, 1996, p.71). In this research, the use of the narrative interview approach is sensitive to such concerns as it enables participants to be proactive in the research process through the use of their own words.

According to the British Red Cross, vulnerability is the threat people face, minus the sum of their resilience to meet that threat.

The British Red Cross has conceptualised vulnerability. However, the Red Cross Rethinking Vulnerability Framework reveals that, although such a definition can be helpful, it is not always useful. In fact, it can even be stigmatising to define entire groups of people as constituting ‘the most vulnerable’, because this implies a homogeneous group and does not consider how people’s resources and resilience to cope in a crisis can vary significantly. The *Rethinking Vulnerability Framework* document also outlines that a static conception of vulnerability can create a static response where services may not be tailored to meet the needs of all beneficiaries. We therefore recognise that specific attention may be required for individuals who may be more vulnerable to a crisis. These vulnerabilities may be pre-existing or have been caused by the crisis or emergency.

### VULNERABILITY

The Red Cross considers the following factors to have a significant impact on vulnerability:

- > Isolation and dislocation.
- > Lack of resources.
- > Lack of coping strategies.
- > Physical threat.
- > Cumulative and concurrent threats.
- > Lack of legal status.

### RESILIENCE

The Red Cross considers that a crisis occurs when an individual or community’s resilience to withstand a threat is insufficient. Indicators of resilience include:

- > Skills and confidence.
- > Access to formal and informal support networks.
- > Stability.
- > Access to statutory services.

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## APPROACH TO DATA ANALYSIS

A grounded theory approach was used to analyse the data. Glaser and Strauss first developed this method in 1967. Moore (2004) argues grounded theory ensures that explanations, interpretations and recommendations, which the researcher makes, emerge from the data and are grounded in the words and experiences of participants. This was very important for the analysis of the data, as it was essential to understand the full impact of flooding from the participants' perspectives.

The process of analysing the data closely followed the constant comparison method of Glaser and Strauss (1967). It included the first stage of immersion, whereby detailed transcriptions were produced; categorisation, where representatives were assigned to categories or groups; reduction, where what representatives discussed was categorised into themes; triangulation, where

themes were checked against the entire interview transcripts; and interpretation, whereby the data from the interviews were used to produce key findings and recommendations.

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## VALIDITY AND RELIABILITY CONSIDERATIONS

In support of the validity claims of this research, it helps to outline the steps taken to ensure this was achieved. The research project spent a considerable amount of time establishing contacts across the statutory agencies involved in flooding and identifying key personnel within the agencies to interview. It tried to meet as wide a range of stakeholders as possible within the timeframe. In order to present a balanced view of all possible perspectives, interviews were conducted not only with those directly associated with flooding response – for example, drainage agencies – but also

policy-makers and those responsible for helping in the recovery stage of a flooding crisis.

Through meeting a wide range of community and voluntary groups located in the identified flooding hot spots across Greater Belfast, the study was able to identify people directly affected by flooding who were prepared to engage with the aims of this research. There were also regular meetings with supervisors and research colleagues within the Red Cross to discuss the data emerging from the interviews, which helped to re-examine and endorse interpretations of the data.

To maintain the reliability of this study, the aim was to tape record all interviews. This was not possible in every case, so it became necessary to take notes during some interviews and develop them immediately afterwards. The research project has also provided an account of the methods adopted for data collection and how the data was analysed.



◀ Red Cross volunteers give practical and emotional support to people affected by floods

# “Nobody can imagine what we have gone through”

EXTRACT FROM INTERVIEW WITH **SINGLE MOTHER LIVING IN FLOOD-AFFECTED AREA WITH HER CHILDREN, ONE OF WHOM HAS LEARNING DIFFICULTIES**

## **How much water came into your home?**

It only had to come up to a certain level before it came in all round the house. There are air vents in the bricks all round the house and that's where all the water came in. I had my wee boy with a mop at the front door and then it started coming in the back and met in the middle – and then it was coming in all around the side of the house. I lifted the telephone and broadband box but, because of the excitement, I dropped them.

I grabbed my daughter and the dog and put them up the stairs, and we were just standing in water – we didn't know what to save. We had nowhere to put anything, it was just total panic. Then the firemen came and they carried out my daughter and the dog and the boys just walked out and they went over to the centre.

## **What was damaged?**

The water went right up. All my cupboards and units had to be replaced because of the sewage. We have also just realised that all the tiles in the shower room have started coming off the walls. We didn't notice that until this year because we thought everything had dried out.

## **So you are still getting problems long after the flooding occurred?**

Yes, we are. The council replaced the skirting boards with compressed treated wood so that no damp would come up the walls, and replaced all the doors because water had got into them. All my white goods looked fine but inside they were wrecked. The Environmental Health came and said: 'put this out, this out, this out.' It got to the stage where we were told we're getting £1,000 and there was no way it could have replaced everything.

We were like scavengers out the front, trailing our suite back in again. I stood in the living room and power-hosed my suite down and left it to dry – that's what we had to do. And not just me; other neighbours had to trail in their suites and power-wash them.

We had to do whatever we could ourselves. But the

likes of the electrical things, the computer, photograph albums and my daughter's toys, I couldn't keep any of those. They were all out in the front garden. I had carpet in the living room and on the stairs, and lino in the hallway – and everything had to go out because it was sewage water. I've never replaced the carpet on the stairs because I haven't had the money. All I've done is wash it over as best I can and use it.

I'm insured now because I couldn't afford for this to happen again. The people round here in the private houses who were insured knew they would be getting their new carpets, whereas we didn't know what was going on. I'm a single parent, I'm a carer, I don't go out to work so I only have a limited budget and it only goes so far. And when that's done, it's done. You have to save for things and that's what I have to do with

the carpet for the stairs. Also tables, chairs, new units – that's what I've been doing this year, putting them all back in.

Nobody can imagine – you see all those news reports about the flooding on the Ormeau Road – but you don't realise until it comes to your door what those people are going through. I had wee scrapbooks made for my daughter from anywhere we had been in the world. They were all personalised, showing her and her friends and people she's met.

They were like reading books to her but they all had to be thrown out. And all her toys she got for Christmas, all out.

What hadn't got destroyed in the flood, the kids came and destroyed out the back. They wrecked her swings, they wrecked her trampoline. And people don't think about all those things. That's an awful lot to lose and to have to deal with. So you're starting from scratch again with nothing, except £1,000, and by the time I'd bought a carpet for the living room and a few other bits and pieces, that money was away. People's lives are just devastated because they've had to throw out much, much more than £1,000 worth of possessions.

“People's lives are just devastated because they've had to throw out much, much more than £1,000 worth of possessions”

# Literature and policy



▲ Fire services helping in a flood-affected residential area in Belfast

As severe flooding incidents occur increasingly across the UK, a growing body of literature is emerging from both academic and policy perspectives. This section introduces some of the key documents in this area, including external studies and papers from British Red Cross experience. The literature presented will focus on the themes of response, recovery, health impacts, policy developments and vulnerability.

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## RESPONSE

Voaden and Smith (2007) evaluated the Red Cross emergency response to the floods in several areas throughout England. They found that, although the immediate response to such an incident

was effective – for example, overcoming problems for residents accessing essentials, such as shelter, heating, water and food – there were definite further learning experiences taken from it. For instance, a telephone support line and email helpline was set up that offered practical and emotional support.

Following severe flooding in Belfast during June 2007 and August 2008, Belfast City Council found that resources that had been put in place for the response by the relevant agencies were eventually overwhelmed. Although the speed of response was very good, Neill (2009) argued there is a need for greater inter-agency co-ordination and response when flooding occurs. A stronger, more joined-up approach between all organisations involved is required to better facilitate

response, as was found in the afore mentioned flooding in England.

Similarly, the Pitt Review (2008) found there were examples where emergency responders lacked an understanding of the roles that the voluntary sector could play in response and how to engage with those organisations. Consequently, the response to the flooding emergency in England during 2007 was not as effective as it might have been. The Pitt Review suggests this may have been because those links were not made before the floods occurred, or that local authorities may have feared negative perceptions about their ability to cope if help was needed from voluntary agencies.

It is clear that a more coordinated approach between all agencies is required to improve response leading to recovery. This research will build on previous studies by reflecting on the Red Cross' experience of flooding as well as illustrating perspectives from across the statutory and voluntary sectors to better facilitate the response to local flooding.

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## RECOVERY

McNair (2007) examined the unmet needs in Gloucestershire, one month after severe flooding affected five thousand households in the area. The study aimed to position the Red Cross in the recovery phase and look at the longer-term needs of local communities. Using telephone questionnaires and semi-structured interviews, it was found that immediate needs such as advice and financial assistance were usually met. Medium to long-term needs (two to six months) revealed a strong likelihood of post-traumatic stress disorder and high levels of stress as experienced following

the Carlisle floods in 2005.

Nzegwu (2008) considered the response and early recovery periods in a number of international and domestic flooding incidents. The report found that, in the Morpeth experience of flooding, the response phase was very effective but – similar to McNair's findings – the recovery stage was not as well developed. In particular, there was a lack of understanding regarding the psychological effects of flooding and how to help recovery in the post-flooding period. Nzegwu argued that both the statutory and voluntary sectors are unsure of how to approach meeting the needs of people after a flood. This can include practical issues, such as recovering personal valuables (letters, pictures), dealing with issues of contamination, and addressing the psychological impact of the floods.

Consideration of the longer-term effects that occur during the recovery stage of flooding is needed. Assessing the psychosocial impacts of flooding, and how these can affect the recovery process, is a key objective of this research. It will also determine

how flooding can compound existing problems and create new burdens for communities to cope with.

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## HEALTH IMPACTS

The social and psychological impact of flooding on communities is an area that is receiving more investigation. The World Health Organisation (1948) defines good health as: 'complete physical, mental and social wellbeing'. Tapsell and Tunstall (2008) conducted a longitudinal study of flood-affected residents in the UK over four and a half years. They found that even small, localised floods can seriously disrupt people's lives and have a significant impact on their physical – but particularly their mental – health and well-being. The findings of this study suggest that the health impacts have greater ramifications than the immediate threat from floodwaters.

Similarly Carroll, Morbey, Balogh and Araoz (2009) examined the social and health impacts following the Carlisle floods of 2005. As in Tapsell and

▼ The Red Cross supplies bottled water to people affected by floods since the water mains is likely to be contaminated



Tunstall's study the previous year, Carroll et al found there was severe disruption to people's lives with many suffering from psychological health issues. Social impacts included disruption to people's relationships and communities and the destruction of their homes. Health impacts included pollution and contamination of homes and possessions. The psychological effects however, were found to be longer-lasting and particularly serious, with many people suffering from anxiety and stress around a year after the floods – suggesting the occurrence of post-traumatic stress disorder. The psychological stress people were suffering was related to the meaning residents attached to home. It was connected to the destruction and reconstruction of their homes, which is why Carroll et al argue it had such

a devastating and long lasting impact.

Overall there have been few studies that look at the long-term health impacts of flooding. In 2000, after flooding in Bristol, Ohl and Tapsell found that the number of clinic visits, hospital admissions and deaths from all causes in the year after the flood was greater among those who had been affected than among those who had not. No single disease or illness seemed to be responsible for the findings. Ohl and Tapsell argued that the long-term effects of flooding on psychological health may be even more important than illness or injury.

As a result, we need to better understand the social and psychological effects of floods (Tapsell, Penning-Rowell, Tunstall and Wilson 2002). We have seen that floods can cause health impacts

that are lasting; including the stress and trauma created months or years afterwards whenever floods threaten to recur. If, as the literature suggests, flooding is going to become more frequent, Tapsell et al (2002) have argued governments need to allocate more resources to this area of public expenditure while decision-makers need to prioritise policy development on flooding.

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## POLICY

The relationship between flooding crises and the demand from the public for a policy response is well known (Tobin and Montz 1997). In fact, it takes a severe flood for flooding to be prioritised on the political agenda (Johnson, Tunstall and

▼ A member of the Northern Ireland Fire and Rescue checking the flooded Broadway underpass



Penning-Rowse 2005).

Floods can act as a catalyst for increasing the rate at which a policy idea that was already under consideration before the crisis is prioritised and acted upon (Johnson et al 2005; Penning-Rowse, Johnson and Tunstall 2006). This has led authors to conclude that flood crises can often provide 'a window of opportunity' for key players to quicken the rate at which policy is implemented but not create the context for any new ideas to be formulated.

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## VULNERABILITY

According to a Cabinet Office document in 2008 – *Identifying people who are vulnerable in a crisis: Guidance for emergency planners and responders* – many vulnerable people are already known to service providers, but others are more difficult to identify. These people include individuals, visitors to the area or the homeless. The key issue to consider is that all people in an emergency could be vulnerable because of their proximity to the event, but we need to be able to distinguish between those who are self-reliant and those who need extra help to become safe.

The Pitt Review (2008) considered that vulnerability in terms of flooding can be defined as the capacity of a person to anticipate, cope with, resist and recover from the impact. It is not confined to those who may be considered vulnerable in the traditional sense of the word, such as the elderly and disabled. Although there have been considerable lists compiled of those who may be vulnerable in a crisis, belonging to one of those groups does not necessarily denote vulnerability. Rather, as the Cabinet Office advised, whether or not someone is

vulnerable depends on three things:

- > Type of emergency.
- > Type of response required.
- > Availability of the support that individuals normally receive from family, friends and carers.

As well as a range of vulnerabilities becoming apparent in a flooding crisis, the Pitt Report highlighted the fact that a person's vulnerability can change with time as flooding progresses. Warnings should therefore change accordingly. For example, a telephone warning or media broadcast might be suitable when vulnerability is assessed to be low, while face-to-face methods such as door-knocking are more appropriate as vulnerability rises.

This section has looked at the immediate and long-term needs of those affected by flooding, the physical and psychological impact of a flooding crisis, and how flooding can affect policy implementation. What is common throughout much of the literature is the need to consider more closely the psychological health impact of flooding, particularly in the recovery stage of a crisis. This research will reflect a wide range of stakeholders' perspectives from across the statutory and voluntary agencies on the flooding experience in Greater Belfast. The research will engage with people affected by flooding to highlight the many impacts of flooding from those who may be living with pre-existing vulnerabilities, as well as those who may have become vulnerable as a result of being flooded. Through giving voice to these previously unheard experiences, this research will offer a unique and innovative addition to the overall body of knowledge on flooding.

# “Every time it rains we live in dread”

## EXTRACT FROM INTERVIEW WITH **ELDERLY PERSON LIVING ALONE IN FLOOD-AFFECTED AREA**

I was flooded in 2007 and 2008, and then last year it flooded round here but didn't get into the house. My son bought me a pump last year and set it up, so when it started to flood I managed to get it going and get the hose out the front. The flooding round here all comes from the sewers – sometimes the pipes can't cope with the rainwater and then our gardens fill up with water. The floodwater comes in through the back door and works its way right through to the front. I had carpets on all these floors, so the whole lot had to come up and go.

The first time it happened in 2007, I was out of the house for five months. I went to my son's and then to my daughter, who lives in England – I just went between the two. Everything was so slow; the builders were maybe working just one day a week on my house and it was dreadful. They also didn't have any dehumidifiers the first time, and all they brought out were a few fans that only blew the air around.

So the second time it happened, in 2008, my son undertook to look after the house. He took up the carpets himself and threw them out, then people came out and put the dryers on right away so that time it really only took about five weeks.

Eventually the council did come out and help. Apparently, a manhole two doors down was broken – they discovered that after two years of all this trouble – and they came out and fixed it. We won't know until next summer when the heavy rains come if we're going to be okay.

I've been in this house for 60 years and it's only in the last couple of years that all this flooding started.

When I first came here there were just these houses here, but then they started building up the road and up on the hill – and there's never been any drains put in. And they don't come round and clean the drains out anymore. I remember them years ago coming around in a big lorry and cleaning the drains to keep the water running.

I have been with my insurance company from when we bought the house and I never, ever once had one claim. Well, the first year they were okay and paid out. But the second year I was flooded, my insurance was almost doubled. And not only that; they put a £5,000 excess on it. I was so worried. If this place floods again I haven't got £5,000 to pay.

There's a fella down the road who now owns the house his granddad left him and he can't sell it. It's been up for sale for three years and I can remember the first time it flooded – the insurance man came out and saw the house for sale and he said: 'They'll not sell that now'. And now he just has people renting it when he can.

But it's not only that, it's the fear. Every time there's heavy rain we just live in dread here. I'm in my eighties and the last

time I thought: I just can't stick this anymore. My neighbours are in their eighties and nineties too. We just can't stick the worry of it. You're watching all the time and my family and everybody is phoning to ask if I'm alright.

When the heavy rains come in the summer we will have to wait and see if that sewer has been fixed okay. If that hasn't solved the problem, then it all happens again. That's the way it is left with us. We just have to wait and see.

“Every time there's heavy rain we just live in dread here. I'm in my eighties and the last time I thought: I just can't stick this anymore. My neighbours are in their eighties and nineties too. We just can't stick the worry of it”





# Key findings

▲ Elderly people affected by floods are cared for by a Red Cross volunteer

The research focused on people living in identified flooding hot spot communities across the greater Belfast area.

**The key objectives were to:**

- > determine the impact of flooding on residents
- > highlight any vulnerabilities
- > identify best practice in multi-agency response models.

## 1. IMPACT OF FLOODING

The research was 'people centred' and focused on the impact of flooding on people, achieved through interviews with those directly affected.

The research found that the emotional and practical consequences can be devastating and that support needs can be immense.

### Social impact

- > Lack of confidence in response agencies – for example, slowness of response, inadequate clean-up of streets, confusion about who to contact in flooding crisis.
- > Older people reluctant to leave homes – anxious they may not be able to return.
- > Security (homes broken into, theft, vandalism).
- > Evidence of strong community resilience where neighbours help each other in the aftermath of a flood; other areas have poor community networks.
- > Family separation: often fathers remain at home to secure the property, with mothers and children required to stay in temporary accommodation because the home is uninhabitable. (For example, no utilities, contaminated water, flood-damaged furniture).

### Physical and psychological impact

- > Heightened anxiety and fear among people who have experienced flooding – including constant vigilance of river levels, gullies and drains as well as increased obsession with weather reports, especially when there is heavy rain.
- > Loss of weight, lack of appetite, disturbed sleep patterns, fatigue and depression.
- > Increased dependence on GPs and need for additional medication, such as sleeping tablets and anti-depressants.
- > Difficulty in re-adjusting when returning to a home that no longer feels like home. (For example, people sometimes try to find furniture resembling what they have lost through second-hand shops.)

### Financial impact

- > Participants appreciated the £1,000 hardship payment they received from the Department of Environment via Belfast City Council. However, time and time again they said it was not sufficient to cover the financial costs of flooding. These included home repairs – such as decoration, re-wiring and structural repairs – and refurbishment and laundry costs.
- > Substantial costs associated with living in temporary accommodation – including eating out, travel and laundry.
- > Decrease in the market value of homes.
- > Unable to get house insurance if living in high-risk area or significant increases in excess limits, sometimes up to £5,000.

## 2. CO-ORDINATION OF SERVICES IN RESPONSE AND RECOVERY

Interviews with flood-affected people illustrated that they can panic when flooded and feel frightened, confused and upset. In this situation, it is difficult for people to identify the relevant agencies to help them. For example, some participants stated: "We did not know who to go to for help" and "No one came out to see us."

### IN CASE OF FLOODING

In addition to the emergency services and statutory agencies, there are three drainage agencies in Northern Ireland who can assist with flooding:

- 1. NI Water** – burst water main or blocked sewage system.
- 2. Rivers Agency** – overflowing watercourse.
- 3. Roads Service** – blocked gully or road drain.

People affected by flooding stated that they had to determine the type of floodwater in order to contact the relevant agency. Otherwise they were passed from agency to agency.

## NEW EMERGENCY PLANNING

There have been a number of recent government developments in Northern Ireland and Great Britain to improve integrated emergency planning arrangements:

- > **Flooding Incident Line (FIL)** (2009) – a helpline for flood-affected people that aims to identify the type of flooding experienced and contacts agencies on individual's behalf. However, research participants lacked awareness of the FIL or what it does.
- > **Local Government Emergency Management Group (LGEMG)** – the development of the multi-agency flood plan. This plan was piloted in Antrim Borough Council and now forms the basis of an electronic template that is currently being rolled out to other councils and can be adapted to reflect local conditions.
- > The most recent government development in Great Britain – but not Northern Ireland – is the expansion of the **Flood Alert Phone Service** (February 2010). Half a million homes and businesses in England and Wales at risk of flooding will be automatically signed up to this phone service and receive a call if the threat of flooding arises in their area. This will help more people to protect themselves and their homes.

## 3. VULNERABILITY

It became apparent at initial meetings with stakeholders that there would be difficulty in sharing information and vulnerability data because of data protection issues. Guidance from the Cabinet Office on data protection and sharing does, however, stipulate that emergency responders can share personal information in the event of an emergency.

The research approach did not work to pre-defined definitions of vulnerability as:

- > The team would consider anyone living in a flooding hot spot to be 'vulnerable' to a greater or lesser extent
- > Red Cross experience in flooding response would caution against creating lists of 'vulnerable people' because, inevitably, "people will be missed" (Judi Evans, operations director, British Red Cross response to Morpeth floods 2008).

Interviews indicated the potential to identify vulnerability profiles, or groups of people more likely to have difficulty coping in a flooding crisis. Interview data revealed that certain vulnerability profiles – for example, single-parent families, the elderly or people with a disability – tend to experience similar problems when flooded.

## 4. COMMUNITY RESILIENCE

The Cabinet Office recommends that responders work with communities in emergency response and recovery. Currently, the Cabinet Office, the Scottish Government and the British Red Cross are working respectively on definitions of community resilience.

The research identified good examples of local resilience initiatives in areas that have experienced repeated flooding. Participants spoke of the "need to do something" for themselves because of the slowness of response. For example, a community group on the Lower Ormeau Road, south Belfast used the local sports hall to store and dry out belongings, and secure furniture and people's possessions. They have also identified the elderly in their community. In Ardgowan Street, east Belfast, a local flute band engaged a contractor to make sandbags and distribute them to residents. In areas with poor community networks, however, the experience of flooding is likely to be exacerbated, particularly with people who have pre-existing vulnerabilities.



◀ Sandbags help reduce water damage

# “I’ve just been crying my eyes out”

## EXTRACT FROM INTERVIEW WITH **SINGLE MOTHER LIVING IN FLOOD-AFFECTED AREA WITH NO HOUSE INSURANCE**

### **So how did the water get into your home?**

It all came in at the back, from the drains in the entry. The sewage was too much for their pumps – they sent a letter saying that their pumps were overwhelmed. One of their pumps got full of debris and stopped working so all the sewage blocked up the manhole and all came gushing out from my downstairs toilet and all through the kitchen. Only one room didn't get touched.

It happened the week before my daughter's birthday, and I'd kept all her toys and presents in the kitchen cupboards. I had a big hamster cage and wee bits and pieces for her birthday but it all had to be dumped. The cooker, fridge, washing machine and tumble dryer are all water-damaged and I can't use them.

I got a new kitchen and they moved my cupboards and all, but there are big spots where it needs redecorating. I had lino all through the bottom floor through into the bathroom but I'm not getting a penny now. I'm only working eleven hours now, my hours have been cut at work and I haven't a penny.

I've been trying to get on to St. Vincent de Paul to help me out over Christmas but no one seems to be helping me at all. So I don't know where to look now.

### **And what about clearing it up?**

My daddy, grandad and I cleaned it all up ourselves, and nobody came in to help us. I have no appliances whatsoever and I was hoping then to get this money and maybe get some new appliances and get my daughter back into a routine. She can't come back at the moment because of her asthma.

### **So your daughter is now living with your mum?**

Yes, because the new floor only got put in yesterday.

### **And what about you? Have you been staying here?**

Yes, I've been staying here. On Friday they came and lifted the flooring up – it was soaking and the stink was unbelievable. The Housing Executive gave me dehumidifiers to dry it out but that was eating my electric. The amount of electric and heating I've had to put in here, I haven't had a penny to breathe. So on Monday they put the floor down and it was still soaking so they came out

yesterday and said look that's all right and put the floor down yesterday.

Now my daughter doesn't want to come back and I'm saying: 'Look, I need to get you back home to get you back into your routine.' But she doesn't want to come down so I don't know what's happening now. No one's helping me whatsoever.

### **Are your electrical appliances still here or did you get rid of them?**

Some things are still in there because I need to use the washing machine. The only reason the fridge is still here is because they built the kitchen around the plug and I

can't get it out. My tumble dryer is in the bathroom. All my Christmas decorations are ruined, though I was able to salvage my Christmas tree.

I hope maybe St Vincent de Paul can help me out with the appliances. They came out and said once you get your kitchen in give us a ring and we'll come back out. When the kitchen fitters came in and lifted the tiles up, they were gagging with the smell – and said to me: 'How have you managed to stay here?' And I told them I've been crying my eyes out because Christmas is just looking really grim for me at the minute. And nobody seems to be helping.

I've been depressed and in and out of the doctors just crying my eyes out because I can't see an end to it. I've got the car and rent to pay for and it kills me paying rent for this house.

I have to sit here with nothing and it's constantly cold now, the damp is coming up the walls. I feel like people aren't helping me, they've basically washed their hands of me and just said: 'Sorry you've been flooded and for all the inconvenience it's caused you.'

The electric man came on the Friday night and took the cooker out, so I've been living on microwave burgers and Pot Noodle. I've just been eating in my mummy's now because I have to put my daughter to bed at eight o'clock, so I've been staying there all day and then coming down here and sleeping. Sometimes I go up to my boyfriend's house because this place is just depressing me.

I don't even care about the house anymore, I just want to give my daughter a good Christmas. I don't know what I'm going to do.

“I don't even care about the house anymore, I just want to give my daughter a good Christmas. I don't know what I'm going to do”



# Recommendations

▲ Red Cross volunteers make door-to-door checks on flood-affected people even after the water has receded, Cockermouth

The purpose of the research was to understand flooding experiences from the perspective of people living in hot spot areas, and to help emergency planners to identify and implement successful strategies in responding to people's needs. The following recommendations have been formed from the research team's findings:

► Red Cross volunteers giving support at an emergency call centre



### Impact of flooding

The consequences of flooding on people's lives can be devastating, and their ongoing support needs can be immense as people begin to rebuild their lives. Interviews with flood-affected people revealed the magnitude of flooding on people's lives. People experienced a range of problems, including practical and emotional consequences that continued for many months after the incident.

### Recommendation one

**Contact should be made with as many people as possible following a flooding incident.**

This initial contact establishes that support is available, gives an opportunity for flood-affected people to talk about their situation, and signposts them to more appropriate sources of help. This approach has proved effective as part of the multi-agency response (for example, during the Morpeth floods in 2008) and throughout the current response to flooding in the north of England (2010). The Red Cross, along with other organisations, established immediate and ongoing contact in a number of ways – including flood support centres, door-knocking on flooded properties and leaving contact support details for people not at home.

### Recommendation two

**Promote the potential contribution of the voluntary sector as part of multi-agency response.**

The British Red Cross has experience and could lead and co-ordinate this work, including registration details, assessing immediate needs and identifying sources of help. There is an opportunity for the third sector to make a significant contribution in recovery. The recent creation of the Voluntary Sector Working Group within the Belfast Resilience Forum could provide a suitable vehicle for this to develop.



◀ A young Red Cross volunteer prepares a first aid box for every eventuality

### Co-ordination of services in response and recovery

We recognise and commend recent government developments to improve integrated emergency planning arrangements in flooding response, including:

- > Flooding Incident Line (FIL)
- > Local Government Emergency Management Group (LGEMG)
- > Belfast Resilience Flooding Working Group
- > Rivers Agency Strategic Stakeholder Flood Risk Group

### Recommendation three

**A scheme similar to the Flood Alert Phone Service in Great Britain could be developed in Northern Ireland where people living in flooding hot spots would receive an early call if the threat of flooding arose in their area.**

Interviews with flood-affected people showed they can panic when flooding is happening and feel frightened, confused and upset. In this situation, it is difficult for people to identify the relevant agencies to help them. Such a scheme will help more people to protect themselves and their homes.

### Recommendation four

**Build on emergency planners' engagement with local communities to develop bespoke flooding plans and promote community self-help initiatives.**

For example, Belfast Resilience Forum is currently engaged with Belfast Area Partnerships to raise awareness of preparedness and emergency plans.

“It’s especially upsetting for the children and elderly people, who are reluctant to leave their homes at the best of times”

**A flood-affected resident**



◀ Prepared for floods

## Recommendation five

### Vulnerability

**Future research is needed to look at community profiles and the impact of flooding on the most vulnerable.**

Participant stories highlighted that certain vulnerability profiles – for example, single-parent families, the elderly or people with a disability – tend to share similar experiences and problems when flooded.

## Recommendation six

### Community resilience

**We recommend new approaches to resilience-building that focus on improving the preparedness of people at risk of flooding.**

This would provide the opportunity for emergency planners to work alongside communities. Interviews with flood-affected people and the experience of the Red Cross identified a number of practical suggestions to help people prepare for flooding:

- > **Identification and removal of important personal possessions.** For example, documents (passports, benefit books) and photographs stored upstairs; bikes and cars taken to a safe place.
- > **Check on vulnerable neighbours.**
- > **Prepare resilience kits** – including key contact details, torch, phone, checklist (e.g. medication, warm clothing, fully-charged phone, torch and first aid kit).
- > **Raise awareness of available information**  
**[www.belfastcity.gov.uk/flooding](http://www.belfastcity.gov.uk/flooding)**

The British Red Cross in Northern Ireland could work with its emergency response partners to develop resilience workshops – for example preparing for flooding, personal safety and training, emergency planning, understanding the role of other services, first aid and exercises. These programmes would complement government proposals to develop community self-help initiatives.



# “One Christmas the water destroyed everything”

EXTRACT FROM INTERVIEW WITH **REPEATEDLY FLOODED HOME OWNER WHO IS UNABLE TO SECURE HOUSE INSURANCE**

The water was up to around three foot so the doors and skirting boards had to come off, and the floor had to be dried out because it's concrete below. Everything had to be taken off the walls and redone. And it's happened three times to us here. We've had to redecorate three times. Once it rains you get a funny feeling – scared and fed up.

This morning when I got up at around eight o'clock, it was really heavy rain – I saw the height of the river and thought, what's going on here? There's nowhere really for you to go so you have to make your own arrangements and stay with relatives. One year it happened to us in December, just before Christmas, and that was really bad.

The water really destroyed everything and the place has to dry out before you can start to fix everything.

Some areas around here flood because there were inadequate structures put in when the place was designed and built. This is an old part of Belfast and it wasn't really meant to have all these developments that are now in place.

This house here for instance: you'll see in the plans that all it had originally was an outside toilet and no bathroom. But now there's a bathroom and a shower room upstairs, so the capacity is overwhelming the system. Plus, we have a false level of the river.

## **What about getting house insurance for your home?**

Once you put your postcode into any website or insurance company, then that's it: no. You just won't get it. They just say, 'Sorry, no. You're too high of a risk' as they call it. The insurance issue is a problem for more or less everyone around here. It's a high-risk

area. After it happens three or four times you don't really care anymore. I wouldn't have believed what happened on the ninth of October, but I actually saw it happening.

I saw the gullies and the grates on the road – you know what's happening because you get used to seeing it, it bubbles up. I know now to get the emergency services on standby. They said to me: 'How do you know?' and I said: 'Look, I'm used to this, it's coming up through the grates. The gratings aren't taking it away, it's actually coming up'.

Around here, you have a real mixture of people – families, single-parent families, working class, middle class and the odd lecturer as the university is just up the street. There are students, ethnic minorities and elderly people who have lived here most of their lives. So you have this big social mix and everybody has their own needs. And different people – I don't know if you've noticed or not – react differently to crises like flooding and stuff. I'm sort of used to it by now and can deal with it, but other people seem to take it really badly.

If you're a single mother living in social housing with a couple of kids, and this has happened to you two or three times, you're saying to yourself: 'I can't sort this out, what am I going to do?' Maybe they're not working and on benefits

so can't afford to replace everything and are looking for help. Fair play to the council now – they have a flood fund and give £1,000 of relief, but that's a drop in the ocean nowadays if someone gets the whole of their house destroyed.

It's especially upsetting for the children and elderly people, who are reluctant to leave their homes at the best of times. Basically, the main question I get asked all the time is: 'What's being done about it? Are they coming to sort this out?'

“This morning when I got up at around eight o'clock, it was really heavy rain – I saw the height of the river and thought, what's going on here? There's nowhere really for you to go so you have to make your own arrangements and stay with relatives”

# Special thanks



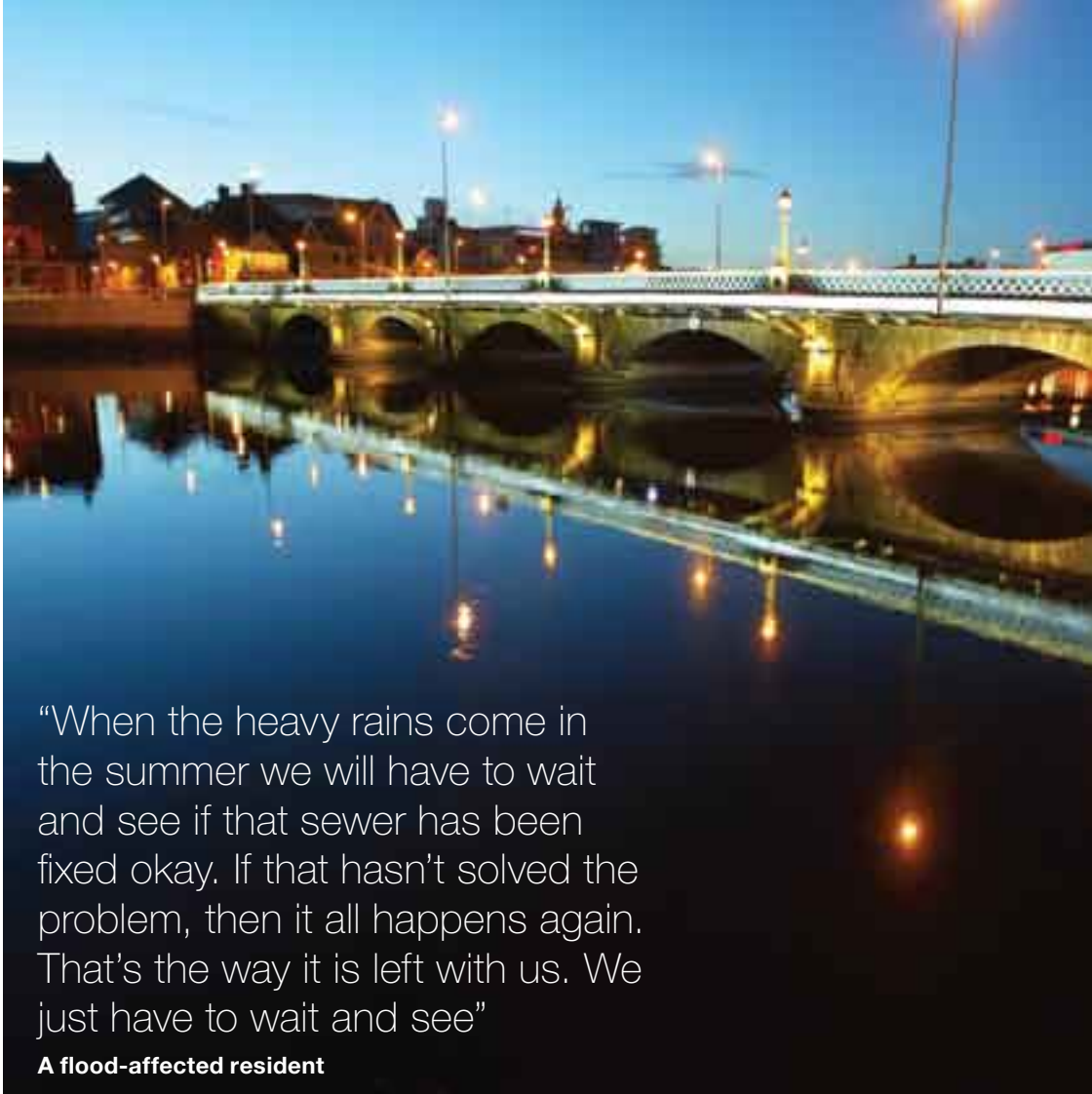
▲ Night view of the Belfast Wheel and Belfast City Hall

Sincere thanks to all the people who contributed to this research including representatives of the emergency services, statutory agencies, voluntary and community organisations. We would particularly like to thank the people who have been affected by flooding and whose stories underpin this research.

A special thanks for all your guidance and support to:

Rute Caldeira (British Red Cross),  
Judi Evans (British Red Cross),  
Davy Neill (Belfast Resilience Forum),  
Harry Whan (Eastern Emergency Support Group),  
Claire Carleton (Belfast Resilience Forum)





“When the heavy rains come in the summer we will have to wait and see if that sewer has been fixed okay. If that hasn’t solved the problem, then it all happens again. That’s the way it is left with us. We just have to wait and see”

**A flood-affected resident**

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Published April 2010

The British Red Cross Society, incorporated by Royal Charter 1908, is a charity registered in England and Wales (220949) and Scotland (SC037738)